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Personality Traits and Cognitive Ability in Political Selection

Aboa Centre for Economics
Discussion paper No. 152
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ABSTRACT

We document that electoral candidates nominated by political parties fare better than the office-eligible population in multi-dimensional tests of cognitive and non-cognitive ability conducted by the Finnish Defense Forces. The politicians elected by voters demonstrate even higher levels of ability. In all, a competent, motivated, and honest political class emerges despite the complex decision-making environment inherent in voter-oriented systems. We further present evidence that political selection matters for local governments' economic performance. Lastly, we discuss the political selection of women, lack of a trade-off between politician quality and descriptive representation, and the positive link between political selection and political competition.

JEL Classification: D72, J24, P00

Keywords: candidate entry, cognitive ability, elections, human capital, personality, political selection, proportional representation

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1 Introduction

A good politician is competent and honest (Besley 2005). Both are important traits to voters who typically perceive a competent politician as someone who is, among other things, intelligent, conscientious, hard-working, and sociable (Kinder et al. 1980; Mondak 1995; Klingler, Hollibaugh, and Ramey 2019; Aichholzer and Willmann 2020). But does the quality of the political class reflect these ideals?

In representative democracies, choosing public officials is at the hands of political parties and voters. Political parties have developed a variety of tools to select the best possible set of electoral candidates (Hazan and Rahat 2010), and recent research points toward positive selection of both electoral candidates and elected politicians in party-centered environments (Dal Bó et al. 2017). However, it is far from obvious whether this finding generalizes to contexts where voters wield more power in the selection process (see also Casey, Kamara, and Meriggi 2021). A vast literature in political economy and political science questions whether voters are sufficiently informed to act in their best interest at the polling booth (Campbell et al. 1960; Achen and Bartels 2004; Healy, Malhotra, and Mo 2010). Delli Carpini and Keeter (1996) go so far as to argue that elections are not a useful mechanism for selecting public leaders if voters lack competence.

The key contribution of this paper is to shed light on the quality of candidates nominated by political parties and politicians elected by voters. Our focus is on the role of personality and intelligence in political selection in Finland, where the candidate nomination stage is fully managed by party organizations, and the election stage is entirely controlled by voters due to the electoral system.[1] We document that both electoral candidates and elected politicians are positively selected on a number of cognitive and non-cognitive abilities.

Personality and intelligence—two primary psychological features of an individual—have wide-ranging consequences. They shape outcomes such as educational achievement (Deary et al.

[1]Naturally, self-selection can play an important role at the nomination stage of selection, and individuals with positive personality traits or cognitive skills might be more likely to approach political parties and seek candidacy in elections.

2007), labor-market performance (Deming 2017; Jokela et al. 2017; Edin et al. 2022), health (Gottfredson and Deary 2004; Hampson 2017), and occupational choice (Barrick, Mount, and Gupta 2003; Rosenbloom et al. 2008). Yet, we are short of evidence on what kind of cognitive and non-cognitive traits elected politicians possess relative to the people that they represent or relative to the candidates who were not elected, and more importantly, whether more intelligent individuals or individuals with desirable personality characteristics are selected into politics. This is a fundamental issue, as decision-makers from executives to individual members of legislatures can influence the outcomes of policy-making.[2]

We use personality and intelligence tests administered to all conscripts (more than 80% of the male population) by the Finnish Defense Forces, combined with registers of nominated and elected candidates in municipal elections from 1996 to 2017. These data capture an extensive battery of cognitive and non-cognitive abilities. We further use population registers to facilitate a comparison of aspirants and elected politicians with the reference male population.[3]

An analysis of our data reveals a distinct pattern of positive selection of electoral candidates in Finnish local elections in terms of three dimensions of cognitive ability—visuospatial, verbal, and arithmetic reasoning—and seven positive personality traits. These traits reflect, among other things, leadership motivation, achievement striving, capacity to work with a team and build consensus, and honesty. Positive selection takes place also at the election phase, resulting in a political class that is more intelligent and possesses more non-cognitive skills than the general

[2]A large empirical literature inspired by the citizen-candidate models of Osborne and Slivinski (1996) and Besley and Coate (1997) has demonstrated how politician characteristics matter for policy. This scholarship has studied, for example, political partisanship (Lee, Moretti, and Butler 2004), female politicians (Chattopadhyay and Duflo 2004; Clots-Figueras 2012), minority representation (Pande 2003), and politicians' occupational background (Hyytinen et al. 2018). Furthermore, the quality of politicians has attracted a great deal of scholarly attention (Besley 2005; Dal Bó and Finan 2018), under the premise that better political selection improves the quality of government (see also Meriläinen 2022 for supporting evidence).

[3]The data from the Finnish Defense Forces lack information on women, but the administrative registers allow us to partially address this shortcoming by studying the selection of female politicians on observable characteristics that correlate with cognitive and non-cognitive ability.

population.[4] Thus, both voters' vote choices and parties' nomination choices are important drivers of the positive overall selection. That voters are able to pick the best candidates in a complex electoral setting with multiple parties and a large number of candidates—resulting from the open-list proportional representation system used in Finland—is remarkable especially given immense skepticism regarding voter competence.[5]

Auxiliary data on a sample of national election candidates and MPs reveal that these conclusions may be more general and not limited to local elections only. In fact, candidates in national elections and elected MPs appear to be even much more skilled than local politicians. On average, politicians' cognitive and non-cognitive skills are on par with individuals who work in high-skill occupations or have at least an undergraduate degree. Nevertheless, we do not find that there would be a trade-off between having competent politicians and broad representation from different socioeconomic backgrounds. This can be important to voters who may also want to foster descriptive representation (Norris and Lovenduski 1993; Dovi 2002; Murray 2015).

We further delve into potential policy consequences of positive selection on ability. We ask whether political selection matters for one aspect of local government performance, namely fiscal sustainability (c.f. Meriläinen 2022). We show that traits that exhibit particularly strong patterns of positive selection also seem to matter for policy. We find that electing more politicians who score high on leadership motivation leads to better fiscal health. Similarly, there is some indication that representation of politicians with higher cognitive ability would have similar effects on policy, although these estimates are statistically insignificant. To estimate the policy effects causally, we adopt the empirical strategy originally proposed by Hyytinen et al. (2018). This strategy utilizes

[4]Multivariate regression analyses indicate that the traits vary in their importance. Verbal reasoning is more important than arithmetic, which is more important than visuospatial reasoning. In terms of effect sizes, leadership motivation, dutifulness (i.e., how closely a person follows social norms), and achievement striving are the most important (positive) predictors of political selection.

[5]Political selection is not uniform across the country and political parties in the sense that there is cross-sectional variation in the average trait differences between the politicians and the population. We present descriptive evidence that inter- and intra-party competition can be important in molding political selection.

close elections that occur frequently within political parties to compute unexpected changes in political representation.[6]

What we discover about the role of cognitive and non-cognitive traits in politics echoes recent research that points towards positive political selection on ability(Dal Bó et al. 2017; Thompson et al. 2019; Bhusal et al. 2020; Dahlgaard and Pedersen 2020). Closest to our study is the work by Dal Bó et al. (2017) who study the general intelligence and leadership skills of a sample of male candidates and population in Sweden. We expand measurement to previously unexplored aspects of politician quality. Studying politicians' cognitive ability and personality traits is particularly relevant given the abundant evidence of their importance in the conventional labor markets. Our main findings resemble earlier findings in labor economics where the importance of cognitive and non-cognitive skills in shaping labor market outcomes has been documented extensively. For instance, Edin et al. (2022) recently showed that the economic return to non-cognitive skill roughly doubled between 1992 and 2013, and the return to non-cognitive skill is higher than the return to cognitive skill. Jokela et al. (2017) use the same test score data as we do to document that both cognitive and non-cognitive ability correlate positively with labor market success.

Research in political psychology has touched upon the personality traits of politicians more broadly, but it is often based on voters' (Caprara, Barbaranelli, and Zimbardo 1997, 2002; Aichholzer and Willmann 2020; Nai and Maier 2021) or experts' (Rubenzer, Faschingbauer, and Ones 2000; Nai and Martínez i Coma 2019) evaluations of politicians' personality characteristics. This might not give a broad picture of elected officials' abilities that are relevant for policy-making or the overall quality of political selection.

[6]Our findings are robust to different specifications and pass the standard validity tests. We additionally propose a new validity check. Namely, studying heterogeneities in the personal incumbency advantage can help us understand whether high- and low-ability candidates end up in close elections because of bad luck or because they have other traits that systematically correlate with both ability and popularity (see Marshall 2022 for a recent discussion of this concern).

We add to this literature by comparing elected and non-elected politicians with the general population, and by using data from extensive cognitive and non-cognitive ability tests.[7] These tests provide data that are representative of the conscripted male population, and they are administered at a young age before any political experience or other later-life influences. These are important distinctions between our study and some of the prior contributions that have been able to compare small surveyed samples of elected officials with their surveyed constituents (see especially Nørgaard and Klemmensen 2019).

Our findings also open the door for comparing voter- and party-oriented systems with each other. Earlier research has found parties capable of identifying and promoting individuals that are on average more competent and motivated to lead than the general population (Dal Bó et al. 2017). This is potentially good news for democracy and might contribute to restoring the crumbling public confidence in political parties and their capabilities (Dalton and Weldon 2005), but it is unclear whether these findings extend to political systems in which voters have a more nuanced role. Understanding how political selection works across different contexts is crucial, for instance, for the optimal design of electoral systems.

Electoral systems such as proportional representation with open lists equip voters with substantial political power. Voters are not only able to assign accountability at the collective party level but also at the level of individual politicians. From greater power, covering both the inter- and intra-party level, follows an increased cognitive burden. Adding another layer of political competition to the vote calculus inevitably expands the choice set that voters must manage. This could be detrimental from an accountability perspective, and it may push voters towards sub-optimal or even irrelevant decisions, or discourage them from participating in the first place (Cunow 2014; Cunow et al. 2021; Söderlund, von Schoultz, and Papageorgiou 2021). Therefore, it is not clear whether voters are less equipped to achieve positive selection than political parties which have the organizational capacity to evaluate candidates more closely. Additional fuel to these worries is provided by the literature that claims that open-list proportional representation

[7]Scholars have rarely been able to study candidate entry directly. Instead, studies often resort to survey data on political aspirations (Gulzar 2021).

nurtures clientelistic relations between voters and their representatives, possibly encouraging the entry of dishonest candidates (Ames 1995; Shugart, Valdini, and Suominen 2005). Taking note of our findings, these concerns are not warranted. This is reassuring news considering the trend towards institutional personalization, reflected in reforms of electoral systems that to greater extent offer voters a choice between individual candidates.

Finally, the present paper bridges the gap between theoretical and empirical work on political selection in the sense that many authors have modeled political selection processes as a result of self-selection by candidates and screening by voters (Besley 2004; Caselli and Morelli 2004; Poutvaara and Takalo 2007; Mattozzi and Merlo 2008; Smart and Sturm 2013). However, there are also formal models that bring in political parties (Carrillo and Mariotti 2001; Mattozzi and Merlo 2015; Galasso and Nannicini 2017; Besley et al. 2017). One takeaway from these theoretical approaches is that it is not trivial that societies could achieve positive selection. Our empirical context resembles a case where self-selection and screening by parties and voters all play a role, resulting in positive selection on ability.

The remainder of this paper is structured as follows. First, we describe the case at hand. We then discuss our data in the third section. The fourth section documents positive selection on ability at the candidate nomination and election stages. In the fifth section, we present tentative evidence of policy consequences of electing able politicians. Before concluding, we characterize further aspects of political selection: selection of female politicians, drivers of the positive selection, potential trade-offs between competent and descriptive representation, and how local political context influences the quality of selection.

2 Background and Theoretical Considerations

We examine political selection in Finnish local governments. In this section, we describe the role of municipalities and local decision-making in Finland, and the electoral system that is used

to elect local politicians. We also discuss theoretical considerations regarding political selection when candidate choices are made by parties and voters.

2.1 Finnish Municipalities

Decision-making in Finnish municipalities is led by local councils which are responsible for their operation and economy. Municipal governments, and thus local politicians, have a central role in the Finnish highly decentralized system. During our analysis period 1996-2017, municipalities employ around 20% of the total workforce and have annual budgets of more than 5,000 euros per capita, on average. The majority of this expenditure is used to take care of statutory responsibilities, including social care, healthcare, and primary education. To cover their expenditures, Finnish municipalities are allowed to set and collect income and property taxes, and out-of-pocket payments from users of municipal services. In addition, municipalities receive a share of corporate taxes and fiscal grants from the central government.

2.2 Local Politics in Finland

The decisions in Finnish municipalities are taken by a simple majority of local council members. The local councils are elected using an open-list at-large proportional representation system. The Finnish electoral system has a simple design. Voters need to identify a single individual candidate and write the number of that candidate on the ballot. Voters are not able to cast a vote for a party list, but the individual votes are pooled at the level of the party-list in a district. After this, each list is awarded seats in proportion to its share of the total vote, and the individual votes determine who gets elected within each party list.[8]

Candidate nomination is controlled by political parties which almost always present their candidate lists in an alphabetical order leaving voters without cues regarding candidate quality or party preferences. Parties' influence over political selection is thus largely limited to choosing the

[8]The number of seats in each municipal council is a deterministic step function of the population in the municipality, and it varies between 13 and 85 with a median of 27.

candidates. This leads to a highly candidate-centered electoral environment with intense within-party competition and high incentives for the candidates to cultivate a personal vote (Carey and Shugart 1995).

From voters' perspective, the electoral setting is complex. There is a great deal of candidates at display and to choose from. The median number of candidates in our data is 76, and the median number of candidates per party is 10. The number of parties is also large: eight parties are represented in the national parliament and dominate the political field in municipalities, the median number of parties fielding candidates being six.[9]

2.3 Parties and Voters as Selectors of Politicians

Our goal is to not only characterize political selection, but also to shed light on what is the role of voters and political parties in the selection process. This has broader implications regarding differences between voter- and party-centered electoral environments.

Political parties are well equipped to identify, recruit, and award people with high motivation and intellectual capacity. Dal Bó et al. (2017) show that in Sweden, where the political system is party-centered, elected politicians and electoral candidates possess more cognitive ability and leadership skills than the general population. They attribute this finding to party screening and positive self-selection. Indeed, voters play only a small role in the Swedish and other similar, party-oriented systems. Even if voters have the opportunity to influence the rank-order of candidates by casting preference votes, they tend to support candidates on top of the list, and hence to confirm the preferred rank-order of the party (Hix 2004).

What are we to expect from a system in which voters exercise significant control over the final stage of the selection process? How does the electoral system influence parties' incentives and

[9]Municipal elections held between 1996 and 2008 were dominated by three large parties from the political left, center, and right: the Social Democratic Party, the Center Party, and the National Coalition Party, respectively. In 2012, the populist party True Finns became the fourth largest party. Other parties that hold seats in both municipal councils and national parliament include the Left Alliance, the Green Party, the Swedish People's Party and the Christian Democrats.

capability to nominate good candidates? Do voters have sufficient capacity to adequately screen for human capital?

In voter-centered political systems, such as under proportional representation with open lists which we study, parties have a much weaker control over who is elected. They largely act as gatekeepers, determining the choices that are available to voters (Norris 1997; Gulzar and Khan 2018). In this process, they may seek to maximize chances of victory by fielding a list of candidates that appeals to various voter segments. This has ambiguous implications for candidate quality.

The final sorting from the pool of nominees to the elected representatives is entirely controlled by voters. Preference votes cast by voters determine the ranking of candidates, and in the end, which of the nominees will hold the seats that the party manages to win. Having said that, while parties have low incentives to care about the distribution of votes under open-list proportional representation from a theoretical point of view (Shugart and Taagepera 2017), they may be able to retain a role in shaping within list competition. For example, by fielding candidates that do not have overlapping support bases with the party's favorites, a party can indirectly influence which candidates get elected (Cheibub and Sin 2020).

When voters have an important weight in the selection process, candidates are incentivized to cultivate a personal reputation independently of the party, which is expected to cause lower party cohesion (Hix 2004) and to encourage politicians to deliver particularistic services to their constituencies (Ames 1995; Carey and Shugart 1995).[10] Voters in turn are faced with a complex choice setting. They need to identify both a party and a single candidate to support out of a large selection. These forces could lead toward worse political selection in voter-oriented systems.

Theoretically, a larger number of options to choose from can increase citizens' utility from voting. With many candidates, voters are more likely to find an option that accurately represents their preferences (Cox 1997; Downs 1957). In practice, however, larger choice sets also mean a higher cognitive burden for voters who must learn more during campaigns to identify their "ideal" vote choice (Downs 1957; Lau and Redlawsk 1997). The literature on voters' decision-making

[10]That said, candidates with public service motivations could be equally self-selected into politics under both party- and voter-centered systems.

points towards a trade-off between the number of candidates to choose from and the quality of the choices voters make (André and Depauw 2017; Cunow 2014; Cunow et al. 2021; Söderlund, von Schoultz, and Papageorgiou 2021).

In contrast, some researchers point towards voters using what has been described as *low-information rationality* (Popkin 1991). Voters can apply coping strategies such as heuristics or information shortcuts which may allow them to make reasonable voting decisions even when overloaded with information (Mondak 1993; Lupia 1994). For instance, latent candidate ability could correlate with heuristics that are observable to voters. Furthermore, candidate traits might matter for campaigning skills and resources or ideology and party choice—which can be important in determining who becomes a candidate and who gets elected.

3 Data and Measurement

To investigate the importance of cognitive ability and (non-cognitive) personality traits in politics, we combine several administrative registers. The test scores come from the Finnish Defense Forces. We are able to merge them with information on electoral candidates from the Finnish Ministry of Justice and population registers from Statistics Finland. This merging can be done without any errors using unique personal identifiers. The final data are comprised of a random sample which is fully anonymized and accessible only in Statistics Finland's remote access system, which helps us tackle ethical and data protection concerns.

3.1 Cognitive Ability and Personality Tests

The main novelty of our data are the test scores from the cognitive ability test (*Peruskoe 1*) and personality test (*Peruskoe 2*) administered by the Finnish Defense Forces. The contents of these tests are summarized in Table 1. The cognitive abilities and positive personality traits are mostly positively correlated with each other, but not perfectly and to a varying extent. This indicates that the scores capture different dimensions of ability (see Online Appendix Figure A1).

All conscripts must take the cognitive ability and personality tests early in their military service, which means that around 80% of the male population are included in the data. For our research, we acquired a 90% random sample of the individuals that took the tests, excluding active military personnel. The cognitive test scores are available for the years 1982-2014, and the non-cognitive test scores for the years 1982-2000. The test measuring personality traits was revised in 2001, when an entirely new section on leadership skills was added to the test.

A clear strength of the data is that they contain a large and stable share of Finnish men over an extensive period of time.[11] This allows us to register test scores for a substantial share of men at a certain point in life—typically around the age of 18, prior to political experience and occupational and final educational influences—and to differentiate between the general male population, those who later become electoral candidates, and those who are successful in this selection process.

The Finnish Defense Forces uses the test scores as one of the criteria in selecting conscripts to military officer training. Therefore, the tests are constructed to screen high-quality military leaders, and thus, they are likely to capture skills that are relevant also for political leaders. The validity of the test and its predictive power for successful military service have been evaluated in several internal reports (Nyman 2007): the tests have good internal consistency, and the test scores correlate with other components of leadership selection such as peer review and evaluations by army personnel. Furthermore, there is evidence that the test scores are positively correlated with desirable outcomes even outside the military. Jokela et al. (2017) show that both cognitive and non-cognitive ability correlate positively with labor market success in adulthood, and Grinblatt, Keloharju, and Linnainmaa (2011) argue that higher levels of intelligence are associated with higher (risk-adjusted) stock market returns.

Cognitive Test. The cognitive test is composed of three subtests which measure visuospatial, verbal, and arithmetic reasoning (40 questions each). The visuospatial test is similar to the widely

[11]The test items have remained unchanged during the period that we examine, so the scores are comparable across cohorts. Importantly, the test results are not public information. Details regarding the test contents are a military secret, and the conscripts do not know how the test is scored. This makes gaming the test more complicated.

used Raven's Progressive Matrices. In the verbal part of the test, the test-takers are asked to identify synonyms and antonyms, form groups of words that belong to the same category, find words that do not belong to a group, and point out the relation between two words. Finally, the arithmetic subtest tests conscripts' ability to construct number sequences, solve verbally given mathematical problems, solve simple algebraic problems, and explain the relationship between two numbers.

Non-Cognitive Test. The personality test captures eight non-cognitive personality traits, most of which can be thought of as non-cognitive skills. In total, the test includes 218 statements, and the respondents must state whether they agree or disagree with these.

The first personality trait captured by the non-cognitive test is leadership motivation, which measures the preference for taking charge in groups and influencing other people.[12] Second, the activity-energy score gauges how much a person exerts physical effort in everyday activities and how quickly he prefers to execute activities. Third, the test measures achievement striving with questions about how strongly the person wants to perform well and achieve important life goals. Fourth, the self-confidence score measures the person's self-esteem and beliefs about his own abilities. Fifth, the personality test includes questions that allow us to measure deliberation, i.e., how much the person prefers to think ahead and plan things before acting. Sixth, the test allows measurement of sociability based on the self-expressed level of gregariousness and preference to socialize with others. Thus, the measure can be informative about how well a person can work together with a team. Seventh, the dutifulness score captures how honest a person is—it tells us how closely he follows social norms and considers them to be important (e.g., whether the person would return money if given back too much change at a store).

The eighth and last non-cognitive trait is masculinity, which is measured based on occupational and recreational interests that are traditionally considered as masculine as opposed to feminine.

[12] Also Dal Bó et al. (2017) examine leadership motivation in their study of political selection in Sweden. However, they observe the score only for a selected sample of individuals who scored high enough in the cognitive ability test and were being considered to be selected for leadership training. In our case, all conscripts take the personality test, leading to a more representative sample.

Although this trait hardly resembles a non-cognitive skill in the same sense as the other traits that we consider, we include it in our analyses for sake of completeness.

Jokela et al. (2017) show that traits measured in the non-cognitive test capture some of the Big Five personality traits. More precisely, the sociability, leadership motivation, activity-energy, and self-confidence scores are closely related to extroversion, i.e. how energetic, sociable, and friendly a person is. Achievement striving, deliberation, dutifulness, and self-confidence correlate positively with conscientiousness, or how careful or diligent a person is. Self-confidence is also negatively correlated with neuroticism (disposition to experience negative affects). However, agreeableness—how warm, friendly, and tactful a person is—and openness to new experiences are not well captured by the personality tests used by the Finnish Defense Forces.

3.2 Election Results

We have information on municipal election candidates for six local government elections held in 1996, 2000, 2004, 2008, 2012, and 2017.[13] These data come from the Finnish Ministry of Justice, and they contain the candidates' social security numbers which allows Statistics Finland to merge the data with other sources without any errors. The data cover both elected and non-elected electoral candidates. In total, we have around 230,000 candidate-election year observations. Slightly more than half of this are unique individuals. The data include information on candidates' election status, number of votes, and *encoded* political party and municipality.[14]

We complement the data on local politicians with a sample of non-elected and elected candidates in parliamentary elections. We have a sample of these candidates for three elections in 2007, 2011, and 2015. The sample comprises around 87% of male candidates who have completed their military service, slightly less than a thousand individuals.[15]

[13] All municipalities hold municipal elections at the same time. The number of municipalities decreases over time due to municipal mergers. In the 2017 election, there were 311 municipalities.

[14] Due to the delicate nature of our data, we cannot compare selection across political parties.

[15] Similar to local politicians, the basis of the data is a 90% random sample (of male candidates). On top of this, 3% of the individuals were removed from the random sample as there was a high

3.3 Population Registers

To construct our final data set, we merge our test score and municipal election data with administrative registers from Statistics Finland.[16] These data serve us with two purposes.

Firstly, the administrative registers contain diverse measures of socioeconomic background characteristics of the politicians and the population. We can measure individuals' current socioeconomic status with their educational attainment, disposable income, and socioeconomic group, which we observe for each election year in our data.[17] Moreover, we use modern population registers and the 1970 census to measure family background of the individuals by their own childhood socioeconomic group, defined as the occupational class of the household head.

Secondly, we use the population registers to construct our final sample in accordance with our data use permission. For each municipality and election year, we draw a 10% random sample of the adult population who were not politicians. This sample includes both men and women, but most of our analyses use data on men only given our focus on selection on personality and intelligence.

In the end, we are left with a large sample of office-eligible citizens, electoral candidates, and elected politicians. The number of observations we have varies across analyses from around 243,000 to around 385,000. We lack data for a small share of men who opted for civil service instead or who were excused from military service for medical reasons. The most obvious and serious weakness of our data is that they exclude women. We thus complement our main analyses by studying the selection of female politicians on observable characteristics—labor market outcomes and educational attainment—that correlate with cognitive and non-cognitive ability.

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risk that they could be identified despite the anonymization. Thus, the final sample of national election candidates may be somewhat selected.

[16] The sample of parliamentary election candidates cannot be linked to the background information from the population registers in order to preserve anonymity of the subjects in our data.

[17] Our education variable contains three groups: secondary education, undergraduate degree, and graduate degree. Disposable income is rounded to the closest 500 euros for incomes below 90,000 euros and truncated at 90,000 euros. The socioeconomic group variable contains five occupational categories: entrepreneurs, skilled non-manual workers, non-skilled non-manual workers, manual workers, and others (for example, students and pensioners).

Table 1. Components of the cognitive ability and personality tests.

Score	Questions	Explanation
Panel A: Cognitive ability test		
Verbal	40	The participant needs to identify synonyms or antonyms of a given word, select a word that belongs to the same category as a given word pair, choose which word on a list does not belong in the group, and choose similar relationships between two word pairs.
Arithmetic	40	The participant must complete a series of numbers that follow a certain pattern, solve short verbal problems, computing simple arithmetic operations, and choose similar relationships between two pairs of numbers.
Visuospatial	40	The participant needs to decide which of the given alternative figures completes a matrix containing a pattern with one removed part.
Panel B: Personality test		
Leadership motivation	30	The score measures how much the person prefers to take charge in groups and influence other people.
Activity-energy	28	The score measures how much the person exerts physical effort in everyday activities and how quickly the person prefers to execute activities; e.g., whether the person tends to work fast and vigorously and prefers fast-paced work.
Achievement striving	24	The score measures how strongly the person wants to perform well and achieve important life goals; e.g., whether the person is prepared to make personal sacrifices to achieve success.
Self-confidence	32	The score measures the person's self-esteem and beliefs about his abilities; e.g., whether the person feels to be as good and able as others and can meet other people's expectations.
Deliberation	26	The score measures how much the person prefers to think ahead and plan things before acting; e.g., whether the person prefers to spend money carefully.
Sociability	33	The score measures how fond of company a person is and his preference for socializing with other people; e.g., whether the person likes to host parties and not withdraw from social events.
Dutifulness	18	The score measures attitudes and behaviors related to honesty, i.e., how closely the person follows social norms and whether he considers them to be important; e.g., whether the person would return money if he was given back too much change at a store.
Masculinity	27	The score captures the extent to which the person's occupational and recreational interests are traditionally considered as masculine (instead of feminine); e.g., whether the person would like to work as a construction manager.

Source: Jokela et al. (2017)

4 Patterns of Political Selection

With these data at hand, we proceed to presenting a detailed characterization of the psychological profiles of the Finnish political elites and their constituents. We first describe selection on cognitive abilities and then proceed to selection on non-cognitive traits. The third subsection compares politicians with individuals in different occupations or with different levels of education. In the fourth subsection, we examine what matters the most for candidate entry and election. In the final subsection, we discuss political selection over time.

4.1 Selection on Cognitive Abilities

We find that both political parties and voters select their candidates positively on all cognitive ability traits.[18] Nominated (but non-elected) politicians have higher scores than normal citizens, on average. Panel A of Table 2 suggests that the visuospatial reasoning scores are somewhat higher for non-elected elected candidates than the population: the difference is slightly more than half a point or 0.09 standard deviations.[19] Similarly, the elected candidates have obtain higher scores on average than the non-elected candidates. The difference between them is about 0.14 points or 0.02 standard deviations.

The differences are more striking for verbal and arithmetic reasoning scores. The verbal test scores are 1.5 points (or 0.21 standard deviations) higher for the nominated but non-elected candidates than the general population, and 0.92 points (or 0.14 standard deviations) higher for the elected politicians than the non-elected candidates. Similarly, the non-elected candidates got on average 1.2 points more in the arithmetic test than regular citizens, whereas the elected

[18] Given our large sample size, the differences are statistically significant with p-values well below 0.01. The only exception is the visuospatial reasoning score for which the difference between non-elected and elected candidates is significant with $p \approx 0.05$.

[19] We have constructed the standardized measures (or z-scores) using the full sample by deducting the mean and dividing by the standard deviation. Thus, the standardized variables have a mean of zero and a standard deviation of one.

politicians got on average 1.3 points more than the non-elected candidates. These differences correspond to 0.16 and 0.17 standard deviations, respectively.

Moving beyond the average differences, Figure 1 plots complete test score distributions for the population, the non-elected candidates, and the elected local councilors. All panels exhibit a clear gradient: the test score distributions are more skewed to the right for (non-elected) candidates than the population, and for elected politicians than the candidates who were not elected. In tally with our conclusions on the average differences, this pattern is particularly clear for the arithmetic and verbal test scores.

The Finnish Defense Forces uses the cognitive test score data to construct stanine test scores measured on a scale from 1 to 9 and a general intelligence score, also measured on a stanine scale. We complement the results here by presenting summary statistics on these stanine test scores in Online Appendix Table A1 and their distributions in Online Appendix Figure A2. The general intelligence score is comparable with the metric used by Dal Bó et al. (2017). Selection on intelligence in Finland is very similar to selection in Sweden, despite the crucially different electoral systems.

4.2 Selection on Personality Traits

Candidates and elected politicians are positively selected on seven out of eight non-cognitive traits covered by our data.[20] Masculinity is the only trait for which we do not detect any clear pattern.

Panel B of Table 2 reveals that non-elected candidates have 2.7 points higher leadership motivation scores than the regular population, and elected politicians score 0.8 points higher than non-elected candidates. These difference are meaningful in terms of their magnitude, as correspond to about 0.34 and 0.10 standard deviations.

We see clear differences also for the other non-cognitive traits. The activity-energy score is, on average, 0.72 points (0.14 standard deviations) higher for the nominated but not elected

[20]For these traits, all the differences between politicians, non-elected candidates, and the office-eligible population in their average scores are statistically significant with $p < 0.01$.

candidates than the population, and 1.1 points (0.20 standard deviations) higher for the elected politicians than the non-elected. The test results also suggest that politicians have more determined or hard-working personalities than their constituents: the achievement striving score is 1.1 points or about 0.23 standard deviations higher for the non-elected candidates than the population and 0.62 points or about 0.13 standard deviations higher for the elected local councilors than their non-elected competitors. Politicians are also more self-confident than the regular population. The average self-confidence score is 0.58 points (0.10 standard deviations) higher for the candidates who ran for election unsuccessfully than for the population. The elected representatives have 0.63 points (0.11 standard deviations) higher self-confidence scores than the non-elected candidates. In terms of deliberation, the non-elected candidates moderately score 0.20 points higher (0.04 standard deviations) than the population, and the elected candidates score 0.68 points higher (0.13 standard deviations) than the non-elected candidates. Politicians exhibit higher levels of sociability, which suggests that they are good team players. The difference between the non-elected candidates and the population is large, 1.7 points (0.22 standard deviations), and the difference between the politicians and non-elected candidates is 0.7 points (0.09 standard deviations). The differences are also notable for dutifulness—despite prevalent concerns regarding politician honesty in various contexts. Electoral candidates who did not get elected have, on average, 0.89 points higher dutifulness scores than the population. Non-elected candidates score 0.59 points above those who did not get elected. These raw differences translate into 0.24 and 0.16 standard deviations, respectively.

In the last row, we consider the masculinity trait. We do not see any systematic pattern. Candidates are less masculine than the population, but elected politicians are more masculine than other candidates. This indicates that the role of this trait in political selection is distinct from that of the non-cognitive skills.

Figure 2 echoes our remarks regarding the average differences. The graph plots the distributions of the non-cognitive personality test scores. Positive selection is clearly visible in all panels except for the masculinity score that we look at in the last panel. For all other traits, we see

that the distributions for the nominated but non-elected candidates are more skewed to the right than the distributions for the population, while the distributions for elected politicians are even more skewed to the right.

4.3 Test Taking Attitudes of Politicians and Citizens

One concern is that (future) politicians might give different answers to the tests not because of their psychological traits but because their political aspirations drive them to give socially desirable answers.[21] One way of detecting this is to use the so-called Lie-score (see also Jokela et al. 2017). Lie-score measures attempts to give an overly favorable impression of one's conduct, and it is also captured in the tests conducted by the Finnish Defense Forces. High scores suggest that the person is attempting to "fake good". Supporting our interpretation that the test score differences reflect actual positive selection on cognitive and non-cognitive skills, there are only very small differences between the general population (average score = 6.2), and non-elected candidates (6.5) and elected candidates (6.5)—less than one-tenth of the standard deviation.

4.4 Politicians versus Different Occupations and Educational Backgrounds

We corroborate our arguments regarding positive selection in politics further in Table 3, where we report average test scores in national politics (i.e., for professional politicians), and by occupational groups and educational backgrounds. This table further serves a sanity check in the sense that the test scores that we use seem to capture meaningful skills outside of the political sphere. Both the cognitive reasoning and the desirable personality trait scores tend to increase as we move towards more high-skilled occupations or when the level of education increases.

Columns (1)-(3) present means of cognitive ability scores. In Panel A, we first see that the positive selection is not limited to local contexts, where voters might be closer to the politicians and hence better aware of their capabilities—positive selection appears to take place also in

[21] Relatedly, Gneezy et al. (2019) propose that the motivation to do well in a test can be an important driver of test scores.

national politics. Both non-elected candidates and elected MPs included have higher scores than the population, and MPs have higher verbal and arithmetic reasoning skills than non-elected candidates. Parlamentarians' average visuospatial reasoning score is about one-fourth of the standard deviation higher than the average score of the general population, and the same differences in verbal and arithmetic reasoning scores are about three-fourths of the standard deviation and two-thirds of the standard deviation, respectively.

Panel B then shows the averages for nine different occupational categories: managers (e.g., CEOs and top bureaucrats); professionals (e.g., economists, teachers, lawyers, and medical doctors); technicians (e.g., opticians, police, and therapists); clerical support workers (e.g., librarians, secretaries, and accountants); service or sales workers (e.g., chefs, waiters, and childcare workers); skilled agricultural, forestry, and fishery workers; craft and related trades workers (e.g., painters, plumbers, and masons); plant and machine operators, and assemblers; and elementary occupations (e.g., waste management workers, cleaners, and fast-food chain workers). Local politicians have, on average, similar cognitive abilities as people who work in technician occupations. MPs score higher than any other occupational groups in both verbal and arithmetic reasoning, but they do not appear to have superior visuospatial reasoning skills.

We also look at groups of citizens by level of education in Panel C. In terms of their visuospatial, verbal, and arithmetic reasoning skills, local politicians place somewhere between men with secondary education or an undergraduate degree. MPs score slightly higher in verbal and arithmetic reasoning than individuals with an undergraduate degree, on average. Panel D splits the data by field of graduate education. For instance, we can see that MPs' average cognitive reasoning skills are on par with fields like education or arts and humanities.

Columns (4)-(11) focus on average personality trait scores. We first confirm that the positive selection on useful personality traits happens also in national politics: MPs score higher than non-elected candidates in all seven non-cognitive skills, and national politicians' scores are higher than those of the regular citizens. Moreover, local politicians' non-cognitive ability profiles resemble those of people who work in most skilled occupations as managers, professionals, and technicians.

National politicians are even more skilled, on average, than workers in any of the occupational groups. In terms of level of education, MPs score higher than any group while local politicians typically have average scores between undergraduates and graduates. Nevertheless, it is difficult to see any systematic pattern when we consider fields of graduate degrees. The political class appears to match with diverse educational groups depending on the trait. For example, it is interesting that natural sciences, mathematics, and statistics graduates score higher in cognitive skills than MPs, but they appear to possess less desirable non-cognitive skills.

4.5 What Matters the Most for Entry and Election?

It is undeniable that both politicians and citizens select positively based on cognitive and non-cognitive profiles, but our findings thus far suggest that parties and voters may not pick politicians based on the entirely same criteria. The traits that we observe are correlated with each other and with other later-life outcomes, which may further matter for candidate entry and getting elected. Moreover, candidates who possess certain traits might also be sorted into certain political parties or be more likely to run for election in certain types of municipalities, which could also play a role here. To better understand what matters for candidate entry and election, we will thus estimate multivariate regressions.[22]

Before summarizing the main takeaways, let us walk the reader through the contents of Table 4 (where the dependent variable is an indicator for entering as a candidate) and Table 5 (where the dependent variable is an indicator for getting elected). We multiply the dependent variables by 100 so that the estimation results can be interpreted as percentage points. To facilitate comparisons between the different scores that are measured using different scales, we have standardized them. Thus, the regression coefficients can be interpreted as changes in the dependent variable that are

[22]We fundamentally care about the unconditional selection described in the previous subsection. It is important to learn whether parties, voters, and the election system in general select politicians positively on, for example, dutifulness—regardless of whether it is because of dutifulness itself, or because dutifulness is correlated with some other observed or unobserved characteristic. This subsection offers a complementary view and takes a step towards answering if the positive selection takes place because of some trait or another.

associated with a one standard deviation change in the regressors. We present regression results from various different specifications. Columns (1) and (2) only include cognitive and non-cognitive traits, respectively, and column (3) simultaneously includes both sets of test scores in the same regression. We then include additional covariates. Columns (4)-(6) controls for a set of individual characteristics: indicators for current socioeconomic group, educational attainment, and income decile. One important caveat with these analyses is that some of the covariates may be at least partially determined by the personality traits and cognitive abilities, which could induce post-treatment bias in our estimations. Finally, columns (7)-(9) add fixed effects for municipality and election year. In Table 5, we additionally control for party fixed effects.

Table 4 examines the correlates of entry. As we only observe samples of the electoral candidates and the population, we weigh our data with inverse sampling probabilities. Throughout the table, verbal reasoning, arithmetic reasoning, leadership motivation, and dutifulness are systematically positively associated with entry. Some of the characteristics seem to discourage individuals from running for office; the point estimates are negative and statistically significant for visuospatial reasoning, self-confidence, deliberation, and masculinity throughout the estimated models, and also for activity-energy in the most extensive models (columns 8 and 9). For achievement striving and sociability, the findings are not conclusive.

We observe that some of the non-cognitive skills are more important determinants of candidate entry than cognitive skills. In particular, leadership motivation stands out as an important predictor of entry. An increase of one standard deviation is associated with a $0.5 - 0.7$ percentage points higher probability of running as a candidate. The regression coefficients are small, but this is expected given the low baseline entry rate. For instance, in the year 2017, the average office-eligible population was around 14,200 inhabitants, and the average number of candidates was 250. This suggests an average entry rate of around 1.8%.

We then present the estimation results for the probability of getting elected in Table 5. To study the relationship between election probability and cognitive and non-cognitive traits, we restrict our estimation sample to those individuals who ran for election in the first place. The signs of the

regression coefficients mostly align with those that we show in Table 4. Having said that, there are a few notable exceptions, which indicates that different abilities have a different role at the candidate selection and election phases. However, these differences vanish if we do not condition the regression on running (Online Appendix Table A2).

Now, we find indicative evidence that leadership motivation is *negatively* correlated with the probability of getting elected, while its correlation with entry is positive. Note, however, that the point estimates become positive and statistically insignificant when we add the fixed effects controls. Activity-energy is an important determinant of election, whereas the regression results on entry suggested a negative (if any) relationship. There is some indication that voters care about candidate sociability, as the trait is positively associated with election. Masculinity is also positively correlated with election in most specifications, but not when we add the fixed effects. As before, visuospatial reasoning and self-confidence have a negative and statistically significant relationship with the probability of getting elected. In contrast, scoring higher on verbal or arithmetic reasoning and dutifulness seems to boost the chances of election. The estimates for achievement striving and deliberation do not point towards any systematic relationship.

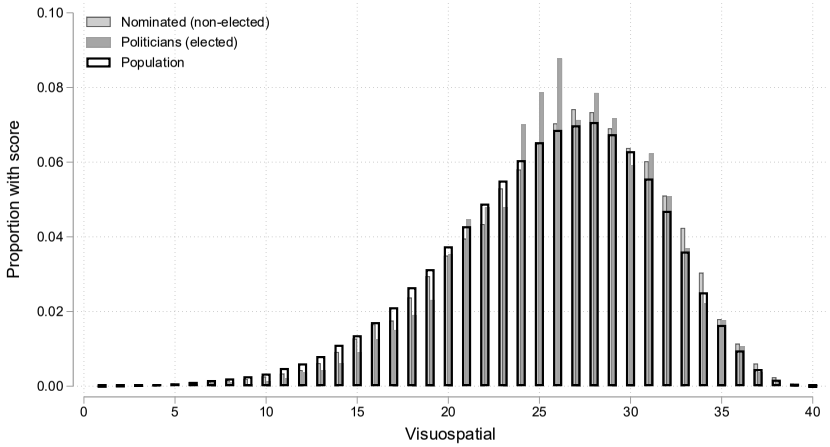
4.6 Differences over Time

Our findings highlight positive selection on both cognitive and non-cognitive skills, but some aspects of personality appear to be more important than any dimension of cognitive ability that we can measure with our data. To some extent, this resonates with recent work in labor economics which has highlighted the growing importance of non-cognitive abilities in determining individuals' labor market outcomes (Deming 2017; Edin et al. 2022). To understand whether the role of cognitive and non-cognitive abilities in political selection has been changing over time in a similar manner, we plot the average test scores in Online Appendix Figures B1 and B2. We do not detect any systematic trends.

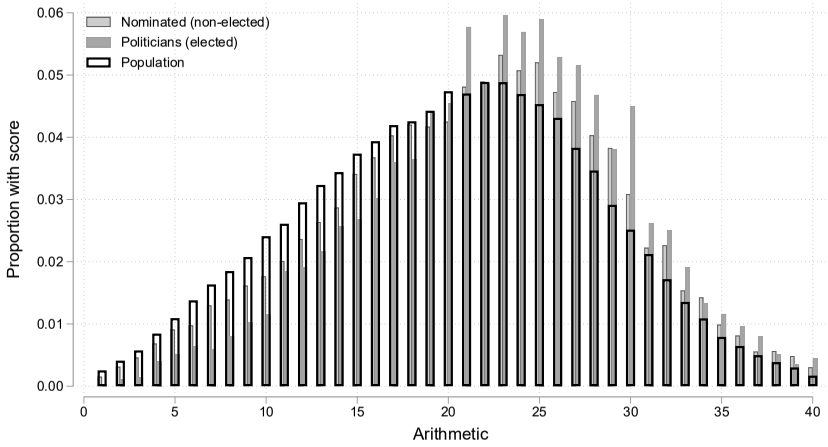
Table 2. Average cognitive ability and personality test scores by group.

	Population			Nominated (non-elected)			Politician (elected)		
	N	Raw	Standardized	*N*	Raw	Standardized	*N*	Raw	Standardized
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Cognitive abilities									
Visuospatial	350903	25.436	-0.039	24946	25.960	0.052	8694	26.103	0.076
Verbal	350914	22.519	0.032	24946	23.992	0.238	8694	24.976	0.376
Arithmetic	350754	20.121	-0.005	24937	21.357	0.154	8694	22.650	0.319
Panel B: Personality traits									
Leadership motivation	269748	14.655	-0.012	21408	17.312	0.331	7947	18.102	0.433
Activity-energy	270921	16.121	-0.006	21480	16.840	0.131	7985	17.906	0.333
Achievement striving	270716	13.441	-0.008	21458	14.558	0.220	7980	15.175	0.345
Self-confidence	270772	22.452	-0.006	21470	23.034	0.090	7987	23.661	0.195
Deliberation	270845	16.428	0.001	21465	16.631	0.039	7985	17.306	0.167
Sociability	270879	20.527	-0.007	21468	22.247	0.213	7987	22.929	0.300
Dutifulness	270588	10.904	-0.003	21457	11.793	0.239	7987	12.387	0.400
Masculinity	270799	18.516	0.005	21451	18.014	-0.170	7981	18.451	-0.018

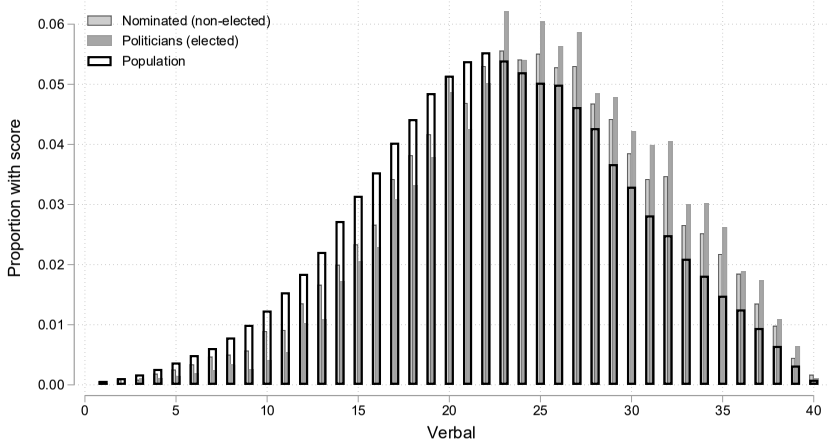
Notes: The table reports raw and standardized means of cognitive and personality test scores for the population, non-elected candidates, and elected candidates. We pool together all data from election years 1996, 2000, 2004, 2008, 2012, and 2017.



(a) Visuospatial score

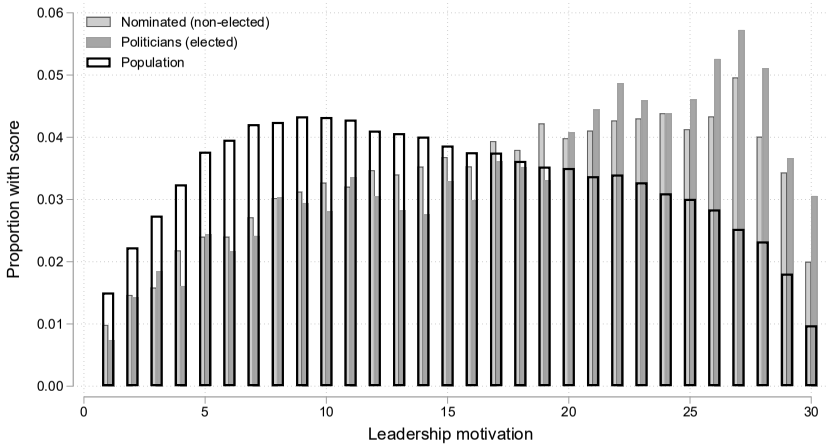


(b) Arithmetic score

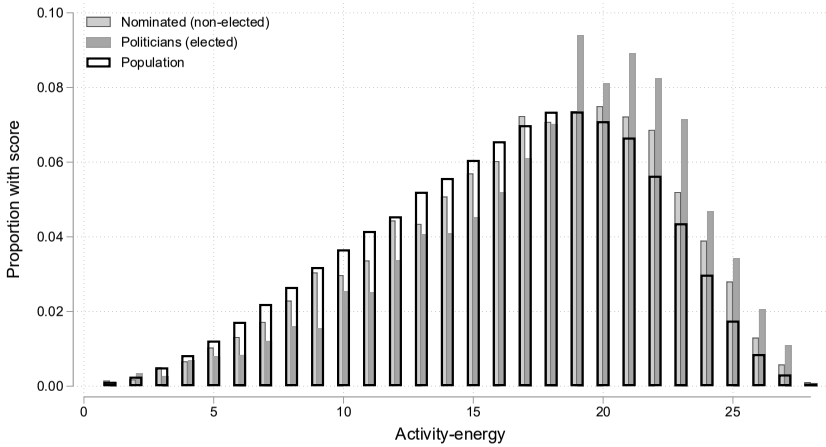


(c) Verbal score

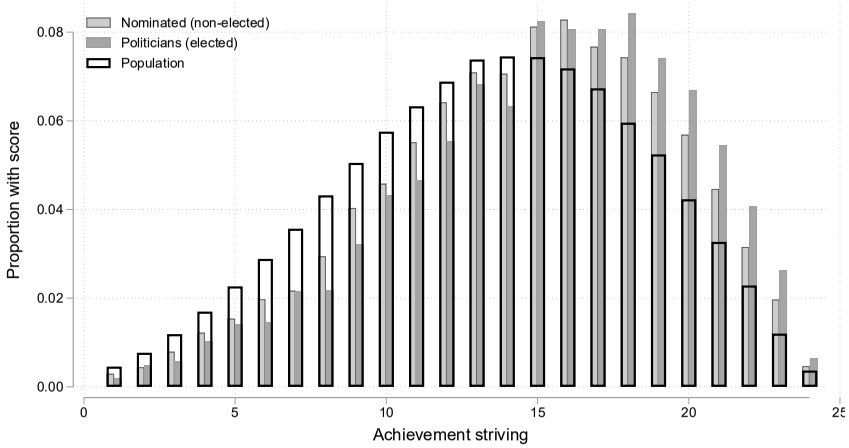
Figure 1. Distributions of cognitive ability scores.



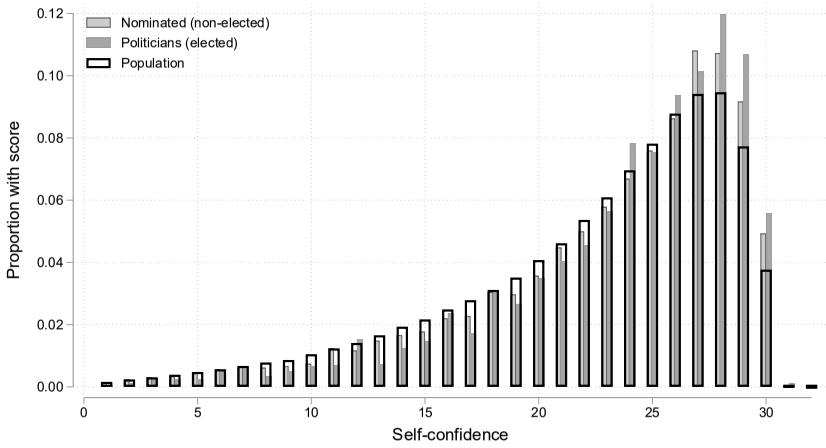
(a) Leadership motivation score



(b) Activity-energy score

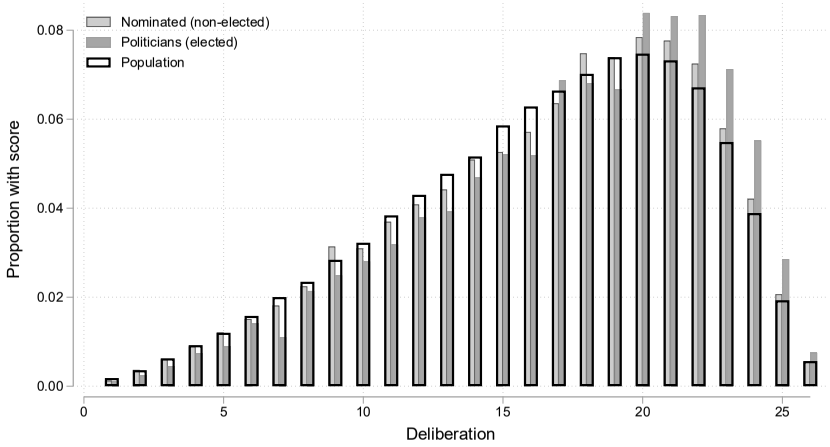


(c) Achievement striving score

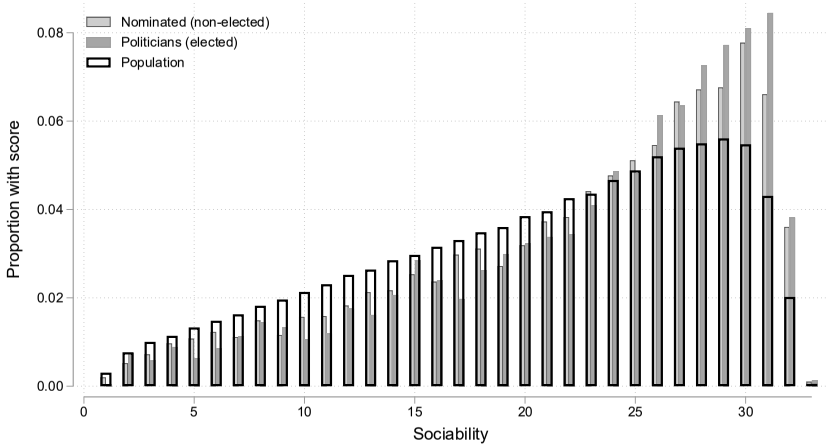


(d) Self-confidence score

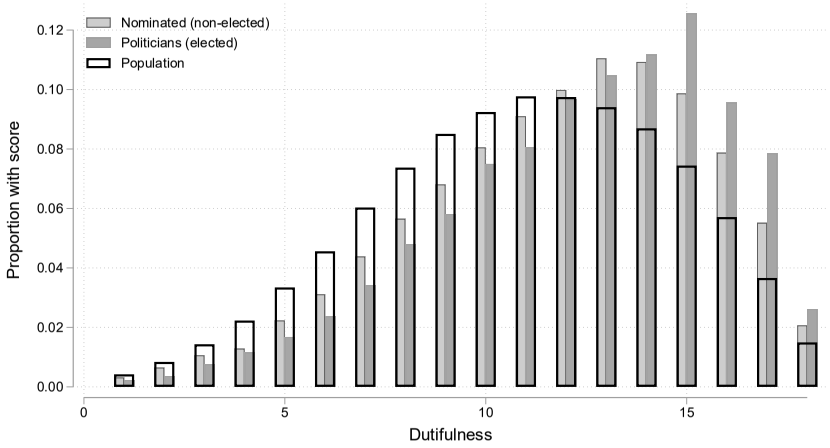
Figure 2. Distributions of personality trait scores.



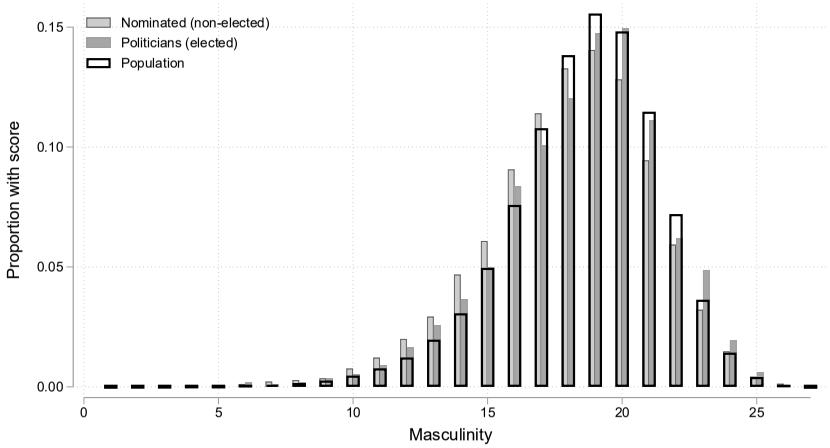
(e) Deliberation score



(f) Sociability score



(g) Dutifulness score



(h) Masculinity score

Figure 2. *(continued)* Distributions of personality trait scores.

Table 3. Average cognitive ability and personality test scores for politicians and by occupation and field of education.

	Cognitive abilities			Personality traits							
	Visuospatial	Verbal	Arithmetic	Leadership motivation	Activity-energy	Achievement striving	Self-confidence	Deliberation	Sociability	Dutifulness	Masculinity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Panel A: Average scores for politicians											
MPs	26.821	27.756	25.269	23.524	19.598	17.671	25.671	18.232	26.866	14.293	18.500
Parliamentary election candidates (non-elected)	27.384	26.114	23.309	19.282	16.893	15.264	24.179	16.788	23.085	12.344	17.657
Municipal politicians (elected)	26.103	24.976	22.650	18.102	17.906	15.175	23.661	17.306	22.929	12.387	18.451
Panel B: Average scores by occupation											
Managers	27.344	26.472	24.519	19.452	18.181	16.105	24.964	17.614	23.993	12.460	18.455
Professionals	28.333	27.243	25.288	18.026	17.107	15.769	24.688	18.153	22.454	12.574	17.956
Technicians	26.700	24.589	22.335	16.808	17.150	14.747	23.825	17.175	22.277	11.743	18.575
Clerical support workers	26.266	24.039	21.781	15.299	16.004	13.933	22.855	16.509	21.198	11.225	18.186
Service or sales workers	25.399	22.368	19.751	15.806	16.652	13.735	22.809	16.014	22.000	11.100	18.372
Skilled agricultural, forestry, and fishery workers	23.220	20.712	17.892	12.078	16.285	12.562	20.922	17.282	17.740	10.846	18.708
Craft and related trades workers	24.190	19.887	17.329	12.271	15.558	11.935	21.190	15.577	19.055	9.879	18.955
Plant and machine operators, and assemblers	23.803	20.098	17.371	12.488	15.490	11.960	21.218	15.745	19.347	10.046	18.864
Elementary occupations	24.354	20.641	18.092	12.840	15.174	12.161	21.100	15.408	19.464	10.058	18.505
Panel C: Average scores by level of education											
Graduate degree	28.767	29.003	27.237	19.361	17.461	16.701	25.380	18.972	23.033	13.233	17.682
Undergraduate degree	26.956	25.273	23.157	16.643	17.064	14.960	23.790	17.484	21.848	11.865	18.603
Secondary education	25.049	21.687	19.185	13.826	15.924	12.882	22.018	16.109	20.127	10.605	18.613
Panel D: Average scores by field of graduate degree											
Education	27.340	28.018	24.634	20.139	18.169	16.066	25.206	17.789	24.937	13.344	17.232
Arts and humanities	27.582	29.193	25.099	18.268	15.657	15.756	24.126	18.012	22.401	13.201	15.517
Social sciences, journalism, and information	27.224	28.633	26.068	19.573	16.746	16.767	24.968	18.382	23.465	13.163	17.125
Business, administration, and law	27.787	28.273	26.941	21.020	18.249	17.530	25.861	18.836	24.656	13.178	17.988
Natural sciences, mathematics, and statistics	29.164	29.171	27.510	17.209	16.341	15.940	24.619	19.065	20.841	13.069	17.515
Information and communication technologies	30.363	29.546	28.448	18.215	16.725	16.550	25.339	19.429	21.607	13.161	17.849
Engineering, manufacturing, and construction	29.816	29.236	28.371	19.223	17.809	16.859	25.748	19.502	22.681	13.179	18.422
Agriculture, forestry, fisheries, and veterinary	28.241	29.260	26.760	18.850	18.412	16.813	25.139	19.525	22.128	13.447	18.359
Health and welfare	29.024	30.289	28.316	20.156	17.802	16.695	25.770	19.396	23.402	13.751	16.999
Services	28.204	28.349	26.222	22.307	20.323	17.850	26.812	18.757	25.571	13.699	18.764

Notes: The table reports raw means of cognitive and personality test scores for a sample of MPs and national election candidates (Panel A), for different occupational groups (Panel B), by level of education (Panel C), and by field of education for individuals with a graduate degree (Panel D). Averages for MPs and non-elected parliamentary election candidates are constructed using data for the years 2007, 2011, and 2015, and in Panel B, we pool together all data from election years 1996, 2000, 2004, 2008, 2012, and 2017.

Table 4. Cognitive and non-cognitive traits as determinants of candidate entry.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Visuospatial	-0.108***		-0.090***	-0.091***		-0.094***	-0.042***		-0.058***
	[0.013]		[0.017]	[0.013]		[0.018]	[0.013]		[0.018]
Verbal	0.231***		0.106***	0.195***		0.096***	0.229***		0.137***
	[0.041]		[0.035]	[0.035]		[0.035]	[0.030]		[0.029]
Arithmetic	0.117***		0.129***	0.081***		0.123***	0.143***		0.188***
	[0.034]		[0.036]	[0.025]		[0.031]	[0.022]		[0.029]
Leadership motivation		0.503***	0.485***		0.559***	0.547***		0.670***	0.653***
		[0.078]	[0.074]		[0.078]	[0.076]		[0.070]	[0.069]
Activity-energy		-0.005	0.029		-0.028	-0.008		-0.141***	-0.108***
		[0.028]	[0.024]		[0.028]	[0.025]		[0.021]	[0.021]
Achievement striving		-0.000	-0.045**		-0.027	-0.051**		0.052**	0.008
		[0.032]	[0.022]		[0.026]	[0.022]		[0.021]	[0.020]
Self-confidence		-0.233***	-0.283***		-0.255***	-0.284***		-0.123***	-0.185***
		[0.022]	[0.025]		[0.023]	[0.026]		[0.023]	[0.030]
Deliberation		-0.134***	-0.127***		-0.157***	-0.150***		-0.214***	-0.197***
		[0.031]	[0.028]		[0.037]	[0.034]		[0.032]	[0.030]
Sociability		0.005	0.026		0.009	0.020		0.011	0.039*
		[0.019]	[0.022]		[0.022]	[0.024]		[0.022]	[0.024]
Dutifulness		0.265***	0.248***		0.260***	0.256***		0.225***	0.212***
		[0.032]	[0.027]		[0.031]	[0.028]		[0.030]	[0.028]
Masculinity		-0.159***	-0.160***		-0.177***	-0.179***		-0.265***	-0.269***
		[0.043]	[0.044]		[0.044]	[0.045]		[0.028]	[0.030]
N	383897	297412	284894	321311	252105	242743	321305	252098	242736
R^2	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02
Individual characteristics				✓	✓	✓	✓	✓	✓
FEs							✓	✓	✓

Notes: The table reports results from a weighted least squares regression where inverse sampling probabilities have been used as weights and the dependent variable is an indicator for entering politics as an electoral candidate multiplied by 100. Individual characteristics include indicators for current socioeconomic group, educational attainment, and income decile. Fixed effects include municipality, party, and election year fixed effects. Standard errors that are clustered at the municipality level are reported in brackets. ***, ** and * denote statistical significance at 1%, 5%, and 10% levels, respectively.

Table 5. Cognitive and non-cognitive traits as determinants of election.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Visuospatial	-3.081***		-2.352***	-2.388***		-2.275***	-2.088***		-2.168***
	[0.443]		[0.504]	[0.454]		[0.514]	[0.439]		[0.494]
Verbal	1.637***		1.295**	0.885*		0.857	2.115***		1.782***
	[0.520]		[0.549]	[0.513]		[0.576]	[0.472]		[0.536]
Arithmetic	4.097***		4.387***	2.243***		2.499***	2.809***		3.001***
	[0.534]		[0.607]	[0.548]		[0.623]	[0.534]		[0.601]
Leadership motivation		-2.010***	-2.151***		-1.801**	-1.766**		0.449	0.329
		[0.702]	[0.716]		[0.707]	[0.727]		[0.670]	[0.691]
Activity-energy		3.738***	4.502***		3.201***	3.479***		1.557***	2.014***
		[0.570]	[0.578]		[0.575]	[0.581]		[0.564]	[0.570]
Achievement striving		0.493	-0.597		-0.974*	-1.376**		-0.229	-0.798
		[0.556]	[0.571]		[0.574]	[0.593]		[0.573]	[0.580]
Self-confidence		-1.184*	-2.439***		-2.181***	-2.514***		-0.578	-1.297**
		[0.620]	[0.651]		[0.626]	[0.662]		[0.590]	[0.627]
Deliberation		-0.254	0.116		-0.448	-0.297		-1.100**	-0.805
		[0.515]	[0.534]		[0.532]	[0.550]		[0.496]	[0.511]
Sociability		0.438	0.922		1.813***	1.923***		1.441**	1.730***
		[0.642]	[0.647]		[0.664]	[0.670]		[0.629]	[0.631]
Dutifulness		3.145***	2.795***		2.714***	2.596***		2.450***	2.265***
		[0.551]	[0.557]		[0.570]	[0.578]		[0.565]	[0.571]
Masculinity		1.915***	1.857***		1.949***	1.822***		0.559	0.435
		[0.437]	[0.454]		[0.426]	[0.437]		[0.368]	[0.375]
N	33629	29238	28193	29764	26109	25247	29761	26108	25246
R^2	0.01	0.01	0.02	0.07	0.08	0.08	0.17	0.17	0.18
Individual characteristics				✓	✓	✓	✓	✓	✓
FEs							✓	✓	✓

Notes: The table reports results from an OLS regression where the dependent variable is an indicator for an electoral candidate getting elected multiplied by 100. Individual characteristics include indicators for current socioeconomic group, educational attainment, and income decile. Fixed effects include municipality, party, and election year fixed effects. Standard errors that are clustered at the municipality level are reported in brackets. ***, ** and * denote statistical significance at 1%, 5%, and 10% levels, respectively.

5 Does Political Selection Matter for Policy?

Next, we assess evidence on the policy consequences of positive selection on ability. We focus on the traits for which we find the strongest positive selection: verbal and arithmetic reasoning, and leadership motivation and dutifulness.

5.1 Measurement of Local Government Performance

To understand how political selection shapes the performance of local governments, we need an outcome that has a normative interpretation in the sense of "the more, the better". For example, one could hardly argue that more public spending is necessarily a good outcome. We thus follow Meriläinen (2022) and focus on fiscal sustainability. More precisely, we use data on municipal finances collected from Statistic Finland's publicly available databases to construct a fiscal sustainability index based on so-called crisis municipality criteria used by the Finnish Ministry of Finance.[23] Our index measures how many of the following six criteria a municipality *does not* satisfy: (i) the net result is negative; (ii) debt per capita exceeds the national average by more than 50%; (iii) the local government has a budget deficit; (iv) the municipal income tax rate is 0.5 percentage points higher than the national average; (v) the solvency ratio of the municipality is less than 50%; and (vi) the relative indebtedness is at least 50%. Most municipalities satisfy at least one crisis municipality criteria, and the average of the resulting index is 4.7.

The resulting index is informative about government performance for two reasons. First, failing to satisfy the criteria can lead to costly fiscal adjustment, such as forced austerity measures like spending cuts, a shutdown of public services, or a municipal merger. Second, the index positively correlates with incumbent vote shares and survey-based measures of citizen satisfaction with their home municipality (Meriläinen 2022). The crisis municipality criteria—and whether a municipality satisfies them or not—are also salient to voters.

[23] We were not allowed to combine our data with further measures of local government performance to ensure that individual municipalities cannot be identified from the data.

5.2 Empirical Strategy

We explore the relationship between fiscal sustainability and political selection by correlating our index with the average scores of local councilors, and by relying on close elections between high- and low-scoring candidates (i.e., candidates with above and below median scores). The latter approach follows the identification strategy originally proposed by Hyytinen et al. (2018). This strategy hinges on unexpected shifts in political selection generated by the randomness in the outcomes of tight electoral races between different types of candidates within political parties.[24]

Formally, these unexpected shifts are defined as the difference between the realized and the expected outcome (for municipality m at election t):

$$\frac{100}{Council\ size_{mt}} \sum_{p}^{M_{mt}} \left(\sum_{i}^{N_{pmt}} C_{ipmt} E_{ipmt} H_{ipm} - \frac{\sum_{i}^{N_{pmt}} C_{ipmt} H_{ipm}}{\sum_{i}^{N_{pmt}} C_{ipmt}} \sum_{i}^{N_{pmt}} C_{ipmt} E_{ipmt} \right).$$

Here C_{ipmt}, E_{ipmt} and H_{ipm} are indicators for a politician i running for party p being involved in a close election, getting elected, and having a high (above-median) score, respectively. N_{pmt} is the number of candidates and M_{mt} is the number of political parties. The first term within the parentheses expresses the number of high-ability candidates elected in close elections from a particular party, and the second is the expected number of high-ability candidates elected in close elections.[25] We sum this difference across parties and scale the resulting quantity such that it is expressed as a seat share.

To define electoral closeness, we construct election margin for each candidate. For the elected (the non-elected) candidates, it is the difference between their votes and the number of votes acquired by the first non-elected (the last elected) person in their party. We scale the resulting difference by the total number of votes that the party acquired to account for differences in party

[24] This is a rather demanding empirical approach, especially in our case. The fact that we do not have the test score data for all electoral candidates biases our estimates towards zero and induces noise in the estimation. Nevertheless, we take our analysis as a first step towards understanding the policy consequences of electing people with higher cognitive and non-cognitive skills.

[25] The number of high-ability candidates elected from the close elections follows a hypergeometric distribution.

size and the number of voters. We experiment with different definitions of closeness; in what follows, we report results using bandwidths of $\varepsilon = 0.4$, $\varepsilon = 0.8$, and $\varepsilon = 1.2$. About 8%, 16%, and 25% of all candidates fall within these bandwidths, respectively, and the median distances from the threshold for getting elected in terms of the absolute number of votes are 3, 8, and 13.[26]

5.3 Regression Results

Table 6 shows our estimation results. In Panel A, we report the OLS results from a specification that correlates the average verbal reasoning (column 1), arithmetic reasoning (column 2), leadership motivation (column 3), and dutifulness score (column 4) of the local councilors with our fiscal sustainability index. We focus only on these four traits to avoid multiple testing issues, and because they are the most robust determinants of political selection based on our analysis above. We see a positive and statistically significant relationship in columns (1)-(3), hinting that locations with a stronger positive selection on these traits also have more sustainable local public finances.

Panels B, C and D then present our causal analyses that hinge on close elections. The point estimates are systematically positive in columns (1) and (2), hinting towards possible positive impacts of electing individuals with higher verbal and arithmetic reasoning skills on fiscal sustainability. However, the point estimates come with very wide confidence intervals. In column (3), we see clearer evidence that leadership motivation matters: a one percentage point increase in highly motivated politicians' seat share leads to an increase of about 0.08 in the fiscal sustainability index. Lastly, the point estimates for dutiful local councilors in column (4) are small in magnitude and statistically insignificant.

To get a better sense of the effect magnitude that we see in column (3) of Panels B, C, and D, consider a median-sized local council with 27 local councilors. In such a council, increasing the representation of councilors with a high leadership motivation would induce an improvement of 0.3 in the fiscal sustainability index. This is about one-fourth of a standard deviation. This

[26]We visualize the distributions of these metrics and also show robustness to alternative bandwidths in Online Appendix C.

magnitude is in line with the effects that Meriläinen (2022) documents for the representation of high-income and re-elected incumbent politicians.

Table 6. Selected traits and fiscal sustainability of local governments.

	Verbal	Arithmetic	Leadership motivation	Dutifulness
	(1)	(2)	(3)	(4)
Panel A: OLS				
Average score	0.030**	0.030**	0.019*	0.013
	[0.013]	[0.013]	[0.010]	[0.026]
Panel B: Close elections, $\varepsilon = 0.4$				
Unexpected shift	0.028	0.006	0.080	-0.008
	[0.056]	[0.053]	[0.055]	[0.048]
Panel C: Close elections, $\varepsilon = 0.6$				
Unexpected shift	0.019	0.024	0.083**	-0.014
	[0.044]	[0.039]	[0.041]	[0.037]
Panel D: Close elections, $\varepsilon = 0.8$				
Unexpected shift	0.032	0.037	0.085**	0.015
	[0.036]	[0.033]	[0.035]	[0.033]
N	947	947	947	947
Mean of dependent variable	4.68	4.68	4.68	4.68
SD of dependent variable	1.33	1.33	1.33	1.33

Notes: The table reports results from an OLS regression where the dependent variable is an index of fiscal sustainability. Standard errors that are clustered at the municipality level are reported in brackets. ***, ** and * denote statistical significance at 1%, 5%, and 10% levels, respectively.

5.4 Validity Checks

In Online Appendix C, we report that municipalities that get more or less high-ability representation by chance are not different from each other in terms of a set of pre-treatment characteristics. This supports the validity of our empirical design. We also discuss post-treatment balance to get a better sense of the bundled nature of the treatment arising from different types of skills being positively correlated. Moreover, we propose a test to tackle concerns regarding compensating differentials. For instance, Marshall (2022) argues that the effects of politician

ability would be difficult to identify because high-ability and low-ability candidates end up in close races only if they have also (potentially unobservable) bad or good traits, respectively. To understand whether this is the case, we explore heterogeneities in the personal incumbency advantage. We find indicative evidence that, on average, high-ability candidates are more electable than low-ability candidates. This further hints that they ended up in close elections simply because of bad luck and not because of compensating differentials.

6 Discussion

In this section, we discuss further aspects of the positive selection on cognitive and non-cognitive skill that we observe. We begin with a brief examination of the selection of female politicians. The second subsection focuses on potential drivers of positive selection. We then characterize selection by social status and background in order to understand whether the positive selection comes at the cost of sacrificing representativeness of government. We conclude with insights on what might explain the variation in political selection across the country and political parties.

6.1 Selection of Female Politicians

The main shortcoming of our cognitive ability and personality trait data is that they do not include women. However, it is likely that female candidates and elected women are also positively selected on ability.[27] Firstly, they must be skillful to overcome voter biases and other obstacles they face in politics. Secondly, we do find positive selection of female candidates and elected politicians on observable characteristics which are strongly correlated with cognitive and non-cognitive abilities (see Online Appendix D). Thirdly, evidence from other contexts examining political selection by gender points towards positive selection of women: Anderson, Björkman Nyqvist, and Guariso

[27]Having said that, work in personality psychology suggests that men and women do not necessarily share the same personality traits (Weisberg, DeYoung, and Hirsh 2011), and we also know that voters do not evaluate male and female candidates' qualifications in a similar manner (Bauer 2020). Whether this has implications for which dimensions of ability matter for female candidates calls for further research.

(2022) present evidence from Uganda, and Paredes-Haz (2022) shows that women were more positively selected than men in Chile before the implementation of gender quotas.

6.2 What Is Driving the Positive Selection?

Our results suggest that both parties and voters play an important part in screening candidates and the positive selection of politicians. Parties nominate electoral candidates who possess more desirable cognitive skills and personality traits. This is fundamental for achieving a positive selection. As political scientist V. O. Key put it in his book *The Responsible Electorate* (Key 1966): "If the people can choose only from among rascals, they are certain to choose a rascal." Although political parties might at least partially internalize the preferences of voters when putting together their candidate lists, voters do not simply elect councilors whose traits would reflect the average qualities of the candidate pool. On the contrary, elected politicians appear to be more intelligent, and they obtain higher scores in tests that measure positive personality traits than the non-elected candidates. This happens even without the additional layer of party screening where parties rank candidates (c.f. Dal Bó et al. 2017 and Dahlgaard and Pedersen 2020).

Of course, it is possible that self-selection into politics is part of the story. Potential self-selection could be driven by diverse motives. It is less likely, however, that competent individuals would be encouraged to enter politics due to monetary or other material incentives. Local politicians in Finland are so-called leisure politicians who keep their every-day job even after election, and the economic returns to local political office are small (Kotakorpi, Poutvaara, and Terviö 2017). Surveys of electoral candidates usually indicate that public-service and policy motivations are important triggers of participation in local politics (Kestilä-Kekkonen et al. 2018): people who run for election to the local council oftentimes do so because they want to do something good for their community. This is plausible in the sense that local councils are responsible for important policies. Finnish local politicians wield a lot of power to affect municipal expenditures and revenues, as also suggested by our evidence in the previous section (see also Hyytinen et al. 2018; Meriläinen 2022; Harjunen, Saarimaa, and Tukiainen 2023).

6.3 Selection by Social Status and Background

Besides electing able representatives, voters may want to choose politicians who resemble them in terms of their social status and background (Norris and Lovenduski 1993; Dovi 2002; Murray 2015). However, the Finnish political class appears to be different from the general population in many ways (see Figure E1).[28] Both electoral candidates and elected politicians have a higher educational attainment than their voters, they have higher incomes, and they work in distinct occupations. Having said that, they are somewhat similar in terms of their socioeconomic background or parental occupational class.

This raises the question whether there might be trade-offs between electing more politicians with certain cognitive or non-cognitive traits and descriptive representation. We present two pieces of evidence that suggest that this is not the case.

First, both candidates and elected politicians are almost always positively selected within occupational classes, levels of education, income deciles, and family backgrounds. Online Appendix Figures E2-E5 present the average cognitive scores by group. Positive selection is particularly clear when we look at selection by occupational groups, income deciles, and parental background—but less so when we split the population in educational categories. We present similar illustrations for non-cognitive traits in Online Appendix Figures E6-E9. Resonating with what we have seen thus far, (non-elected) electoral candidates and elected politicians are on average positively selected from the population based on their non-cognitive skills. Positive selection is not present only in the case of the masculinity trait.

Second, we construct metrics of the quality of selection and representativeness of the local government. Correlating the selection and representation indices for each of our three cognitive test scores and eight non-cognitive test scores, we see no meaningful or statistically significant relationships (Online Appendix Figures E10 and E11). This indicates that electing politicians with certain traits does not mean that voters would be trading off representation of different class

[28]Figure E1 uses data on our full sample, including women, but similar patterns arise if we look at men and women separately.

backgrounds. In sum, Finland—just like its Nordic neighbors Sweden and Denmark (Dal Bó et al. 2017; Dahlgaard and Pedersen 2020)—is an "inclusive meritocracy".

6.4 Political Competition and Political Selection

While we document clear traces of positive selection in terms of various cognitive and non-cognitive skills, it is important to notice that selection is not uniform across the country or political parties. Some municipalities and some party groups exhibit greater differences between the office-eligible population and elected politicians.

In our context all municipal elections are held using the same electoral system and monetary incentives play a lesser role, so it is likely that other factors explain the cross-sectional differences in political selection. We conclude our discussion with a brief exploration of one potentially important factor: political competition between and within parties. Following the economic logic that competition leads to welfare improvements, prior research has argued that higher competition can lead to better selection of politicians (Galasso and Nannicini 2011; De Paola and Scoppa 2011; Gavoille and Verschelde 2017).

Inter-Party Competition. Online Appendix Figures F1-F4 illustrate the association between inter-party competition and the quality of selection at the municipality level. There is a strong and positive relationship between average cognitive abilities of candidates and elected politicians, and the degree of inter-party competition, which we measure with the lagged number of candidates per council seats. Similarly, we see that all personality traits except for masculinity are positively correlated with the magnitude of competition between political parties.

Furthermore, there is some evidence that higher competition is associated with stronger selection compared with the office-eligible population. We find that the cognitive selection indices are positively correlated with our measure of political competition between parties. We document similar patterns also for leadership motivation, achievement striving, and dutifulness. For other personality characteristics, there is no meaningful relationship.

Intra-Party Competition. The open-list proportional representation system that is in use in Finland generates fruitful groundings for competition within parties. To explore how political selection varies by the level of intra-party competition, we collapse our data to the party-municipality level. We use the lagged number of candidates fielded by the party (scaled by council size) as our measure for intra-party competition. We visualize the relationship between political selection and intra-party competition in Online Appendix Figures F5 and F6.

There is a strong and statistically significant relationship between intra-party competition and positive selection. Intra-party competition is also an important predictor of positive selection relative to the population (Online Appendix Figures F7 and F8).

7 Concluding Remarks

This paper characterizes the importance of cognitive and non-cognitive abilities in political selection. The Finnish electoral system combined with rich administrative data provides us with a unique opportunity to compare politicians with citizens who stay outside of politics, and to assess voters' and parties' ability to select competent politicians.

We present two main results. First, electoral candidates are positively selected on different cognitive and non-cognitive skills relative to the population. This points to parties being successful at screening for able individuals, which is in line with earlier results on political selection from contexts where the selection process is to a great extent controlled by political parties (see especially Dal Bó et al. 2017). Second, voters elect more capable politicians relative to non-elected candidates and the population. This hints that voters are able to screen for competent politicians, which is encouraging news considering the scholarship that questions voters' ability to make good decisions in challenging electoral environments (Downs 1957; Lau and Redlawsk 1997; Söderlund, von Schoultz, and Papageorgiou 2021).[29] What is more, we can

[29]Our main analyses focus on men due to data limitations, but similar patterns would likely arise for women. For instance, we show that female politicians are positively selected on labor market outcomes and educational attainment which are positively correlated with cognitive and

have able representatives without having to sacrifice broad representation of different socioeconomic groups. Thus, our results offer further evidence on what kind of electoral systems can lead to an inclusive meritocracy (Dal Bó et al. 2017; Dahlgaard and Pedersen 2020).

Although the overall selection is positive, the extent of positive selection varies across the municipalities. We show descriptive evidence suggesting that electoral competition is an important contextual determinant of selection quality. Future research should seek to provide causal evidence on competition and other determinants of political selection. One important gap is that we are short of evidence on what factors matter for entry as a candidate (Dal Bó and Finan 2018; Gulzar 2021).

These findings are good news for democracy and the performance of voter-centered electoral systems in particular. Scholars have been skeptical about the performance of open-list systems. While intra-party competition induced by open lists rewards more experienced candidates (Shugart, Valdini, and Suominen 2005), an open-list system may incentivize politicians to deliver particularistic services to their constituencies (Ames 1995; Carey and Shugart 1995; Hallerberg and Marier 2004; Ashworth and Mesquita 2006; Grimmer, Messing, and Westwood 2012), and to engage in corruption (Chang 2005; Chang and Golden 2007). Such incentives could result in adverse selection of politicians, especially when it comes to honesty. Our results contrast these views: an open-list system is able to generate a competent, motivated, and honest group of decision-makers. This echoes Hangartner, Ruiz, and Tukiainen (2019) who find that politicians elected from open lists are more educated than those elected from closed lists in Colombia.

Besides the intrinsic value of positive political selection on competence and honesty, we present tentative evidence that traits for which positive selection is particularly strong also matter for government performance. In particular, having politicians with better verbal and arithmetic reasoning abilities, and especially with more leadership motivation, seems to lead to better fiscal sustainability outcomes. Exploring the consequences of positive political selection on cognitive and non-cognitive ability beyond fiscal performance is yet another promising avenue for further work.

non-cognitive skills, although they may be imperfect measures of politician quality. Subsequent work should address this limitation and explore the selection of women in more detail.

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Personality Traits and Cognitive Ability in Political Selection

Online Appendix

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A Additional Comparisons

In this appendix, we present additional comparisons of cognitive and non-cognitive traits of elected politicians, non-elected electoral candidates, and the office-eligible population.

To first examine how the different cognitive abilities and personality traits are associated with each other, we plot a correlation matrix in Figure A1. We present the correlations separately for our full data that include regular citizens who do not run for election, all electoral candidates, non-elected candidates, and candidates. The correlations are rather uniform across these groups. We see that the cognitive abilities are somewhat correlated with each other but less so with personality traits. Among the non-cognitive abilities, we see some relationships that stand out. There appears to be clear positive correlations between leadership motivation, activity-energy, achievement striving, self-confidence, and sociability. Deliberation is most clearly positively correlated with dutifulness, which also appears to have some correlation with leadership motivation and achievement striving.

Figure A2 presents the entire distributions of the cognitive test scores using an alternative scaling, in particular stanine (1-9) scores. Moreover, Table A1 show means of the stanine test scores. Politicians score higher in cognitive tests, and the distributions of test scores are more skewed to the right for electoral candidates and elected politicians than for the general population.

The general intelligence score corresponds to the cognitive ability metric used by Dal Bó et al. (2017). The positive selection that we find in the Finnish voter-centered context is very similar to the patterns that Dal Bó et al. (2017) document in the Swedish party-centered case.

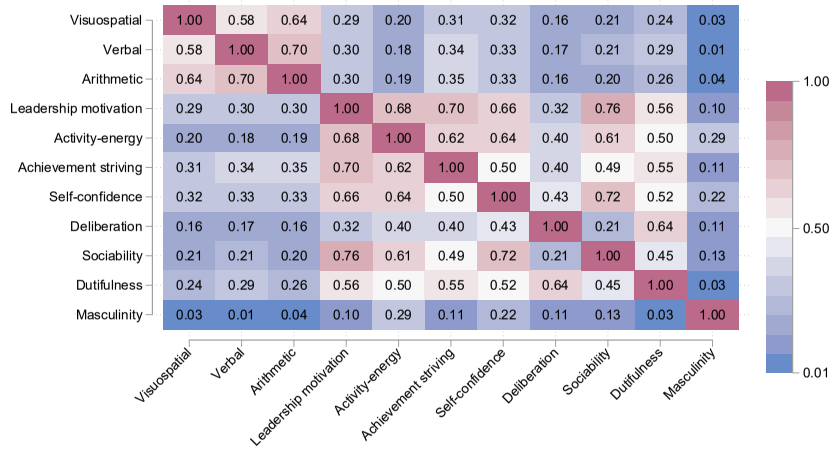
We then provide additional regression analyses on the determinants of entry and election. Table A2 reports multivariate regression results for getting elected using an unconditional specification. More specifically, we include also citizens who did not run for election in our sample and weigh the data with inverse sampling probabilities as we did when analyzing entry. This allows us to compare elected politicians with all individuals who were not elected—be they regular citizens who did not run for election or individuals who pursued political office but were not elected. As in the main

text, we use standardized test scores to ease the comparison of coefficient magnitudes. The main takeaway from these regression results is largely in line with what we learned when comparing the raw average test scores across groups: verbal and arithmetic reasoning are important predictors of becoming an elected politician, but they appear to be less important than leadership motivation and dutifulness.

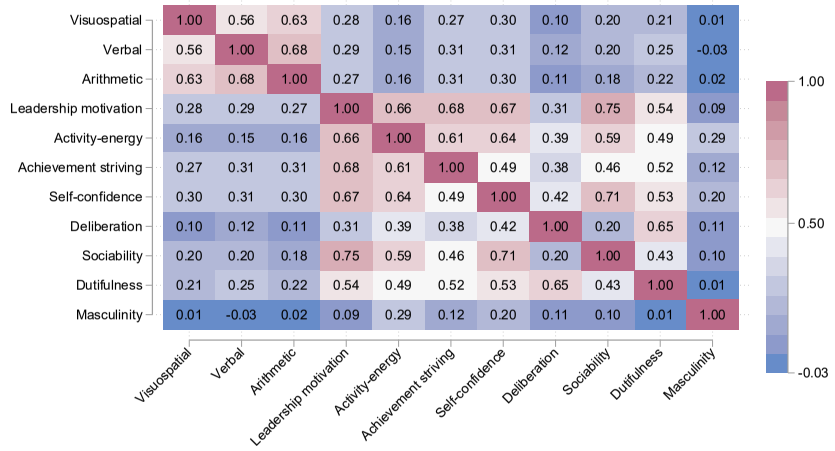
Table A1. Means of stanine cognitive ability scores by group.

	Cognitive	Visuospatial	Verbal	Arithmetic
	(1)	(2)	(3)	(4)
Population	5.252	5.267	5.031	5.222
Nominated (non-elected)	5.663	5.554	5.424	5.606
Politician (elected)	5.952	5.652	5.695	5.981
N, population	353686	350712	350712	350712
N, nominated	25019	24935	24935	24935
N, politician	8707	8694	8694	8694

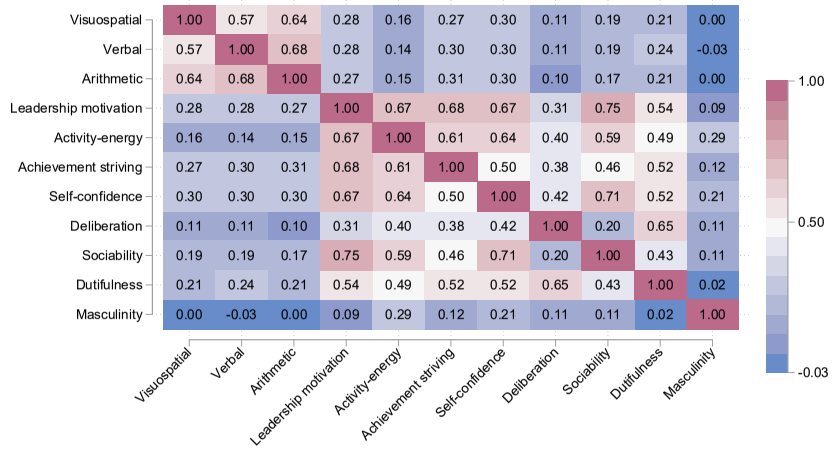
Notes: The table reports means of stanine cognitive test scores for the population, non-elected candidates, and elected candidates.



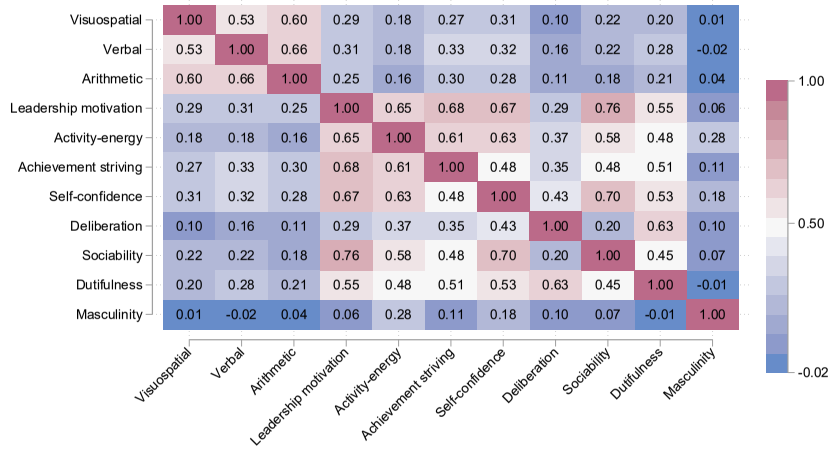
(a) Full data



(b) All candidates

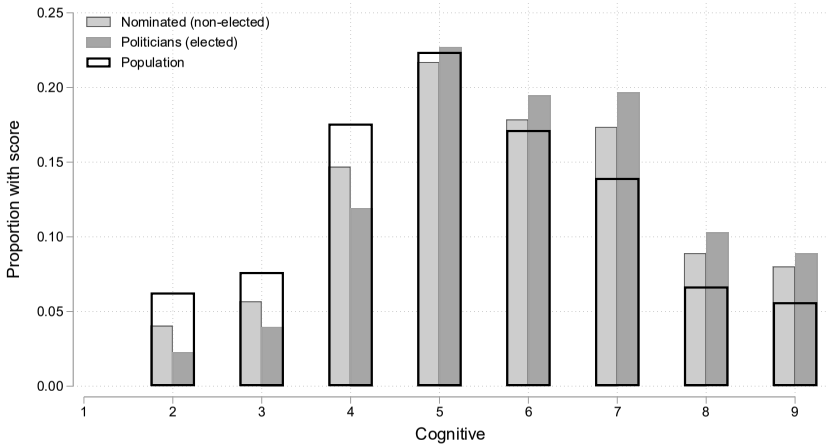


(c) Nominated (non-elected)

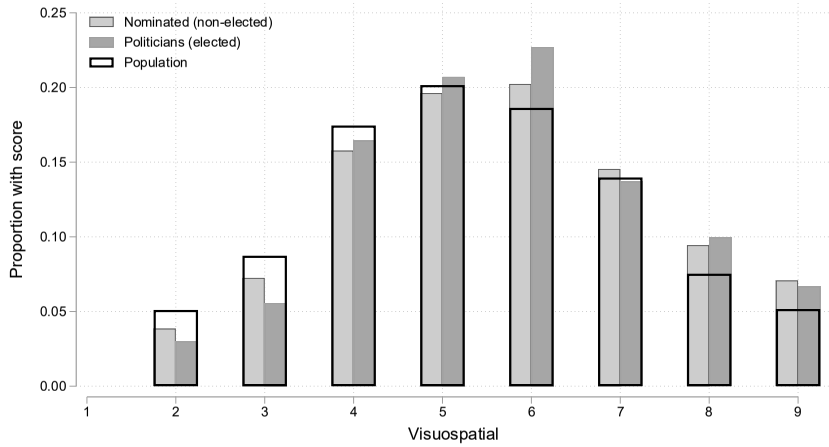


(d) Politicians (elected)

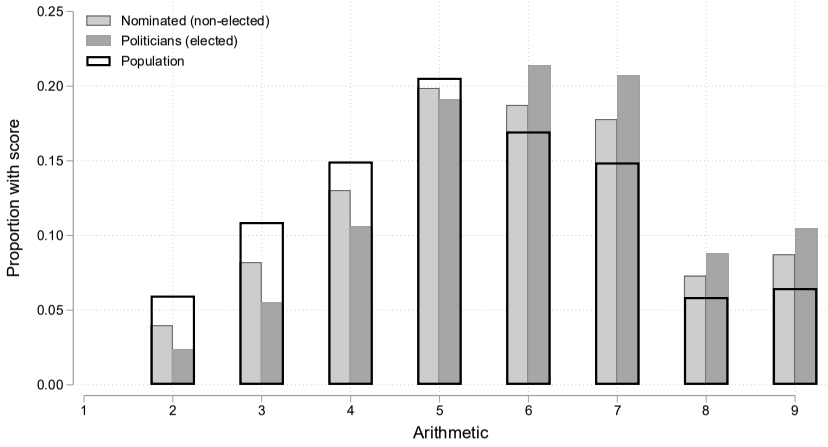
Figure A1. Correlation matrices.



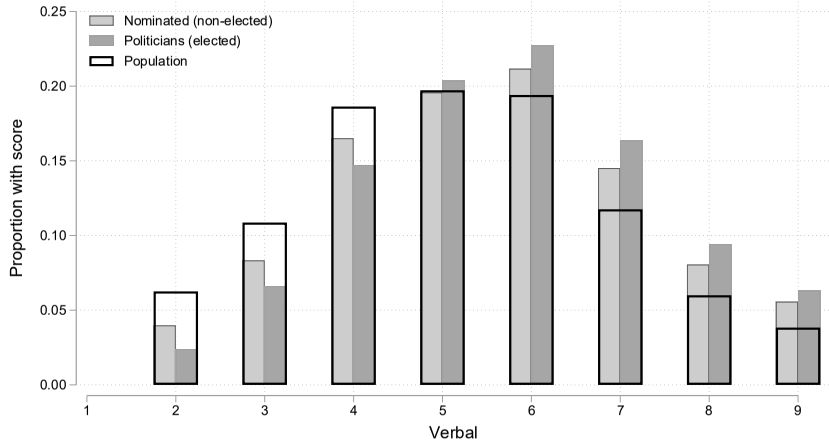
(a) Cognitive score



(b) Visuospatial score



(c) Arithmetic score



(d) Verbal score

Figure A2. Distributions of stanine cognitive ability scores.

Table A2. Cognitive and non-cognitive traits as determinants of election: regression results without conditioning for running.

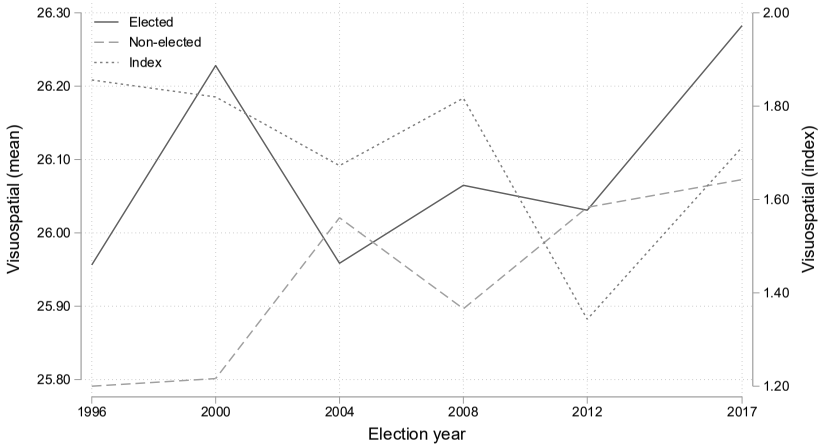
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Visuospatial	-0.060***		-0.055***	-0.048***		-0.056***	-0.027***		-0.041***
	[0.008]		[0.010]	[0.008]		[0.010]	[0.007]		[0.010]
Verbal	0.076***		0.043***	0.056***		0.037***	0.070***		0.054***
	[0.016]		[0.014]	[0.013]		[0.014]	[0.012]		[0.013]
Arithmetic	0.073***		0.086***	0.048***		0.066***	0.073***		0.091***
	[0.016]		[0.018]	[0.012]		[0.015]	[0.012]		[0.015]
Leadership motivation		0.114***	0.107***		0.118***	0.115***		0.163***	0.159***
		[0.028]	[0.027]		[0.028]	[0.027]		[0.026]	[0.027]
Activity-energy		0.046***	0.065***		0.045***	0.054***		-0.000	0.013
		[0.010]	[0.011]		[0.011]	[0.011]		[0.011]	[0.011]
Achievement striving		0.003	-0.021**		-0.022**	-0.032***		0.012	-0.007
		[0.011]	[0.009]		[0.011]	[0.011]		[0.011]	[0.011]
Self-confidence		-0.078***	-0.106***		-0.094***	-0.106***		-0.039***	-0.065***
		[0.010]	[0.013]		[0.012]	[0.014]		[0.012]	[0.015]
Deliberation		-0.037***	-0.032***		-0.045***	-0.041***		-0.069***	-0.060***
		[0.011]	[0.010]		[0.013]	[0.013]		[0.013]	[0.012]
Sociability		0.003	0.015		0.019	0.024*		0.021*	0.033**
		[0.010]	[0.011]		[0.012]	[0.013]		[0.012]	[0.013]
Dutifulness		0.106***	0.098***		0.103***	0.101***		0.088***	0.083***
		[0.016]	[0.014]		[0.015]	[0.015]		[0.014]	[0.014]
Masculinity		-0.015	-0.017		-0.017	-0.019		-0.052***	-0.056***
		[0.014]	[0.015]		[0.014]	[0.015]		[0.010]	[0.011]
N	383897	297412	284894	321311	252105	242743	321305	252098	242736
R^2	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
Individual characteristics				✓	✓	✓	✓	✓	✓
FEs							✓	✓	✓

Notes: The table reports results from a weighted least squares regression where inverse sampling probabilities have been used as weights and the dependent variable is an indicator for getting elected multiplied by 100. Individual characteristics include indicators for current socioeconomic group, educational attainment, and income decile. Fixed effects include municipality, party, and election year fixed effects. Standard errors that are clustered at the municipality level are reported in brackets. ***, ** and * denote statistical significance at 1%, 5%, and 10% levels, respectively.

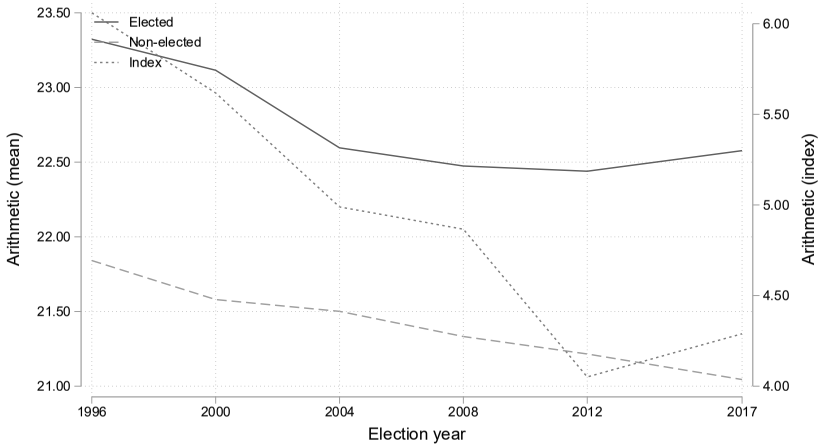
B Selection over Time

In this appendix, we explore the quality of selection across time. Figures B1 and B2 plot average cognitive and non-cognitive test scores for the elected and non-elected candidates. We also construct an index of selection. It is defined the difference between the average score of elected politicians in a given municipality m and election year t, and the average score of office-eligible citizens in the same municipality: $\textit{Trait selection index}_{mt} = \overline{Trait}_{mt}^{Politicians} - \overline{Trait}_{mt}^{Population}$. A higher value reflects a stronger positive selection of elected politicians.

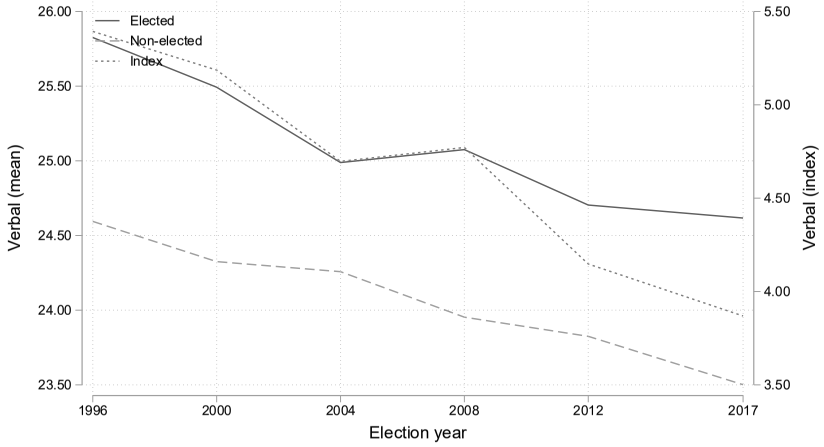
We do not detect any systematic trends in the test scores. For the visuospatial score, the average scores of elected and non-elected politicians are fluctuating. The personality trait scores appear to be mostly stagnant, although there may be a slight downward trend in the dutifulness score and an upward trend in the masculinity score. However, elected candidates have always been positively selected relative to the non-elected candidates and the population.



(a) Visuospatial score

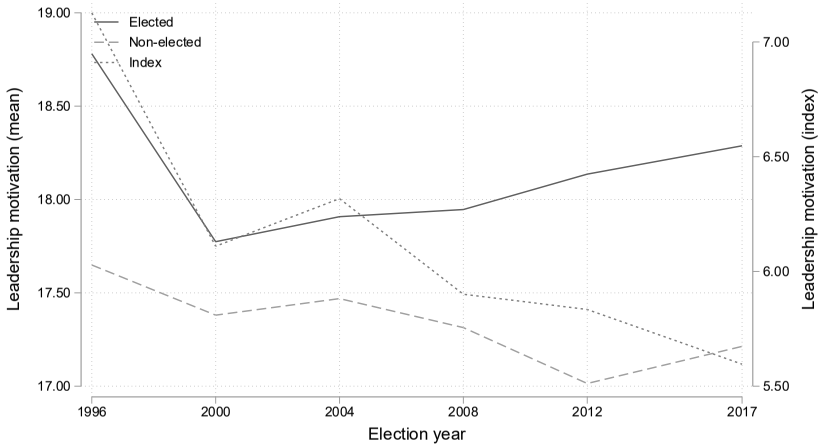


(b) Arithmetic score

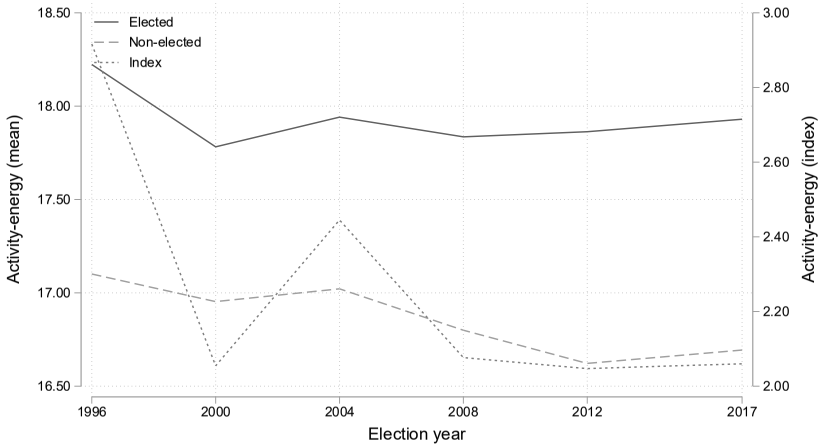


(c) Verbal score

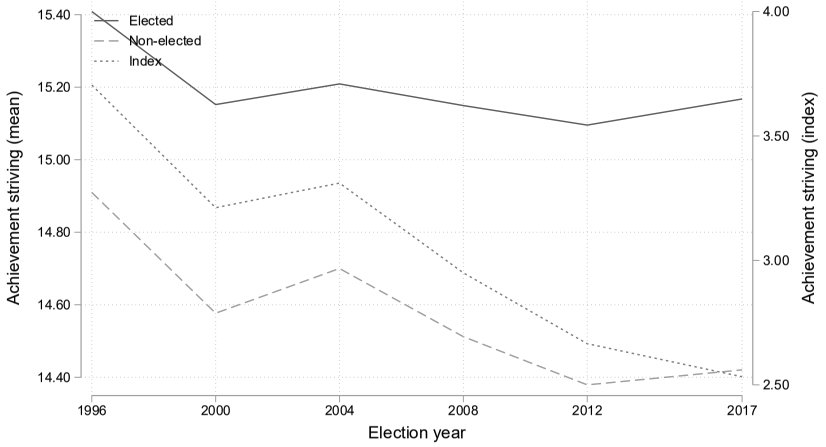
Figure B1. Selection on cognitive traits by election year.



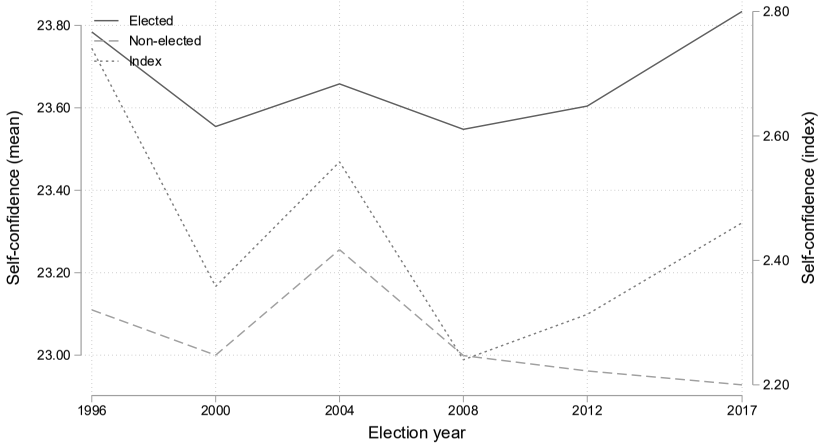
(a) Leadership motivation score



(b) Activity-energy score

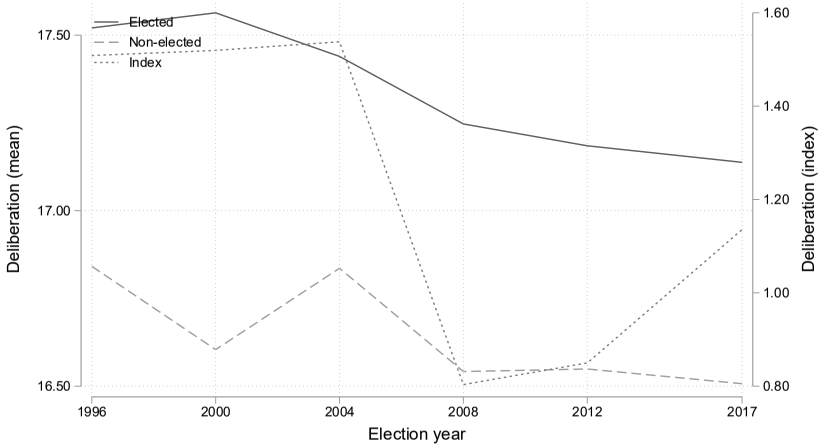


(c) Achievement striving score

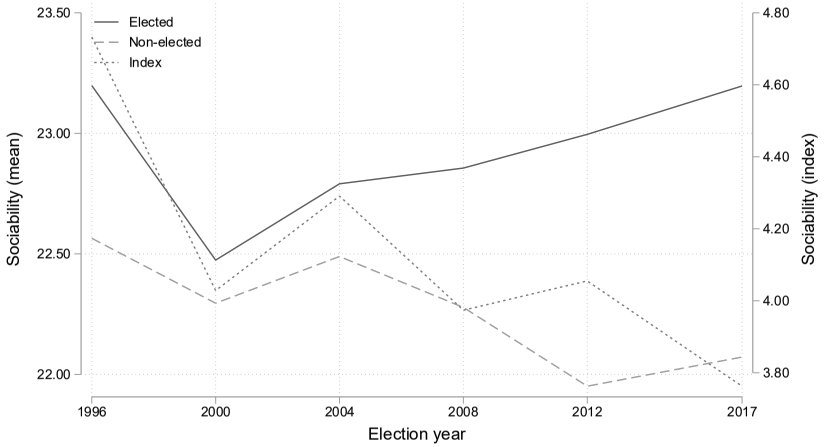


(d) Self-confidence score

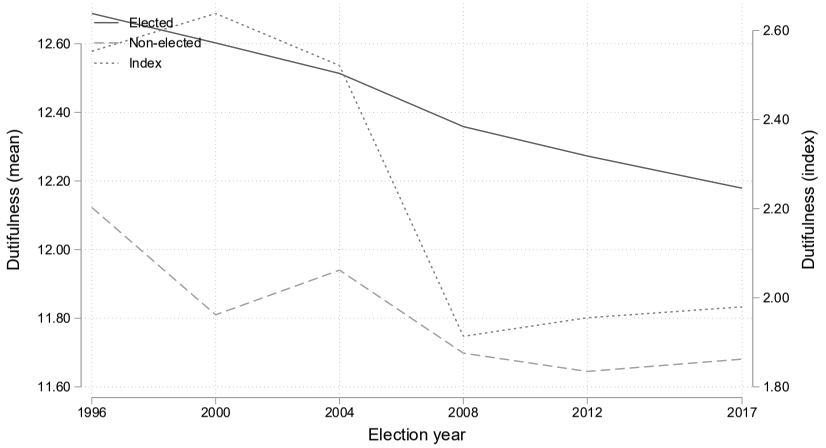
Figure B2. Selection on non-cognitive traits by election year.



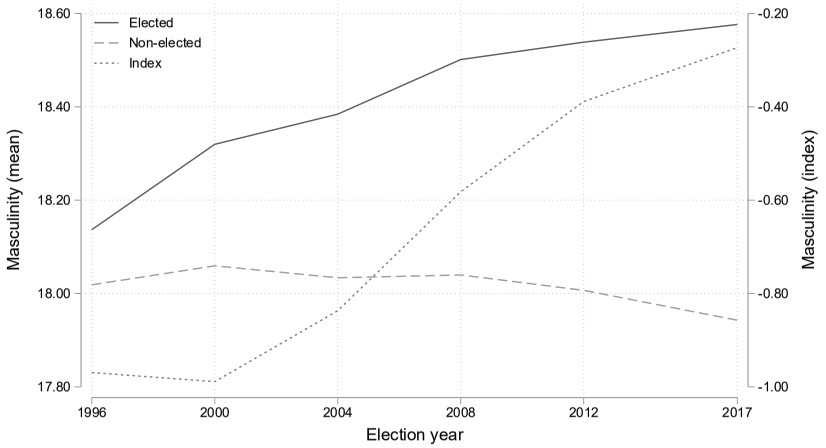
(e) Deliberation score



(f) Sociability score



(g) Dutifulness score



(h) Masculinity score

Figure B2. *(continued)* Selection on non-cognitive traits by election year.

C Further Results on Policy Consequences

This appendix presents additional tables and figures related to the analyses on policy consequences. We first illustrate the identifying variation in Figures C1, C2, and C3. Our treatment variable has a roughly symmetric distribution around zero, suggesting that high-ability candidates are not able to manipulate the outcomes of close elections. In most cases, we capture an unexpected shift of one seat. Part of the variation in the treatment also reflects variation in council size.

In Figure C4, we examine robustness of our estimates to alternative bandwidths. The estimates for verbal and arithmetic reasoning are systematically positive, but they come with very wide confidence intervals. We confirm that the effect of electing candidates with high leadership motivation is robust to alternative definitions of closeness. The point estimates are positive, stable, and statistically significant, except for the smallest bandwidth that we use. This is perhaps not surprising given our data and identification strategy—we do not have data for that many individuals in the very closest elections. The point estimates for dutifulness in the last panel exhibit no systematic pattern, nor are any of the estimates statistically significant.

We then proceed to balance checks in Table C1. We split our data in two groups—municipalities that got less or more high-ability representation than expected by chance—and use a t-test adjusted for clustering at the municipality level to test for difference in means of the lagged dependent variable and lagged treatment variables. There are no large, systematic, and/or statistically significant differences. This supports the validity of our design.

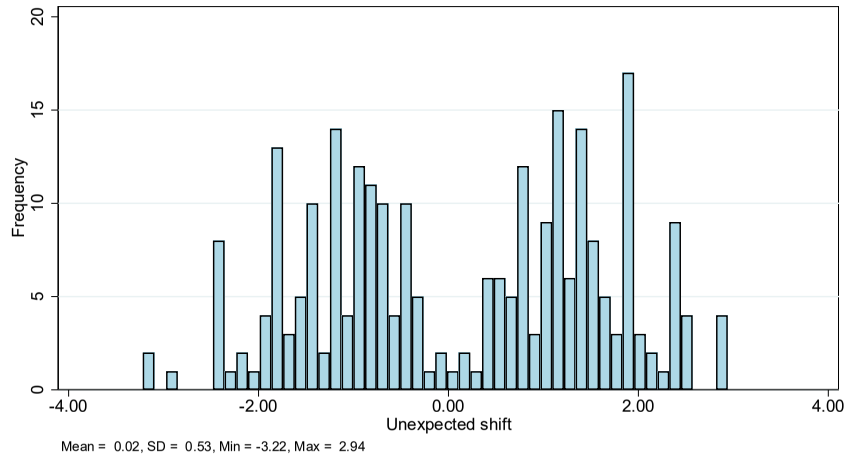
We also explore balance in the post-treatment characteristics of the local councils in Table C2. We focus on average cognitive and non-cognitive ability scores of elected local councilors. Again, we split our data in two groups and use a t-test adjusted for clustering at the municipality level to test for difference in means. Typically, there are larger differences in the average score corresponding to the trait at hand. However, these differences are not always statistically significant. This is likely related to the power issues we have when we rely on close elections. There are also some differences in other averages which may arise from the fact that the traits are

positively correlated. This echoes the bundled treatment issue that may arise in empirical designs that utilize close elections between two types of candidates, recently discussed by Marshall (2022).

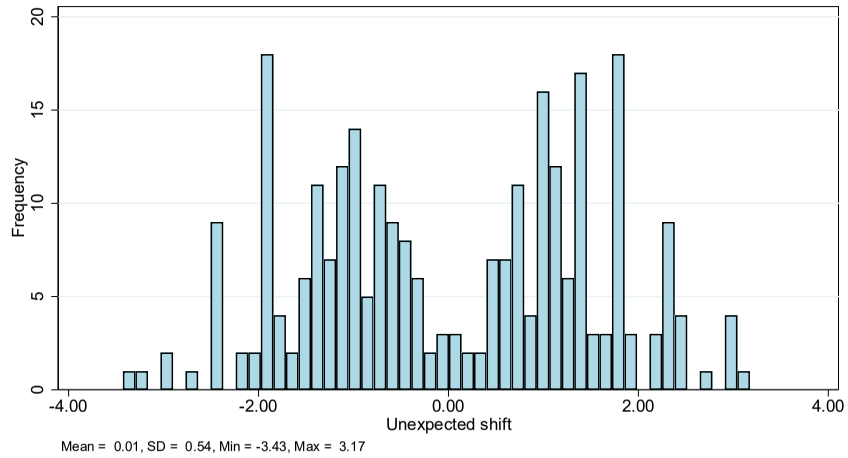
A closely related concern raised by Marshall (2022) is about (potentially unobservable) compensating differentials that could explain why an observably more able individual ends up in a close election with a low-ability individual. We argue that this could reflect sheer bad luck. To provide suggestive evidence of this, we estimate the personal incumbency advantage using a regression discontinuity design (RDD).

We estimate both a conventional RDD specification and a bias-corrected specification proposed by Calonico, Cattaneo, and Titiunik (2014) using five different samples: our full data, and all four possible combinations of races between different types of candidates where we again define a high-ability candidate as someone with an above median test score. Given that there is a lot of curvature close to the cutoff, the bias-corrected approach is our preferred specification (see especially Hyytinen et al. 2018). Furthermore, following the suggestions of De Magalhães et al. (2020), we estimate local linear specifications using CER-optimal bandwidths (Calonico, Cattaneo, and Farrell 2018). Our dependent variable is an indicator for getting elected at time $t+1$. The variable gets the value zero if a candidate does not rerun in the subsequent election.

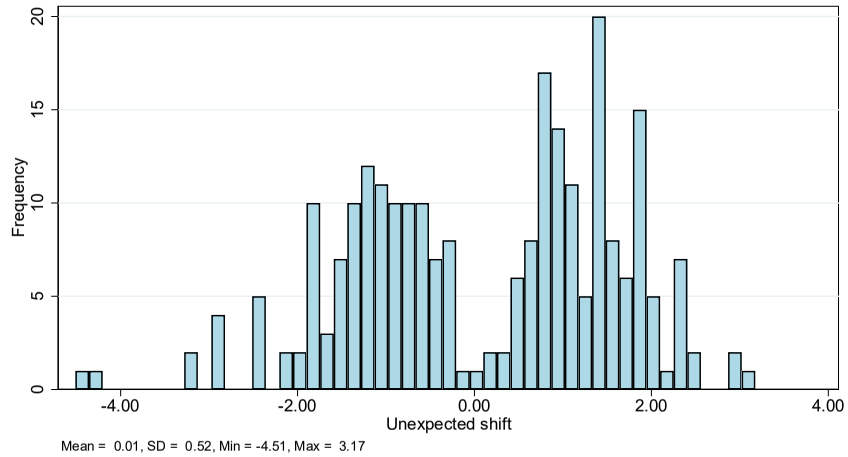
The RDD results can be found in Table C3; also see Table C4 for covariate smoothness tests. First, we do not find any robust evidence of an economically meaningful impact of getting elected at time t on getting elected at time $t+1$ in our full data (column 1). Second, it appears that elected high-ability candidates are more likely to get elected in the next election in the case of leadership motivation and dutifulness than non-elected low-ability candidates (column 2). This hints towards high-ability candidates being more electable to begin with. The negative albeit statistically insignificant RDD estimates in column (3) of Panels C and D are consistent with this interpretation.



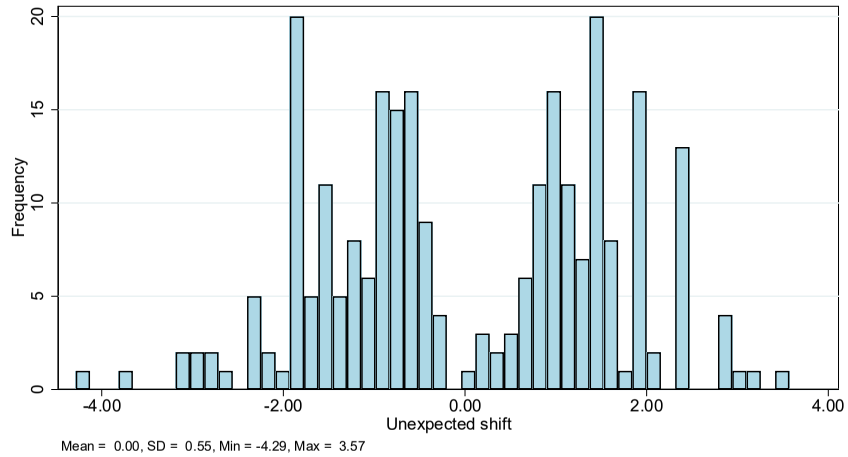
(a) Verbal reasoning



(b) Arithmetic reasoning

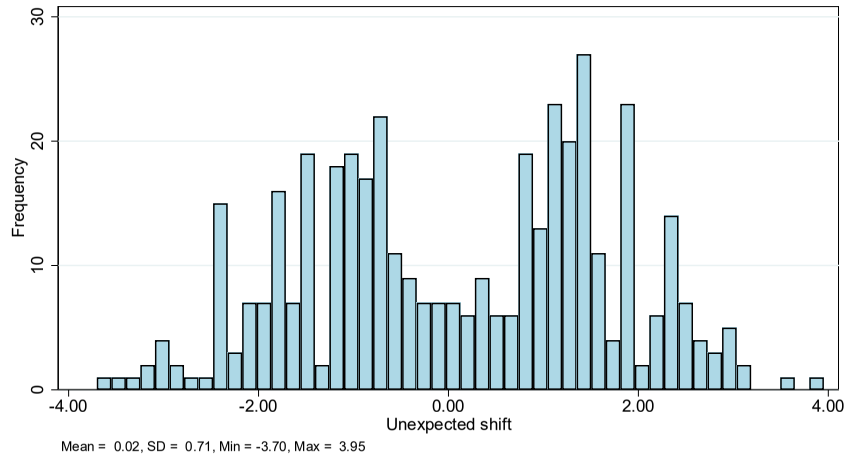


(c) Leadership motivation

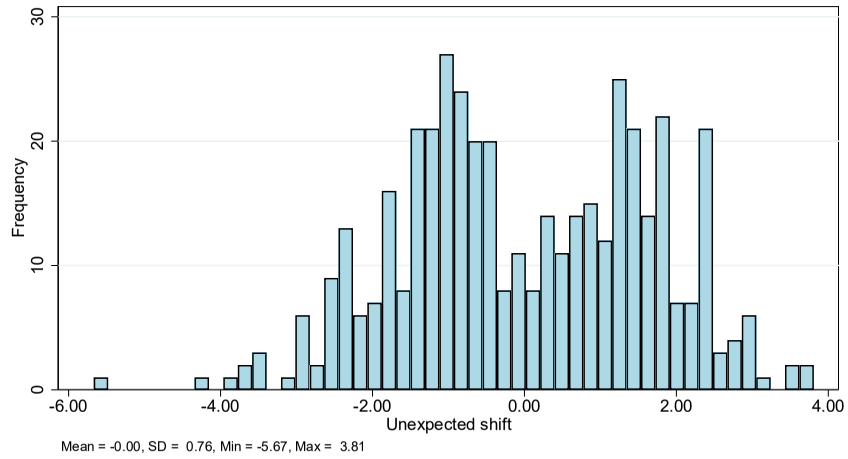


(d) Dutifulness

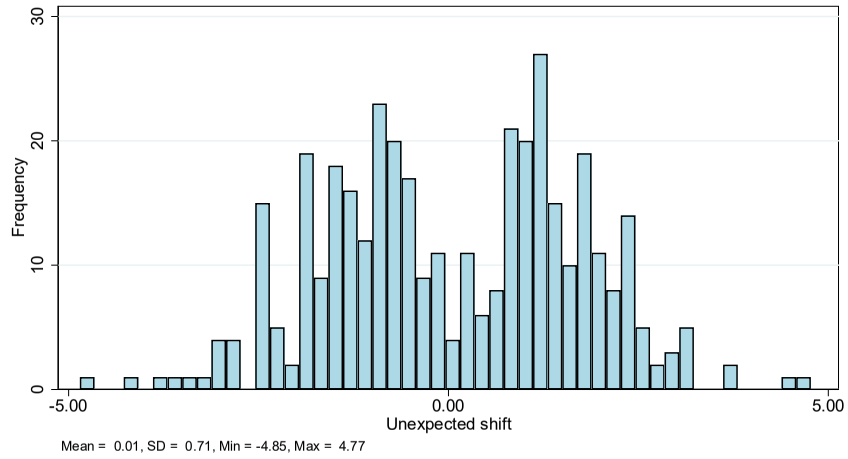
Figure C1. Distribution of the unexpected shift in representation ($\varepsilon = 0.4$).



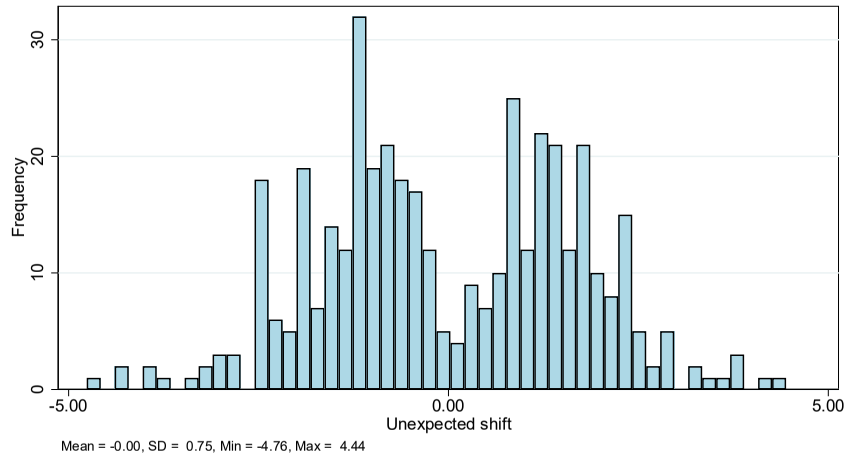
(a) Verbal reasoning



(b) Arithmetic reasoning

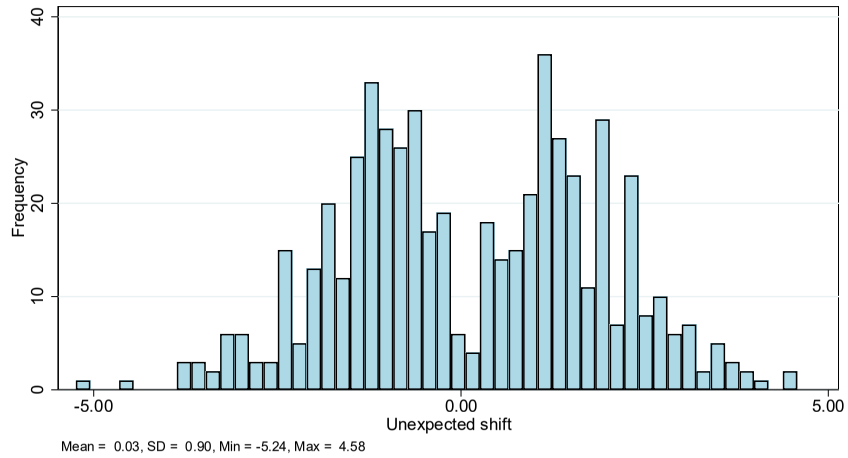


(c) Leadership motivation

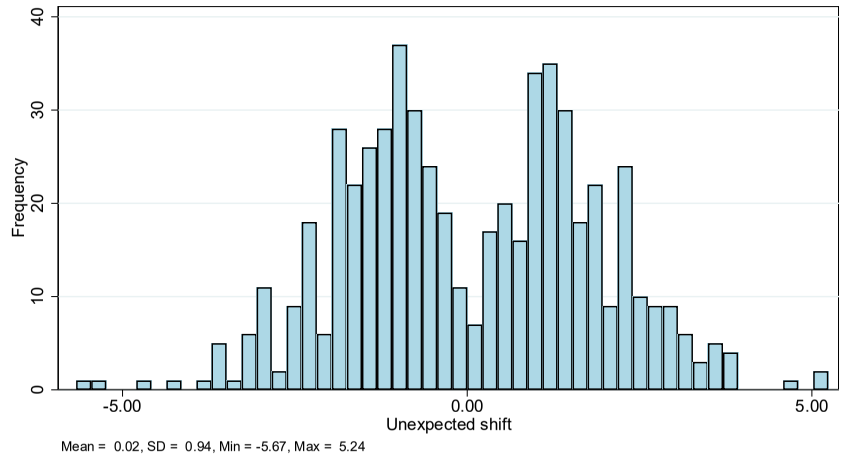


(d) Dutifulness

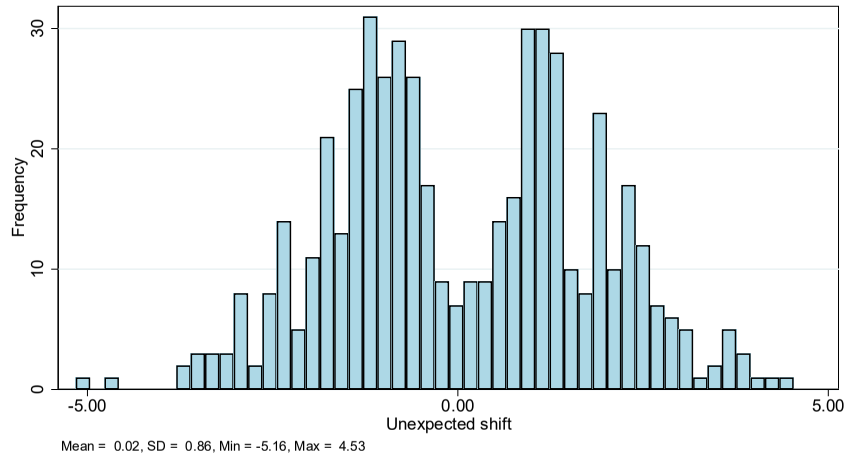
Figure C2. Distribution of the unexpected shift in representation ($\varepsilon = 0.8$) .



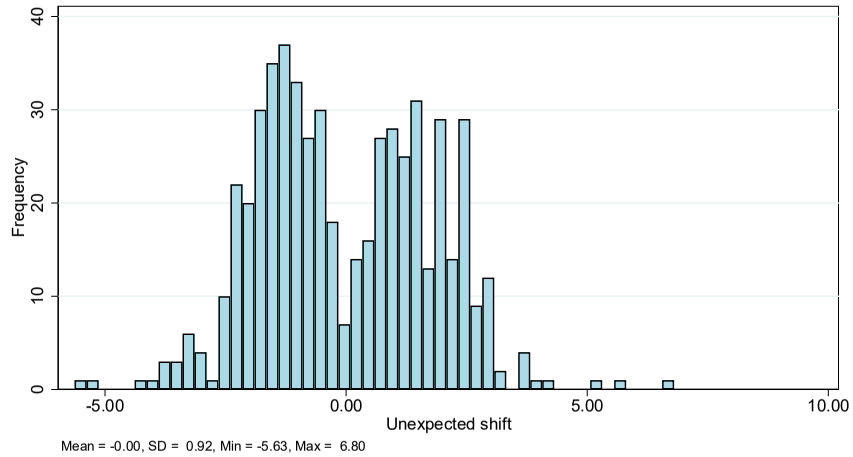
(a) Verbal reasoning



(b) Arithmetic reasoning

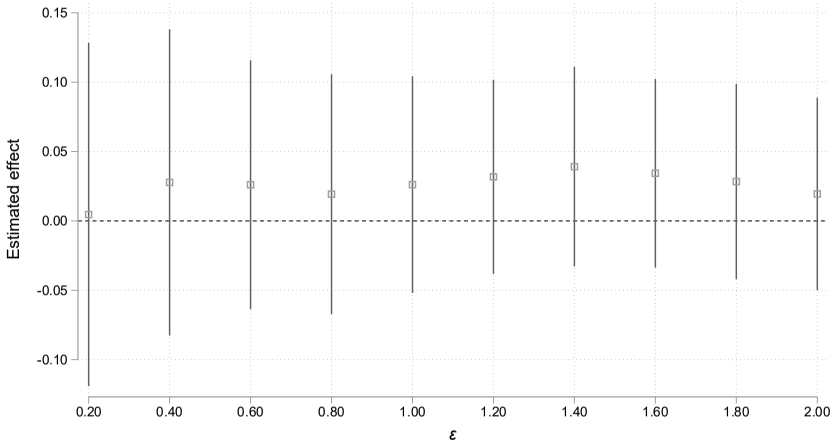


(c) Leadership motivation

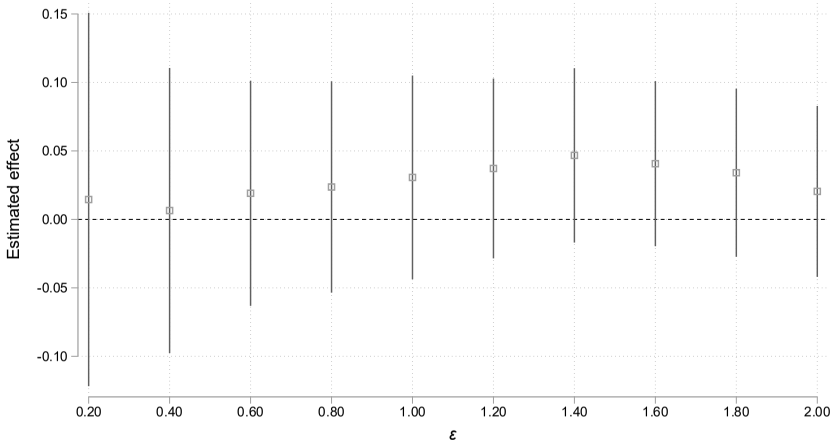


(d) Dutifulness

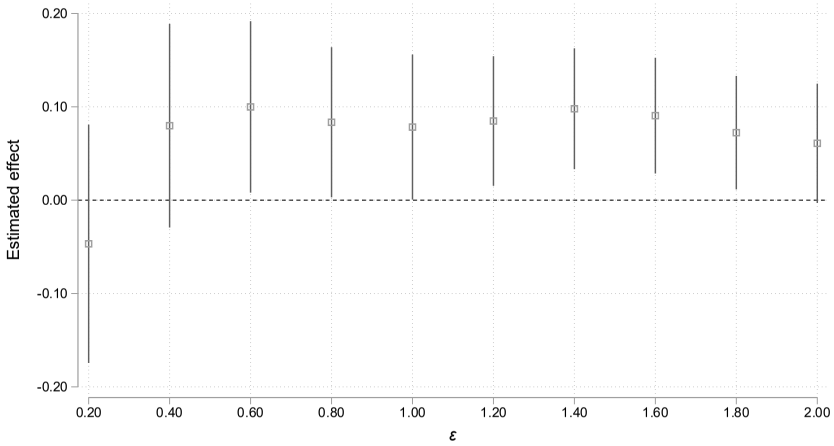
Figure C3. Distribution of the unexpected shift in representation ($\varepsilon = 1.2$) .



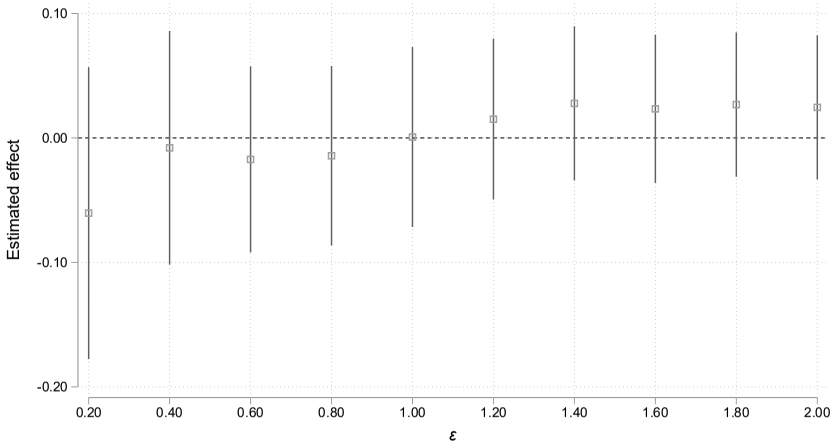
(a) Verbal reasoning



(b) Arithmetic reasoning



(c) Leadership motivation



(d) Dutifulness

Figure C4. Robustness to alternative bandwidths.

Table C1. Balance of pre-treatment characteristics.

	$\varepsilon = 0.4$				$\varepsilon = 0.8$				$\varepsilon = 1.2$			
	$T_{mt} < 0$	$T_{mt} > 0$	Difference	p-value	$T_{mt} < 0$	$T_{mt} > 0$	Difference	p-value	$T_{mt} < 0$	$T_{mt} > 0$	Difference	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: Verbal reasoning												
Fiscal sustainability index	5.06	5.04	-0.01	0.96	5.04	4.98	-0.06	0.80	4.98	4.99	0.01	0.97
Unexpected shift in high verbal ability representation	-0.09	0.03	0.12	0.26	-0.10	-0.01	0.09	0.40	-0.08	0.03	0.11	0.35
Unexpected shift in high arithmetic ability representation	-0.05	-0.02	0.03	0.77	-0.05	-0.01	0.04	0.67	-0.03	0.04	0.07	0.56
Unexpected shift in high leadership motivation representaion	0.00	0.09	0.09	0.38	0.01	0.06	0.05	0.63	-0.08	0.15	0.23	0.04
Unexpected shift in high dutifulness representation	-0.05	0.04	0.09	0.45	-0.05	0.05	0.11	0.34	-0.06	0.09	0.15	0.20
Panel B: Arithmetic reasoning												
Fiscal sustainability index	5.07	5.20	0.14	0.57	5.01	5.14	0.14	0.50	4.98	5.05	0.06	0.74
Unexpected shift in high verbal ability representation	0.01	-0.01	-0.03	0.79	0.02	-0.05	-0.07	0.45	-0.08	0.07	0.15	0.18
Unexpected shift in high arithmetic ability representation	0.03	-0.05	-0.08	0.46	0.05	-0.07	-0.11	0.28	-0.06	0.05	0.11	0.38
Unexpected shift in high leadership motivation representaion	0.00	0.06	0.05	0.56	0.05	0.02	-0.03	0.79	-0.07	0.12	0.20	0.06
Unexpected shift in high dutifulness representation	0.02	-0.02	-0.05	0.63	0.01	-0.03	-0.04	0.71	-0.07	0.07	0.14	0.24
Panel C: Leadership motivation												
Fiscal sustainability index	5.24	5.20	-0.04	0.85	5.04	5.12	0.08	0.70	4.94	5.10	0.16	0.40
Unexpected shift in high verbal ability representation	0.03	0.01	-0.01	0.91	0.02	0.00	-0.01	0.90	-0.05	0.06	0.12	0.33
Unexpected shift in high arithmetic ability representation	0.05	-0.01	-0.05	0.62	0.06	-0.04	-0.10	0.37	-0.00	0.00	0.01	0.97
Unexpected shift in high leadership motivation representaion	0.08	0.04	-0.04	0.74	0.09	-0.07	-0.16	0.17	-0.01	0.06	0.07	0.56
Unexpected shift in high dutifulness representation	0.06	0.01	-0.04	0.73	0.10	-0.10	-0.20	0.12	0.03	0.00	-0.03	0.82
Panel D: Dutifulness												
Fiscal sustainability index	5.23	5.04	-0.19	0.44	5.17	5.07	-0.10	0.62	5.14	5.00	-0.14	0.43
Unexpected shift in high verbal ability representation	0.02	-0.02	-0.04	0.70	-0.00	-0.00	0.00	0.99	-0.05	0.01	0.06	0.60
Unexpected shift in high arithmetic ability representation	0.03	-0.08	-0.11	0.28	0.06	-0.09	-0.14	0.18	0.02	-0.03	-0.05	0.65
Unexpected shift in high leadership motivation representaion	0.04	0.04	-0.00	0.97	0.04	0.01	-0.04	0.72	-0.06	0.06	0.12	0.29
Unexpected shift in high dutifulness representation	-0.03	-0.03	-0.00	0.99	-0.01	-0.08	-0.07	0.56	-0.06	0.00	0.06	0.61

Notes: We test for difference in means using a t-test adjusted for clustering at the municipality level.

Table C2. Balance of post-treatment characteristics.

	$\varepsilon = 0.4$				$\varepsilon = 0.8$				$\varepsilon = 1.2$			
	$T_{mt} < 0$	$T_{mt} > 0$	Difference	p-value	$T_{mt} < 0$	$T_{mt} > 0$	Difference	p-value	$T_{mt} < 0$	$T_{mt} > 0$	Difference	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: Verbal reasoning												
Average visuospatial score	26.36	26.70	0.33	0.46	26.23	26.56	0.33	0.39	26.44	26.38	-0.06	0.86
Average verbal score	25.75	26.77	1.02	0.11	25.44	26.57	1.12	0.03	25.76	26.26	0.50	0.31
Average arithmetic score	23.40	23.60	0.19	0.76	23.29	23.68	0.39	0.45	23.68	23.34	-0.34	0.48
Average leadership motivation score	19.88	19.25	-0.63	0.39	19.73	19.05	-0.67	0.30	19.54	18.72	-0.82	0.16
Average activity-energy score	18.06	17.90	-0.17	0.70	18.35	17.85	-0.50	0.14	18.18	17.85	-0.33	0.33
Average achievement striving score	15.82	15.94	0.12	0.79	15.91	15.72	-0.19	0.61	15.82	15.43	-0.39	0.27
Average self-confidence score	24.44	24.33	-0.11	0.79	24.36	24.23	-0.13	0.71	24.22	24.10	-0.12	0.72
Average deliberation score	17.31	17.14	-0.17	0.68	17.54	17.19	-0.35	0.30	17.48	17.34	-0.14	0.66
Average sociability score	24.40	23.87	-0.53	0.39	24.08	23.79	-0.29	0.58	23.80	23.53	-0.27	0.57
Average dutifulness score	12.62	12.57	-0.04	0.88	12.75	12.58	-0.17	0.51	12.85	12.54	-0.31	0.18
Average masculinity score	18.25	18.08	-0.16	0.46	18.21	18.06	-0.15	0.47	18.20	18.13	-0.07	0.71
Panel B: Arithmetic reasoning												
Average visuospatial score	26.13	26.86	0.74	0.11	26.08	26.69	0.62	0.09	26.17	26.51	0.34	0.31
Average verbal score	25.33	25.82	0.49	0.45	25.22	26.01	0.79	0.15	25.52	25.66	0.14	0.80
Average arithmetic score	22.95	24.09	1.14	0.10	22.89	24.08	1.19	0.03	23.16	23.74	0.58	0.25
Average leadership motivation score	19.09	19.10	0.00	1.00	19.45	18.95	-0.49	0.45	19.56	18.65	-0.91	0.13
Average activity-energy score	17.68	17.76	0.08	0.87	18.15	17.80	-0.34	0.33	18.17	17.81	-0.36	0.30
Average achievement striving score	15.38	15.61	0.22	0.66	15.70	15.54	-0.16	0.69	15.76	15.34	-0.42	0.24
Average self-confidence score	24.03	24.20	0.17	0.70	24.12	24.11	-0.01	0.99	24.25	24.05	-0.20	0.56
Average deliberation score	17.16	17.11	-0.05	0.90	17.55	17.10	-0.44	0.19	17.47	17.26	-0.22	0.49
Average sociability score	23.66	23.54	-0.12	0.86	23.68	23.59	-0.09	0.88	23.76	23.37	-0.39	0.46
Average dutifulness score	12.52	12.49	-0.02	0.93	12.72	12.54	-0.18	0.47	12.82	12.51	-0.31	0.18
Average masculinity score	18.13	18.02	-0.11	0.63	18.10	18.08	-0.02	0.94	18.18	18.10	-0.08	0.67

Table C2. *(continued)* Balance of post-treatment characteristics.

	$\varepsilon = 0.4$				$\varepsilon = 0.8$				$\varepsilon = 1.2$			
	$T_{mt} < 0$	$T_{mt} > 0$	Difference	p-value	$T_{mt} < 0$	$T_{mt} > 0$	Difference	p-value	$T_{mt} < 0$	$T_{mt} > 0$	Difference	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel C: Leadership motivation												
Average visuospatial score	26.38	26.76	0.38	0.44	26.30	26.56	0.27	0.50	26.34	26.33	-0.01	0.97
Average verbal score	25.84	26.18	0.33	0.63	25.70	25.98	0.27	0.63	25.72	25.65	-0.06	0.90
Average arithmetic score	23.68	23.64	-0.04	0.96	23.45	23.65	0.20	0.73	23.76	23.08	-0.68	0.21
Average leadership motivation score	19.69	20.51	0.82	0.25	19.30	20.49	1.19	0.05	19.11	20.25	1.14	0.05
Average activity-energy score	18.21	18.69	0.48	0.23	18.33	18.63	0.30	0.37	18.07	18.62	0.55	0.09
Average achievement striving score	16.05	16.32	0.28	0.53	15.87	16.26	0.39	0.28	15.65	16.07	0.42	0.22
Average self-confidence score	24.26	24.91	0.64	0.14	23.99	24.66	0.68	0.09	23.98	24.55	0.58	0.12
Average deliberation score	17.66	17.51	-0.15	0.71	17.57	17.56	-0.02	0.96	17.47	17.60	0.13	0.71
Average sociability score	24.20	24.74	0.54	0.40	23.51	24.61	1.10	0.06	23.32	24.43	1.12	0.03
Average dutifulness score	12.85	12.87	0.02	0.93	12.75	12.89	0.14	0.60	12.72	12.87	0.15	0.53
Average masculinity score	18.24	18.15	-0.09	0.71	18.10	18.14	0.04	0.85	18.13	18.18	0.05	0.82
Panel D: Dutifulness												
Average visuospatial score	26.46	26.68	0.21	0.66	26.35	26.48	0.14	0.71	26.41	26.32	-0.09	0.80
Average verbal score	26.04	26.03	-0.00	0.99	25.76	25.94	0.17	0.74	25.81	25.72	-0.09	0.85
Average arithmetic score	23.49	23.56	0.07	0.93	23.40	23.59	0.19	0.72	23.77	23.14	-0.63	0.21
Average leadership motivation score	19.75	19.91	0.16	0.84	19.66	19.59	-0.07	0.92	19.50	19.49	-0.00	1.00
Average activity-energy score	17.97	18.29	0.32	0.53	18.23	18.25	0.01	0.97	18.07	18.32	0.24	0.47
Average achievement striving score	15.92	15.99	0.07	0.90	15.97	15.86	-0.12	0.75	15.80	15.75	-0.05	0.88
Average self-confidence score	24.33	24.75	0.42	0.38	24.32	24.48	0.16	0.66	24.20	24.49	0.29	0.39
Average deliberation score	17.56	17.86	0.30	0.49	17.59	17.73	0.14	0.69	17.40	17.84	0.43	0.20
Average sociability score	24.15	24.33	0.19	0.78	23.82	24.13	0.31	0.55	23.69	23.99	0.31	0.52
Average dutifulness score	12.79	13.23	0.45	0.12	12.77	13.11	0.34	0.17	12.65	13.12	0.47	0.03
Average masculinity score	18.29	17.93	-0.36	0.15	18.25	17.96	-0.29	0.18	18.21	18.06	-0.15	0.42

Notes: We test for difference in means using a t-test adjusted for clustering at the municipality level.

Table C3. Heterogenous effects of election at t on election at $t+1$.

	Full sample	High vs. low	Low vs. high
	(1)	(2)	(3)
Panel A: Verbal reasoning			
Conventional	0.123**	0.194**	0.163**
	(0.034)	(0.040)	(0.047)
Robust	0.077	0.079	0.056
	(0.050)	(0.063)	(0.067)
N	5235	3683	3989
Bandwidth	1.59	2.37	2.10
Panel B: Arithmetic reasoning			
Conventional	0.123**	0.193**	0.153**
	(0.034)	(0.039)	(0.050)
Robust	0.078	0.076	0.061
	(0.050)	(0.062)	(0.072)
N	5234	3543	3865
Bandwidth	1.59	2.23	2.06
Panel C: Leadership motivation			
Conventional	0.126**	0.224**	0.071
	(0.038)	(0.040)	(0.049)
Robust	0.068	0.154*	-0.091
	(0.053)	(0.061)	(0.072)
N	4896	3222	3229
Bandwidth	1.64	2.23	1.95
Panel D: Dutifulness			
Conventional	0.125**	0.247**	0.112*
	(0.038)	(0.036)	(0.053)
Robust	0.068	0.129*	-0.002
	(0.053)	(0.055)	(0.079)
N	4876	3939	3002
Bandwidth	1.63	3.04	1.77

Notes: The table reports conventional and robust RDD estimates. The dependent variable is an indicator for getting elected at time $t+1$. We use CER-optimal bandwidths that have been chosen allowing clustering at the municipality level. Standard errors that are clustered at the municipality level are reported in brackets. ***, ** and * denote statistical significance at 1%, 5%, and 10% levels, respectively.

Table C4. Covariate smoothness.

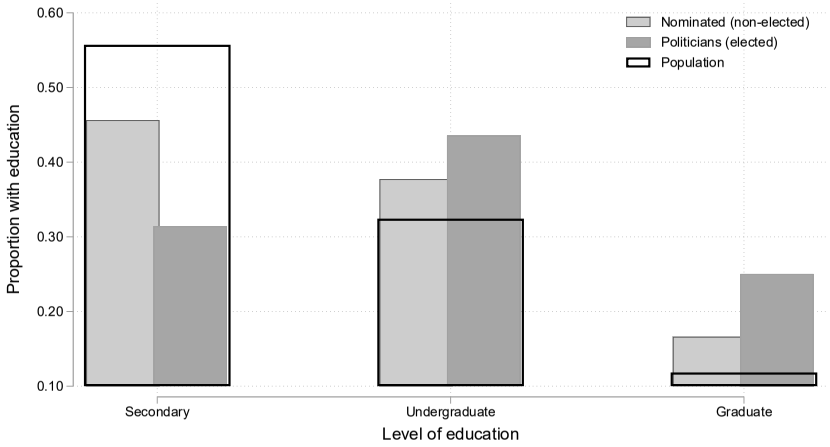
	Full sample	High vs. low	Low vs. high
	(1)	(2)	(3)
Panel A: Verbal reasoning			
Conventional	0.066**	0.102**	0.041
	(0.025)	(0.032)	(0.033)
Robust	0.045	0.087	-0.011
	(0.038)	(0.048)	(0.051)
N	6179	3627	4547
Bandwidth	1.51	1.81	1.93
Panel B: Arithmetic reasoning			
Conventional	0.066**	0.112**	0.038
	(0.025)	(0.033)	(0.034)
Robust	0.045	0.119*	-0.028
	(0.038)	(0.050)	(0.053)
N	6178	3494	4601
Bandwidth	1.51	1.76	1.96
Panel C: Leadership motivation			
Conventional	0.087**	0.140**	0.063
	(0.026)	(0.035)	(0.034)
Robust	0.058	0.086	0.031
	(0.038)	(0.050)	(0.053)
N	6214	3760	4783
Bandwidth	1.67	2.08	2.36
Panel D: Dutifulness			
Conventional	0.084**	0.145**	0.035
	(0.026)	(0.034)	(0.038)
Robust	0.057	0.084	0.043
	(0.039)	(0.046)	(0.057)
N	6116	4284	3792
Bandwidth	1.65	2.49	1.81

Notes: The table reports conventional and robust RDD estimates. The dependent variable is an indicator for being an incumbent in the election held at time t. We use CER-optimal bandwidths that have been chosen allowing clustering at the municipality level. Standard errors that are clustered at the municipality level are reported in brackets. ***, ** and * denote statistical significance at 1%, 5%, and 10% levels, respectively.

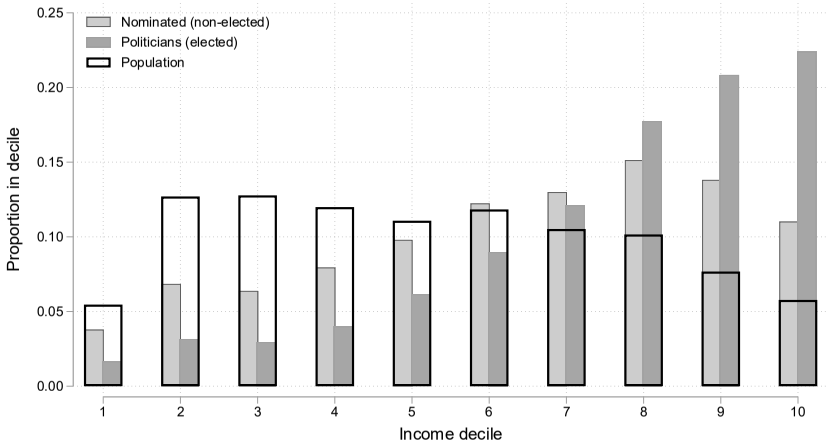
D Selection of Female Politicians

The main issue with our data is that they do not contain information on women. Although women are allowed to do voluntary military service, and women who serve in the military also take the cognitive reasoning and personality tests, the resulting test score sample is small and selected. Thus, these data would not allow a credible analysis of female politicians' traits, nor would we be able to compare politicians with female population.

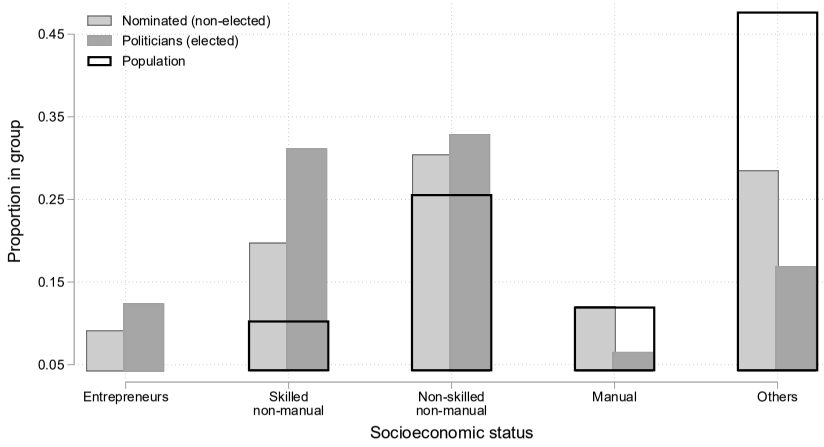
However, we are able to study the selection of female politicians on their socio-economic characteristics which may positively correlate with cognitive and non-cognitive abilities. Figure D1 shows that female politicians tend to be positively selected in terms of their educational attainment and income (Panels A and B). They are also more likely to have a higher socioeconomic status (Panel C). However, as we discuss in the main text, it is important to bear in mind that these characteristics do not capture just ability, but they may instead be correlated with other factors such as family background.



(a) Educational attainment



(b) Income decile



(c) Occupational class

Figure D1. Selection of female politicians on socioeconomic status.

E Selection by Social Status and Background

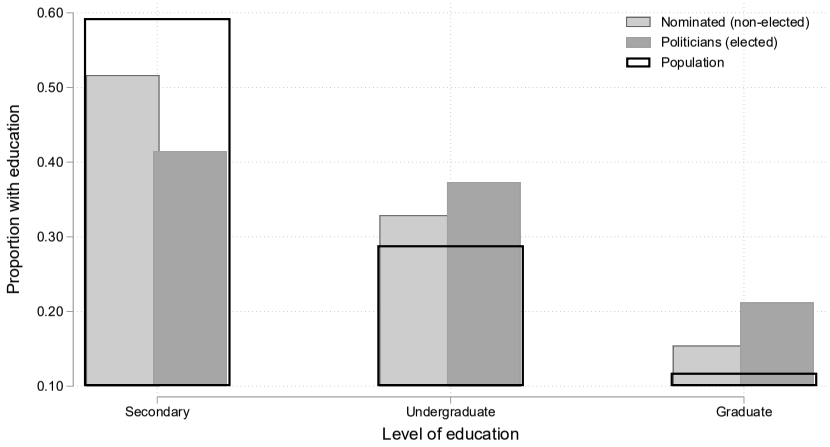
We document selection by social status and background in this appendix. Figure E1 shows distributions of educational attainment, income deciles, occupational classes, and socioeconomic backgrounds (i.e., the earliest parents' occupational group observed before the individual was 16 years old). We see that electoral candidates and elected politicians are more educated than the regular population, they come from higher income deciles, they work in more skilled occupations, and they have somewhat different socioeconomic backgrounds. However, what mostly stands out in the differences in socioeconomic backgrounds is that politicians tend to have more entrepreneur parents than the regular population, and they are slightly less likely to have parents who worked in manual occupations or belonged to the "others" class. This is possibly explained by the fact that many politicians are farmers who tend to come from families of farmers, which are classified as entrepreneurs in our data.

We then characterize political selection by social status. This helps us understand if there are potential trade-offs between descriptive representation of socioeconomic groups and politician ability. This does not seem to be the case. Figure E2 shows average cognitive test scores by socioeconomic status (occupational group), Figure E3 presents the averages by educational attainment, Figure E4 plots the average scores for each income decile, and lastly Figure E5 shows the average scores by parental background. We see that electoral candidates score higher than the general population almost without exceptions—this is not the case for the visuospatial scores which seem to be lower, on average, for some occupational groups, levels of education, and in the highest income deciles. Similar notions apply to elected candidates relative to non-elected candidates and the office-eligible population. When looking at average scores by income decile, we interestingly see a U-shaped pattern. This is driven by the fact that the bottom deciles include students who have low incomes but who may have high scores for certain traits. Furthermore, note that the differences in cognitive scores are more striking for education than for income groups.

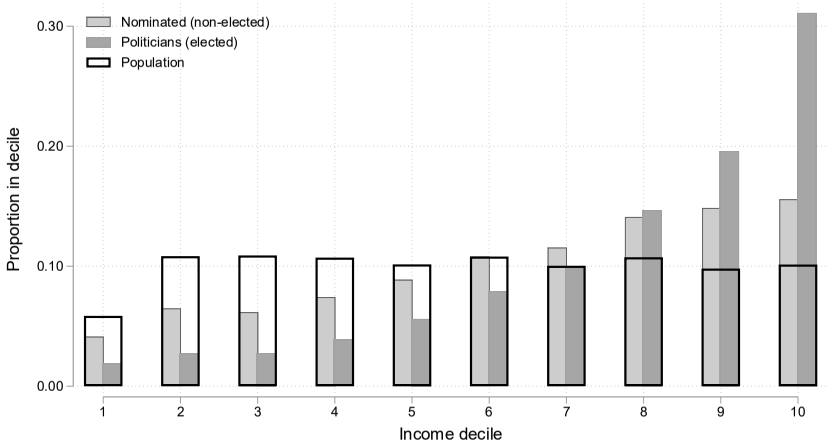
Figures E6-E9 present corresponding figures for the non-cognitive traits. Positive selection within different groups is very clear for all personality traits except masculinity.

Next, we explore the trade-offs in politician quality and descriptive representation more directly. To do so, we construct metrics of the quality of selection and representativeness of the local government. As before, we define the index of quality selection as the difference between the average score of elected politicians in a given municipality m and election year t, and the average score of office-eligible citizens in the same municipality, $\textit{Trait selection index}_{mt} = \overline{Trait}_{mt}^{Politicians} - \overline{Trait}_{mt}^{Population}$. A higher value reflects a stronger positive selection of elected politicians. The second index that we construct is the social background index which captures the overall differences in the shares of each social background between politicians ($p_{cmt}^{Politicians}$) and the full population ($p_{cmt}^{Population}$). More formally, the representation index is given by $\textit{Social background index}_{mt} = \sum_{c=1}^{5} |p_{cmt}^{Politicians} - p_{cmt}^{Population}|$. c refers to a social class. The greater values the index takes, the less representative a local council is. If the index value is equal to 0, the representation of different socioeconomic groups must perfectly match with their population shares.

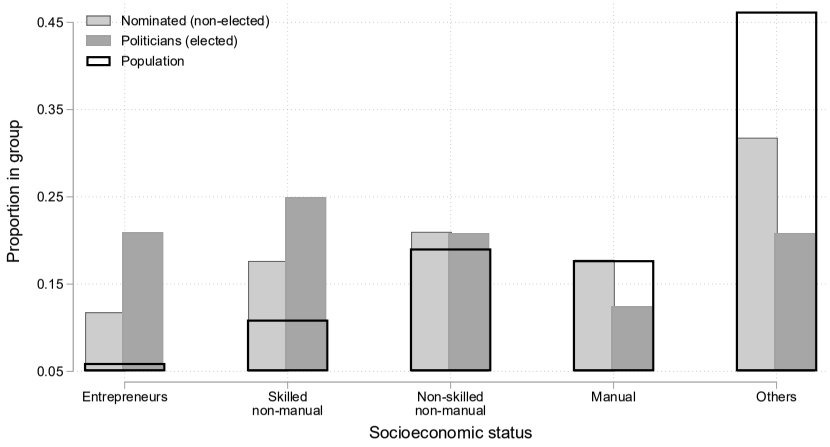
We visualize the relationship between the selection and representation indices for each of our three cognitive test scores and eight non-cognitive test scores in Figures E10 and E11, respectively. We do not see any meaningful correlation between selection on intelligence and personality traits, and descriptive representation. This suggests that electing politicians with certain traits does not mean that voters would be trading off representation of different class backgrounds.



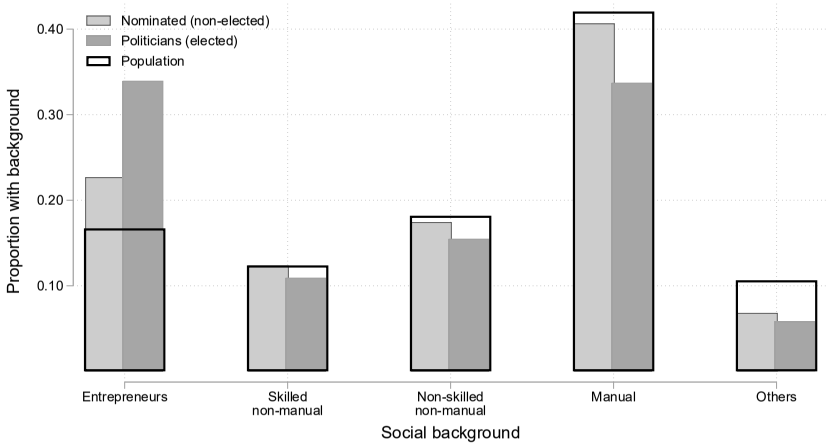
(a) Educational attainment



(b) Income decile

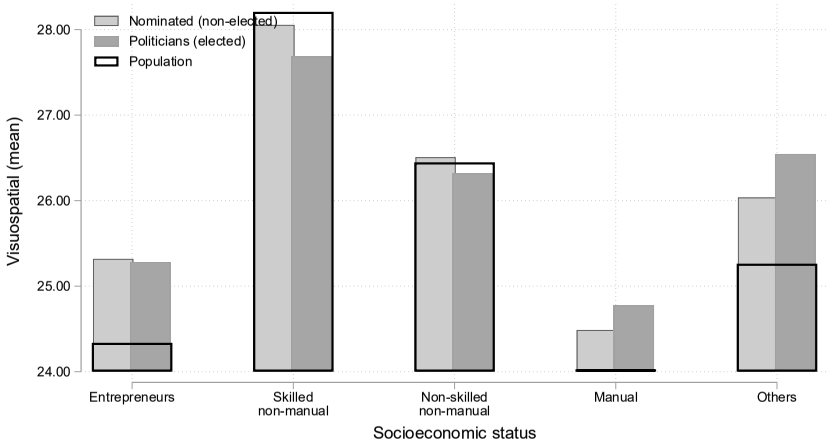


(c) Occupational class

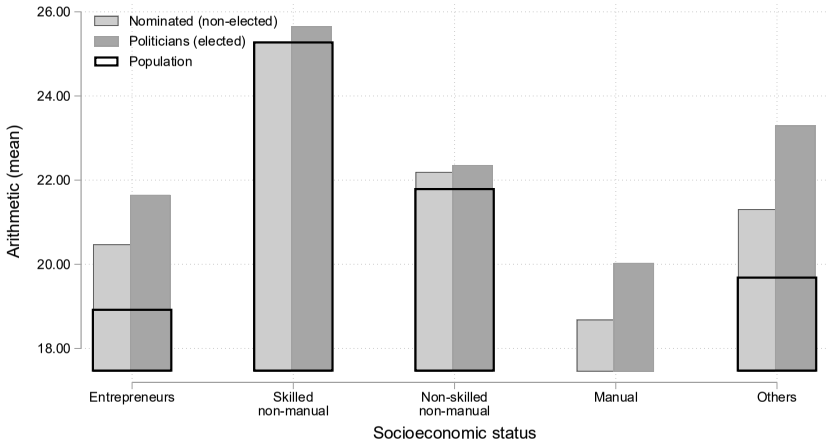


(d) Socioeconomic background

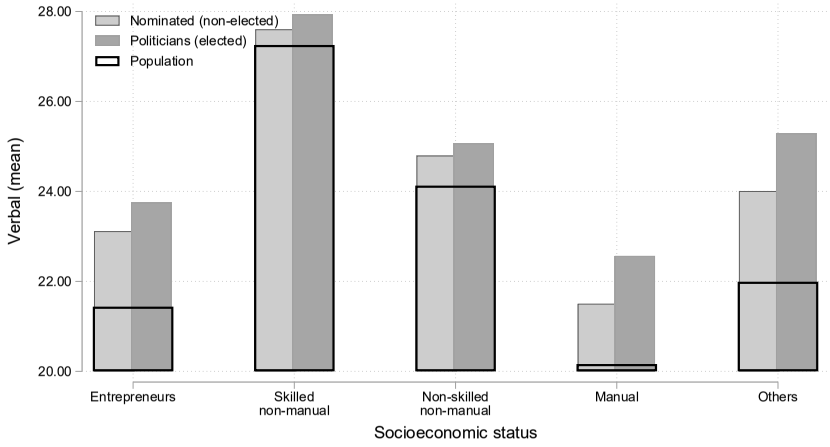
Figure E1. Selection on socioeconomic status and background.



(a) Visuospatial score

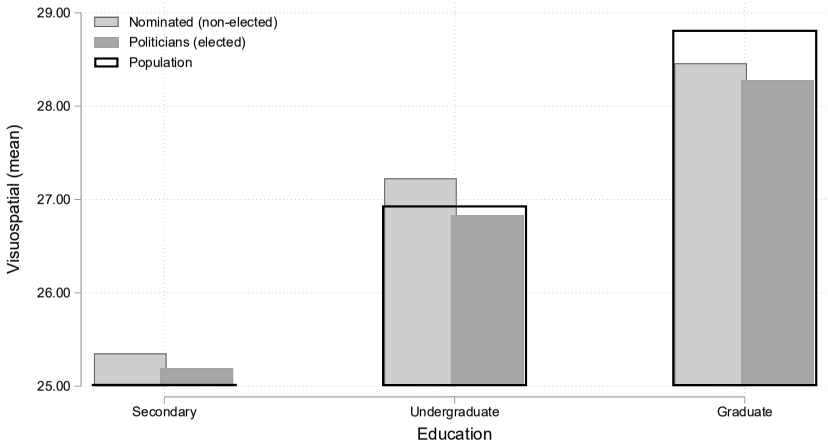


(b) Arithmetic score

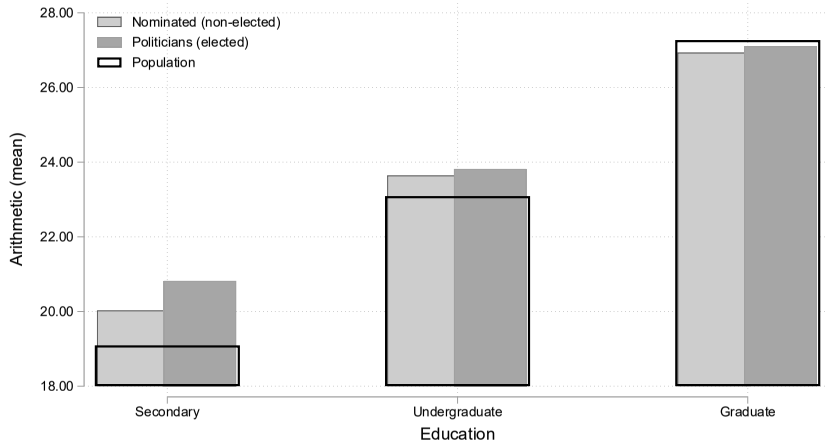


(c) Verbal score

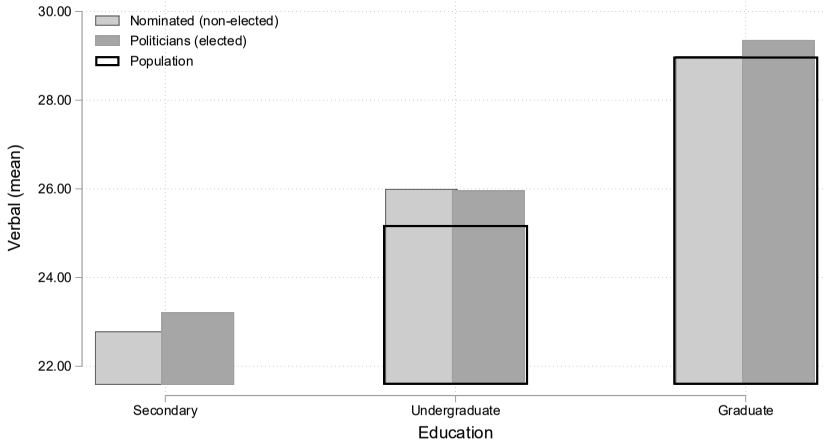
Figure E2. Average cognitive traits by socioeconomic status.



(a) Visuospatial score

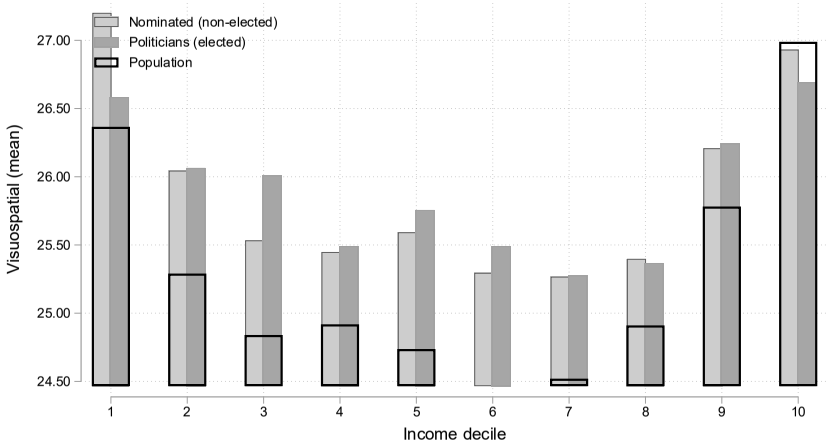


(b) Arithmetic score

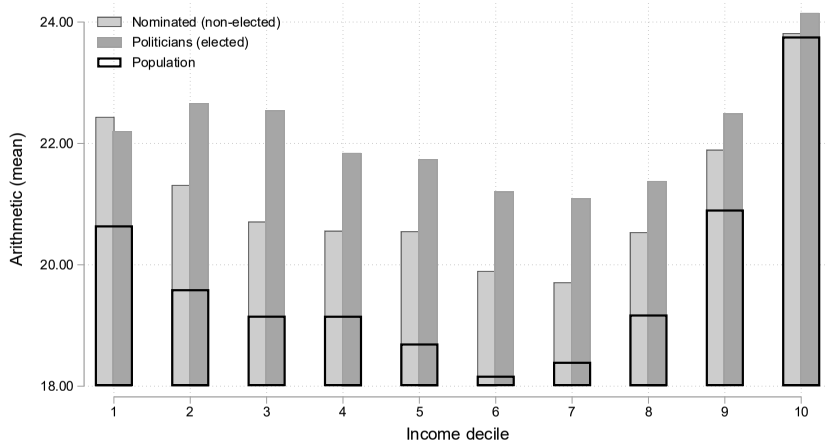


(c) Verbal score

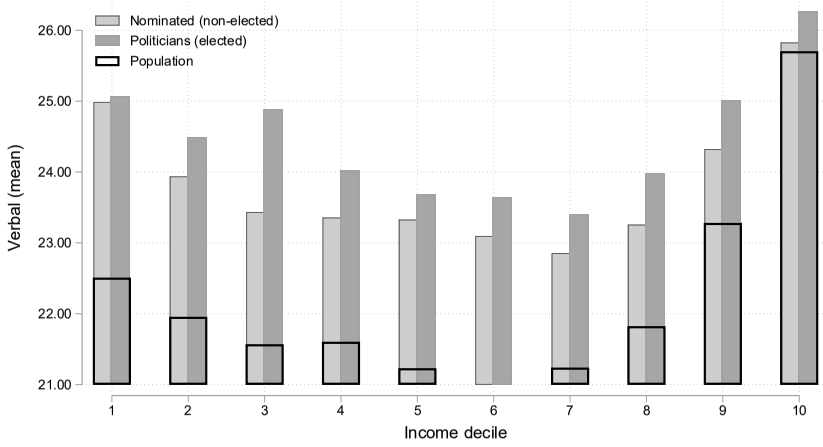
Figure E3. Average cognitive traits by educational attainment.



(a) Visuospatial score

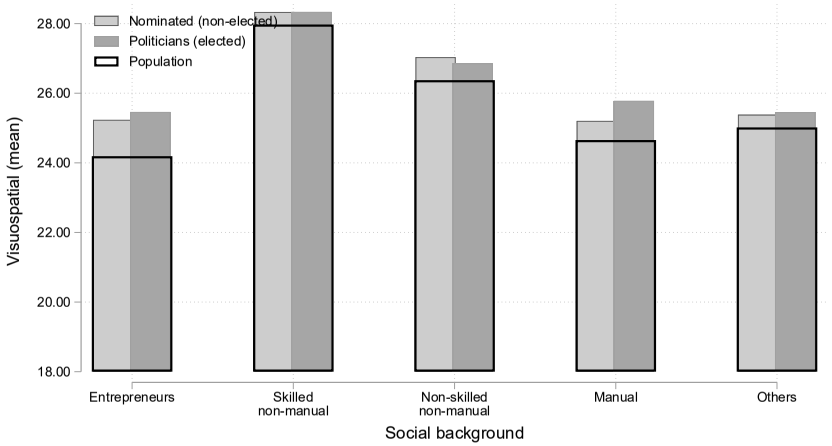


(b) Arithmetic score

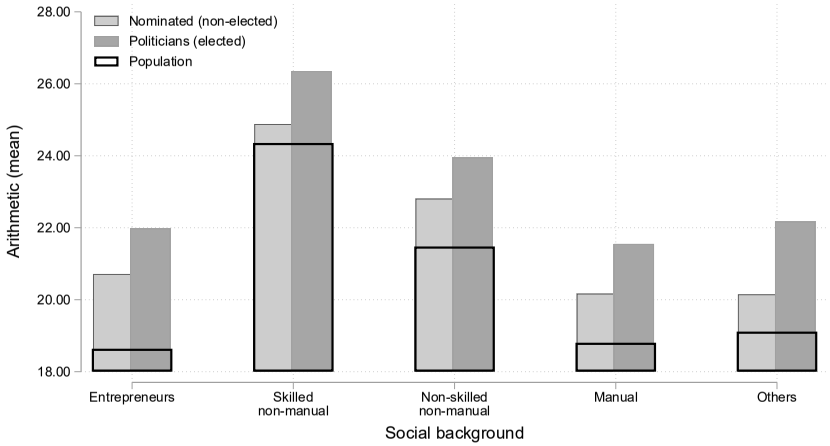


(c) Verbal score

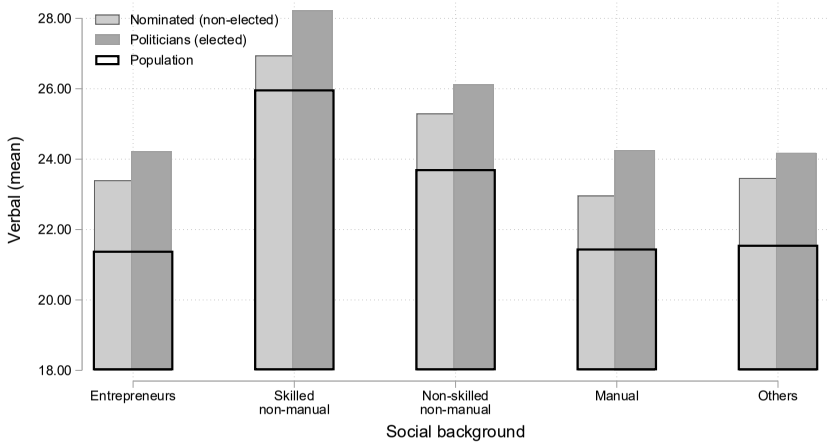
Figure E4. Average cognitive traits by income decile.



(a) Visuospatial score

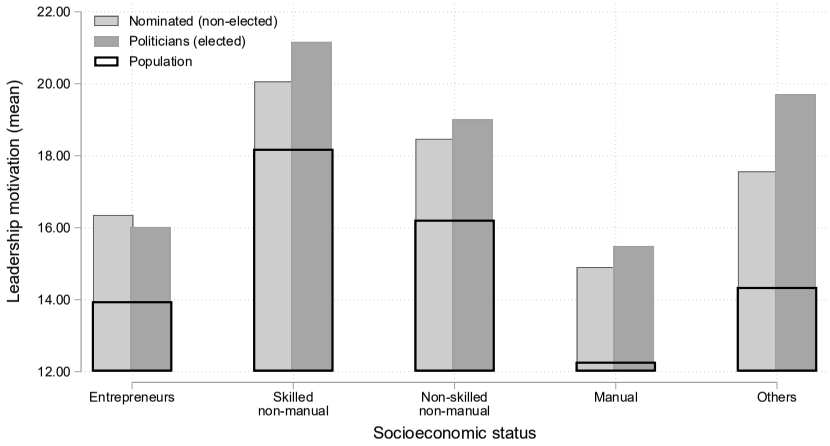


(b) Arithmetic score

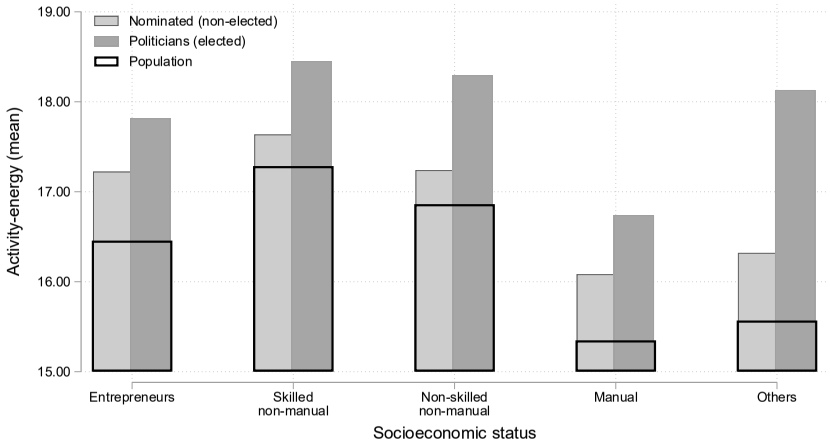


(c) Verbal score

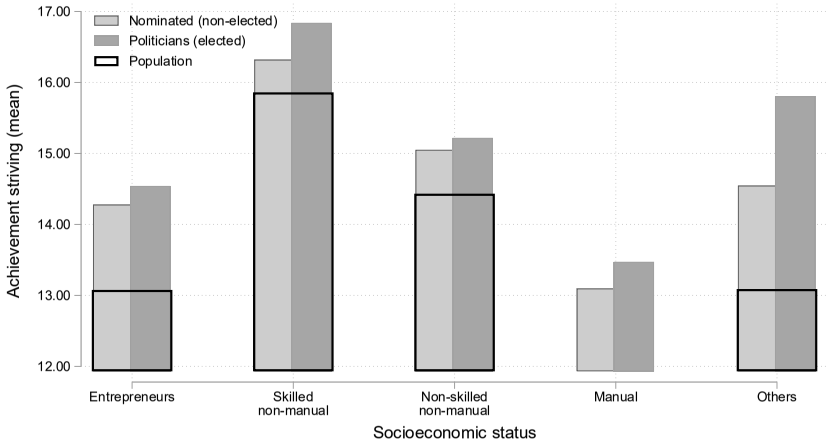
Figure E5. Average cognitive traits by parental background.



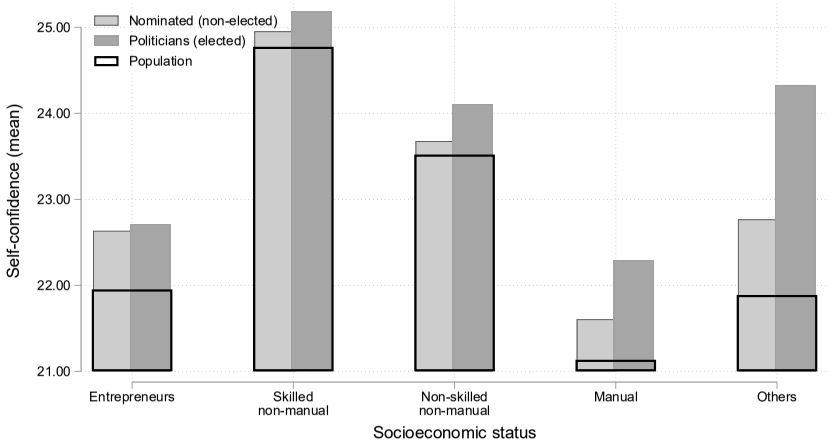
(a) Leadership motivation score



(b) Activity-energy score

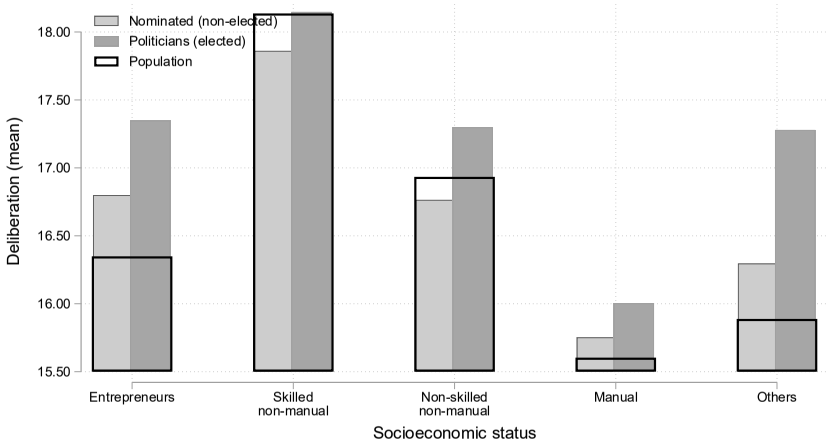


(c) Achievement striving score

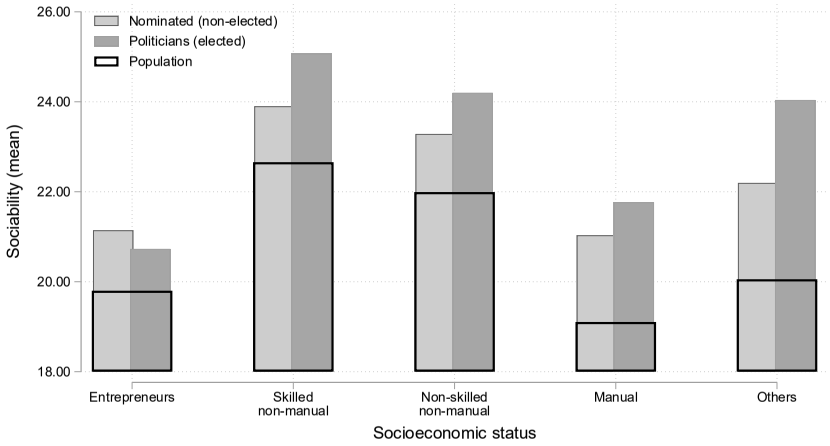


(d) Self-confidence score

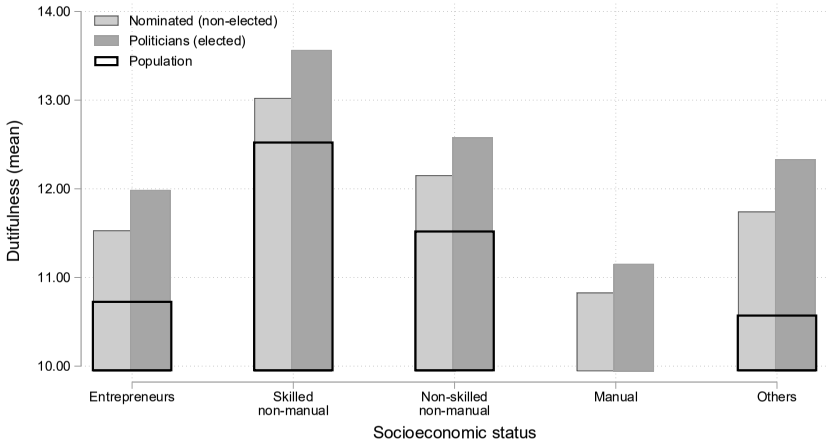
Figure E6. Average non-cognitive traits by socioeconomic status.



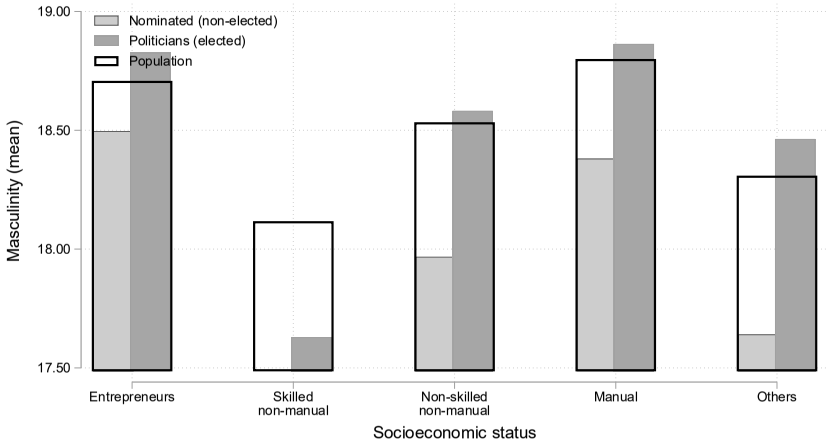
(e) Deliberation score



(f) Sociability score

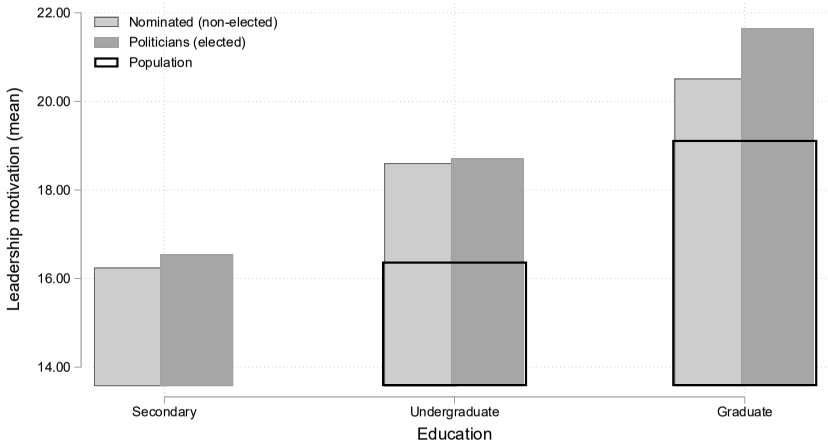


(g) Dutifulness score

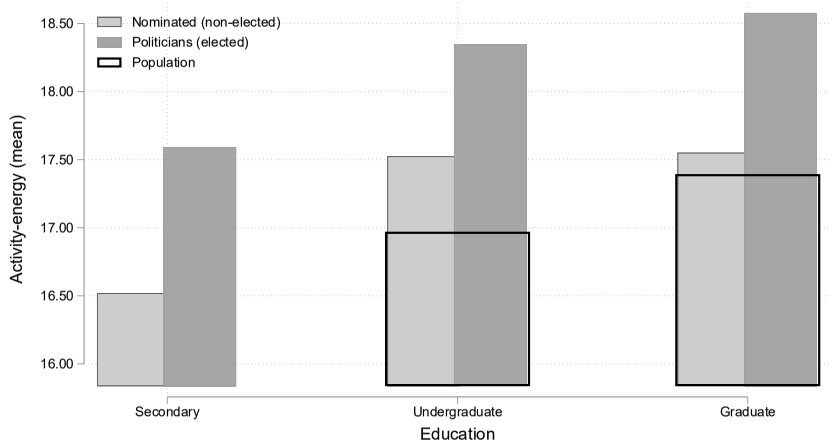


(h) Masculinity score

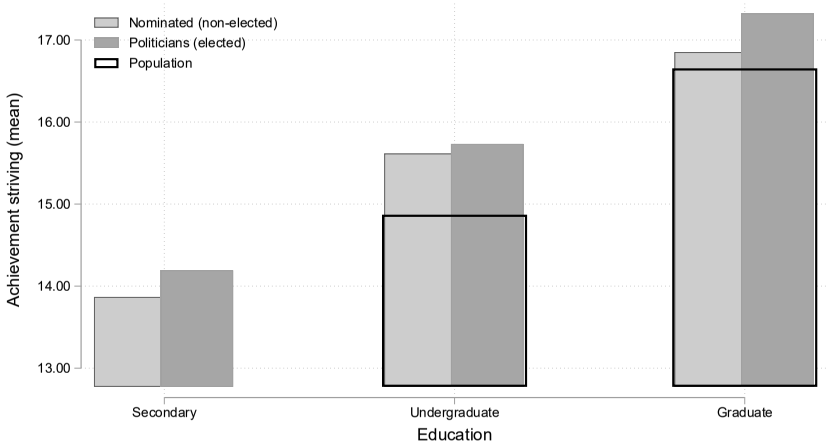
Figure E6. *(continued)* Average non-cognitive traits by socioeconomic status.



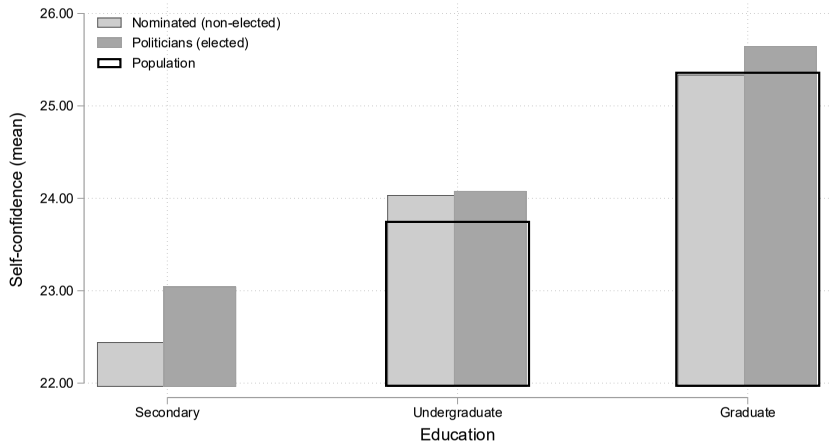
(a) Leadership motivation score



(b) Activity-energy score

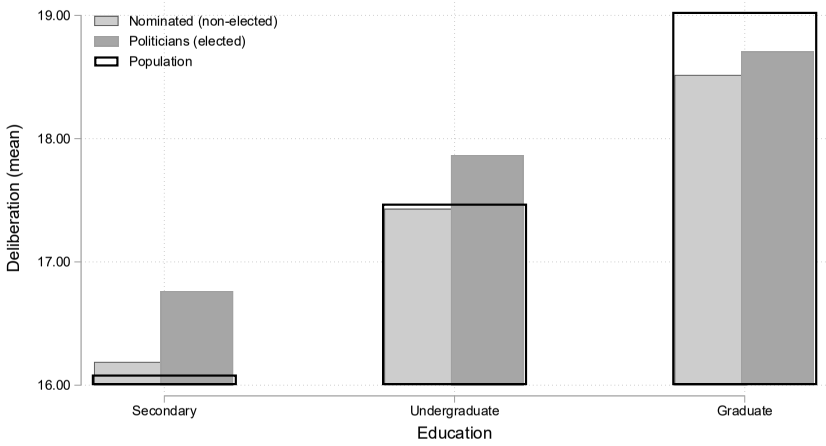


(c) Achievement striving score

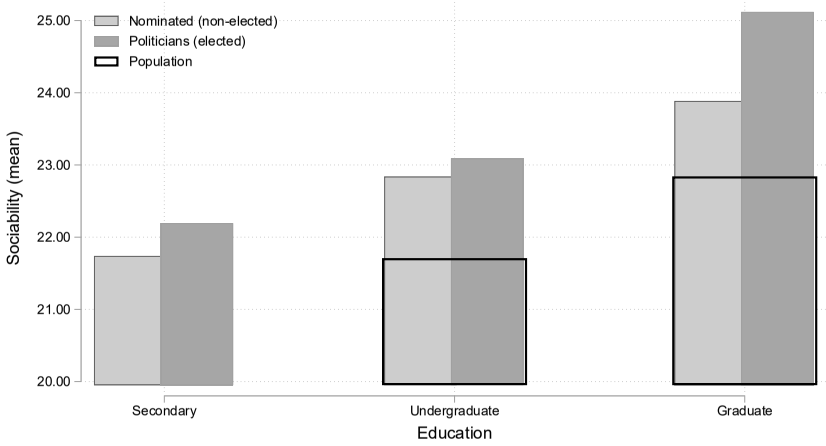


(d) Self-confidence score

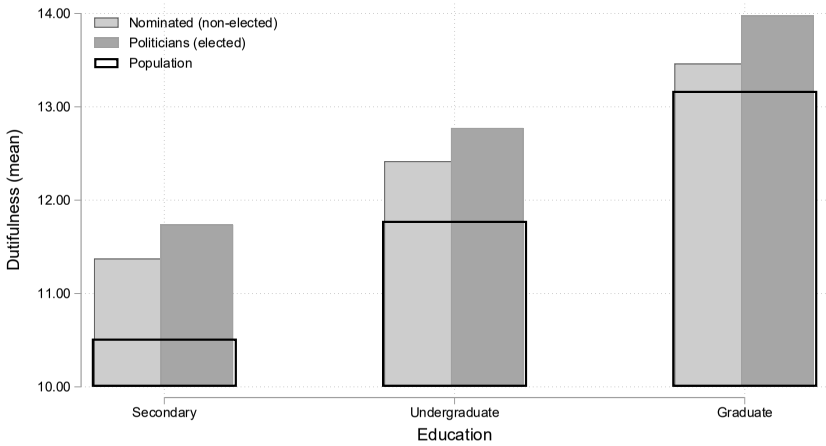
Figure E7. Average non-cognitive traits by educational attainment.



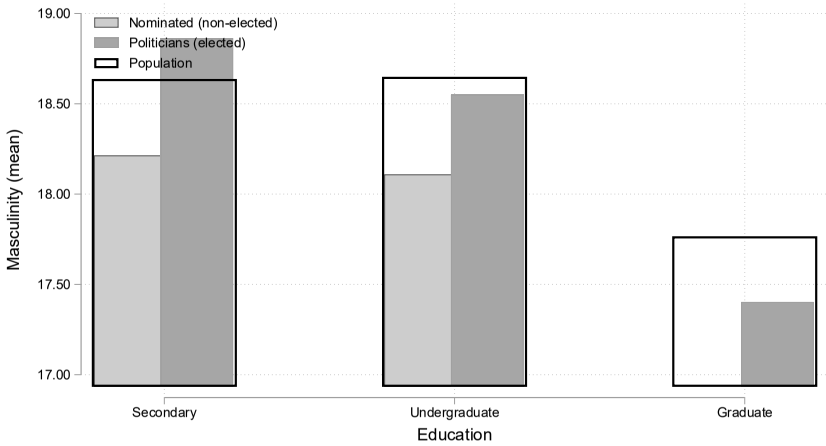
(e) Deliberation score



(f) Sociability score

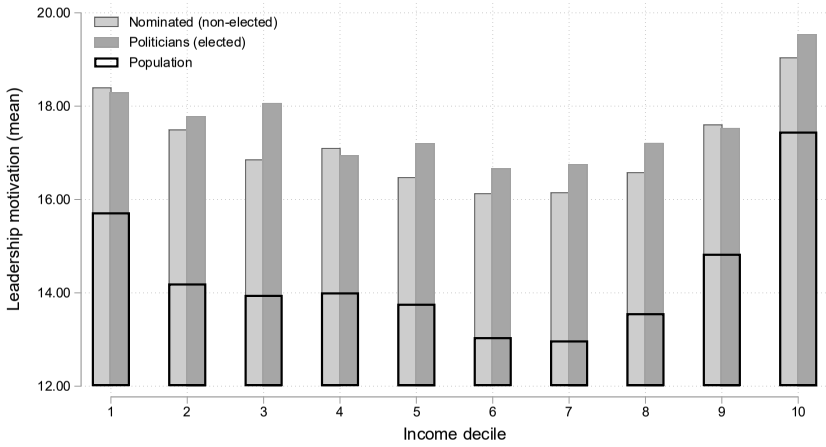


(g) Dutifulness score

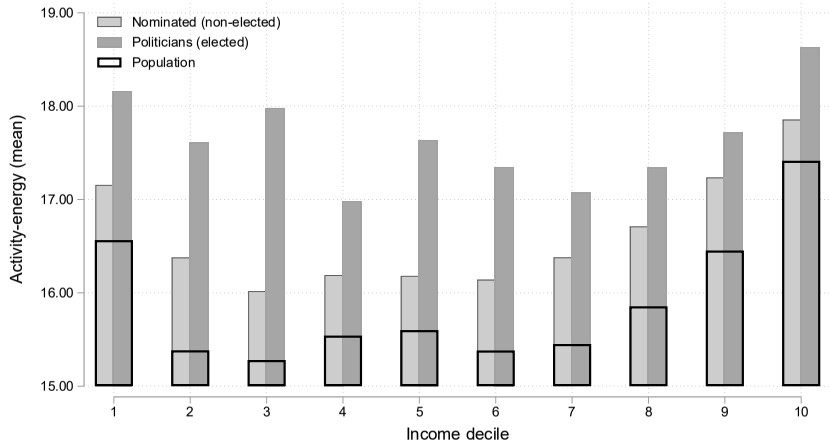


(h) Masculinity score

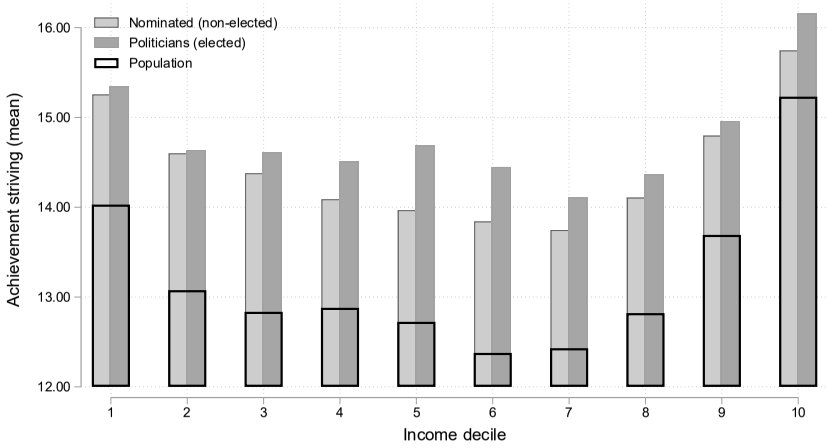
Figure E7. *(continued)* Average non-cognitive traits by educational attainment.



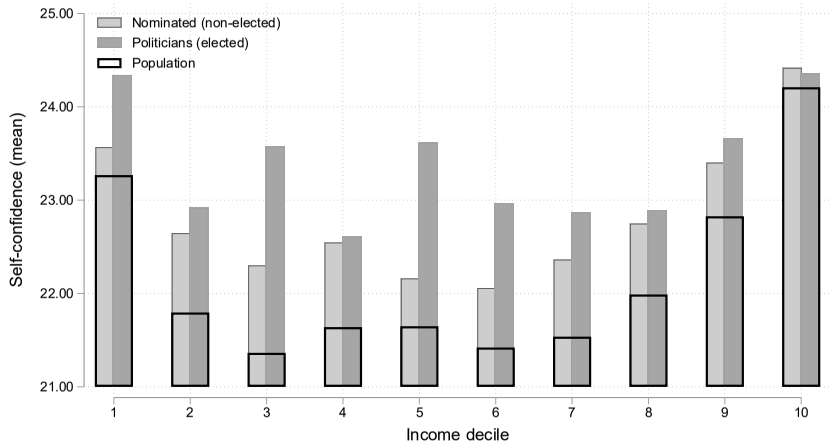
(a) Leadership motivation score



(b) Activity-energy score

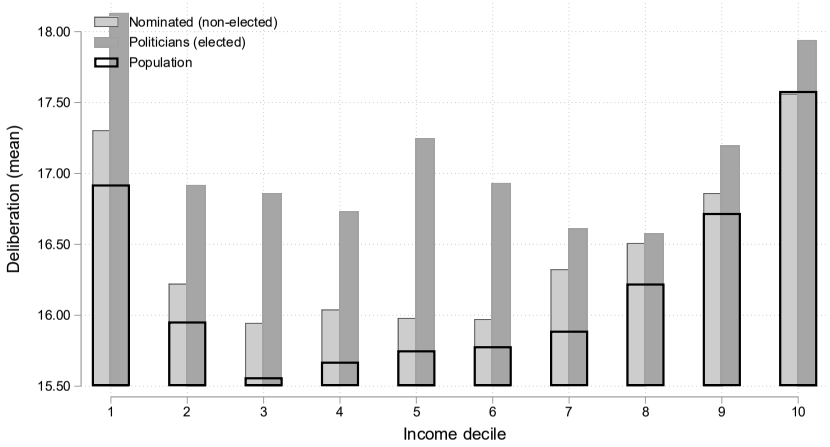


(c) Achievement striving score

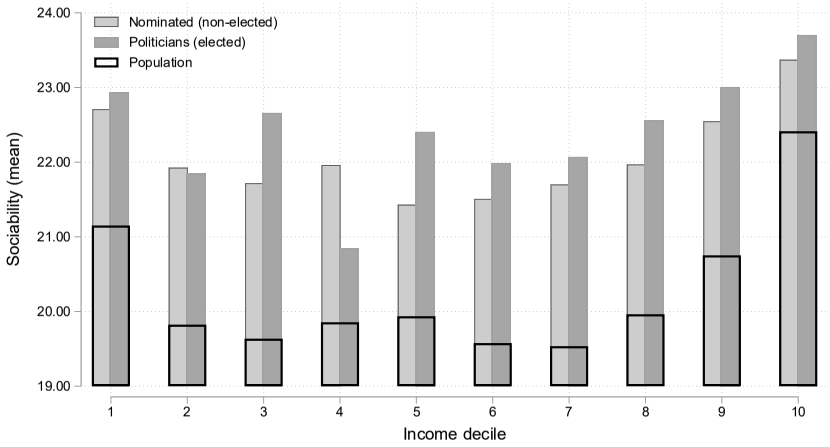


(d) Self-confidence score

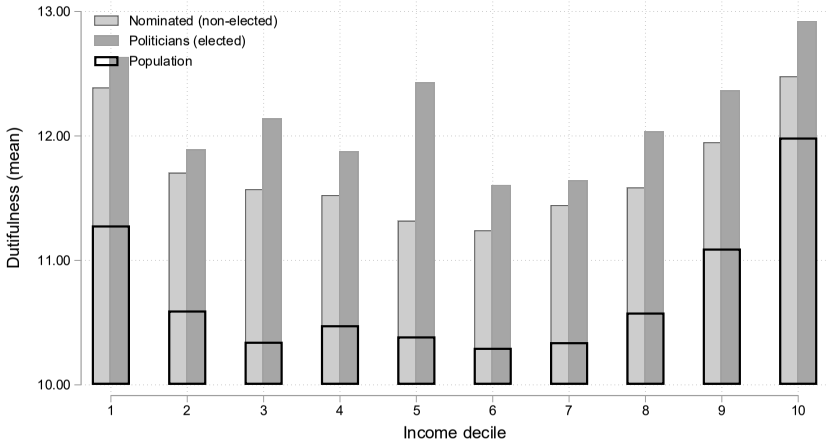
Figure E8. Average non-cognitive traits by income decile.



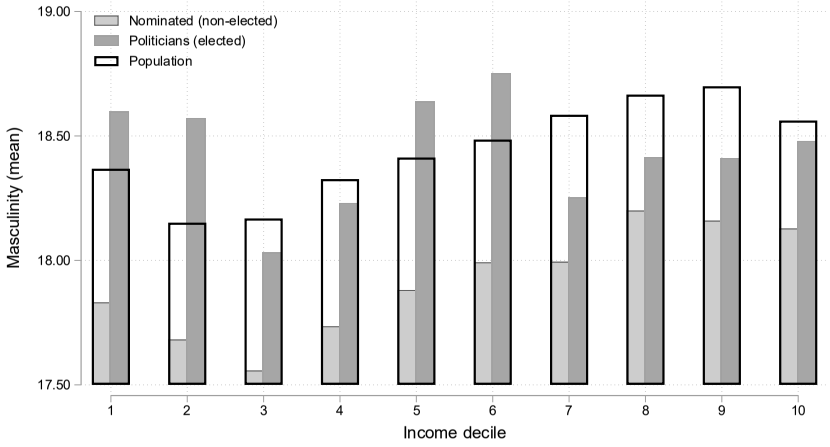
(e) Deliberation score



(f) Sociability score

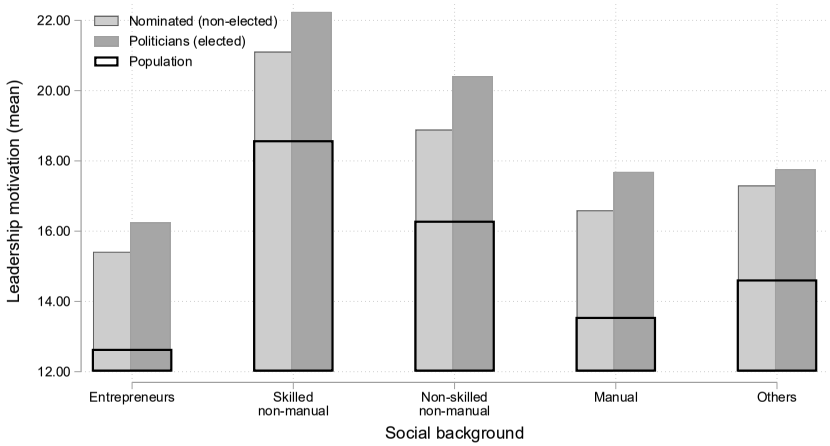


(g) Dutifulness score

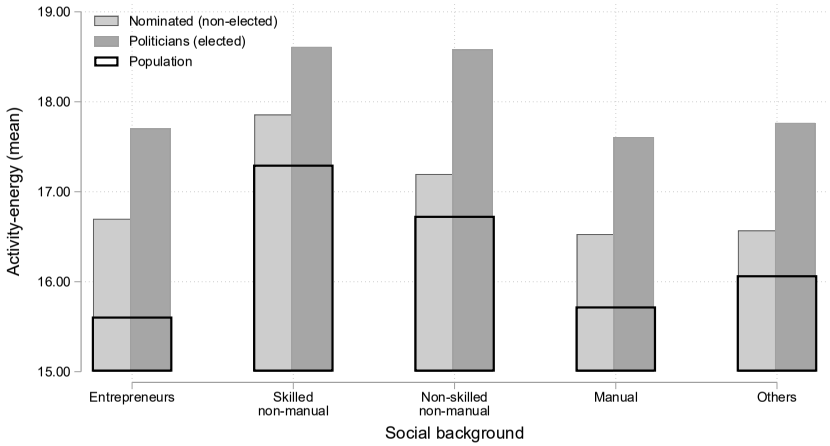


(h) Masculinity score

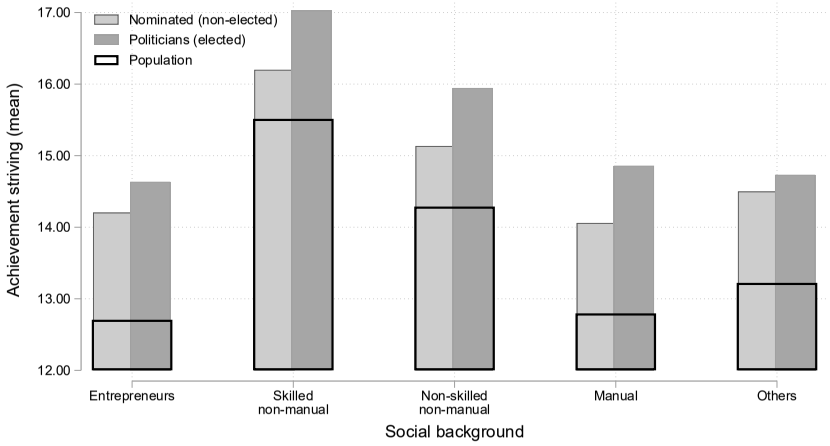
Figure E8. *(continued)* Average non-cognitive traits by income decile.



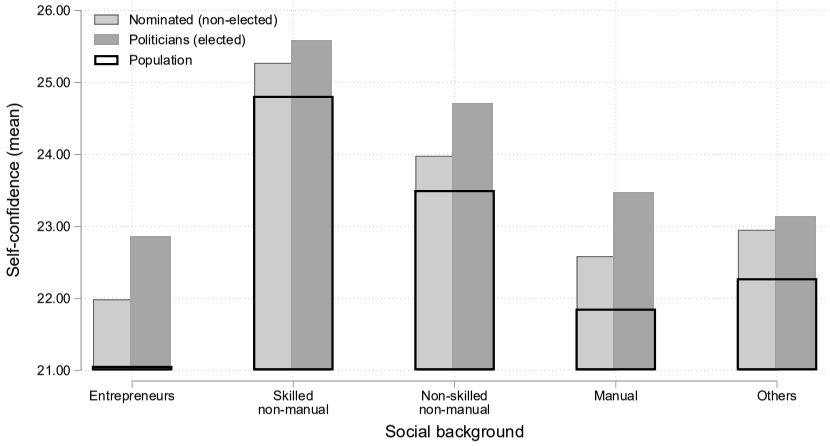
(a) Leadership motivation score



(b) Activity-energy score

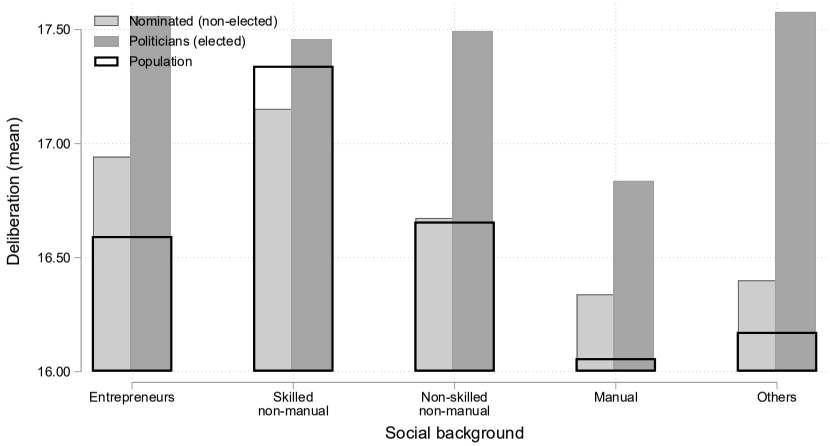


(c) Achievement striving score

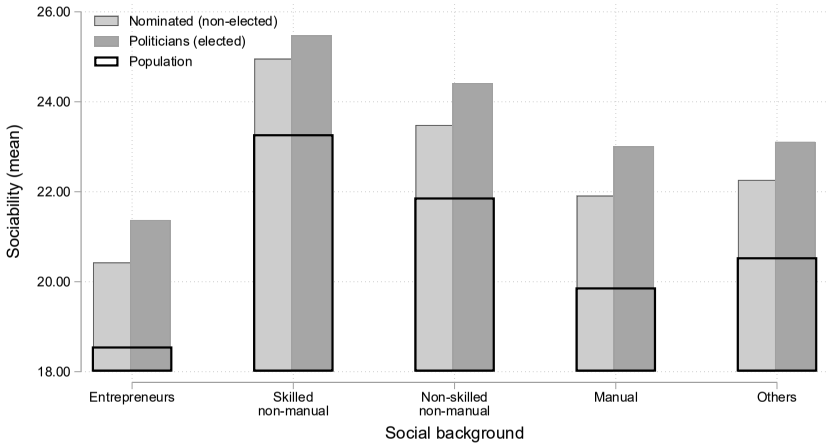


(d) Self-confidence score

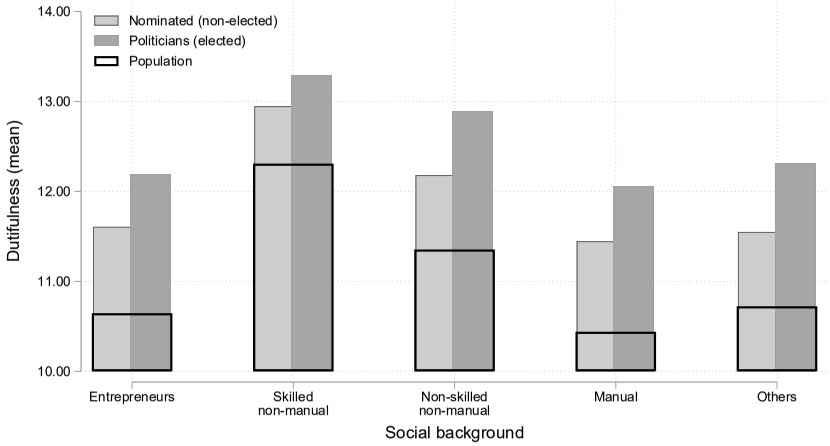
Figure E9. Average non-cognitive traits by parental background.



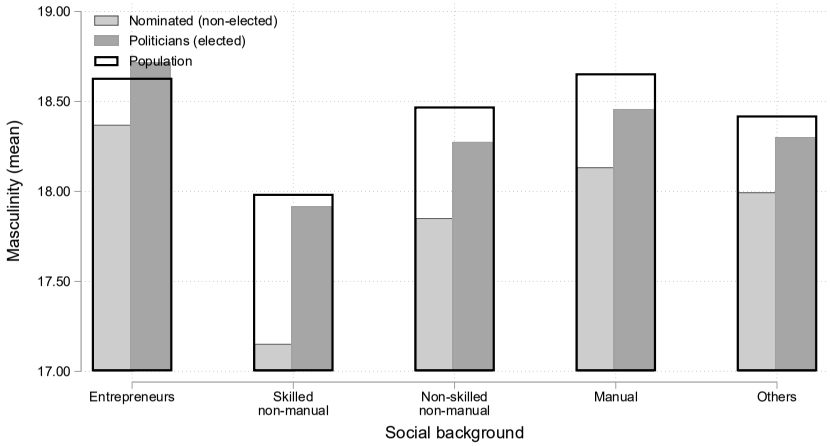
(e) Deliberation score



(f) Sociability score

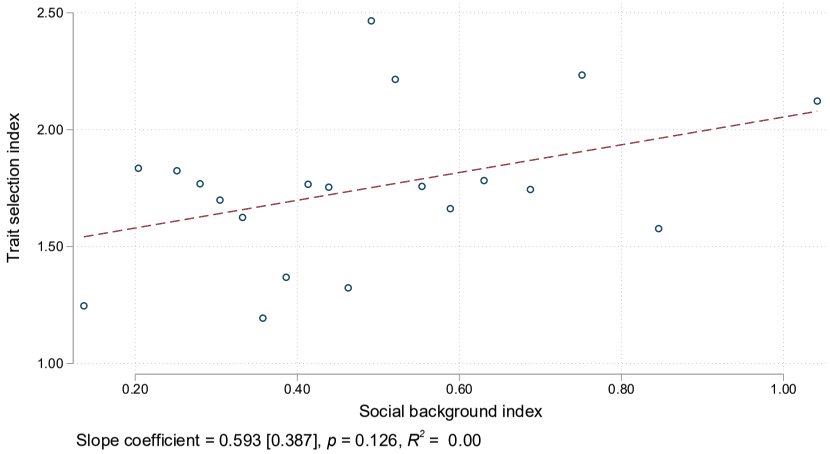


(g) Dutifulness score

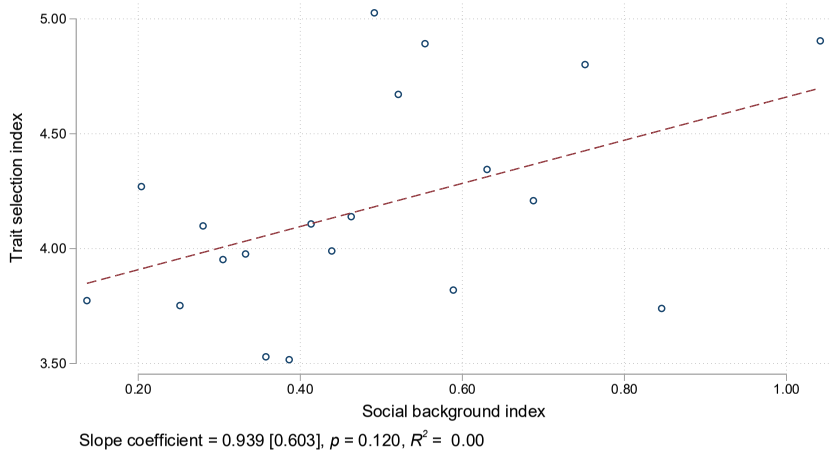


(h) Masculinity score

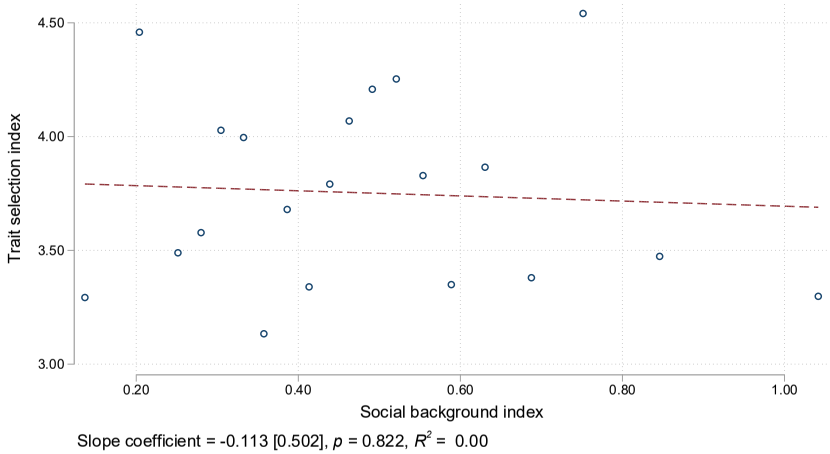
Figure E9. *(continued)* Average non-cognitive traits by parental background.



(a) Visuospatial score

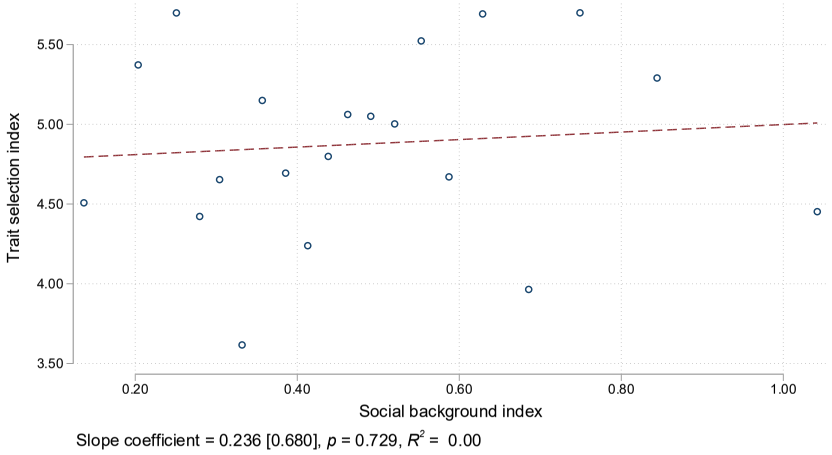


(b) Arithmetic score

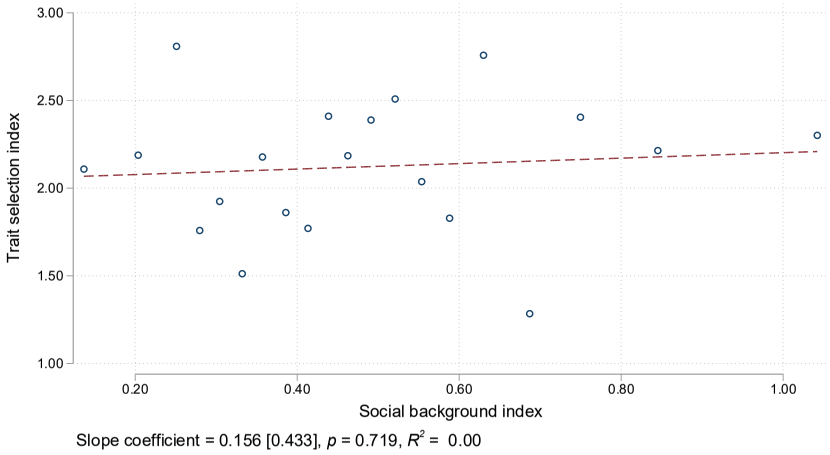


(c) Verbal score

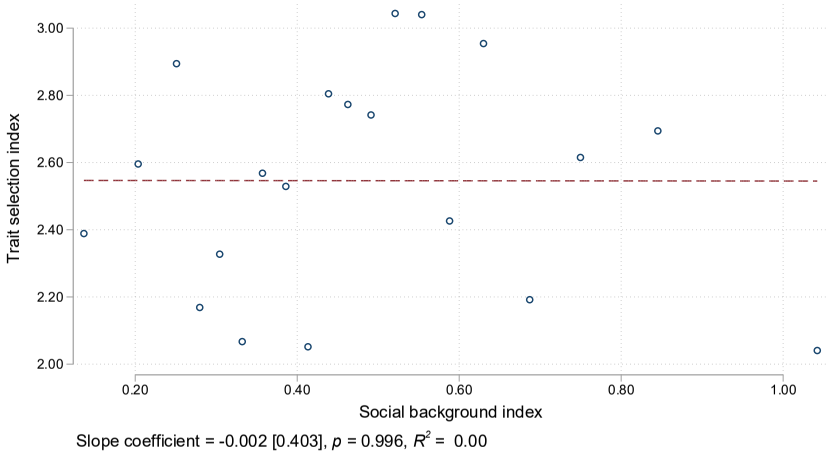
Figure E10. Trade-off between cognitive traits and representation of social classes.



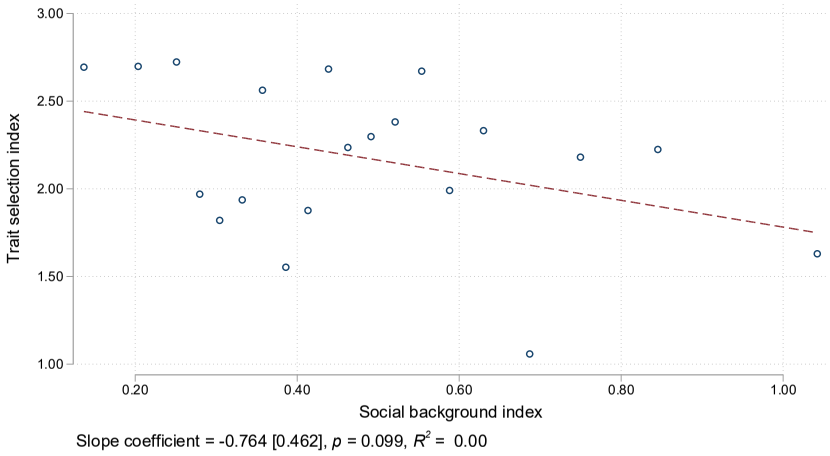
(a) Leadership motivation score



(b) Activity-energy score

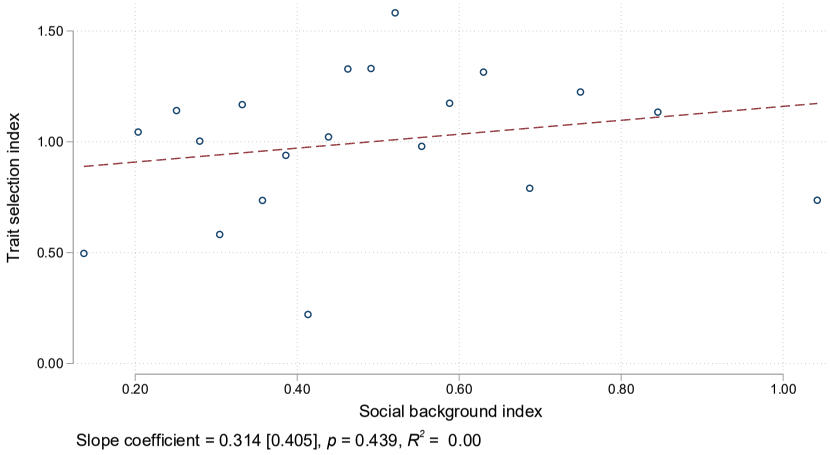


(c) Achievement striving score

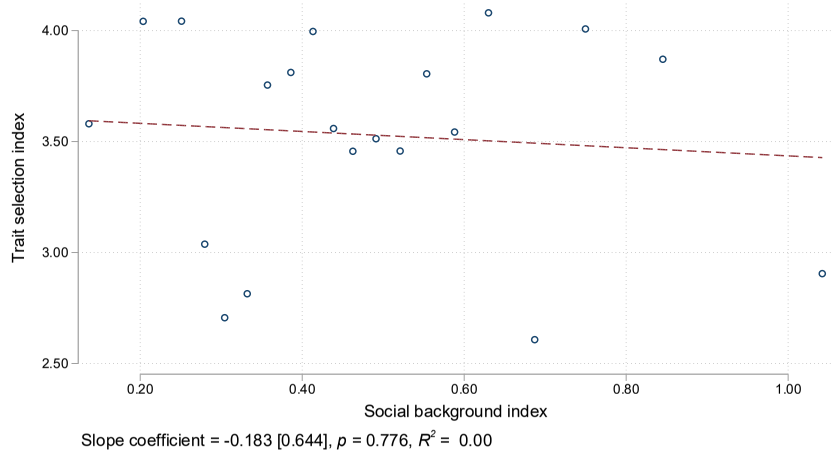


(d) Self-confidence score

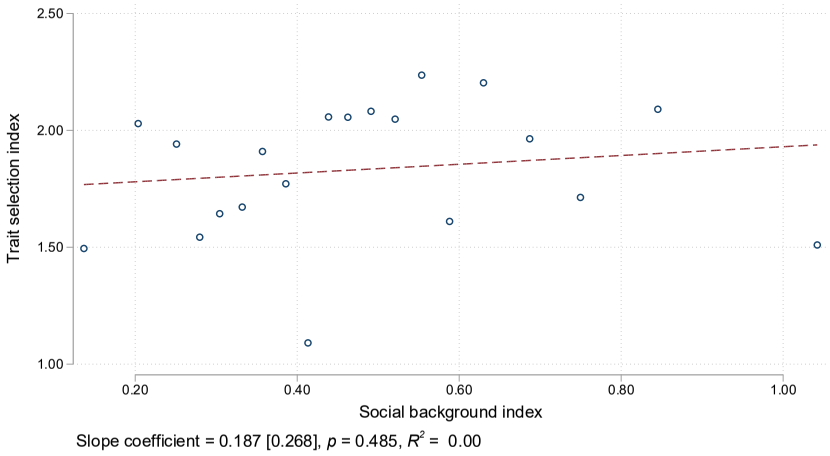
Figure E11. Trade-off between non-cognitive traits and representation of social classes.



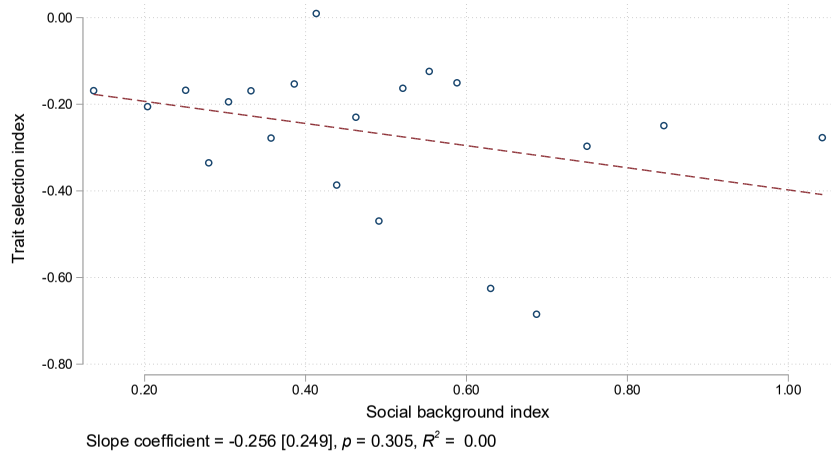
(e) Deliberation score



(f) Sociability score



(g) Dutifulness score



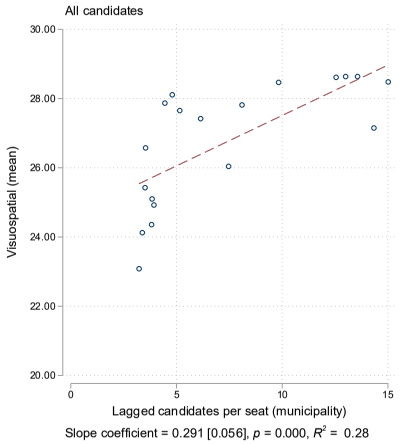
(h) Masculinity score

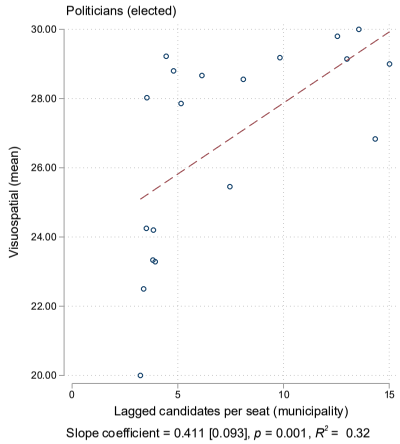
Figure E11. *(continued)* Trade-off between non-cognitive traits and representation of social classes.

F Political Competition and Political Selection

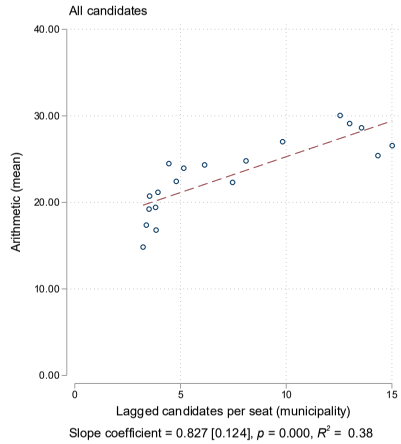
This appendix examines how different aspects of political competition are associated with political selection. First, we consider the degree of political competition between political parties. We measure political competition with the lagged number of candidates per council seats. The larger value this metric has, the more competitive elections the municipality tends to have. In Figures F1-F4 we see that there is a strong and positive relationship between cognitive abilities and the degree of inter-party competition. Similarly, we see that all personality traits except for masculinity are positively correlated with the magnitude of competition between political parties. Furthermore, there is some evidence that higher competition is associated with stronger selection compared with the office-eligible population. We find that the cognitive selection indices are positively correlated with our measure of political competition between parties. We document similar patterns also for leadership motivation, achievement striving, and dutifulness. For other personality characteristics, there is no meaningful relationship.

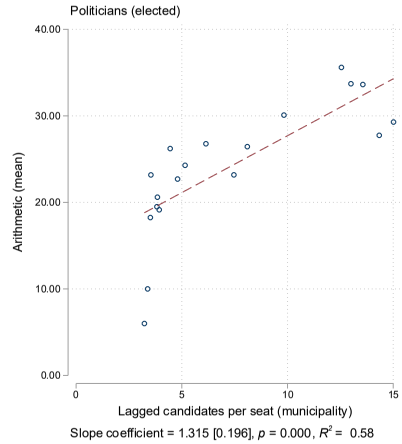
We also consider another aspect of political competition, namely competition within political parties. To explore how political selection varies by the level of within-party competition, we collapse our data to the party-municipality level. We use the lagged number of candidates fielded by the party (scaled by council size) as our measure for intra-party competition and plot our findings in Figures F5 and F6. There is a strong and statistically significant relationship between intra-party competition and positive selection, the only anomality being masculinity of the candidates. It is also an important driver of positive selection relative to the population (Figures F7 and F8).



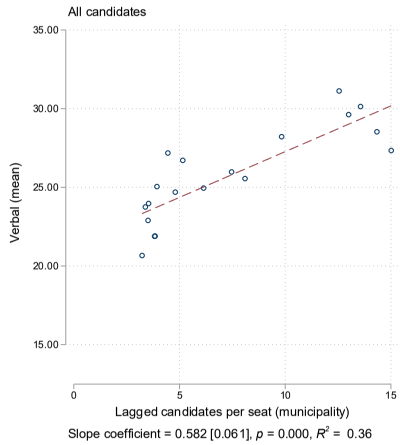


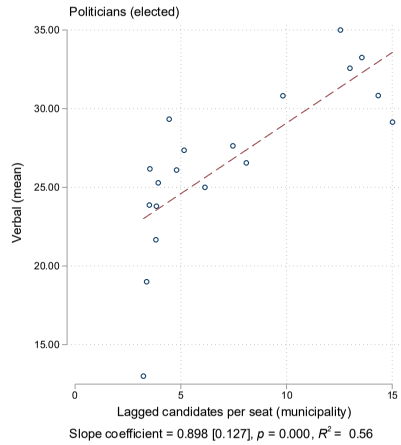
(a) Visuospatial score





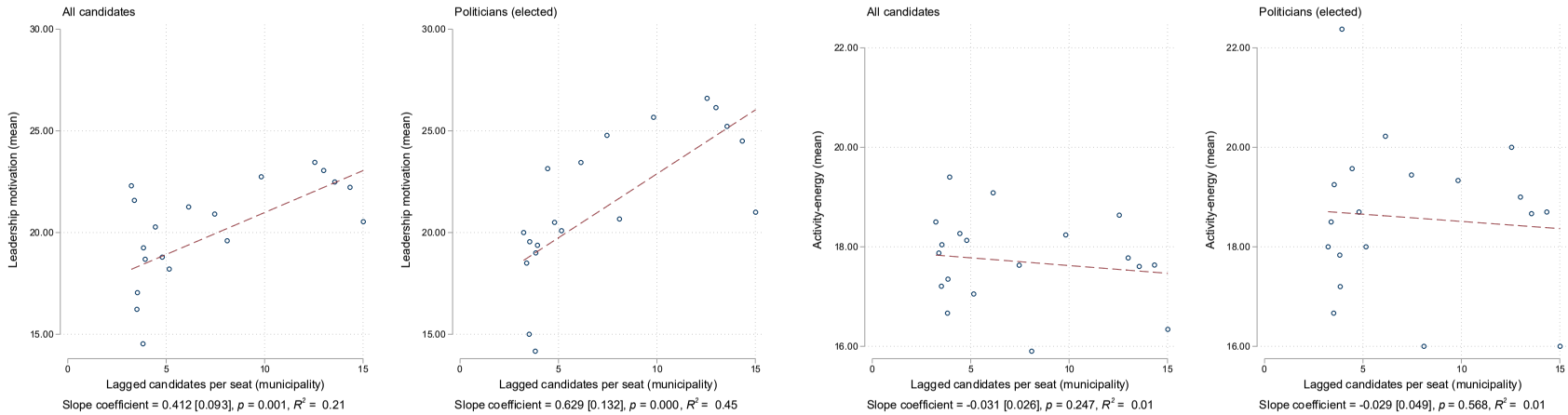
(b) Arithmetic score





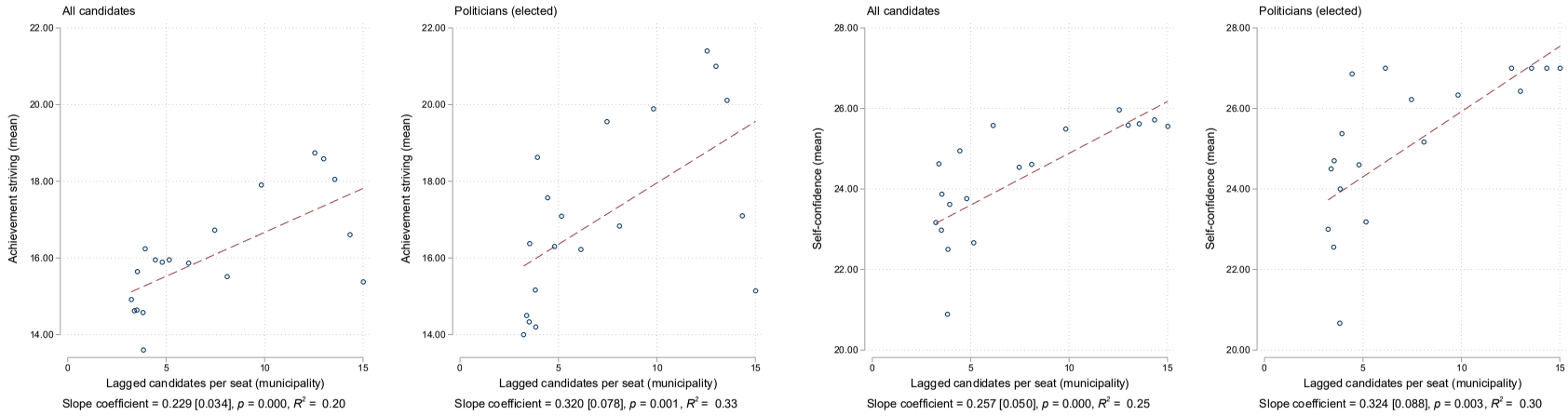
(c) Verbal score

Figure F1. Relationship between inter-party competition (municipality candidates per seat) and the average cognitive test scores of elected politicians.



(a) Leadership motivation score

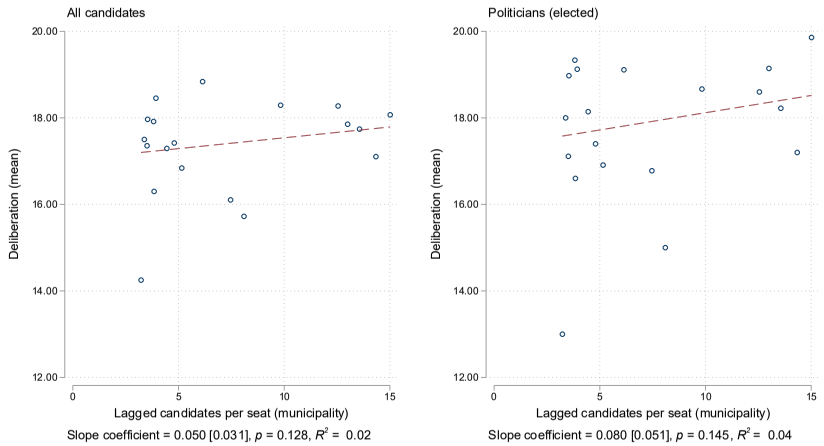
(b) Activity-energy score



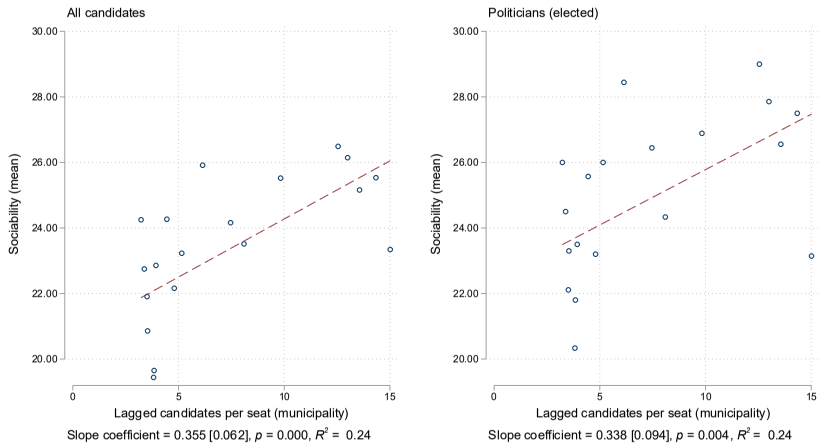
(c) Achievement striving score

(d) Self-confidence score

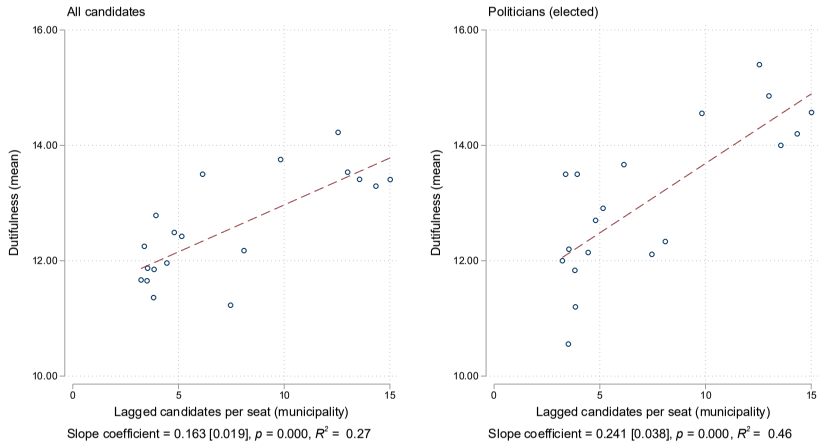
Figure F2. Relationship between inter-party competition (municipality candidates per seat) and the average non-cognitive test scores of elected politicians.



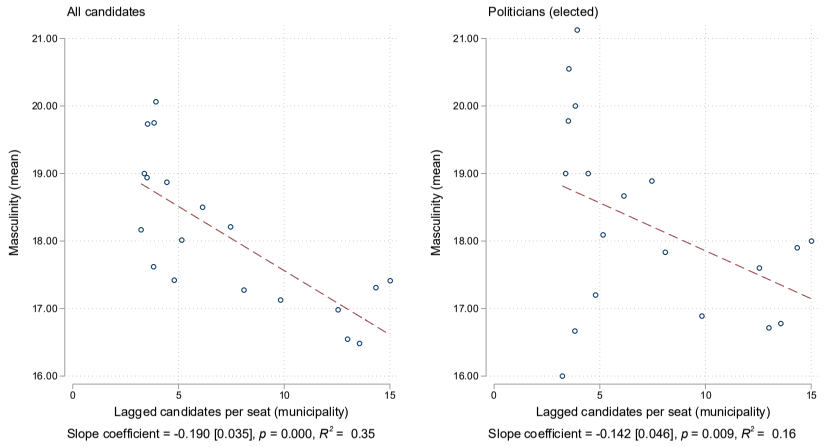
(e) Deliberation score



(f) Sociability score

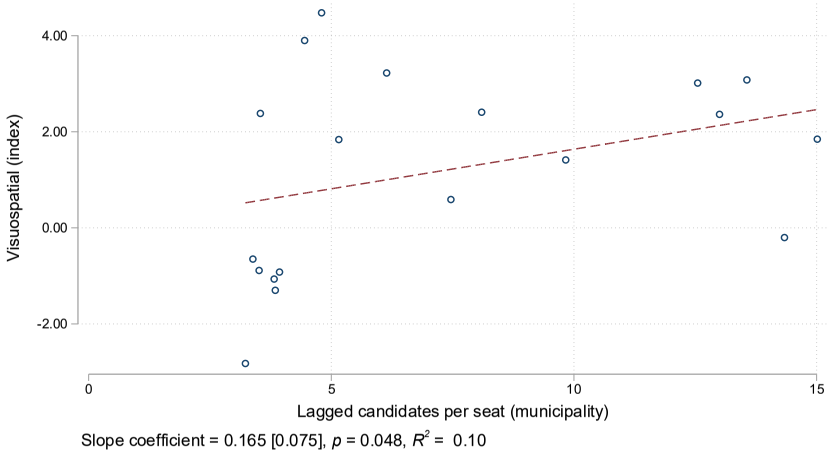


(g) Dutifulness score

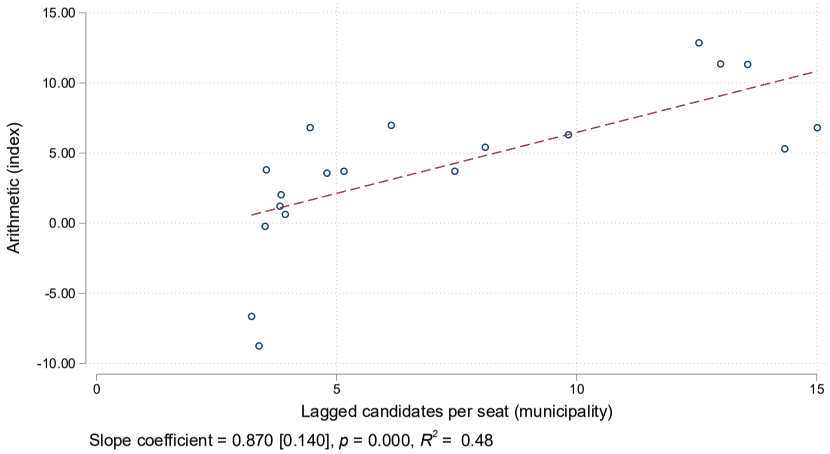


(h) Masculinity score

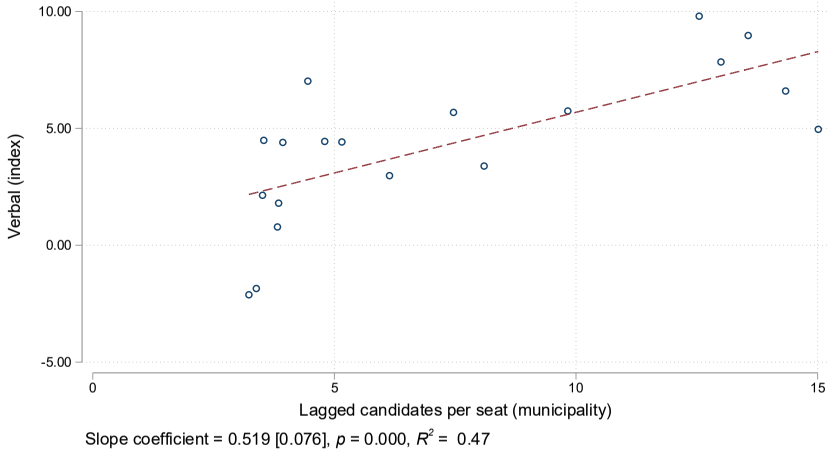
Figure F2. *(continued)* Relationship between inter-party competition (municipality candidates per seat) and the average non-cognitive test scores of elected politicians.



(a) Visuospatial score

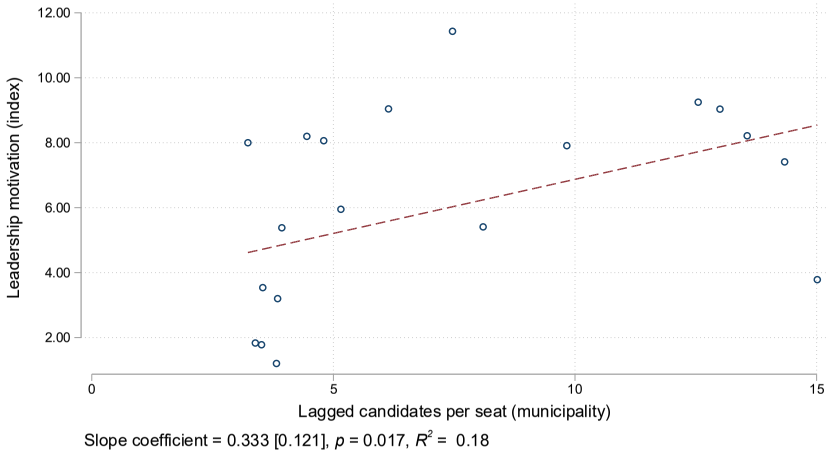


(b) Arithmetic score

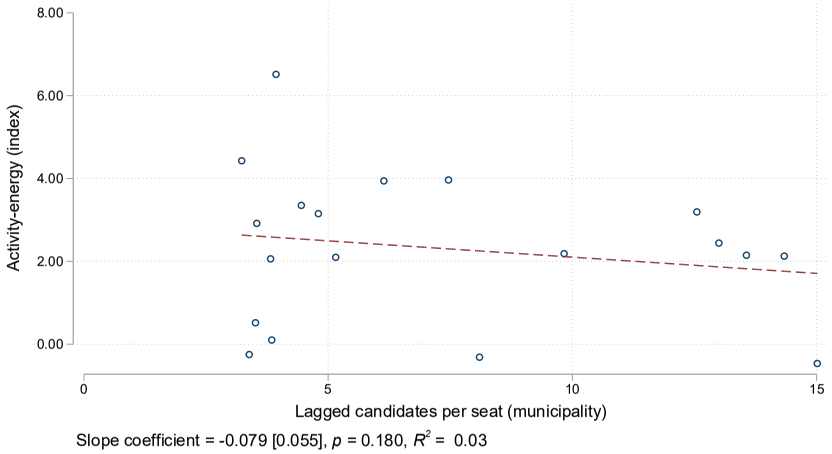


(c) Verbal score

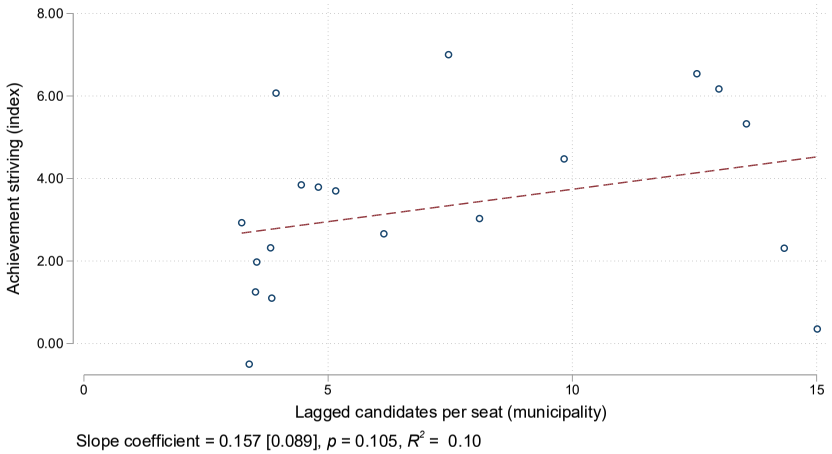
Figure F3. Relationship between inter-party competition (municipality candidates per seat) and the cognitive selection index.



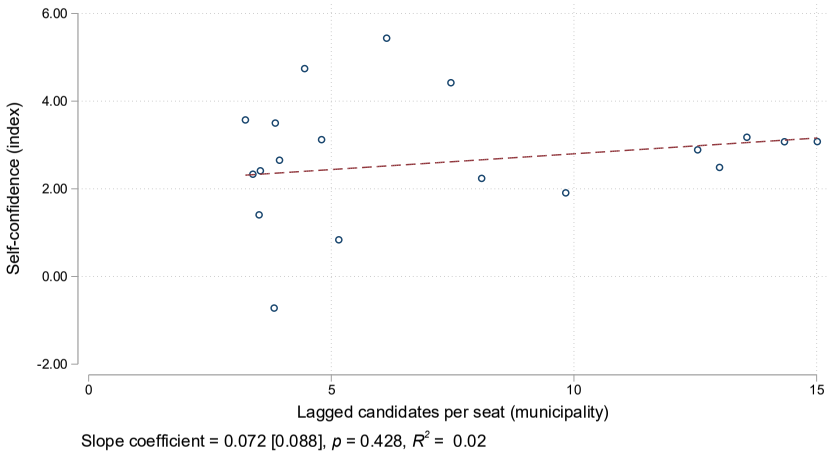
(a) Leadership motivation score



(b) Activity-energy score

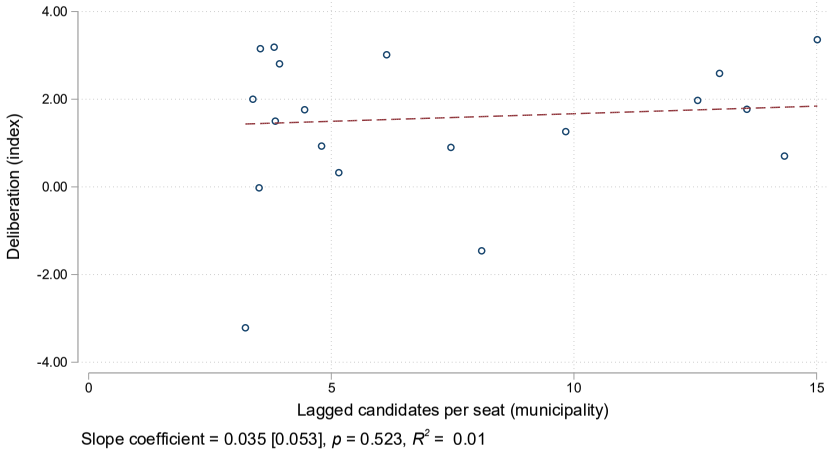


(c) Achievement striving score

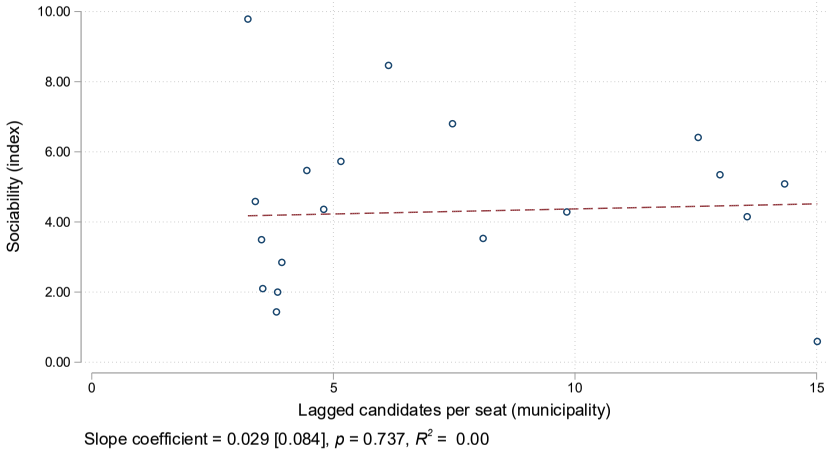


(d) Self-confidence score

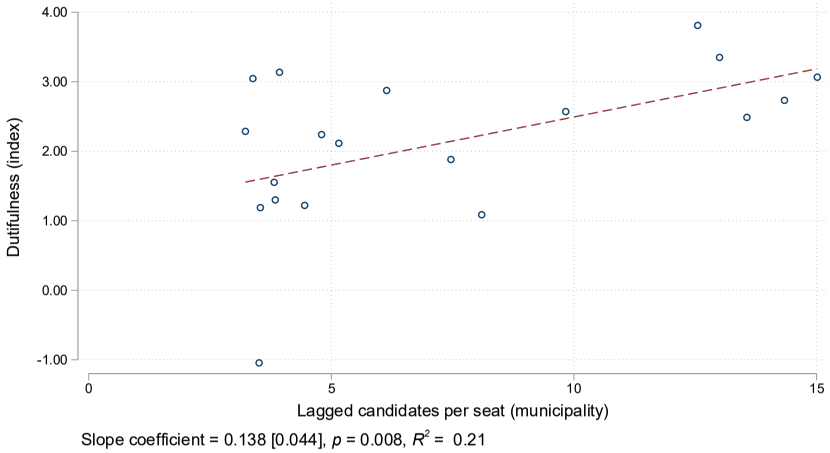
Figure F4. Relationship between inter-party competition (municipality candidates per seat) and the non-cognitive selection index.



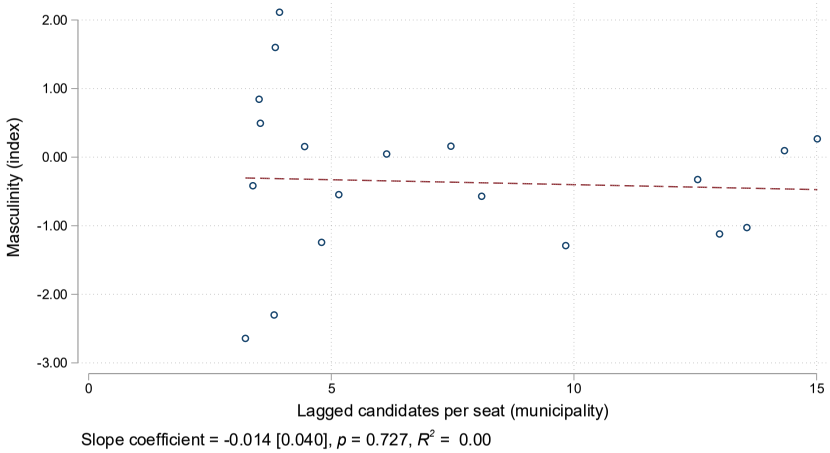
(e) Deliberation score



(f) Sociability score

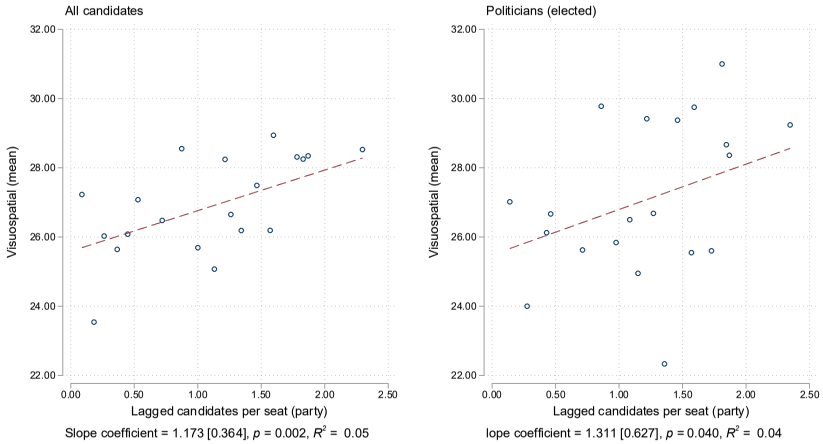


(g) Dutifulness score

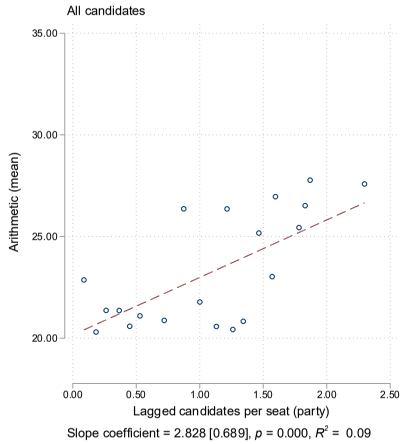


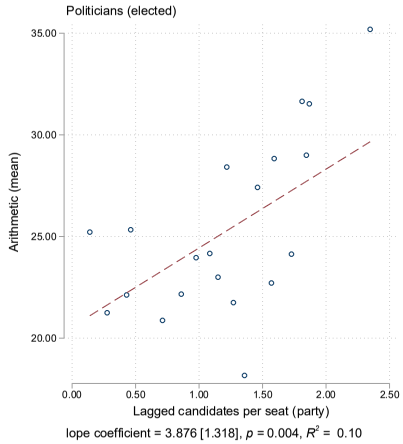
(h) Masculinity score

Figure F4. *(continued)* Relationship between inter-party competition (municipality candidates per seat) and the non-cognitive selection index.

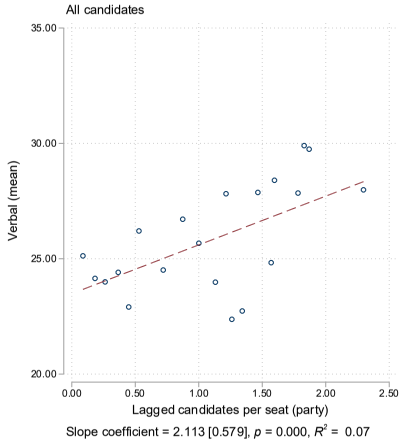


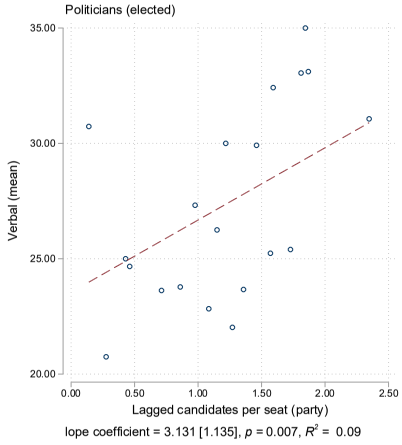
(a) Visuospatial score





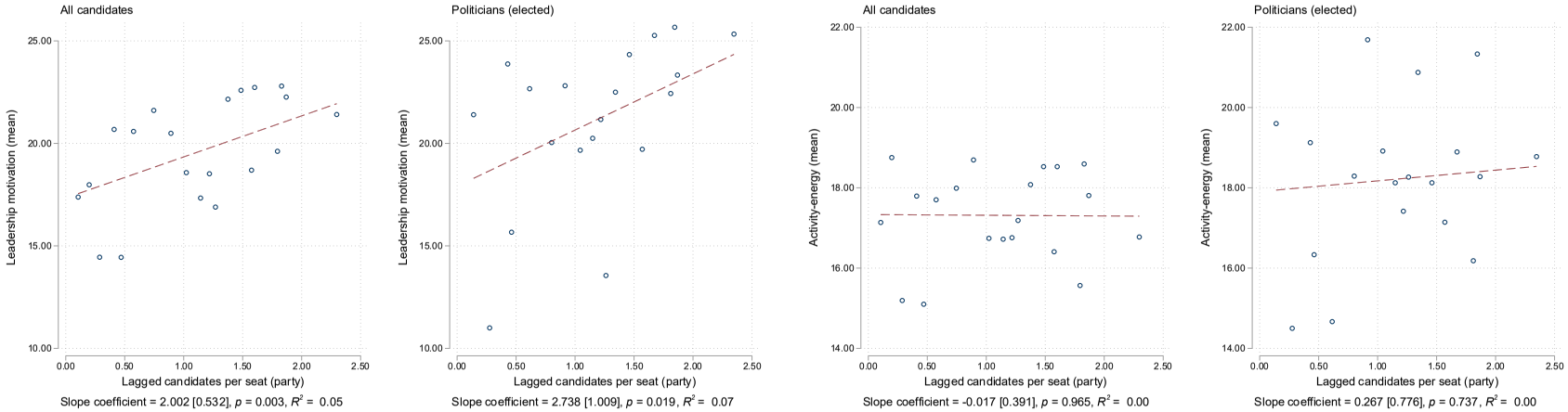
(b) Arithmetic score





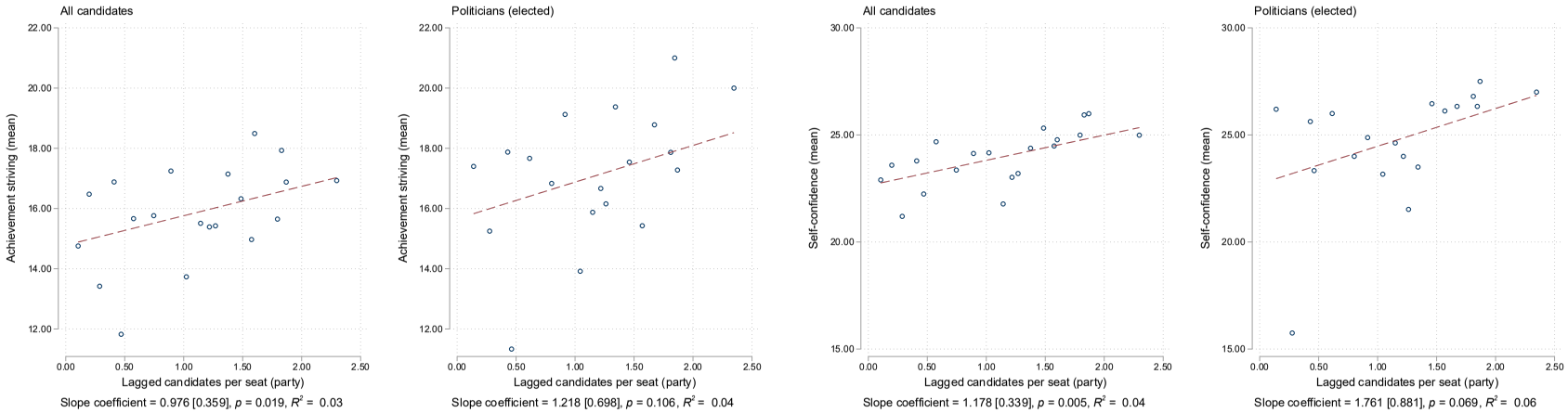
(c) Verbal score

Figure F5. Relationship between intra-party competition (party candidates per seat) and the average cognitive test scores of elected politicians.



(a) Leadership motivation score

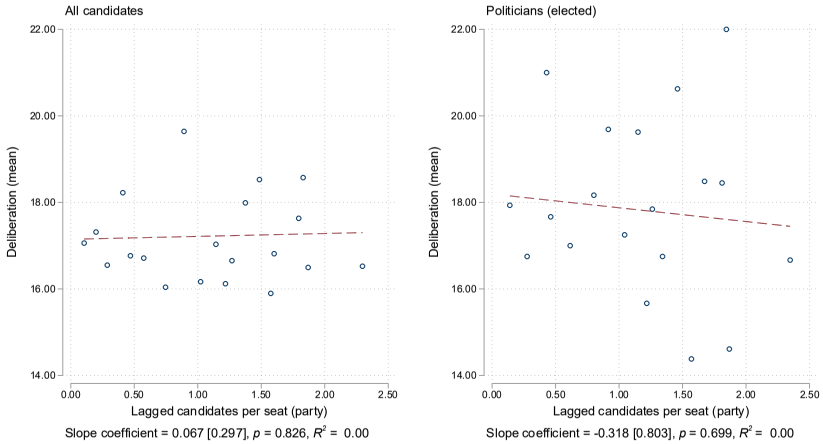
(b) Activity-energy score



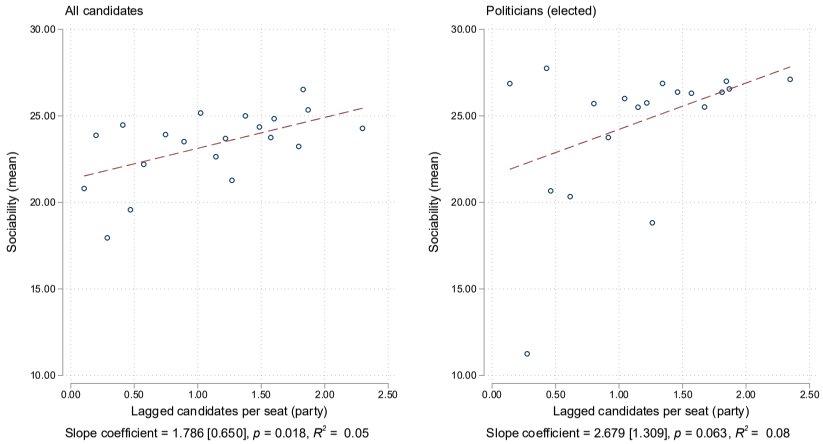
(c) Achievement striving score

(d) Self-confidence score

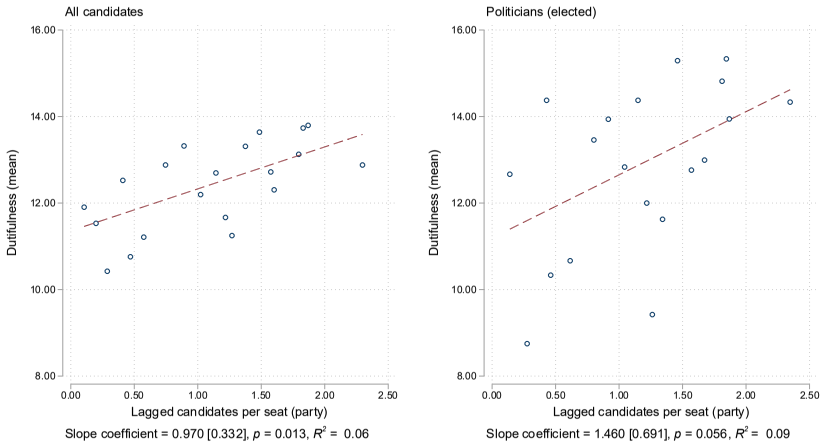
Figure F6. Relationship between intra-party competition (party candidates per seat) and the average non-cognitive test scores of elected politicians.



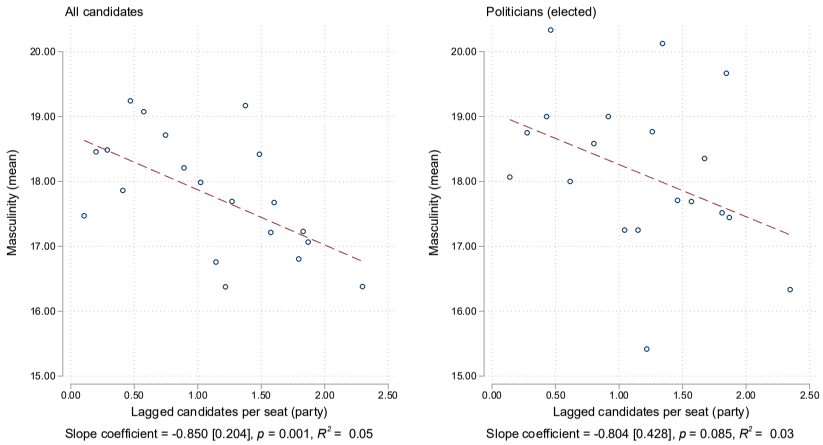
(e) Deliberation score



(f) Sociability score

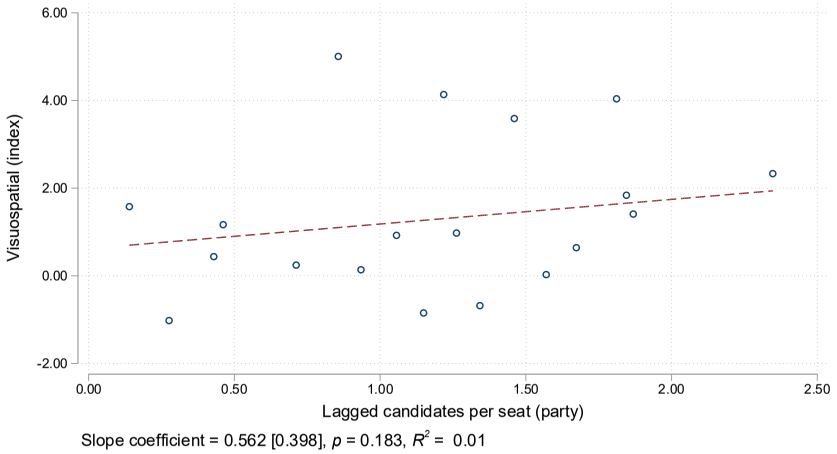


(g) Dutifulness score

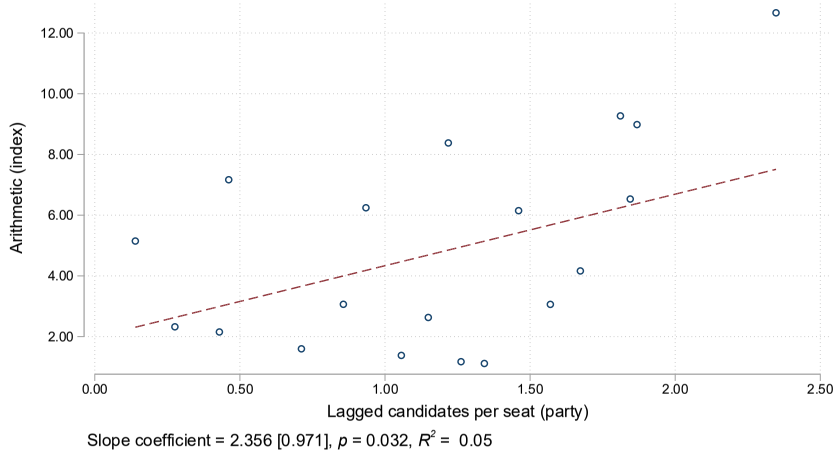


(h) Masculinity score

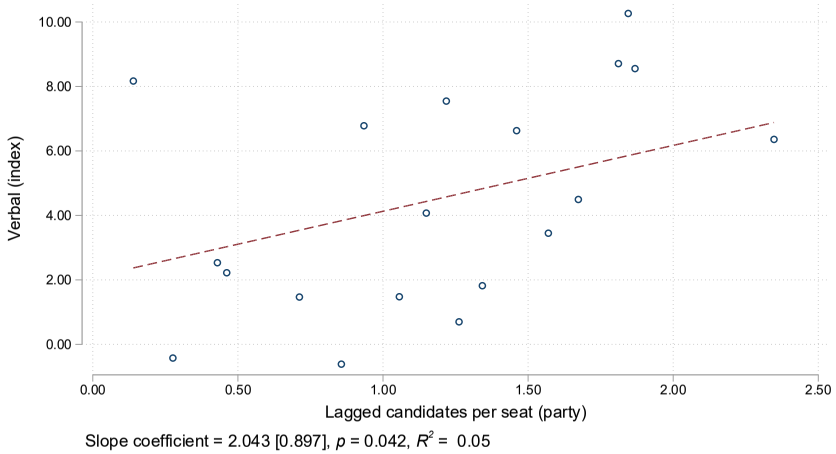
Figure F6. *(continued)* Relationship between intra-party competition (party candidates per seat) and the average non-cognitive test scores of elected politicians.



(a) Visuospatial score

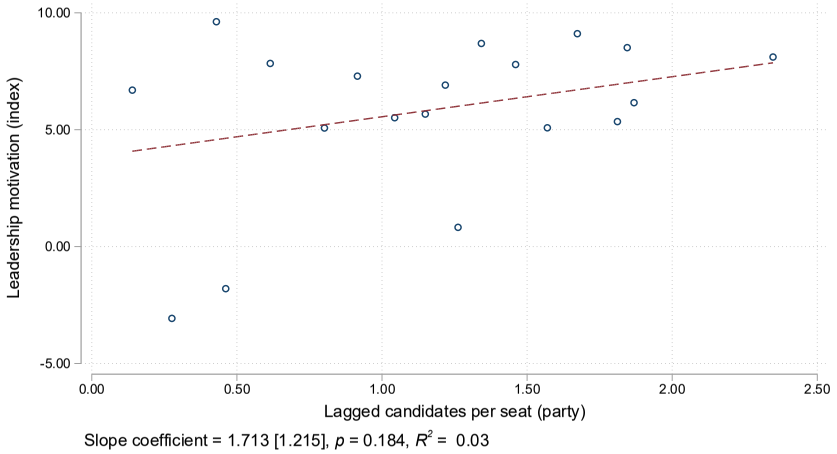


(b) Arithmetic score

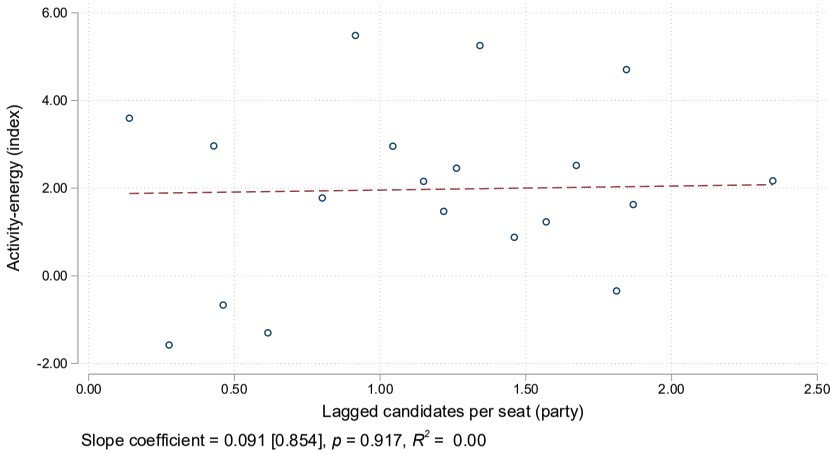


(c) Verbal score

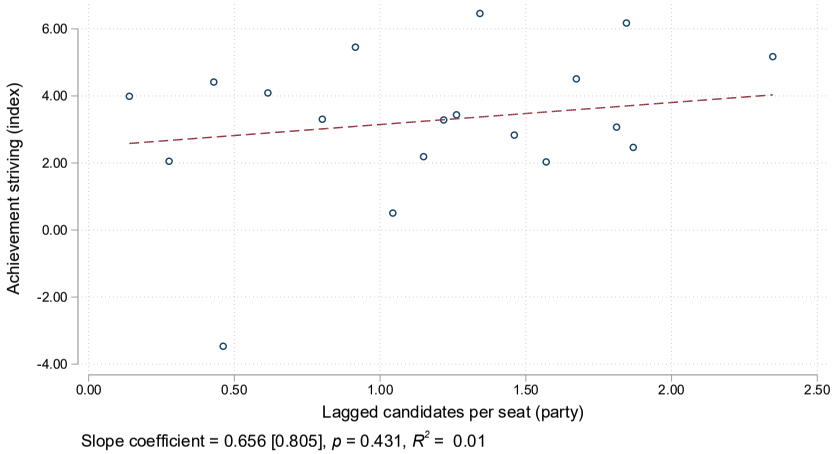
Figure F7. Relationship between intra-party competition (party candidates per seat) and the cognitive selection index.



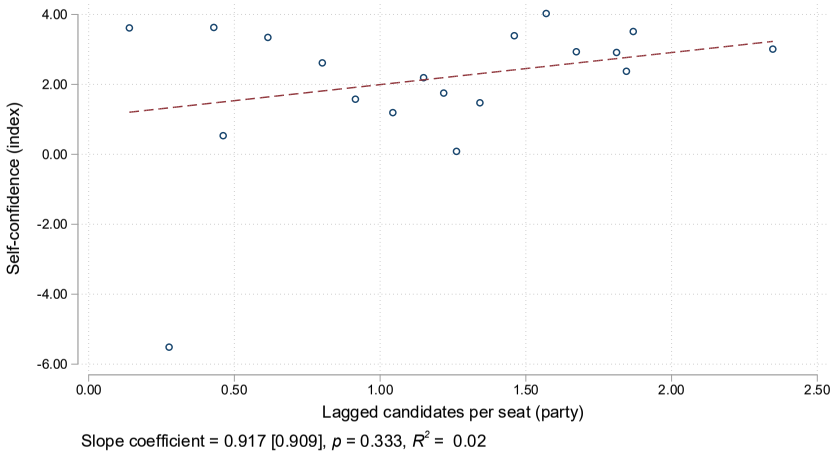
(a) Leadership motivation score



(b) Activity-energy score

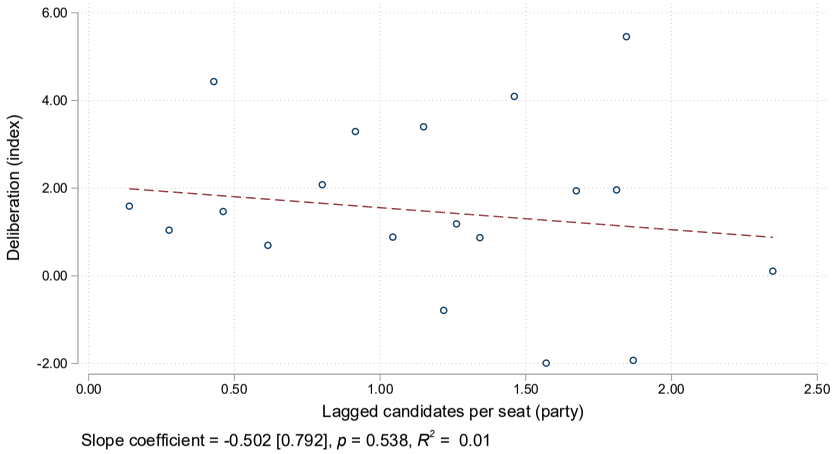


(c) Achievement striving score

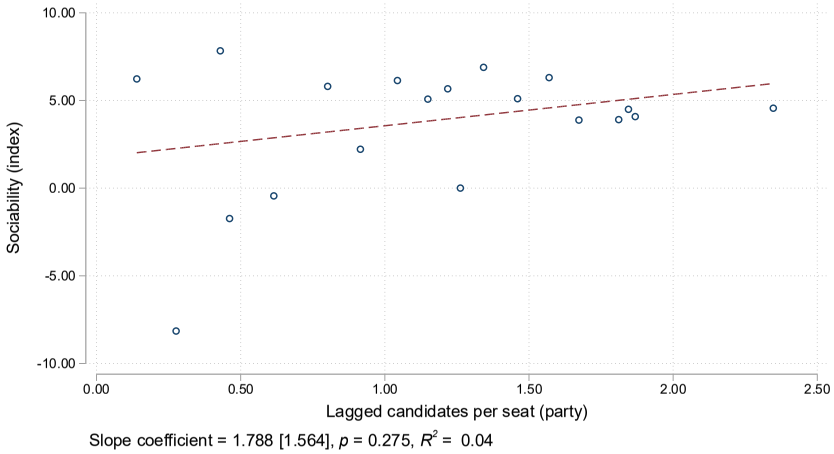


(d) Self-confidence score

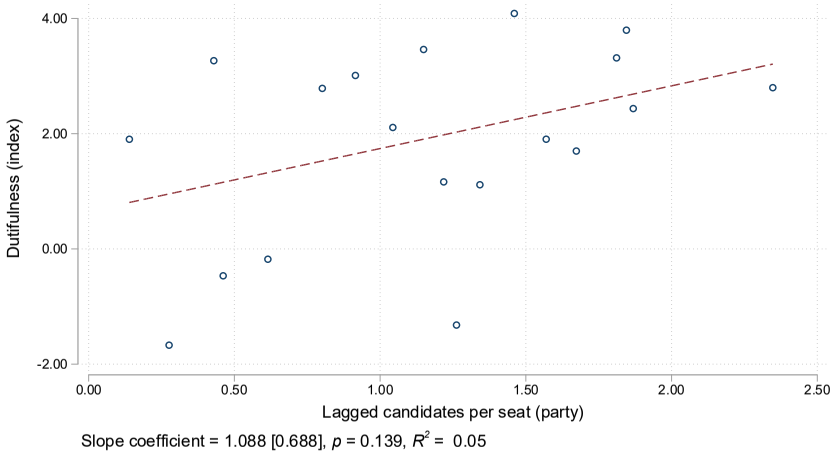
Figure F8. Relationship between intra-party competition (party candidates per seat) and the non-cognitive selection index.



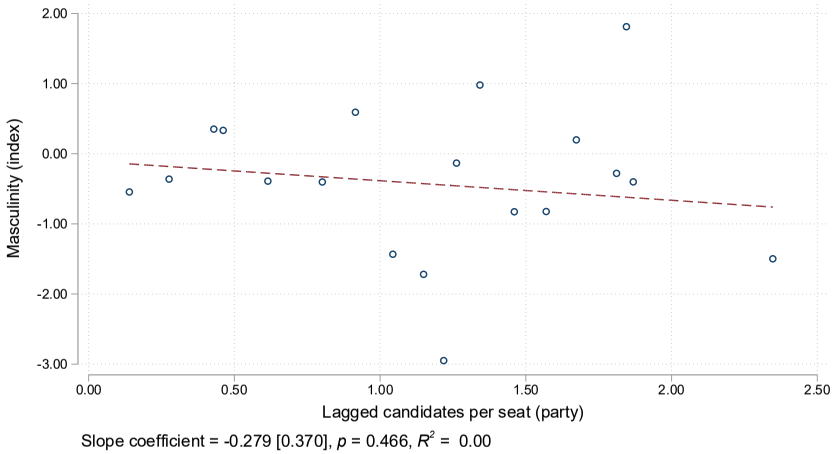
(e) Deliberation score



(f) Sociability score



(g) Dutifulness score



(h) Masculinity score

Figure F8. *(continued)* Relationship between intra-party competition (party candidates per seat) and the non-cognitive selection index.

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