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# Economic preferences, personality, and voting

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# Economic preferences, personality, and voting\*

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#### Abstract

I analyze Dutch survey data that contains rich information on political preferences, personality traits, and socioeconomic background. I show that voting and political opinions are better predicted by personality and economic preferences than by a rich set of socioeconomic characteristics. Personality differences also explain large parts of the gender and education gaps in voting and ideology. The detailed survey data and large number of parties represented in Dutch parliament allow analysis beyond a simple left-right framework. Personality differences are particularly predictive of support for populist right-wing parties and of attitudes towards social issues, including immigration, climate change and European integration.

Keywords: voting, political preferences, personality, economic preferences, gender JEL codes: D72, D91, J16

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In democracies, people's voting behavior and political attitudes have far-reaching social and economic implications. The recent rise of populist and far-right parties across Europe has led to intense speculation about the characteristics and motivations of people who vote for different types of parties. I analyze Dutch survey data that contains rich information on voting, political opinions, and personality, and show that personality traits and economic preferences are stronger predictors of voting and political ideology than a rich set of socioeconomic characteristics that are typically regarded as the most important determinants. Personality is a particularly strong predictor – relative to socioeconomic factors – of support for far-right parties. Personality and economic preferences also explain large parts of the widening gender and education gaps in voting and political ideology.

Research into the factors that shape political preferences has traditionally emphasized economic self-interest (Meltzer and Richard, 1981) or social identity (Green, Palmquist, and Schickler, 2004). Recent investigations into the growing support for new populist parties across Europe have emphasized relative economic deprivation and social alienation (Algan et al., 2018; Guriev and Papaioannou, 2022; Bo' et al., 2023). But a different strand of research in political psychology and behavioral economics indicates that certain personality traits and economic preferences are predictive of political preferences too (Gerber et al., 2010, 2011; Cappelen et al., 2017; Kerschbamer and Müller, 2020).

Personality can be defined as distinctive patterns of thoughts, emotions, cognitive processes, and behaviors that characterize an individual's way of interacting with their environment and that remain relatively stable across time and situations (Cervone and Pervin, 2022). Economic preferences can be conceptualized in a similar way and can be thought of as complements to the traits defined by personality psychology (Almlund et al., 2011; Becker et al., 2012). The fact that relatively stable and broadly defined traits predict political preferences gives rise to a mental model where voting is based on temperament rather than on economic self-interest or social identity. Nevertheless, existing studies on the link between individual traits and political preferences have typically focused on a narrow set of specific traits and outcomes, e.g. differences in the Big 5 personality traits between liberals and conservatives in the US (Gerber et al., 2010), or the link between social preferences and preferences for redistribution (Fehr, Epper, and Senn, 2021).

I investigate the *overall* predictive power of personality and economic preferences for voting and political ideology by taking advantage of Dutch survey data that contains an unusually complete set of trait measures and socioeconomic background variables, along with very detailed indicators of voting and political preferences. I show that, taken together, personality and economic preferences are stronger predictors of political preferences and voting than a rich set of socioeconomic characteristics including level of education, level of occupation, income, financial situation of the household, place of residence on a rural-urban scale, religiosity, health, and social connectedness. Personality differences also explain a larger part of gender and education differences in voting and ideology than socioeconomic factors.

The fractured Dutch party landscape – where voters choose from many ideologically distinct options – allows me to go beyond a simple left-right classification of political preferences, differentiating voting on an economic left-right axis, a social progressive-conservative axis, and a populism axis. I find that this matters as each of these political outcomes is predicted by a different set of personality traits and socioeconomic factors. Given recent political trends in Europe and elsewhere, I am particularly interested in the correlates of support for far-right parties. I find that personality differences across voters are particularly predictive for sympathizing with and voting for these parties.

The rest of the paper is organized as follows. Section 1 summarizes the relevant literature. Section 2 explains how the Dutch parliamentary elections work and describes the party landscape. Section 3 describes the data. Section 4 presents the results, and Section 5 concludes.

## 1 Literature

Economists, and naturally political scientists, have been interested in the correlates and determinants of individual political preferences for a long time. The political science literature has traditionally focused on demographic characteristics such as gender, race and age (Campbell et al., 1980). The economics literature has traditionally focused on preferences for redistribution and how they are linked to socioeconomic status, based on the idea that people vote according to their own economic interests (Meltzer and Richard, 1981). Relatedly, political scientists have shown that people tend to use their vote to hold politicians responsible for economic conditions (Lewis-Beck and Stegmaier, 2000).<sup>1</sup> Other studies have focused on the role of socialization through family and culture, and the role of identity (Green, Palmquist, and Schickler, 2004; Luttmer and Singhal, 2011).<sup>2</sup>

Research on the determinants of support for populist far-right parties in Europe has emphasized the (perceived) outsider status of their voters. Support for these parties is high in areas where social cohesion is low, family ties are tenuous, and attachment to the labor market is low (Algan et al., 2018; Bo' et al., 2023). In the Dutch context, de Voogd and

<sup>&</sup>lt;sup>1</sup>More recently, economists and political scientists have become interested in the role of information. This includes studies that exploit random variation in media exposure (DellaVigna and Kaplan, 2007; Ladd and Lenz, 2009; Allcott and Gentzkow, 2017). Other studies focus on the role of beliefs, in particular whether (and why) people hold biased beliefs and – when confronted with new information – update these beliefs in a biased or self-serving manner (Taber and Lodge, 2006; Mullainathan and Washington, 2009; Nyhan and Reifler, 2010; Schwardmann, Tripodi, and Van der Weele, 2022).

<sup>&</sup>lt;sup>2</sup>Recent studies also show that political preferences (Alford, Funk, and Hibbing, 2005) and participation (Ahlskog, 2021) are partially heritable (that is, explained by genetic factors). Oskarsson et al. (2015) show that the relationship between genes and political orientation is mediated by cognitive ability.

Cuperus (2021) additionally emphasize loneliness and bad health as correlates of support for "outsider" parties.<sup>3</sup>

A different conceptualization of the roots of political preferences posits that they may partly flow from individual differences in personality. Personality traits can be thought of as distinctive patterns of thoughts, emotions, cognitive processes, and behaviors that characterize an individual's way of interacting with their environment and remain relatively stable across time and situations (Cervone and Pervin, 2022). Economic preferences such as risk tolerance and social preferences can be conceptualized in a similar way and can be thought of as complements to the traits defined by personality psychology (Almlund et al., 2011; Dohmen et al., 2011; Becker et al., 2012). Enke, Polborn, and Wu (2023) argue that values might be "luxury goods". That is, people who are richer can more easily afford to care about their values rather than material considerations. Personal values are predicted by personality (Roccas et al., 2002), which implies that the importance of personality traits as an explanatory factor for political preferences may rise as a society becomes richer.

The psychology literature has mainly focused on the Big Five personality traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism (or its inverse, mental stability). These studies show that in Western countries, progressives tend to be more open (and sometimes more agreeable), while conservatives tend to be more conscientious and mentally stable (Caprara, Barbaranelli, and Zimbardo, 1999; Barbaranelli et al., 2007; Gerber et al., 2010; Chirumbolo and Leone, 2010; Gerber et al., 2011; Morton, Tyran, and Wengström, 2011). Many of these studies conceptualize political preferences on a unidimensional left-right axis – or, for papers based on American data, a Democrat-Republican axis – or as preferences for or against redistribution. Some studies go further by distinguishing social conservatism from economic conservatism. Gerber et al. (2010), using US survey data, find that extraversion specifically predicts economic conservatism while agreeableness predicts economic progressivism and social conservatism. Stability and conscientiousness predict both kinds of conservatism while openness predicts both kinds of progressivism. Schoen and Schumann (2007), using German data, find amongst other things that low agreeableness specifically predicts voting for the far right. Ziller and Berning (2021) look at support for minority rights in Germany and find that it is associated with high openness, high agreeableness, and low conscientiousness.<sup>4</sup>

<sup>&</sup>lt;sup>3</sup>Boeri et al. (2021) find a negative correlation between membership in an association and voting for populist parties using data from the European Social Survey. In the US, lower levels of membership in civic, religious and sports organizations at the county level predict higher vote shares for Donald Trump (Giuliano and Wacziarg, 2020). Guriev and Papaioannou (2022) summarize the literature on the contemporary rise in populism, listing cross-border trade and automation, austerity following the global financial crisis, cultural backlash against progressive politics, and concerns about immigration as partial explanations.

<sup>&</sup>lt;sup>4</sup>Psychologists have also looked into the link between personality and interest in politics or political participation. Mondak (2010) finds that openness strongly predicts interest in politics whereas agreeableness is weakly negatively related. Openness and extraversion are positively correlated with political activity (see also Gerber et al., 2011). Ahlskog (2023), using genetically informed empirical designs, finds no causal impact of

Behavioral economists have similarly been interested in the link between economic preferences and political preferences. This literature has mainly focused on preferences for redistribution, both as a determinant of and as a proxy for political preferences (Alesina and Giuliano, 2011). One strand of this literature shows that choices in redistributive games in the lab predict political preferences. Cappelen et al. (2017) find that the amount given in a dictator game predicts left-wing voting. Fehr, Epper, and Senn (2021) measure otherregarding preferences in a broad sample of the Swiss population and show that inequality aversion and altruistic concerns predict support for redistribution. Kerschbamer and Müller (2020) find that participants who are selfish in the lab are more likely to be right-wing, favor less redistribution, and are less pro-immigration. The opposite is true for inequality-averse and altruistic participants. Fisman, Jakiela, and Kariv (2017) look at equality-efficiency tradeoffs and find that equality-focused participants are more likely to vote Democrat and to be affiliated with the Democratic Party. Durante, Putterman, and Van der Weele (2014) use redistributive choices in the lab as an outcome and show that they are linked to risk tolerance when made behind a veil of ignorance about own relative income.

Enke, Rodríguez-Padilla, and Zimmermann (2023) argue that differences in moral universalism – the extent to which people show the same level of altruism towards strangers as towards their own in-group – rather than distributive preferences per se explain people's political ideology. They show that universalism, elicited through hypothetical allocation choices between in-group and out-group members, is a stronger predictor of policy views and ideology – including support for spending on redistribution, health care, environmental protection, affirmative action, foreign aid, and law enforcement – than income, education and other socioeconomic indicators. Cappelen, Enke, and Tungodden (2022) provide global evidence on the link between universalism and politics.

Political scientists have looked into the link between trust and political preferences. Berning and Ziller (2017) show that low levels of social trust predict radical right-wing voting in the Netherlands. Algan et al. (2018) show that extreme-left and extreme-right voters in France both have low subjective wellbeing, but that extreme-right voters are uniquely characterized by very low interpersonal trust. In the US, lower levels of trust at the county level predict higher vote shares for Donald Trump (Giuliano and Wacziarg, 2020).<sup>5</sup>

In Western democracies, there is typically a sizable gender difference in political preferences whereby women tend to vote for more economically left-wing and socially progressive parties (Giger, 2009) and favor higher levels of redistribution (Alesina and Giuliano, 2011).

extraversion on political participation. Other studies have focused on the so-called dark triad traits (Machiavellianism, narcissism, and psychopathy). Chen, Pruysers, and Blais (2021) look at political participation rather than voting, finding that narcissism and psychopathy – but interestingly not Machiavellianism which captures a tendency to manipulate others – are associated with political activity.

<sup>&</sup>lt;sup>5</sup>Alesina and La Ferrara (2002) show that interpersonal trust is in turn predicted by socioeconomic background characteristics including education, income and minority status.

Some studies have demonstrated that gender differences in personality traits (Morton, Tyran, and Wengström, 2016) or economic preferences (Buser et al., 2020) can statistically account for part of these gender differences.

## 2 Dutch party landscape and parliamentary elections

The political landscape of the Netherlands is notable for its high degree of fragmentation, with numerous political parties representing a wide range of ideological perspectives. While the system has always been a multi-party one, with several major parties and some smaller ones, a recent proliferation of new parties has further increased the number of small parties represented in parliament.

In this paper, I will focus on voting for the House of Representatives, or "Second Chamber". The composition of the Second Chamber is determined by national parliamentary elections. It is made up of 150 seats, and these seats are allocated based on a system of proportional representation. This means that each party gets a number of seats that is roughly proportional to the number of votes it received in the election. There is no minimum vote threshold and small parties can be represented with a single seat.

Typically, no single party wins a majority of seats (>75 out of 150), so parties must form coalitions to govern. The party with the most votes at least initially leads coalition negotiations with other parties and its leader typically becomes the prime minister. Due to increased fragmentation, these negotiations can take a long time and government coalitions are made up of up to four parties. The centre-right government that came to power after the 2021 election – the one examined in this paper – and fell apart in 2023 was a coalition of the economically liberal People's Party for Freedom and Democracy (VVD), the socially liberal Democrats 66 (D66), and two Christian democratic parties (CDA and CU). Parties in a coalition agree on a common policy agenda and select the ministers.

Table 1 shows a list of all parties elected to the Second Chamber at the national elections in 2021. For presentational purposes, the parties are roughly ordered from left to right as perceived by the public and the press and divided into five blocks: populist left, established left, center, established right, populist right.

For the analyses linking votes to individual traits, I will use three orderings of the parties: along an economic left-right axis, along a social progressive-conservative axis, and along a populism axis. The first two are based on an analysis of the 2021 party manifestos by the Dutch political research company Kieskompas.<sup>6</sup> Figure 1 shows the positioning of the parties elected to parliament in 2021 along these two axes. The economic left-right axis represents a party's position on economic issues including taxes, redistribution and public services. The

<sup>&</sup>lt;sup>6</sup>https://www.kieskompas.nl/en/about/

Party	Orientation	Votes/Seats	Block	LISS	Left-right:	Left-right:	Populism
				sample	economic	social	
BIJ1	Identity politics	$0.8\% \ / \ 1$		0.5%	1	2	
Party for the Animals PvdD	Animal rights	3.8% / 6		4.7%	2	5	9
Socialist Party SP	Socialism	$6.0\% \ / \ 9$	Populist left	7.0%	3	7	11
DENK	Minority rights	$2.0\% \ / \ 3$		0.7%	5	8	8
GreenLeft GL	Green politics	5.2% / 8		6.0%	4	4	3
Labour Party PvdA	Social democracy	$5.7\% \ / \ 9$	Established left	8.8%	6	6	5
Democrats 66 D66	Social liberalism	$15.0\% \ / \ 24$		16.3%	11	3	1
Volt	European federalism	$2.4\% \ / \ 3$	Centre	2.9%	10	1	
Christian Union CU	Christian democracy	$3.4\% \ / \ 5$		4.1%	7	9	2
Christian Democratic Appeal CDA	Christian democracy	$9.5\% \ / \ 15$		10.7%	12	12	7
People's Party for		at a 1 ( a t		21.0%	15	11	0
Freedom and Democracy VVD	Economic liberalism	21.9% / 34	Established right				6
Reformed Political Party SGP	Christian right	$2.1\% \ / \ 3$		1.6%	14	14	4
50PLUS	Pensioners' interests	1.0% / 1		1.6%	8	10	10
Farmer–Citizen Movement BBB	Farmer's interests	$1.0\% \ / \ 1$		0.6%	13	13	
JA21	Conservative liberalism	2.4%~/~3	Populist right	3.1%	16	15	
Party for Freedom PVV	Right-wing populism	$10.8\% \ / \ 17$		7.9%	9	17	13
Forum for Democracy FVD	National conservatism	$5.0\% \ / \ 8$		2.6%	17	16	12

Table 1: Parties elected to parliament in 2021

progressive-conservative axis represents a party's position on social issues including migration, European integration, and climate change. Parties that are on the left economically also tend to be more progressive (and vice versa) but there are important outliers that make the two rankings distinct from each other, including some of the parties that received the most votes in 2021. Democrats 66 (D66) are very progressive on social issues but close to the center on economic issues. The People's Party for Freedom and Democracy (VVD) – the biggest party in 2021 – is economically one of the most right-wing parties but is socially closer to the center. The Party for Freedom (PVV) – the party led by the internationally known anti-immigrant populist Geert Wilders that subsequently triumphed in the 2023 elections – is socially on the conservative extreme but favors centrist economic policies. The Socialist Party (SP) is economically on the extreme left but is less progressive than many economically more centrist parties.

The populism ranking is based on populism scores from the Populism and Political Parties Expert Survey (POPPA).<sup>7</sup> For some small, recently created parties this score is missing, but these parties represent few voters, in the population as well as the sample. The two

<sup>&</sup>lt;sup>7</sup>http://poppa-data.eu/. The populism scores for each of the parties are: D66 (0.39), GL (1.06), SGP (1.18), PvdA (1.37), VVD (2.34), CDA (2.58), DENK (3.34), PvdD (3.40), 50Plus (4.97), SP (6.56), FvD (8.91), PVV (10.00). POPPA defines populism as "a set of ideas about politics that understands politics as a Manichaean struggle between the will of the homogenous people and the corrupt elite" (Meijers and Zaslove, 2021).





Conservative

Source: kieskompas.nl, a Dutch political research company.

most populist parties are parties typically seen as far-right (PVV and FvD). The third-most populist party is the far-left SP. Established parties tend to be less populist.

## 3 Survey data

I use data from the Dutch LISS (Longitudinal Internet Studies for the Social sciences) panel.<sup>8</sup> This is an ongoing online survey panel that has been operating since late 2007. It is based on a true probability sample of households drawn from the population register by Statistics Netherlands. Approximately 7,500 panel members answer yearly "core" questionnaires which cover topics including work, education, wealth, family, politics, and personality. On top of this, researchers can run questionnaires on the panel, which can then be linked to all other data that is available on the respondents. All LISS data, including researcher-run questionnaires, is publicly available to all researchers.

 $<sup>^{8}</sup>$ www.lissdata.nl

In this section, I describe the variables used in the study. I group them into three categories: (1) political preferences, (2) economic preferences and personality traits, and (3) socioeconomic status and demographic indicators. Table A1 in the appendix shows descriptive statistics – number of observations, mean, standard deviation, minimum, 25th percentile, median, 75th percentile, and maximum – for all variables.

## Political preferences

The LISS panel's Politics and Values core module is administered yearly to all panel members and contains detailed indicators of the respondents' political outlook and voting behavior. I use data from the 2022 LISS politics questionnaire which is the first conducted after the 2021 elections. Most importantly for my purposes, respondents are asked which party they voted for in the most recent national elections and where they position themselves on a unidimensional left-right axis (from 0 to 10).<sup>9</sup> Table 1 shows the percentage of people in the sample who voted for each party. As described in Section 2, I employ three orderings of the parties: along an economic left-right axis, along a social progressive-conservative axis, and along a populism axis. Table 1 shows each party's rank on each axis. I also construct an index of people's sympathy for the far right by averaging the answers to four questions that measure how sympathetic (on a scale from 0 to 10) people find the two main far-right parties (PVV and FvD) and their leaders (Geert Wilders and Thierry Baudet).<sup>10</sup>

Beyond voting, I will look at attitudes towards five topics that were prominent during recent parliamentary elections: economic equality, immigration, gender equality, climate change, and European integration. "Economic equality" is the response to a single five-point question ("Where would you place yourself on a scale from 1 to 5, where 1 means that differences in income should increase and 5 means that these should decrease?"). "Immigration" is constructed as the average over six items that elicit attitudes towards immigration and immigrants.<sup>11</sup> "Gender equality" is constructed as the average over four items that elicit attitudes towards the emancipation of women.<sup>12</sup> "Climate change" is constructed as the average over six items that elicit the extent to which the respondent thinks climate change is

 $<sup>^{9}</sup>$ For panel members who did not answer the 2022 questionnaire, I use their answers in the two preceding waves if available. For voting in the 2021 election, I use the answer in the subsequent 2023 questionnaire if available.

 $<sup>^{10}</sup>$ Before averaging, I subtract from each of the four variables the respondent's mean answer to the analogous questions about all parties/leaders.

<sup>&</sup>lt;sup>11</sup>"It is good if society consists of people from different cultures"; "It should be made easier to obtain asylum in the Netherlands"; "Legally residing foreigners should be entitled to the same social security as Dutch citizens"; "There are too many people of foreign origin or descent in the Netherlands"; "Some sectors of the economy can only continue to function because people of foreign origin or descent work there"; "It does not help a neighborhood if many people of foreign origin or descent move in".

<sup>&</sup>lt;sup>12</sup>"A woman is more suited to rearing young children than a man"; "It is actually less important for a girl than for a boy to get a good education"; "Generally speaking, boys can be reared more liberally than girls"; "It is unnatural for women in firms to have control over men"

a problem.<sup>13</sup> "European integration" is the answer to a single question asking whether the respondent favors more or less integration relative to the status quo.<sup>14</sup>

In supplementary analyses, I look at indicators of whether people are engaged with the political process in the first place. The first is an indicator of political disaffection, constructed as the first principal component of six true-false statements.<sup>15</sup> The second is the degree of confidence in democracy on a scale from 0 to 10. The third is the number of political actions respondents have engaged in over the past five years.<sup>16</sup> And the fourth is a binary indicator of having voted in the 2021 election.

#### Economic preferences and personality

I link the political indicators to survey data on a wide range of economic preferences and personality traits. The yearly core personality module of the LISS panel measures some standard personality traits including the Big Five traits (Goldberg et al., 2006), self-esteem (Rosenberg, 2015) and optimism (Scheier, Carver, and Bridges, 1994).<sup>17</sup> These are complemented by preference and trait measures that I elicited through a series of one-off questionnaires.

The competitiveness and social preferences questions were elicited by Buser and Oosterbeek (2023) in July 2021. The same questionnaire also elicited general challenge seeking through two items<sup>18</sup>, general willingness to take risk through the single-item measure of Dohmen et al. (2011), grit through the questionnaire of Duckworth and Quinn (2009), and self-efficacy through the questionnaire of Chen, Gully, and Eden (2001). Competitiveness is measured through the detailed questionnaire of Buser and Oosterbeek (2023) which is mostly

<sup>&</sup>lt;sup>13</sup>"Climate change will have an impact on my immediate surroundings."; "The impact of climate change is overstated."; "Climate change mainly has an impact on faraway countries."; "Climate change will probably have a great impact on people like me."; "I am unsure as to whether climate change really exists."; "Seeing as it is still so unclear what the impact of climate change will be, the Dutch government should focus on other things instead."

<sup>&</sup>lt;sup>14</sup>"Some people and political parties feel that European unification should go a step further. Others think that European unification has already gone too far. Where would you place yourself on a scale from 1 to 5, where 1 means that European unification should go further and 0 means that it has already gone too far?"

<sup>&</sup>lt;sup>15</sup>"Parliamentarians do not care about the opinions of people like me"; "Political parties are only interested in my vote and not in my opinion"; "People like me have no influence at all on government policy"; "I am well capable of playing an active role in politics"; "I have a clear picture of the most important political issues in our country"; "Politics sometimes seems so complicated that people like me can hardly understand what is".

<sup>&</sup>lt;sup>16</sup>Out of "asked for help from radio, television or newspaper"; "by making use of a political party or organization"; "participated in a government-organized public hearing, discussion or citizens' participation meeting"; "contacted a politician or civil servant"; "participated in an action group"; "participated in a protest action, protest march or demonstration"; "participated in a political discussion or campaign on the Internet, by e-mail or SMS"; "something else".

<sup>&</sup>lt;sup>17</sup>For the measures contained in the core LISS personality questionnaire, I use the wave that was elicited closest to the Buser and Oosterbeek (2023) questionnaire and use data from earlier waves in case of non-response.

<sup>&</sup>lt;sup>18</sup>"I always look for new challenges" and "I enjoy working on challenging tasks".

based on the questionnaire of Urbig et al.  $(2021)^{19}$  and the single general question validated by Buser, Niederle, and Oosterbeek (2024). Social preferences are measured through items taken from the preference survey module of Falk et al. (2023). The six items measure negative reciprocity, positive reciprocity, trust, altruism, and willingness to punish someone who treats others unfairly (third-party punishment).<sup>20</sup> I also use a follow-up questionnaire collected in 2023 by Buser and Oosterbeek (2023) that elicits the so-called dark triad traits – machiavellianism (a tendency to manipulate and exploit others), psychopathy (lack of empathy and remorse), and narcissism (excessive self-love and entitlement) – through the short scale of Jonason and Webster (2010). A second follow-up questionnaire collected specifically for this project in April 2024 contains a measure of honesty-humility (Lee and Ashton, 2004). This is part of the HEXACO personality inventory that augments the Big Five classification with a sixth trait called honesty-humility that captures sincerity, fairness, greed avoidance and modesty. This trait is strongly correlated with the dark triad traits which are not well-captured by the Big Five traits.<sup>21</sup>

#### Socioeconomic status and demographic indicators

Throughout the paper, I will compare the explanatory power of personal traits with that of socioeconomic factors that the scientific literature and media discourse have flagged as potential determinants of political preferences. I divide the socioeconomic measures into the following categories: career status, finances, and social factors.

Career status measures the prestigiousness of a person's social position and contains measures of educational attainment and level of occupation. Level of education is measured in six categories defined by Statistics Netherlands (CBS)<sup>22</sup>. The LISS Work and Schooling core module asks respondents to classify their current or most recent occupation into one of

<sup>&</sup>lt;sup>19</sup>The Urbig et al. (2021) questionnaire items are in turn taken from Spence and Helmreich (1983); Smither and Houston (1992); Newby and Klein (2014); Bönte, Lombardo, and Urbig (2017).

<sup>&</sup>lt;sup>20</sup>Negative reciprocity is the mean of the following two questions: "How willing are you to punish someone who treats you unfairly, even if there may be costs for you?" and "If I am treated very unjustly, I will take revenge at the first occasion, even if there is a cost to do so." The other social preferences are measured by a single question. The LISS personality module also elicits trust through a question taken from the European Social Survey (ESS): "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?". I use the mean of this question and the Falk et al. (2023) item ("I assume that people have only the best intentions") in my analysis.

<sup>&</sup>lt;sup>21</sup>The questionnaire also elicits a measure of moral universalism (Enke, Rodriguez-Padilla, and Zimmermann, 2022) that I use as an outcome variable in supplementary analyses. The measure consists of the average of two hypothetical monetary allocation decisions. The first asks respondents to divide 100 Euros between a person from the same neighborhood and a random Dutch person. The second asks respondents to divide 100 Euros between a random Dutch person and a random person from the rest of the world. These questions are variations of the questions that were experimentally validated by Enke, Rodriguez-Padilla, and Zimmermann (2022).

<sup>&</sup>lt;sup>22</sup>1. Primary schooling 2. Pre-vocational education 3. Vocational education 4. Upper (pre-college) tracks of secondary school 5. University of applied sciences 6. University.

nine categories, which I use to construct an indicator of level of occupation.<sup>23</sup>

LISS respondents are asked about their monthly individual and household income every time they complete a questionnaire.<sup>24</sup> I use the measures that were collected in the same wave as the competitiveness and social preferences questionnaires. I complement this with questions from the core LISS questionnaires that measure people's subjective perception of their financial situation. "Financial distress" is the first principal component of a series of survey questions that measure issues with covering living costs and unexpected expenses<sup>25</sup>, "financial expectations" is the first principal component of two questions that measure people's expectations about their future financial situation<sup>26</sup>, and "unaffordable basics" is the number of basics (out of eight) someone cannot afford<sup>27</sup>.

Social factors include measures of health, social connectedness, place of residence (urban or rural), and religiosity. I construct a health index based on two sets of variables from the LISS Health core module: first, respondents rate the difficulty they experience in performing a list of activities on a four-point scale<sup>28</sup>, and second, they are asked whether they suffer from

 $^{24}$ If a panel member does not enter their gross income but reports their net inthen gross income is imputed based on net income and other variables. See come, https://www.dataarchive.lissdata.nl/study\_units/view/322.

<sup>25</sup>"Can you indicate, on a scale from 0 to 10, how hard or how easy it is for you to live off the income of your household?"; "How would you describe the financial situation of your household at this moment?" (from 1 "we are accumulating debts" to 5 "we have a lot of money to spare"); "Think about the last 12 months. Was your household expenditure more than, equal to, or less than your household income?"; "How easy or hard is it for you to go to unexpected essential expenses of C500 or more without getting into debt or contracting a loan? (For example: an expensive reparation, heating or washing machine)"; "Every household has monthly recurring living costs. Not everyone can easily raise these costs. How easy is it for you to pay for the living costs of your household?"; "having trouble making ends meet" (yes/no); "unable to quickly replace things that break" (yes/no); "having to lend money for necessary expenditures (yes/no)"; "running behind in paying rent/mortgage or general utilities" (yes/no); "debt collector/bailiff at the door in the last month" (yes/no); "received financial support from family or friends in the last month" (yes/no).

<sup>26</sup>"Think about the coming 12 months. Do you think that the expenditure of your household will be..." (from 1 "much higher than the income" to 5 "much lower than the income"; and "Do you expect your financial situation to get better or worse over the coming 12 months?" (from 1 "will get much better" to 5 "will get a lot worse").

<sup>27</sup>Including "a meal with meat, chicken, fish or a full vegetarian meal once a day"; "new clothes regularly"; "replace worn furniture"; "take a week or more of holiday at least once every year"; "pay voluntary parental contribution for your children (tuition fees, money for books and materials, school trips)"; "go out for dinner at least once in two months"; "heat your home well"; "one or more memberships of a sports club and suchlike".

<sup>28</sup>Walking 100 meters, sitting for around two hours, getting up from a chair in which you sat for some time, walking several stairs without resting in between, walking up a staircase without resting, crouching, kneeling, crawling on all fours, reaching above shoulder height or stretching your arms above shoulder height,

<sup>&</sup>lt;sup>23</sup>The LISS panel asks people to classify their occupation into one of nine categories. I order these from high to low level in the following way. Higher supervisory profession (e.g. manager, director, owner of large company, supervisory civil servant). Higher academic or independent profession (e.g. architect, physician, scholar, academic instructor, engineer). Intermediate supervisory or commercial profession (e.g. head representative, department manager, shopkeeper). Intermediate academic or independent profession (e.g. teacher, artist, nurse, social worker, policy assistant). Other mental work (e.g. administrative assistant, accountant, sales assistant, family carer). Skilled and supervisory manual work (e.g. car mechanic, foreman, electrician). Semi-skilled manual work (e.g. driver, factory worker). Unskilled manual work (e.g. cleaner, packer). Agrarian profession (e.g. farm worker, independent agriculturalist). I group the last two categories together because of the relatively low number of people in agrarian occupations.

any of a list of health conditions<sup>29</sup>. I use the first principal component of these variables as an objective measure of people's health. The LISS Social Integration and Leisure core module asks respondents to list up to five people with whom they discussed "important things" over the last six months. I take the number of people listed (from 0 to 5) as the first indicator of social connectedness. The second indicator, based on the same module, is a dummy for being a member of a sports or hobby club. For privacy reasons, the LISS data does not contain exact place of residence but it does contain an indicator of the urbanity of the place of residence (on a scale of 1 to 5). Religiosity is elicited on a scale from 1 to 4.

Finally, the LISS background data contains demographic variables including age in years, migration background (Western or non-Western), living with a partner, number of people in the household, and gender. These are included as control variables in all regression analyses.

### Sample size

The effective sample size is determined by the number of people who have answered all relevant questionnaire items that measure the different personality traits, economic preferences, and socioeconomic variables. Table A1 in the appendix contains descriptive statistics for the group of LISS respondents for whom all these variables are available. This sample consists of 3025 observations. The effective sample size for different analyses depends on the proportion of these individuals for whom the relevant political outcomes are also available. For 2877 individuals, I have their self-placement on the left-right political spectrum. The party people voted for is observed for a smaller subgroup (N=2520) because some people did not vote and others are not allowed to vote because they do not have the Dutch nationality. Attitudes towards immigration, economic equality, gender equality, and European integration are observed for around 3000 people. The sample size is much smaller for attitudes towards climate change mitigation which were not elicited in the yearly Politics and Values core module but were contained in a one-off questionnaire on the "State of the environment and environmental policy" that was collected in 2020.<sup>30</sup>

moving large objects such as a dining room chair, lifting or carrying a weight of 5 kilos, such as a heavy bag of groceries, picking up a small coin lying on the table.

<sup>&</sup>lt;sup>29</sup>Back-, knee-, hip-pain or pain in any other joint, heart complaints or angina, pain in the chest due to exertion, short of breath, problems with breathing, coughing, a stuffy nose and/or flu-related complaints, stomach or intestinal problems, headache, fatigue, sleeping problems, other recurrent complaints.

<sup>&</sup>lt;sup>30</sup>https://www.dataarchive.lissdata.nl/study\_units/view/1045

## 4 Results

## **Descriptive results**

In this section, I will visualize the correlations between individual characteristics and political preferences, as well as differences in these characteristics across voters of different parties. Figure 2 shows the raw correlations between each individual characteristic – personality traits, economic preferences, and socioeconomic factors – and each of the political preference indicators – self-placement on the left-right scale, voting along the economic, social and populism axes, sympathy for the far right, and attitudes towards immigration, economic equality, gender equality, climate change mitigation, and European integration.

The individual characteristics that are most strongly correlated with political preferences include interpersonal trust and altruism – which correlate with more progressive attitudes and a lower likelihood of voting for populist or socially conservative parties – honesty-humility – which correlates with more progressive attitudes and favoring economic equality – level of education – which correlates with more progressive attitudes and a lower likelihood of voting for populist or socially conservative parties – and household income – which correlates with a more negative attitude towards economic equality and voting for economically conservative parties.

Figure 3 shows the average of each individual characteristic for voters of different parties. To make the graphs readable, I divide the 17 parties that were elected into Dutch parliament in the 2021 election into five blocks: populist left, established left, center, established right, and populist right. The four populist left parties either have a classic socialist outlook focused on nationalization or are mainly concerned with social identity issues. The established left block consists of the green party (GL) and the labor party (PvdA) which have a social-democratic and pro-environment outlook. The center is made up of D66 and Volt which are extremely socially liberal and pro-Europe but without a strong focus on redistribution, and the Christian Union (CU), a small Christian Democratic party. The established right consists of two Christian-democratic parties and the pro-market VVD, parties that collectively favor lower taxes and fiscal conservatism. The populist right block consists of the two main radical-right parties (PVV and FvD) which are strongly anti-immigration and anti-Europe, plus three smaller parties.

The first three graphs in Figure 3 show the averages of the standardized socioeconomic indicators for voters of each party block. People with a high level of education tend to vote for center and center-left parties, while people who work in prestigious occupations tend to vote for center and center-right parties. Voters of populist right parties have dramatically lower levels of education and occupational prestige. Voters of center-right parties (which favor low tax rates) are financially most comfortable, while voters of populist left and populist right

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Competitiveness	0.14	0.14	0.04	-0.04	0.04	-0.02	-0.17	-0.14	-0.04	0.06
Competitiveness(gen)	0.15	0.14	0.09	0.02	0.04	-0.04	-0.11	-0.04	-0.08	0.01
Reciprocity neg	0.17	0.13	0.17	0.14	0.17	-0.18	-0.11	-0.14	-0.09	-0.07
Trust	-0.15	-0.05	-0.25	-0.25	-0.37	0.32	0.03	0.17	0.19	0.26
Altruism	-0.14	-0.09	-0.18	-0.20	-0.31	0.30	0.06	0.12	0.25	0.19
Reciprocity(pos)	0.02	0.04	0.03	0.01	-0.06	0.01	0.01	0.13	0.11	0.04
Third-party punishment	0.04	0.05	0.04	0.02	0.01	0.01	-0.05	-0.01	0.05	0.03
Extraversion	0.06	0.09	-0.01	-0.05	-0.03	0.06	-0.03	0.08	0.01	0.06
Agreeableness	-0.11	-0.07	-0.12	-0.11	-0.20	0.17	0.11	0.28	0.15	0.08
Conscientiousness	0.08	0.07	0.04	-0.03	-0.05	-0.04	-0.01	0.15	0.06	-0.01
Stability	0.06	0.06	0.02	-0.02	-0.06	0.03	-0.01	0.09	-0.05	0.04
Openness	-0.11	-0.04	-0.14	-0.09	-0.13	0.19	0.03	0.24	0.17	0.14
Grit	0.04	0.05	0.02	-0.02	-0.04	0.00	0.00	0.17	0.05	-0.01
Machiavellianism	0.07	0.08	-0.01	-0.02	0.06	0.01	-0.13	-0.10	-0.01	0.06
Psychopathy	0.09	0.07	0.09	0.10	0.13	-0.10	-0.10	-0.12	-0.09	-0.03
Narcissism	0.03	0.06	-0.08	-0.10	-0.04	0.05	-0.12	-0.08	0.11	0.12
Honesty-Humility	-0.15	-0.14	-0.12	-0.09	-0.24	0.16	0.17	0.32	0.22	0.05
Risk taking	0.09	0.07	0.01	-0.01	0.04	0.06	-0.08	-0.03	-0.06	0.05
Challenge seeking	0.03	0.07	-0.03	-0.05	-0.02	0.12	-0.10	0.11	0.07	0.10
Self-esteem	0.05	0.07	0.01	-0.02	-0.08	0.02	0.01	0.16	0.02	0.04
Optimism	0.00	0.07	-0.10	-0.17	-0.19	0.15	-0.02	0.17	0.06	0.14
Level of education	-0.10	-0.03	-0.28	-0.29	-0.28	0.25	-0.07	0.24	0.28	0.25
Occupation level	0.02	0.09	-0.13	-0.20	-0.19	0.13	-0.11	0.14	0.18	0.16
Household income	0.13	0.21	-0.00	-0.14	-0.07	0.04	-0.24	0.10	0.07	0.11
Monthly income	0.08	0.14	-0.01	-0.10	-0.11	0.04	-0.14	0.09	0.08	0.10
Basics unaffordable	-0.05	-0.09	0.06	0.14	0.16	-0.09	0.08	-0.10	-0.12	-0.12
Financial distress	-0.07	-0.12	0.08	0.19	0.22	-0.10	0.12	-0.14	-0.11	-0.15
Financial expecations	0.01	0.03	-0.02	-0.05	-0.10	0.02	0.02	0.16	0.07	0.05
Urban	-0.09	-0.07	-0.14	-0.08	-0.06	0.13	0.04	0.04	0.07	0.06
Health	0.04	0.08	-0.05	-0.13	-0.06	0.06	-0.10	0.08	0.05	0.11
Close contacts	-0.08	-0.03	-0.16	-0.16	-0.18	0.17	0.01	0.19	0.21	0.14
Member of club	0.01	0.06	-0.11	-0.13	-0.14	0.07	-0.06	0.10	0.05	0.11
Religiositv	0.06	0.00	0.08	-0.08	-0.07	0.03	-0.01	-0.13	-0.06	-0.03
5 5 5 5 5										

## Figure 2: Raw correlations between individual characteristics and political preferences



Figure 3: Average socioeconomic characteristics and personality traits across voters of different parties

Note: all variables are standardized. Confidence intervals are from OLS regressions of traits on party block dummies.

parties earn much less than average and experience much higher levels of financial distress.

Other social factors also differ strongly across voters of different parties. Voters of center parties have the highest levels of health and social connectedness, and voters of center-right parties are the most religious. Voters of populist right parties are characterized by social isolation, having fewer close contacts, being less likely to be members of a sports or hobby club, and being less religious. Voters of populist left parties are the least healthy closely followed by populist right voters. Voters of left and center parties live in more urban areas than voters of right parties.

These results confirm that socioeconomic factors are strong predictors of how people vote. Figure 3 also shows how strongly the voters of different parties differ in their personality traits. Strikingly, many of these differences are similar in magnitude to the differences in socioeconomic characteristics. The voters of populist right parties in particular differ strongly from other voters along many different traits and preferences.

If we constrain ourselves to the mainstream parties, the results replicate the established correlations between the Big Five traits and politics. Compared to voters of center-left parties, centre-right voters are more conscientious, more mentally stable, less agreeable, and less open. However, these patterns often reverse when we look at populist left or populist right voters. Far-right voters are less conscientious and less mentally stable than center-right voters (they are also much less agreeable and open), and far-left voters are less agreeable and open than center-left voters.

Center-left and center voters are the most pro-social (altruistic and trusting) while farright voters are characterized by very low levels of trust and altruism and high negative reciprocity. Voters of center-right parties are more competitive, confident, risk-seeking and optimistic compared to voters of center-left and far-left parties but this does not apply to voters of far-right parties. Voters of far-right parties also score lower on honesty-humility and higher on the "dark" traits (with the exception of narcissism which is highest among center voters).

#### Decomposition analyses

In this section, I compare the overall predictive power of personality characteristics with that of the socioeconomic factors which are typically cited as main determinants of people's voting decisions and political ideology. First, I present decompositions of the contribution of these variables to explaining the variance in various political indicators across individuals: selfjudged political ideology on a left-right scale, voting along the economic, social and populism axes, sympathy for the far right, and attitudes towards immigration, economic equality, gender equality, climate change mitigation, and European integration.

Figure 4 shows the results from Shapley decompositions of the contribution of various

individual traits and socioeconomic factors to the explained variance (adjusted r-squared) in political outcomes. These are based on linear regressions of political outcomes on individual characteristics.

The first graph shows that 76% of the explained variance in people's self-placement on a unidimensional left-right political scale is due to personality traits and economic preferences versus only 24% due to socioeconomic factors. Personality traits and economic preferences also contribute 47-57% of the explained variation in voting along the three political axes (economic, social, and populism), as well as 65% percent of the explained variation in people's far-right sympathies. This indicates that personality is at least as informative as education, income, social status, health, and social integration – factors typically cited as critical explanatory factors for political preferences and voting. As a robustness check, in Figure A1 in the appendix, I show decompositions for voting along the three axes in the two elections that preceded and followed the 2021 election (2017 and 2023). The results of these six decomposition are very similar with personality contributing between 59% and 69% of the explained variance.

In Figure A2 in the appendix, I conduct a similar analysis focusing on specific traits rather than groups of related traits. I use backward stepwise selection to first select the ten most influential traits before conducting the Shapley decomposition on these individual traits rather than groups of variables. Placing oneself more on the right on the left-right scale is best predicted by lower trust, lower honesty-humility, higher competitiveness, and lower openness. Trust and altruism are strong predictors of voting for socially more progressive and less populist parties, as well as of lower far-right sympathies, while competitiveness is a better predictor of voting for economically more conservative parties. Higher income and better finances are strong predictors of voting for socially more conservative parties, while higher education is a strong predictor of voting for socially progressive and less populist parties, as well as lower far-right sympathies.

The lower panel of Figure 4 shows analogous decompositions for attitudes towards immigration, economic equality, gender equality, climate change, and European integration. With the exception of economic equality (where finances dominate), personality explains more of the variance in attitudes than do socioeconomic factors. Which individual traits are most influential varies strongly across outcomes (see Figure A2 in the appendix). Trust and altruism are particularly strong predictors of favorable attitudes towards immigration and European integration (altruism also strongly predicts favorable attitudes towards climate change mitigation). Honesty-humility is a strong positive predictor of attitudes towards economic equality and gender equality.<sup>31</sup>

Apart from how people vote, public debate is also concerned with whether people vote

 $<sup>^{31}</sup>$ In Figure A2 in the appendix, I again show decomposition analyses focusing on the most indluential individual traits rather than groups of related traits.



Figure 4: Shapley decompositions of the contribution of personality traits and socioeconomic characteristics to explaining the variance in political outcomes

Note: The graphs show the results from a Shapley decomposition of the contribution of different variable groups to the adjusted r-squared in regressions of political outcomes on socioeconomic factors and individual traits. "Social factors" means health, number of close contacts, club membership, religiosity, and urbanity of place of residence; "Finances" means monthly individual income, monthly household income, the financial distress principal component, the number of basics that are unaffordable, and the financial expectations principal component; "Career" means dummies for education level and occupation level; "Confidence" means self esteem, self-efficacy and optimism; "Big 5 and grit" means the Big 5 personality traits (openness, conscientiousness, extraversion, agreeableness and mental stability) and grit; "Competitiveness" means the two measures of willingness to compete, willingness to take risk, and willingness to seek challenges; "Social preferences" means negative reciprocity, positive reciprocity, altruism, and third-party punishment; and "Trust" means the average of two measures of interpersonal trust. All regressions control for age dummies, origin dummies, a dummy for living with a partner, dummies for number of people in the household, and gender. Sample sizes are 2877 (position), 2520 (voting: economic), 2520 (voting: social), 2350 (voting: populist), 2995 (far-right synpathies), 3023 (immigration), 3015 (economic equality), 941 (climate change), 3023 (gender equality), and 2986 (European inegration).

at all and whether they are politically engaged in general. Figure A3 in the appendix shows Shapley decompositions for the index of political disaffection, respondents' level of confidence in democracy, the number of political actions they engaged in during the past five years, and a binary indicator for having voted in 2021. Personality contributes 56% of the explained variance in disaffection, 68% of the explained variance in confidence in democracy, and 51% of the explained variance in political action. Socioeconomic factors are more predictive of voting than personality, but the predictive power of either is quite low.<sup>32</sup>

Another way of assessing the predictive power of different variables for political preferences is to ask how well they predict voting for a specific political party. To this aim, I estimate multinomial logit models with the five-block division of parties used previously – populist left, establish left, center, established right, and populist right – as the outcome and different sets of variables as predictors. Based on each model, I then calculate for each individual in the dataset the predicted probability of voting for a party in each of the five blocks. I then calculate for each party block the difference in the probabilities of voting for that block assigned by each model to actual voters for parties in that block and to voters for parties in other blocks. This results for each party block and variable group in a number smaller or equal to 1, where 0 means no predictive power – the model assigns the same probability to voters and non-voters – and 1 means perfect accuracy – the model assigns probability 1 to voters and probability 0 to non-voters.

The results are visualized in Figure 5. Each model includes the standard set of demographic variables plus a different set of personality traits or socioeconomic characteristics. For comparison, the predictive accuracy of a model that only includes demographic variables is also shown. Knowing basic demographic information – age, gender, migration status, and household composition – allows to make predictions of whether a given person votes for each of the five party blocks that are around 5 percentage points better than chance.

When predicting voting for the populist left, established left, center, or established right, knowing all personality traits and economic preferences on top of demographics doubles predictive accuracy to around 10 percentage points. The predictive advantage conferred by knowing all socioeconomic information is similar (and a bit higher in the case of voting for the established right). The boost to predictive accuracy conferred by both personality and SES is much higher when predicting whether somebody voted for a populist right party. Models based on personality (plus demographics) and SES (plus demographics) each assign a roughly 20 percentage points higher probability to voters than to non-voters (compared to 5 percentage points for demographic variables alone).

<sup>&</sup>lt;sup>32</sup>Recent research (Enke, Rodríguez-Padilla, and Zimmermann, 2023; Cappelen, Enke, and Tungodden, 2022) shows that differences in universalism – the extent to which people show the same level of altruism towards out-group members as towards their own in-group – are a crucial part of people's political identities. Figure A3 also shows a Shapley decomposition of the relative explanatory power of personality and socioeconomic factors for people's degree of universalism.



#### Figure 5: Predictive accuracy of multinomial logit models for voting

The graphs show for each party block and set of predictors the difference in predicted probabilities of voting for that block between actual voters for parties in that block and voters for parties in other blocks. The predicted probabilities are from multinomial logit regressions. All regressions control for age dummies, origin dummies, a dummy for living with a partner, dummies for number of people in the household, and gender. Sample sizes are 2877 (position), 2520 (voting: economic), 2520 (voting: social), 2350 (voting: populist), 2995 (far-right sympathies)

This exercise shows again that information on people's personality traits and economic preferences is as valuable for predicting political preferences as are socioeconomic factors. The media discussion on the recent rise of populist right parties in many European countries (and the populist right faction inside the Republican party in the US) has focused on the supposed economic and social deprivation of their voters, on rising education polarization, and on urban-rural divides. My results confirm that these factors have significant predictive power but also show that personality is at least as predictive.

### Gender and education differences in political outcomes

There are widening gaps in political preferences and voting between men and women and between college-educated and non-college-educated voters in Western countries that are often seen as problematic and as evidence of the disintegration of civil society. Women and collegeeducated people tend to vote more left-wing and be more likely to identify with progressive causes than they used to, while men and vocationally-educated people have drifted to the right and are more likely to vote for populist parties that oppose the establishment.<sup>33</sup> In this section, I analyze the relative explanatory power of personality and socioeconomic status differences for these widening political gaps.

Figure A4 in the appendix shows gender and education differences in political outcomes in the LISS data. Women see themselves as 0.2 standard deviations more left-wing and vote for socially more progressive and less populist parties. They are also more in favor of gender equality, immigration, and tackling climate change. On the other hand, gender differences in attitudes towards economic equality and, relatedly, voting on the economic left-right axis are rather small, and there is no gender difference in the attitude towards European integration.

Education differences are even larger in magnitude than gender differences. Collegeeducated people are much more likely to vote for socially progressive and non-populist parties and are much more positive towards immigration, gender equality, climate change mitigation, and European integration. They are slightly less in favor of economic equality, however.

Figure A5 in the appendix shows gender and education differences in personality and socioeconomic status. Men and women differ strongly along many personality traits and preferences, most strongly agreeableness, negative reciprocity, competitiveness, psychopathy, honesty-humility, and risk taking. There are also some sizable education differences in personality. College-educated people are in particular more open, challenge seeking, trusting, optimistic, confident, altruistic, and narcissistic.

Gender differences in socioeconomic status are comparatively small. Women earn a lot less but have similar levels of household income (working part-time is very common in the Netherlands among women with a partner). Women also hold less prestigious occupations, and are less healthy but have better social connections. College-educated people, on the other hand, are better off compared to the rest of the population along all dimensions. They earn more, hold more prestigious occupations, are healthier, and socially better connected.

The graphs in Figure 6 show how much of the gender and education gaps in voting and political attitudes can statistically be explained by different personality traits and socioe-conomic characteristics. Each bar shows the percent reduction in the gender or education difference when controlling for a particular variable group. These are from OLS regressions with demographic controls. The dashed lines show the sample difference in the political out-come. The graphs also show the results from a Blinder-Oaxaca decomposition of the impact of all personality variables combined versus all socioeconomic variables combined. The left-hand graphs show results for gender differences and the right-hand graphs show results for gender differences.

The Blinder-Oaxaca decompositions show that personality can explain 71% of the gender difference and 53% of the college difference in self-judged political positioning on a left-right

<sup>&</sup>lt;sup>33</sup>See, for example, Abendschön and Steinmetz (2014), Pew Research Center (2016), or Wille and Bovens (2018)



Figure 6: Explanatory power of personality and SES for gender and education differences in politics

Note: The graphs show the percent reductions in gender and education differences in political outcomes when controlling for different variable groups. The dashed lines show the sample difference. The right-most bars show the results from Blinder-Oaxaca decompositions of the impact of all personality variables combined versus all socioeconomic status variables combined. "Social factors" means health, number of close contacts, club membership, religiosity, and urbanity of place of residence; "Finances" means monthly individual income, monthly household income, the financial distress principal component, the number of basics that are unaffordable, and the financial expectations principal component; "Career" means dummies for education level and occupation level (the education-difference regression omit the education level dummies); "Confidence" means self-efficacy and optimism; "Big 5 and grit" means the Big 5 personality traits (openness, conscientiousness, extraversion, agreeableness and mental stability) and grit; "Competitiveness" means the two measures of willingness to compete, willingness to take risk, and willingness to seek challenges; "Social preferences" means negative reciprocity, positive reciprocity, altruism, and third-party punishment; and "Trust" means the average of two measures of interpersonal trust. All outcome variables are first residualized for age dummies, origin dummies, a dummy for living with a partner, dummies for number of people in the household, and gender. Sample sizes are 2877 (position), 2520 (voting: economic), 2520 (voting: social), 2350 (voting: populist), 2995 (far-right sympathies). 23

scale. Socioeconomic status, on the other hand, only explains 12% of the gender gap and has negative explanatory power for the college gap (that is, the gap becomes larger when controlling for SES). The latter is due to the fact that college-educated people earn much more. Overall, higher earnings predict more a more right-wing political self-placement whereas higher-educated people actually see themselves as more left-wing. This is even more evident when decomposing the education gap in voting for economically right-wing parties: controlling for SES doubles the education difference whereas controlling for personality reduces it by half. The gender gap in voting on the economic axis is small and personality and SES can each explain the entirety of the gap.

There are sizable gender differences, and even larger education differences, in voting for more socially conservative or populist parties and in sympathy for the far right (women and college-educated people favor more progressive and less populist parties and have less sympathy for far-right parties and their leaders). Personality differences between men and women explain 71% of the gender difference in voting for socially conservative parties, 49% of the difference in voting for populist parties, and 71% of the difference in far-right sympathies. SES differences have much less explanatory power. In the case of populism, the gap actually becomes wider when controlling for SES. This is due to women earning less than men and lower earnings predicting voting for more populist parties within gender. The picture looks different for education differences in these outcomes, where SES explains as much or more than personality.

Figure 7 analogous graphs for gender and education differences in attitudes towards immigration, economic equality, gender equality climate change mitigation, and European integration. By and large, gender differences in personality have much more explanatory power for gender differences in political attitudes than gender gaps in SES. One trait category in particular pops out: gender differences in "dark" traits – honesty-humility and the dark triad – explain large parts of the gender gaps in all attitudes. Also, gender differences in social preferences alone can explain almost the entire gender difference in attitudes towards immigration. Both personality and SES explain significant parts of the education differences in attitudes. The exception is the education gap in attitudes towards economic equality: college-educated people are less in favor of economic equality and this is explained entirely by their higher incomes and occupational prestige.



Figure 7: Explanatory power of personality and SES for gender and education differences in attitudes

Note: The graphs show the percent reductions in gender and education differences in political outcomes when controlling for different variable groups. The dashed lines show the sample difference. The right-most bars show the results from Blinder-Oaxaca decompositions of the impact of all personality variables combined versus all socioeconomic status variables combined. "Social factors" means health, number of close contacts, club membership, religiosity, and urbanity of place of residence; "Finances" means monthly individual income, monthly household income, the financial distress principal component, the number of basics that are unaffordable, and the financial expectations principal component; "Career" means dummies for education level and occupation level (the education-difference regression omit the education level dummies); "Confidence" means self esteem, self-efficacy and optimism; "Big 5 and grit" means the Big 5 personality traits (openness, conscientiousness, extraversion, agreeableness and mental stability) and grit; "Competitiveness" means the two measures of willingness to compete, willingness to take risk, willingness to seek challenges; "Social preferences" means negative reciprocity, positive reciprocity, altruism, and third-party punishment; and "Trust" means the average of two measures of interpersonal trust. All outcome variables are first residualized for age dummies, origin dummies, a dummy for living with a partner, dummies for number of people in the household, and gender.

In summary, personality has remarkable explanatory power for the hotly-debated and widening gender and education gaps in politics. Gender differences in social preferences and "dark" personality traits in particular can statistically explain a large part of men's greater tendency to vote for socially conservative and populist parties, their greater sympathy for the far right, and their more negative attitudes towards immigration, gender equality and climate change mitigation. Gender differences in social preferences and the dark traits can also explain a large part of gender differences in people's political self-view and voting for economically more right-wing parties, where additionally gender differences in competitiveness have significant explanatory power. Differences between college-educated and non college-educated people in voting for socially conservative and populist parties, in far-right sympathies and political attitudes are best explained by differences in occupational prestige, trust, and social preferences.

## 5 Conclusion

In democracies, people's political preferences – and which party they ultimately vote for – have important social and economic consequences. Traditionally, research into the determinants of these preferences has focused on economic self-interest and social identity. More recently, the media discussion on the rise of populist right parties in many European countries (and a populist right faction inside the Republican party in the US) has focused on the relative economic and social deprivation of their voters, on rising education polarization, and on urban-rural divides. On the other hand, psychologists and behavioral economists have shown that certain personality traits and economic preferences predict political preferences and party affiliation. This gives rise to a mental model where voting is based not only on economic self-interest, social identity, or (lack of) social inclusion, but on individual temperament too. These studies typically focus on a small set of traits and outcomes, and we therefore do not know which traits are most predictive (and for which political outcomes), how the predictive power of personality *overall* compares to the predictive power of commonly cited socioeconomic characteristics *overall*, and whether personality still matters conditional on thoroughly controlling for socioeconomic factors.

The main requirement for investigating these questions is data that includes, first, a rich set of personality and economic preference measures; second, detailed information on people's political preferences and voting decisions; and third, a rich set of socioeconomic variables. I use the Dutch LISS survey panel to connect self-collected personality data to the detailed indicators of socioeconomic status and political preferences elicited in the yearly core LISS questionnaires. My results show that personality has remarkable predictive power for political preferences. Information on people's personality traits and economic preferences is at least as valuable for predicting people's political preferences – which party people vote for, their self-placement on the political left-right spectrum, their sympathy for the far right, and their attitudes towards a range of contentious political issues – as is a rich set of socioeconomic factors – including education, occupation, income, household finances, health, social integration, and religiosity.

Beyond exploring the potential of personality to explain individual-level variation in politics, I also use my data to gain further insight into the hotly debated increasing gender and education divides in political preferences. In Western democracies, women and college-educated individuals have steadily become more progressive while men and vocationally-educated individuals have become more conservative or even espoused the radical right. My results show that combined personality is often better at statistically explaining these gaps than are combined socioeconomic factors. In particular, personality differences between women and men explain more than 70% of the gender divides in voting on the progressive-conservative axis, in voting for populist parties, and in sympathizing with the far right.

The reasons behind the emergence of new populist parties (and populist movements within established parties) in many Western democracies are hotly debated, with the origins of the recent surge in popularity of populist-right parties being particularly contentious. My results add a new angle to this discussion. The media debate has focused on the supposed economic and social deprivation of voters, on rising education polarization, and on urban-rural divides. My results confirm that these factors have significant predictive power but also show that personality is particularly predictive for sympathizing with and voting for such parties (and embracing their positions on immigration, climate change, or European integration). Overall, personality is even more predictive than combined social and economic factors.

Extrapolating beyond the correlational nature of the analyses in this paper, if people's votes and attitudes are based on personality as well as pecuniary, social and identity considerations, this can help us understand the often-observed factoid that many low-income people seem to vote "against their own economic interests". It may also lead us to discount the potential of information-based interventions to sway people's vote. Moreover, the analyses presented in this paper raise the possibility that gender differences in personality may explain a sizable part of the much-discussed gender gap in politics that is observed in many Western countries.

Deep-seated differences in personality across voters might also help explain why, in many countries, communicating across party lines seems increasingly difficult and contentious. The emergence of a large number of new parties with differentiated profiles – the Netherlands has over recent years seen the emergence of parties as diverse as the identity politics-oriented BIJ1, the radically pro-Europe Volt, and the far-right, conspiracy-minded Forum for Democracy – means that people can increasingly choose options that match not only their social identity and economic interests but also their personality.

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## Appendix: Additional graphs

Figure A1: Shapley decompositions of the contribution of personality traits and socioeconomic characteristics to explaining the variance in political outcomes (2017 and 2023 elections)



Figure A2: Shapley decompositions of the contribution of the most influential variables to explaining the variance in political outcomes



Note: The graphs show the results from a Shapley decomposition of the contribution of different variable groups to the adjusted r-squared in regressions of political outcomes on socioeconomic factors and individual traits. "Social factors" means health, number of close contacts, club membership, religiosity, and urbanity of place of residence; "Finances" means monthly individual income, monthly household income, the financial distress principal component, the number of basics that are unaffordable, and the financial expectations principal component; "Career" means dummies for education level and occupation level; "Confidence" means self esteem, self-efficacy and optimism; "Big 5 and grit" means the Big 5 personality traits (openness, conscientiousness, extraversion, agreeableness and mental stability) and grit; "Competitiveness" means the two measures of willingness to compete, willingness to take risk, willingness to seek challenges; "Social preferences" means the average of two measures of interpersonal trust. All regressions control for age dummies, origin dummies, a dummy for living with a partner, dummies for number of people in the household, and gender.



Figure A3: Shapley decompositions for additional outcomes





Figure A5: Gender and education differences in personality and socioeconomic status



# Appendix: Additional tables

	Ν	Mean	SD	Min	P25	P50	P75	Max
Competitiveness	3025	3.50	1.08	1.00	2.69	3.54	4.23	7.00
Competitiveness (gen)	3025	6.02	2.04	0.00	5.00	7.00	7.00	10.00
Reciprocity (neg)	3025	4.29	2.36	0.00	2.50	4.50	6.00	10.00
Trust	3025	6.28	1.90	0.00	5.00	6.50	7.50	10.00
Altruism	3025	6.29	2.63	0.00	5.00	7.00	8.00	10.00
Reciprocity (pos)	3025	7.73	1.76	0.00	7.00	8.00	9.00	10.00
Punishment (3rd party)	3025	4.84	2.49	0.00	3.00	5.00	7.00	10.00
Extraversion	3025	3.18	0.67	1.00	2.70	3.20	3.60	5.00
Agreeableness	3025	3.84	0.53	1.30	3.50	3.90	4.20	5.00
Conscientiousness	3025	3.77	0.51	1.70	3.40	3.80	4.10	5.00
Stability	3025	3.55	0.71	1.20	3.00	3.60	4.00	5.00
Openness	3025	3.48	0.49	1.80	3.10	3.50	3.80	5.00
Grit	3025	3.57	0.50	1.80	3.20	3.60	3.90	5.00
Machiavellianism	3025	2.34	1.37	1.00	1.00	2.00	3.00	9.00
Psychopathy	3025	3.28	1.43	1.00	2.25	3.25	4.25	9.00
Narcissism	3025	3.05	1.48	1.00	2.00	3.00	4.00	9.00
Honesty-Humility	3025	3.77	0.52	1.40	3.40	3.80	4.10	5.00
Risk taking	3025	4.12	1.19	1.00	3.40	4.00	5.20	7.00
Challenge seeking	3025	4.42	1.22	1.00	3.50	4.50	5.00	7.00
Self-esteem	3025	5.58	1.02	1.20	4.90	5.80	6.40	7.00
Optimism	3025	3.46	0.60	1.00	3.00	3.50	3.83	5.00
Level of education	3025	3.67	1.50	1.00	2.00	3.00	5.00	6.00
Occupation level	3025	4.66	1.93	1.00	4.00	5.00	6.00	8.00
Household income	3025	4783.40	2977.45	0.00	2763.40	4227.00	6165.00	30000.00
Monthly income	3025	2589.55	2020.15	0.00	1350.00	2356.21	3446.11	30000.00
Basics unaffordable	3025	0.45	1.21	0.00	0.00	0.00	0.00	8.00
Financial distress	3025	0.03	2.22	-2.28	-1.47	-0.71	0.63	12.06
Financial expectations	3025	0.07	1.13	-5.88	0.19	0.20	0.45	1.20
Urban	3025	2.85	1.40	1.00	2.00	3.00	4.00	5.00
Health	3025	0.02	2.64	-15.01	-0.78	0.83	1.91	2.27
Number of friends	3025	2.72	1.78	0.00	1.00	3.00	5.00	5.00
Member of club	3025	0.54	0.50	0.00	0.00	1.00	1.00	1.00
Religiosity	3025	2.03	1.04	1.00	1.00	2.00	3.00	4.00
Female	3025	0.51	0.50	0.00	0.00	1.00	1.00	1.00
Age	3025	56.39	16.91	16.00	45.00	60.00	70.00	103.00
Western migration backg.	3025	0.09	0.29	0.00	0.00	0.00	0.00	1.00
Non-western migration backg.	3025	0.08	0.26	0.00	0.00	0.00	0.00	1.00
Living with partner	3025	0.69	0.46	0.00	0.00	1.00	1.00	1.00
Number of people in hh	3025	2.32	1.21	1.00	2.00	2.00	3.00	8.00
Position (left to right)	2877	5.16	2.15	0.00	4.00	5.00	7.00	10.00
Voting: economic	2520	9.99	4.44	1.00	6.00	11.00	15.00	17.00
Voting: social	2520	8.95	4.61	1.00	5.00	10.00	12.00	17.00
Voting: populist	2350	6.31	3.75	1.00	3.00	6.00	9.00	13.00
Far-right sympathies	2995	-1.62	2.10	-6.12	-3.17	-1.95	-0.41	8.09
Immigration	3023	-0.05	1.01	-2.92	-0.57	-0.10	0.61	2.73
Economic equality	3015	3.95	0.94	1.00	3.00	4.00	5.00	5.00
Climate change	941	3.49	0.73	1.33	3.00	3.50	4.00	5.00
Gender equality	3023	4.11	0.65	1.00	3.75	4.25	4.75	5.00
European integration	2986	2.68	1.17	1.00	2.00	3.00	3.00	5.00

Table A1: Descriptive statistics