
Does Demography Determine Democratic Attitudes?

Rainer Kotschy (Harvard University and CESifo)
Uwe Sunde (LMU Munich, CEPR, CESifo and IZA)

Discussion Paper No. 338

September 13, 2022

Does Demography Determine Democratic Attitudes?

Rainer Kotschy

Uwe Sunde

Harvard University

LMU Munich

CESifo, Munich

CEPR, London

CESifo, Munich

IZA, Bonn

September 2022

Abstract

This paper presents new evidence on how demography affects democratic attitudes in Western democracies. Using individual survey responses, the empirical analysis disentangles age from cohort patterns and other contemporaneous economic and political influences that shape democratic attitudes. The results reveal that support for democracy increases with age and is lower for more recent birth cohorts. These patterns are more pronounced in Western democracies than in the former Eastern bloc and in other countries around the world. Additional findings document that demography's effect partly captures heterogeneity in experiences with democracy, and that socioeconomic factors impact democratic attitudes.

JEL classification: D72, O17, O43, P48

Keywords: Support for democracy, age-period-cohort models, population aging, demographic composition, stability of democracy, modernization hypothesis

1 Introduction

Growing dissatisfaction with democracy and the spread of populist, sometimes openly authoritarian, political platforms have raised concerns about the stability of Western democracies and have renewed interest in the determinants of support for democracy. Despite considerable heterogeneity in democratic attitudes observed across age groups and recent arguments regarding demographic change and population aging as major challenges for democracy, surprisingly little research has investigated how demography shapes democratic attitudes.

Existing work in this domain has mainly focused on population's age structure. This exclusive focus on age ignores systematic heterogeneity across birth cohorts, which may shape attitudes in different ways than age. For example, members of different birth cohorts share common experiences which may shape their democratic attitudes. They grew up in different country-specific and geopolitical contexts, experienced different institutional and political environments during their youth, and were exposed to different decisive events during their formative years. It is therefore not clear a priori whether age patterns in democratic attitudes also reflect systematic variation across cohorts or heterogeneity in other dimensions—such as socioeconomic status or period effects.

When considering the consequences of demographic change for democratic attitudes, it is important to distinguish age from cohort effects and other influences correlated with age. Demographic change not only implies progressively higher ages of people within cohorts; it also entails the successive passing of cohorts that shared decisive common experiences, such as dictatorship or war, with ambiguous consequences for democratic attitudes in the society. However, the literature still lacks a systematic investigation of the distinct patterns of democratic attitudes across age groups, birth cohorts, and over time.

In this paper, we present new evidence on the relation between demographic composition and democratic attitudes in Western democracies. To elucidate the potentially distinct effects of age and cohort membership, we analyze a pseudo-panel of individual survey responses from Western democracies, with approximately 50,000 observations. Our analysis separates the effects of demographic composition on democratic attitudes from other effects

related to socioeconomic status and period-specific events. The identification of age, cohort, and period effects is notoriously difficult. In this study, we adopt an approach of estimating non-linear, group-specific effects to assess demography's impact on attitudes.

Our results reveal systematic heterogeneity across age groups and birth cohorts, showing that older people approve more of democracy and less of autocracy than younger people. At the same time, millennials (defined as those born between 1981 and 1996) and members of Generation X (those born between 1965 and 1980) approve significantly less of democracy and more of autocracy than baby boomers (those born between 1946 and 1964). These patterns are robust to accounting for country period-specific heterogeneity in democratic attitudes, socioeconomic status, and gender. To investigate the universality of these results, we further differentiate between (i) traditional Western democracies, (ii) members of the former Eastern bloc, and (iii) other countries around the world that neither belong to Western democracies nor to the former Eastern bloc. Our results show strikingly similar age and cohort patterns across all samples, with more pronounced gradients in Western democracies than in the rest of the world.

Further analysis assesses the role of experience with democracy as a potential mechanism for demography's effect on democratic attitudes. People with high levels of democratic capital, measured by the years a person lived under democracy, approve significantly more of democracy and less of autocracy than people with low levels of democratic capital. The inclusion of democratic capital attenuates the effects of demographic variables on democratic attitudes in Western democracies but not in other countries. This finding indicates that experience with democracy drives demographic heterogeneity in democratic attitudes. Hence, there is a direct link between a country's historical institutional trajectory and the consequences of demographic change for democratic attitudes and, ultimately, the stability of democracy.

Our results contribute to literature on the factors behind the emergence and stability of democracy. Following Lipset's (1959) work, most of the literature has concentrated on the role of socioeconomic factors including income, an equal distribution of resources, or a sufficient level of education as macro-determinants of democracy. Demography as a

potential alternative key factor behind democratization has been largely neglected (notable exceptions include Dyson 2013; Wilson and Dyson 2017). Our evidence shows that age and cohort membership shape individuals' democratic attitudes beyond socioeconomic status, complementing earlier work on the relevance of the modernization hypothesis at the individual level (Inglehart 1997; Inglehart and Welzel 2003; Welzel 2014).

The observation of waning support for democracy (Claassen 2020a) has shifted the focus to factors that determine the stability of democracy. Recent work has identified population aging and migration as major challenges for Western democracies (Goldstone and Diamond 2020). However, to our knowledge, we contribute the first assessment of democratic attitudes that accounts for distinct effects of age, cohort membership, and period-specific factors. By separating experience with democracy from age and cohort effects, our findings also contribute to literature on the influence of individual lifetime experiences with democracy on democratic preferences (Fuchs-Schündeln and Schündeln 2015; Acemoglu et al. 2021) and shed new light on contradictory evidence regarding the interplay between experience with democracy and democratic attitudes (Claassen 2020b).

The conceptual problem of disentangling age, cohort, and period effects has received attention in demography, sociology, and epidemiology. Perfect multicollinearity of the three dimensions prevents the decomposition of linear effects without additional identification assumptions (Fienberg and Mason 1978; Holford 1983; Fienberg 2013; Luo 2013). Work in political science has so far analyzed the age-period-cohort problem with approaches that neglect one dimension or use non-linear proxy variables in different contexts than democratic attitudes; see Vlandas et al. (2021) for a recent survey. Our evidence contributes the first analysis of distinct age and cohort patterns in democratic attitudes by leveraging the non-linear variation in attitudes across age, cohort, and period cells.

2 Data Sources

Our analysis uses data from the World Value Survey's waves 3–7 collected over the time period 1994–2022 (Inglehart et al. 2022). These data cover approximately 225,000 observations from 95 countries and 243 surveys, which are representative at the population

level. The data contain information on individuals' democratic attitudes, their demographic characteristics, and their socioeconomic status.

We measure democratic attitudes with four survey items that elicit individuals' attitudes toward (i) having a democracy, (ii) the importance of democracy, (iii) a strong leader unconstrained by checks and balances, and (iv) army rule (see Table A.1 in the Supplemental Appendix for a detailed description). We interpret approval of (i) and (ii) as support for democracy and approval of (iii) and (iv) as support for autocracy. Where appropriate, we invert the variables' scales and normalize them to range from 0 (support for autocracy) to 100 (support for democracy). About 89 percent of the individuals approve of democracy, whereas 43 percent approve of a strong leader and 25 percent of army rule (Figure A.1).

We measure individuals' socioeconomic status through their position in the income distribution and their educational attainment. We classify individuals' incomes by belonging to the poor (lowest quintile), the middle class (second to fourth quintile), or the rich (highest quintile), and differentiate between primary, secondary, or tertiary education according to the highest educational level individuals have attained. The lowest income quintile and the group with primary education serve as reference groups.

We leverage the World Value Survey's repeated cross-sections to construct a pseudo panel. This panel provides us with observations from individuals (i) who are of the same age but were born in different years, although they were interviewed in the same survey, and (ii) who were born in the same year but differ in age because they were interviewed in different surveys. Our analysis concentrates on individuals in the age range 21–70 for which we have sufficient observations across surveys.

We draw data on political institutions from the Polity Project (Marshall and Gurr 2020) to construct individuals' democratic capital. For every year a survey respondent has lived, we check whether the political system of the respondent's country was democratic and aggregate the number of years lived in democracy. Following Persson and Tabellini (2009), democratic capital is assumed to depreciate by 2 percent per year to give higher weight to more recent experiences with democracy.

Appendix A.1 contains details on variable construction, Table A.2 reports descriptive

statistics. The main analysis concentrates on a baseline sample of 26 *Western democracies*, which include—data availability permitting—19 countries in the European Union (EU), Australia, Canada, New Zealand, Norway, Switzerland, the United Kingdom, and the United States of America. We focus on these countries for two reasons. First, the variation in democratic attitudes with respect to age reflects individual-specific processes related to aging or maturing. Estimating average age profiles thus requires reasonably comparable population structures. Second, cohort effects represent generation-specific variation in attitudes, which originates from common lifetime experiences cohort members share. Estimating average cohort profiles therefore requires a sample of countries that experienced reasonably similar historical and aggregate external influences.

In further analysis, we gauge the findings’ universality for alternative samples. Specifically, we construct a sample of 15 *traditional Western democracies*, which excludes 11 new EU countries that have joined the union since 2004 and that potentially differ from the old EU countries because of limited sovereignty after World War II or their history as members of the Eastern bloc. As counterpart to the traditional Western democracies, we construct a sample of *former Eastern bloc* countries, which—data availability permitting—comprises 20 member states of the Soviet Union and the Warsaw Pact, Mongolia, Vietnam, and temporarily aligned countries, such as Albania, China, Ethiopia, and four member states of Yugoslavia. In addition, we retain 51 *non-Western/Eastern bloc countries* as a comparison sample. Table A.3 in the Appendix lists the countries in each sample.

3 The Effect of Demography on Democratic Attitudes

The main challenge in identifying the effect of demography on democratic attitudes lies in disentangling age, cohort, and period effects. Attitudes may change over the life course as individuals age and grow more experienced with political institutions. Alternatively, attitudes may be shaped by cohort effects as individuals share common formative experiences with their peers. Finally, attitudes may react to environmental dynamics related to period-specific factors, such as economic crises or geopolitical events. These different effects may vary in magnitude and even operate in opposing directions.

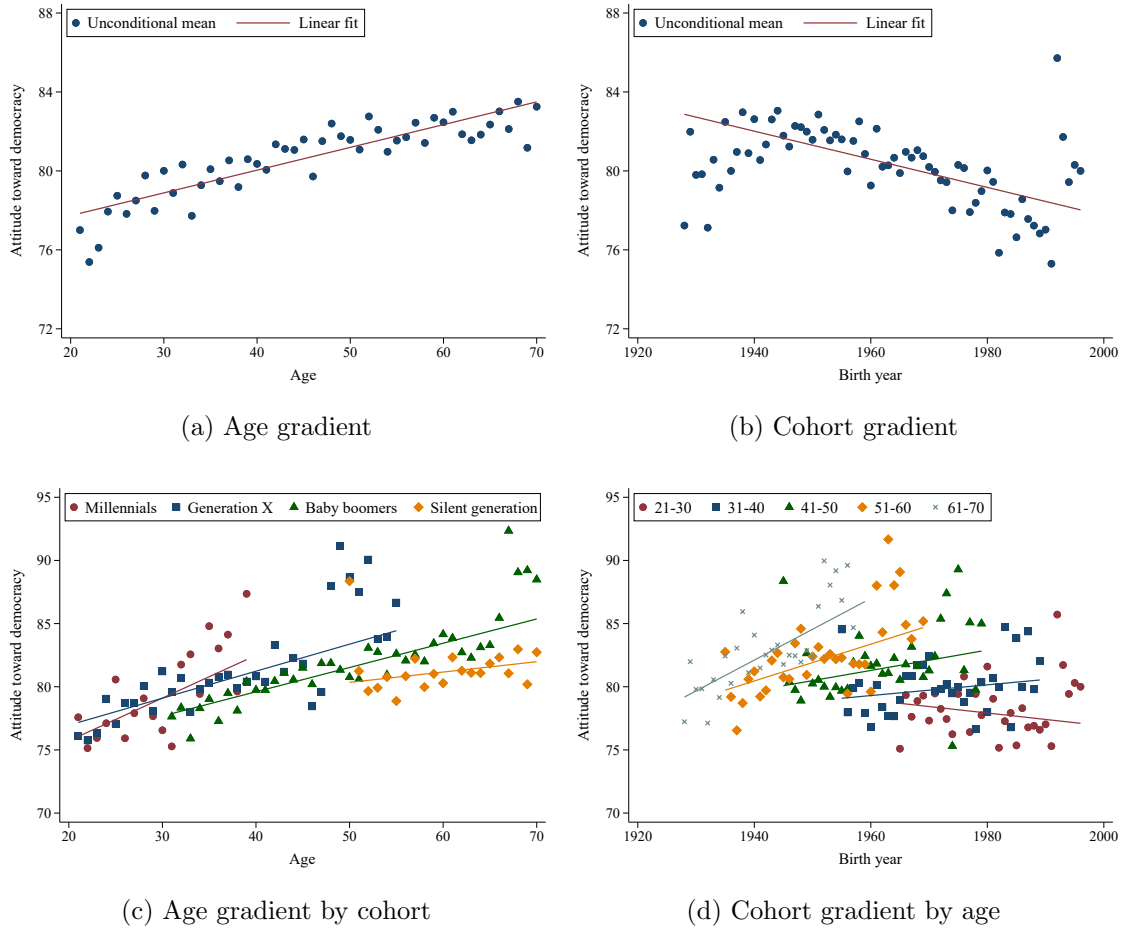


Figure 1: Demography and democratic attitudes: descriptive evidence

Note: This figure depicts mean democratic attitudes by age and birth year (dots) and a linear fit (line).

Figure 1 illustrates this identification problem by plotting unconditional gradients in democratic attitudes among people in Western democracies by age and birth year. Panel (a) indicates that support for democracy increases linearly with age. In contrast, Panel (b) suggests a non-monotonic pattern according to which early-born and late-born cohorts support democracy less than intermediate cohorts. Panel (c) plots age gradients for different birth cohorts. Although support for democracy increases with age in all cohorts, there is considerable heterogeneity in age gradients across cohorts. Panel (d) plots cohort gradients for different age groups, again indicating substantial heterogeneity and non-monotonicity. The net effect of demography on democratic attitudes is thus unclear. Mixed results for alternative measures of support for democracy underscore these strikingly different patterns of attitudes with respect to demography (Figures A.2 and A.3).

The problem of identifying the distinct effects of age, cohort and period is fundamentally unsolvable due to the perfect multicollinearity of the three dimensions (Winship and Harding 2008; Fienberg 2013; Fosse and Winship 2019).¹ In practice, researchers achieve identification by constraining variation across some dimensions (Mason et al. 1973). One approach that has gained popularity more recently is the use of age and cohort groups of unequal dimension (Yang and Land 2008; Luo and Hodges 2016). We apply a similar strategy to identify the distinct effects of demography on democratic attitudes, using a flexible, non-parametric structure for age, cohort, and period dimensions.

We model latent democratic attitudes by the linear function

$$Y_{iabt}^* = \alpha_{ct} + \sum_{a \in \mathcal{A}} \beta_a D_a + \sum_{b \in \mathcal{B}} \gamma_b D_b + W_{iabt}' \delta + \varepsilon_{iabt}, \quad (1)$$

where Y_{iabt}^* denotes the democratic attitudes of individual i in age group $a \in \mathcal{A}$ and birth cohort $b \in \mathcal{B}$, living in country c at time t . Attitudes vary across age captured by age group dummies D_a (age effects), across political and social environments in which individuals grew up and which are captured by birth cohort dummies D_b (cohort effects), and across country-wave periods α_{ct} , which affect all individuals in the same country at the same time (period effects). The vector W_{iabt} denotes individual-specific controls, such as socioeconomic status or democratic capital. Finally, ε_{iabt} denotes the error term.

Our empirical approach estimates the contributions of age groups, birth cohorts, and time periods relative to omitted reference groups, which are included in the intercept. Technically, this approach does not identify the linear effects of age, cohort, and period (often referred to as “linear” or “slope” effects)—which are fundamentally non-identified—, but rather it identifies heterogeneity in democratic attitudes across different age and cohort groups and over time (often referred to as “non-linear effects” or “deviations” from group means). The latter can be identified and estimated without bias (Holford 1983; Luo 2013)—up to the unidentified effect of the respective reference groups.

This approach imposes block constraints for age and cohort groups, which require a

¹Concretely, period t (the year of survey response) is perfectly determined by the birth year b (which characterizes cohorts) and respondent’s age a at the time of the survey: $t = b + a$.

choice of age and cohort intervals that are, to a certain extent, arbitrary and that may affect the estimation results (Luo and Hodges 2016). These constraints become less restrictive when individuals are grouped within well-defined and homogeneous age and cohort cells. Because our analysis aims to characterize heterogeneity in democratic attitudes across demographic groups, we construct five 10-year age groups ranging from ages 21–30 to 61–70. In addition, we group birth cohorts into four generations consistent with a standard classification of generations in sociological and demographic research (Doherty et al. 2015). These cohorts comprise the silent generation (1928–1945), baby boomers (1946–1964), Generation X (1965–1980), and millennials (1981–1996). This coding ensures sufficient overlap such that the identification is based on observations from at least two cohorts at every age (Figure A.4). We define the age group 41–50 and the baby boomers as reference groups. Hence, age and cohort estimates reflect differences relative to these two groups.

The identification of demography’s effect on democratic attitudes requires that there are neither country-wave-age-specific nor country-wave-cohort-specific unobservable characteristics that correlate with both, attitudes and demographic explanatory variables. By controlling for country-wave fixed effects, our model accounts for country-wave-specific unobservables that do not vary across age groups or cohorts. Because the World Value Survey is designed as a repeated cross-section, we cluster standard errors at the country-wave level to account for systematic unobserved heterogeneity within surveys.

The World Value Survey measures democratic attitudes on a discrete, ordered scale. Estimating equation (1) by ordinary least squares implicitly imposes a cardinal interpretation on the data. Alternatively, the model can be estimated by heteroskedastic ordered probit, which exploits the responses’ natural ordering without assuming a cardinal interpretation. Because of the more straightforward interpretation, we report least squares results throughout the main text and refer to the corresponding probit results in robustness checks (see Appendix A.3 for details).

4 Does Demography Determine Democratic Attitudes?

4.1 Democratic Attitudes in Western Democracies

Table 1 reports the estimation results for our baseline sample of 26 Western democracies. Figure 2 depicts the corresponding conditional age and cohort gradients in democratic attitudes. The depicted age and cohort estimates reflect differences in the support for democracy relative to age group 41–50 in Figure 2(a) and relative to baby boomers (1946–1964) in Figure 2(b).

The results document that demography determines democratic attitudes. Younger individuals approve significantly less of democracy than age group 41–50, whereas older individuals approve significantly more. The observable age profile indicates that support for

Table 1: Demography and democratic attitudes in Western democracies

Attitudes toward	Democracy	Importance of democracy	Strong leader	Army rule
	(1)	(2)	(3)	(4)
Age 21–30	-1.92** (0.83)	-2.59*** (0.70)	-0.30 (1.03)	0.81 (0.67)
Age 31–40	-1.50*** (0.43)	-1.04** (0.42)	0.24 (0.57)	1.07*** (0.39)
Age 51–60	1.39*** (0.45)	1.47*** (0.49)	-1.05* (0.55)	-1.08** (0.43)
Age 61–70	2.43*** (0.62)	2.61*** (0.52)	-1.01 (0.89)	-1.35** (0.60)
Silent generation (1928–1945)	-0.21 (0.46)	-0.18 (0.49)	0.78 (0.91)	1.31** (0.55)
Generation X (1965–1980)	-0.54 (0.50)	-1.45** (0.54)	1.40** (0.62)	1.63*** (0.48)
Millennials (1981–1996)	-3.25*** (1.13)	-3.71*** (1.11)	5.37*** (1.72)	5.69*** (1.24)
Middle class (2 nd – 4 th quintile)	2.71*** (0.44)	2.67*** (0.46)	-2.20*** (0.48)	-1.59*** (0.36)
Rich (5 th quintile)	4.92*** (0.71)	4.70*** (0.73)	-4.23*** (0.90)	-2.72*** (0.63)
Secondary education	3.32*** (0.60)	4.13*** (0.59)	-6.15*** (0.61)	-3.51*** (0.48)
Tertiary education	9.51*** (0.88)	9.10*** (0.77)	-14.85*** (0.85)	-9.55*** (0.81)
R^2	0.10	0.08	0.18	0.12
Unconditional mean	80.6	86.8	32.2	14.4
Age effects (joint p -value)	0.00	0.00	0.39	0.03
Cohort effects (joint p -value)	0.03	0.02	0.02	0.00
Country-wave fixed effects	✓	✓	✓	✓
Gender-specific intercepts	✓	✓	✓	✓
Clusters	60	39	61	61
Countries	26	22	26	26
Observations	49985	32568	50166	50730

Note: Estimates are obtained from ordinary least squares. The sample includes 26 Western democracies. All specifications include country-wave fixed effects and gender-specific intercepts. The omitted reference groups are age group 41–50, baby boomers (1946–1964), the poor (first income quintile), and individuals with primary education or less. The rows age and cohort effects report p -values for the hypotheses that either age or cohort effects are jointly zero; that is, $H_0 : \beta_a = 0$ or $H_0 : \gamma_b = 0$. Standard errors are clustered at the country-wave level and reported in parentheses. Asterisks indicate significance levels: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

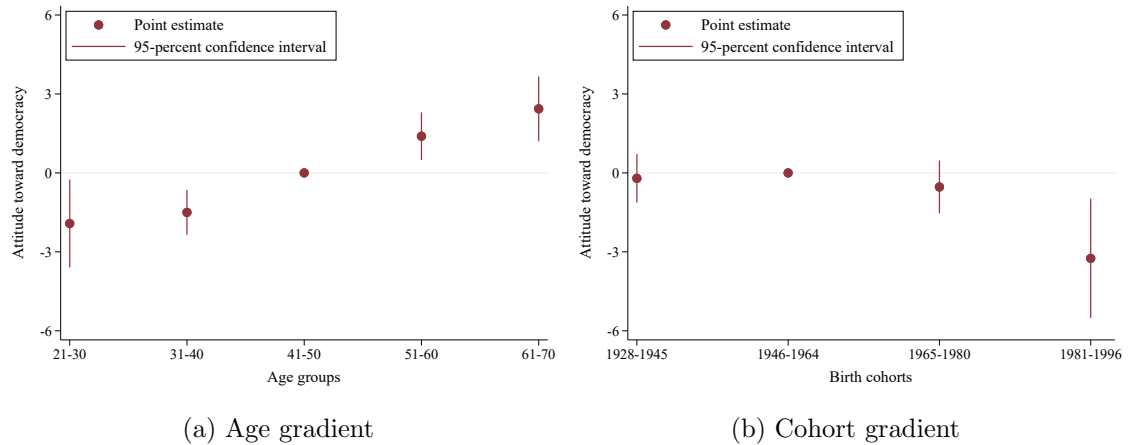


Figure 2: Demography determines democratic attitudes in Western democracies

Note: This figure depicts conditional means by age group and birth cohort for 26 Western democracies (estimates obtained from Table 1, column 1). The plotted estimates reflect differences relative to the reference age group 41–50 or the reference cohort born 1946–1964.

democracy increases monotonically with age, whereas the difference between the youngest and oldest age group amounts to 4.35 points or 0.18 standard deviations according to column (1) of Table 1. These findings contrast with the corresponding cohort results, which reveal a non-monotonic profile. Support for democracy is strongest among baby boomers. While the silent generation and Generation X approve of democracy only slightly less than baby boomers, millennials approve significantly less. On average, millennials voice a 3.25 points or 0.14 standard deviations lower support for democracy compared to baby boomers. For our sample of Western democracies, millennials' lower support for democracy may reflect their lack of experience with autocracy compared to earlier-born cohorts. This interpretation is consistent with the results for our alternative measures of democratic attitudes, for which we find qualitatively similar age profiles and quantitatively even more pronounced non-monotonic cohort profiles (Table 1 and Figure A.5).

These findings shed light on the consequences of demographic change for democratic attitudes. While the analysis cannot predict the attitudes of future cohorts, the estimates can gauge the implications of an increase in average age and the replacement of earlier-born cohorts by later-born cohorts. According to column (1), for example, the replacement of a baby boomer by a millennial is equivalent to an age-related increase in democratic attitudes of 3.93 points (corresponding to an age increase of 30 years and a shift from

age group 31–40 to age group 61–70). With a cohort gradient of -3.25 points between baby boomers and millennials, demographic change implies an increase in the support for democracy by 0.68 points or 0.03 standard deviations.

The results also document that socioeconomic factors impact democratic attitudes. Persons with high socioeconomic status approve significantly more of democracy than individuals with low socioeconomic status. The education gradient is twice as large as the income gradient and amounts up to 9.51 points or 0.40 standard deviations in the support for democracy. These estimates underscore the importance of socioeconomic status relative to demography: the gradient between high and low socioeconomic status is about an order of magnitude larger than the net effect of demographic change. These findings corroborate previous work that emphasized the role of socioeconomic factors for the stability and quality of democracy (Lipset 1959; Welzel 2014; Kotschy and Sunde 2017) and suggest that, at the society level, democracy and economic development reinforce one another.

4.2 Universality of Age and Cohort Gradients: Global Evidence

To investigate the universality of demography’s effect on democratic attitudes, we replicate the analysis for traditional Western democracies, the former Eastern bloc, and non-Western/former Eastern bloc countries. Figure 3 depicts age and cohort profiles for these alternative samples in comparison to the sample of Western democracies.

The results qualitatively confirm that support for democracy increases with age and that cohort patterns are non-monotonic. However, there are considerable quantitative differences across samples. Support for democracy increases significantly with age in all but former Eastern bloc countries. For young age groups, the estimates differ significantly between traditional Western democracies—where age profiles are most pronounced—and former Eastern bloc countries—where age profiles are least pronounced. Estimates for the remaining countries lie in between these groups. With regard to cohort profiles, all samples show again qualitatively similar patterns. However, in the former Eastern bloc the silent generation exhibits the lowest democratic attitudes, whereas in Western democracies and the remaining countries millennials exhibit the lowest democratic attitudes.

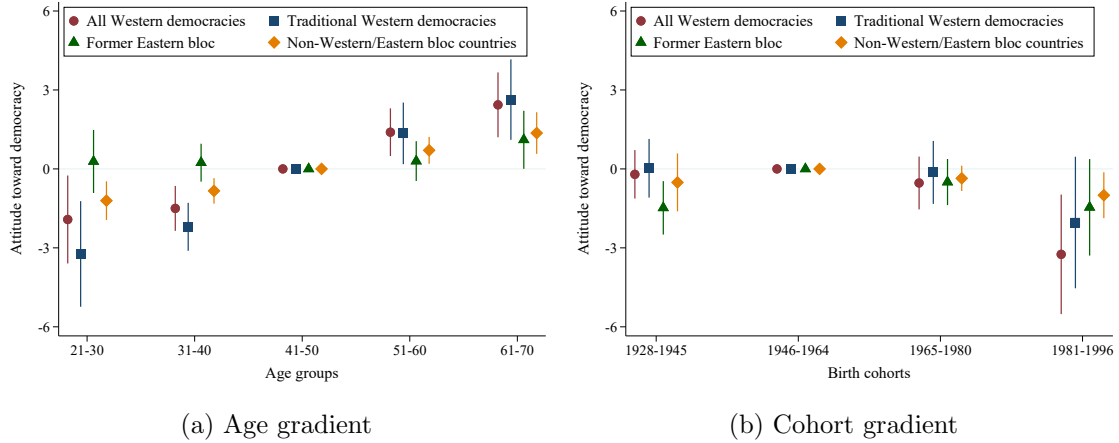


Figure 3: Heterogeneity in age and cohort gradients across samples

Note: This figure contrasts conditional means by age group and birth cohort across samples (estimates obtained from Table A.4, odd columns).

4.3 Demography and Democratic Capital

The findings so far suggest that democratic attitudes are weaker among younger persons and among later-born cohorts, especially millennials. This raises the question whether heterogeneity in democratic attitudes across age and cohort captures systematic heterogeneity in lifetime experiences with democracy—which varies considerably across different samples—as a potential mechanism underlying the impact of demography on the support for democracy. To assess whether democratic capital explains the findings of heterogeneous age and cohort effects, we reproduce our estimates with an extended specification that explicitly accounts for a person’s experience with democracy.

The results in Figure 4 reveal that accounting for democratic capital attenuates the effect of demography on democratic attitudes. With few exceptions, age and cohort patterns become insignificant in Western democracies. Still, differences in support for democracy remain significant for age group 61–70 and for millennials. Former Eastern bloc countries exhibit a flat age pattern and a moderately hump-shaped cohort pattern. For traditional Western democracies, the demographic patterns are insignificant once accounting for democratic capital. In contrast, the age and cohort profiles remain largely unaffected and significant in non-Western/Eastern bloc countries. At the same time, the results document that people approve significantly more of democracy—and analogously

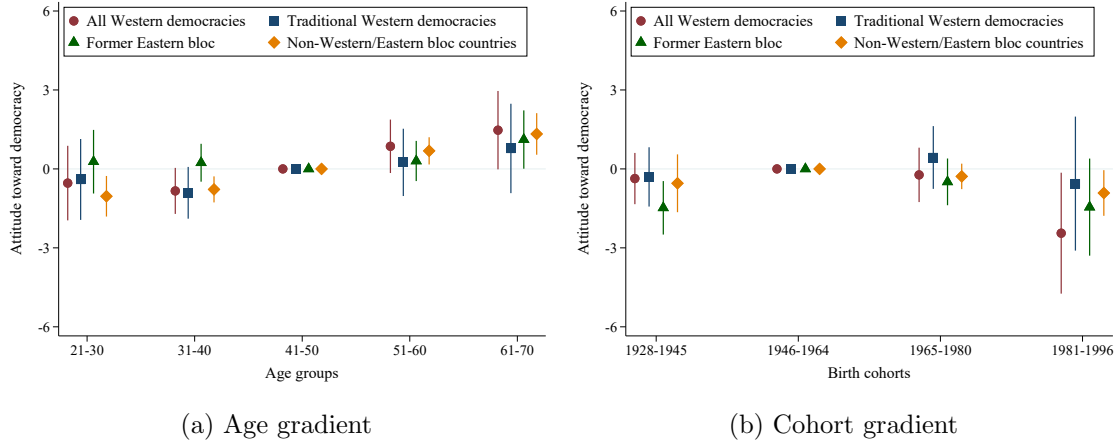


Figure 4: Age and cohort gradients when controlling for democratic capital

Note: This figure contrasts conditional means by age group and birth cohort across samples (estimates obtained from Table A.4, even columns).

less of autocracy—the more experience with democracy they have (Table A.5). This finding suggests a persistent self-stabilizing effect of living in a democratic environment and complements evidence of the continuing influence of the institutional environment experienced earlier in life (Fuchs-Schündeln and Schündeln 2015; Claassen 2020a; Acemoglu et al. 2021).

Overall, the effect of demography on democratic attitudes partly captures heterogeneity in experiences. Demography significantly impacts democratic attitudes in countries with considerable variation in the institutional environment. In contrast, once we account for democratic capital, age and cohort profiles in democratic attitudes across demographic groups are attenuated in traditional Western countries that have been characterized by a fairly stable democratic environment over individuals' lifetime.

4.4 Robustness and Additional Results

Robustness checks in the Supplemental Appendix confirm the results for the estimation of heteroskedastic ordered probit models instead of ordinary least squares, alternative specifications of age groups, the omission of cohorts one at a time, the application of sampling weights and bootstrap techniques, explicit tests of the separability of age and cohort effects, and alternative measurement of democratic capital.

5 Conclusion

In this study, we present evidence of the distinct effects of demographic composition on democratic attitudes. Our results reveal that support for democracy increases with age, whereas it is non-monotonic across birth cohorts, with the highest support among baby boomers. Individual experience with democracy impacts on democratic attitudes and attenuates age and cohort profiles. However, for non-Western countries, demography plays a significant role in shaping democratic attitudes even if we account for experience with democracy. These findings have implications for the consequences of demographic change on democratic attitudes in different parts of the world.

Acknowledgments

The authors thank Vojtech Bartos, Dirk Engelmann, Margherita Fort, Tilman Fries, Fabian Kosse, Christian Lessmann, Wolfgang Nagel, Bertil Tungodden, Christian Welzel, and participants at several seminars and conferences for helpful suggestions and discussions. Julian Müller provided excellent research assistance. Support by the Deutsche Forschungsgemeinschaft (German Research Foundation) through CRC TRR 190 (project number 280092119) and through grant 471897412 is gratefully acknowledged.

References

- Acemoglu, Daron, Nicolás Ajzenman, Cevat Giray Aksoy, Martin Fiszbein, and Carlos A. Molina (2021). (Successful) Democracies Breed Their Own Support. NBER Working Paper 29167, Cambridge, MA: National Bureau of Economic Research.
- Claassen, Christopher (2020a). Does Public Support Help Democracy Survive? *American Journal of Political Science* 64(1), 118–134.
- Claassen, Christopher (2020b). In the Mood for Democracy? Democratic Support as Thermostatic Opinion. *American Political Science Review* 114(1), 36–53.
- Doherty, Carroll, Jocelyn Kiley, Alec Tyson, and Bridget Jameson (2015). *The Whys and Hows of Generation Research*. Washington, DC: Pew Research Center.

- Dyson, Tim (2013). On Demographic and Democratic Transitions. *Population and Development Review* 38, 83–102.
- Fienberg, Stephen E. (2013). Cohort Analysis' Unholy Quest: A Discussion. *Demography* 50(6), 1981–1984.
- Fienberg, Stephen E. and William M. Mason (1978). Identification and Estimation of Age-Period-Cohort Models in the Analysis of Discrete Archival Data. *Sociological Methodology* 10, 1–67.
- Fosse, Ethan and Christopher Winship (2019). Bounding Analyses of Age-Period-Cohort Effects. *Demography* 56(5), 1975–2004.
- Fuchs-Schündeln, Nicola and Matthias Schündeln (2015). On the Endogeneity of Political Preferences: Evidence from Individual Experience with Democracy. *Science* 347(6226), 1145–1148.
- Goldstone, Jack A. and Larry Diamond (2020). Demography and the Future of Democracy. *Perspectives on Politics* 18(3), 867–880.
- Holford, Theodore R. (1983). The Estimation of Age, Period and Cohort Effects for Vital Rates. *Biometrics* 39, 311–324.
- Inglehart, Ronald (1997). *Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies*. Princeton, NJ: Princeton University Press.
- Inglehart, Ronald, Christian Haerpfer, Alejandro Moreno, Christian Welzel, Kseniya Kizilova, Jaime Diez-Medrano, Marta Lagos, Pippa Norris, Eduard Ponarin, and Bi Puranen (2022). *World Values Survey: All Rounds – Country-Pooled Datafile Version 3.0*. Madrid and Vienna: JD Systems Institute and WWSA Secretariat.
- Inglehart, Ronald and Christian Welzel (2003). Political Culture and Democracy: Analyzing Cross-Level Linkages. *Comparative Politics* 36(1), 61–79.
- Kotschy, Rainer and Uwe Sunde (2017). Democracy, Inequality, and Institutional Quality. *European Economic Review* 91, 209–228.
- Lipset, Seymour Martin (1959). Some Social Requisites of Democracy: Economic Development and Political Legitimacy. *American Political Science Review* 53(3), 69–105.
- Luo, Liying (2013). Assessing Validity and Application Scope of the Intrinsic Estimator Approach to the Age-Period-Cohort Problem. *Demography* 50(6), 1945–1967.
- Luo, Liying and James S. Hodges (2016). Block Constraints in Age-Period-Cohort Models with Unequal-Width Intervals. *Sociological Methods & Research* 45(4), 700–726.

- Marshall, Monty G. and Ted Robert Gurr (2020). *Polity5 Project: Political Regime Characteristics and Transitions, 1800–2018*. Vienna, VA: Center for Systemic Peace.
- Mason, Karen Oppenheim, William M. Mason, Hal H. Winsborough, and Kenneth W. Poole (1973). Some Methodological Issues in Cohort Analysis of Archival Data. *American Sociological Review* 38, 242–258.
- Persson, Torsten and Guido Tabellini (2009). Democratic Capital: The Nexus of Political and Economic Change. *American Economic Journal: Macroeconomics* 1(2), 88–126.
- Vlandas, Tim, Daniel McArthur, and Michael Ganslmeier (2021). Ageing and the economy: a literature review of political and policy mechanisms. *Political Research Exchange* 3(1), 1932532.
- Welzel, Christian (2014). Evolution, Empowerment, and Emancipation: How Societies Climb the Freedom Ladder. *World Development* 64, 33–51.
- Wilson, Ben and Tim Dyson (2017). Democracy and the Demographic Transition. *Democratization* 24(4), 594–612.
- Winship, Christopher and David J. Harding (2008). A Mechanism-Based Approach to the Identification of Age–Period–Cohort Models. *Sociological Methods & Research* 36(3), 362–401.
- Yang, Yang and Kenneth C. Land (2008). Age-Period-Cohort Analysis of Repeated Cross-section Surveys: Fixed or Random Effects? *Sociological Methods & Research* 36, 297–326.

ONLINE SUPPLEMENTAL APPENDIX FOR
Does Demography Determine Democratic Attitudes?

Rainer Kotschy

Harvard University

CESifo, Munich

Uwe Sunde

LMU Munich

CEPR, London

CESifo, Munich

IZA, Bonn

September 2022

Abstract

This appendix contains additional information and material referenced in the text.

A Appendix

A.1 Variable Construction and Descriptive Statistics

Democratic capital. We construct individuals' democratic capital based on the Polity Project's classification of political institutions (Marshall and Gurr 2020). We define a country as democratic if it has a combined polity score of 6 or higher. As this the time series ends in 2018, we extend it to the years 2019–2022 by extrapolating observations in 2018 and cross-validating them with information from Freedom House (2022). Even though average political rights have declined since 2018, countries' classifications as democratic or non-democratic remain stable in the country-year pairs observed in the World Value Survey except for Nicaragua, where democratic institutions have eroded. For every year a person has lived, we check whether the country in which the person participated in the World Value Survey was democratic and add up the number of years lived in democracy. Following Persson and Tabellini (2009), we depreciate democratic capital by 2 percent per year to emphasize recent experiences with democracy more than past.

Income distribution and educational attainment. In the World Value Survey, individuals report in which decile of the income distribution they place themselves. Because this item was implemented in different forms across surveys, the reported deciles sometimes deviate from actual deciles, complicating a comparison across surveys (Donnelly and Pop-Eleches 2018). We deal with this problem in two ways. First, our empirical model controls for country-wave fixed effects, which take up country-wave-specific differences in this item's implementation. Second, we pool the data into quintiles and construct dummies for the poor (lowest quintile), the middle class (second to fourth quintile), and the rich (fifth quintile). While individuals might err in judging to which income decile they belong, this error is less pronounced with broader income groups. Education is measured by the highest educational level individuals have attained, where we differentiate between primary, secondary, and tertiary education. We choose the lowest income quintile and the group with primary education as reference groups.

Table A.1: Description of survey items measuring democratic attitudes

Variable	Item code	Survey question	Scale	Possible answers
<i>Democratic attitudes</i>				
Democracy	E117	Having a democratic system is:	1, 2, 3, 4	Very good, fairly good, fairly bad, very bad
Importance of democracy	E235	How important is it for you to live in a country that is governed democratically?	1, 2, . . . , 10	Not important at all (1) . . . Absolutely important (10)
Strong leader	E114	Having a strong leader who does not have to bother with parliament and elections is:	1, 2, 3, 4	Very good, fairly good, fairly bad, very bad
Army rule	E116	Having the army rule is:	1, 2, 3, 4	Very good, fairly good, fairly bad, very bad

Note: Source: Inglehart et al. (2022). We invert the scales of all attitudes where appropriate and normalize their range from 0 (no support) to 100 (full support): see Section 2.

Table A.2: Descriptive statistics

Variable	All Western democracies			Traditional Western democracies			Former Eastern bloc			Non-Western/ Eastern bloc countries		
	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.
<i>Democratic attitudes</i>												
Democracy	49985	80.58	23.61	34280	82.35	23.19	56318	74.81	24.96	132475	78.18	25.56
Importance of democracy	32568	86.81	19.74	21831	88.13	18.33	35362	81.45	22.97	85656	80.68	23.90
Strong leader	50166	32.19	32.77	35362	81.45	22.97	55760	49.40	34.20	130334	44.37	34.85
Army rule	50730	14.37	23.27	35217	12.01	21.20	55301	26.71	29.52	126615	35.50	33.35
<i>Demographic factors</i>												
Age 21–30	52659	0.20	0.40	35957	0.19	0.39	60998	0.24	0.42	139592	0.33	0.47
Age 31–40	52659	0.22	0.41	35957	0.22	0.42	60998	0.24	0.43	139592	0.27	0.44
Age 41–50	52659	0.22	0.42	35957	0.23	0.42	60998	0.22	0.41	139592	0.20	0.40
Age 51–60	52659	0.20	0.40	35957	0.20	0.40	60998	0.18	0.38	139592	0.13	0.34
Age 61–70	52659	0.16	0.37	35957	0.17	0.37	60998	0.13	0.33	139592	0.07	0.26
Silent (1928–1945)	52659	0.18	0.38	35957	0.18	0.38	60998	0.14	0.35	139592	0.07	0.25
Baby boomers (1946–1964)	52659	0.43	0.49	35957	0.43	0.50	60998	0.39	0.49	139592	0.31	0.46
Generation X (1965–1980)	52659	0.30	0.46	35957	0.31	0.46	60998	0.33	0.47	139592	0.43	0.49
Millennials (1981–1996)	52659	0.09	0.29	35957	0.08	0.27	60998	0.14	0.34	139592	0.20	0.40
Democratic capital	52659	23.44	9.33	35957	28.19	5.88	60998	5.41	5.73	139592	11.74	9.80
Male	52659	0.48	0.50	35957	0.48	0.50	60998	0.46	0.50	139592	0.51	0.50
<i>Individual controls</i>												
First income quintile	52659	0.16	0.37	35957	0.15	0.35	60998	0.18	0.39	139592	0.21	0.41
Second to fourth income quintile	52659	0.73	0.44	35957	0.73	0.45	60998	0.76	0.42	139592	0.74	0.44
Fifth income quintile	52659	0.11	0.31	35957	0.12	0.33	60998	0.05	0.22	139592	0.05	0.21
Primary education	52659	0.17	0.37	35957	0.17	0.38	60998	0.17	0.37	139592	0.36	0.48
Secondary education	52659	0.51	0.50	35957	0.47	0.50	60998	0.56	0.50	139592	0.44	0.50
Tertiary education	52659	0.33	0.47	35957	0.36	0.48	60998	0.27	0.44	139592	0.20	0.40
Good health	51114	0.72	0.45	34434	0.79	0.41	60836	0.54	0.50	134858	0.71	0.45
Married	52659	0.73	0.45	35957	0.71	0.45	60998	0.79	0.41	139592	0.71	0.45
Satisfied with life	52360	0.77	0.42	35835	0.85	0.35	60466	0.55	0.50	136903	0.69	0.46

Note: Variables measuring democratic attitudes except importance of democracy are inverted and normalized to range between 0 and 100; see Section 2. For a detailed description of survey items measuring democratic attitudes, see Table A.1.

Table A.3: Sample composition

Country/territory	Full sample	All Western democracies	Traditional Western democracies	Former Eastern bloc	Non-Western/ Eastern bloc countries
Albania	✓	✗	✗	✓	✗
Algeria	✓	✗	✗	✗	✓
Andorra	✗	✗	✗	✗	✗
Argentina	✓	✗	✗	✗	✓
Armenia	✓	✗	✗	✓	✗
Australia	✓	✓	✓	✗	✗
Azerbaijan	✓	✗	✗	✓	✗
Bangladesh	✓	✗	✗	✗	✓
Belarus	✓	✗	✗	✓	✗
Bolivia	✓	✗	✗	✗	✓
Bosnia Herzegovina	✗	✗	✗	✗	✗
Brazil	✓	✗	✗	✗	✓
Bulgaria	✓	✓	✗	✓	✗
Burkina Faso	✓	✗	✗	✗	✓
Canada	✓	✓	✓	✗	✗
Chile	✓	✗	✗	✗	✓
China	✓	✗	✗	✓	✗
Colombia	✓	✗	✗	✗	✓
Croatia	✗	✗	✗	✗	✗
Cyprus	✓	✓	✗	✗	✗
Czechia	✓	✓	✗	✓	✗
Dominican Republic	✓	✗	✗	✗	✓
Ecuador	✓	✗	✗	✗	✓
Egypt	✓	✗	✗	✗	✓
El Salvador	✓	✗	✗	✗	✓
Estonia	✓	✓	✗	✓	✗
Ethiopia	✓	✗	✗	✓	✗
Finland	✓	✓	✓	✗	✗
France	✓	✓	✓	✗	✗
Georgia	✓	✗	✗	✓	✗
Germany	✓	✓	✓	✗	✗
Ghana	✓	✗	✗	✗	✓
Greece	✓	✓	✓	✗	✗
Guatemala	✓	✗	✗	✗	✓
Haiti	✓	✗	✗	✗	✓
Hong Kong	✗	✗	✗	✗	✗
Hungary	✓	✓	✗	✓	✗
India	✓	✗	✗	✗	✓
Indonesia	✓	✗	✗	✗	✓
Iran	✓	✗	✗	✗	✓
Iraq	✓	✗	✗	✗	✓
Israel	✗	✗	✗	✗	✗
Italy	✓	✓	✓	✗	✗
Japan	✓	✗	✗	✗	✓
Jordan	✓	✗	✗	✗	✓
Kazakhstan	✓	✗	✗	✓	✗
Kenya	✓	✗	✗	✗	✓
Kuwait	✓	✗	✗	✗	✓
Kyrgyzstan	✓	✗	✗	✓	✗
Latvia	✓	✓	✗	✓	✗
Lebanon	✓	✗	✗	✗	✓
Libya	✓	✗	✗	✗	✓
Lithuania	✓	✓	✗	✓	✗
Macao	✗	✗	✗	✗	✗
Malaysia	✓	✗	✗	✗	✓
Mali	✓	✗	✗	✗	✓
Mexico	✓	✗	✗	✗	✓
Moldova	✓	✗	✗	✓	✗
Mongolia	✓	✗	✗	✓	✗
Montenegro	✓	✗	✗	✓	✗
Morocco	✓	✗	✗	✗	✓
Myanmar	✓	✗	✗	✗	✓
Netherlands	✓	✓	✓	✗	✗
New Zealand	✓	✓	✓	✗	✗
Nicaragua	✓	✗	✗	✗	✓
Nigeria	✓	✗	✗	✗	✓
North Macedonia	✓	✗	✗	✓	✗

Table A.3: Sample composition (continued)

Country/territory	Full sample	All Western democracies	Traditional Western democracies	Former Eastern bloc	Non-Western/ Eastern bloc countries
Norway	✓	✓	✓	✗	✗
Pakistan	✓	✗	✗	✗	✓
Palestine	✗	✗	✗	✗	✗
Peru	✓	✗	✗	✗	✓
Philippines	✓	✗	✗	✗	✓
Poland	✓	✓	✗	✓	✗
Puerto Rico	✗	✗	✗	✗	✗
Qatar	✓	✗	✗	✗	✓
Romania	✓	✓	✗	✓	✗
Russia	✓	✗	✗	✓	✗
Rwanda	✓	✗	✗	✗	✓
Saudi Arabia	✗	✗	✗	✗	✗
Serbia	✓	✗	✗	✓	✗
Singapore	✓	✗	✗	✗	✓
Slovakia	✓	✓	✗	✓	✗
Slovenia	✓	✓	✗	✓	✗
South Africa	✓	✗	✗	✗	✓
South Korea	✓	✗	✗	✗	✓
Spain	✓	✓	✓	✗	✗
Sweden	✓	✓	✓	✗	✗
Switzerland	✓	✓	✓	✗	✗
Taiwan	✗	✗	✗	✗	✗
Tajikistan	✓	✗	✗	✓	✗
Tanzania	✓	✗	✗	✗	✓
Thailand	✓	✗	✗	✗	✓
Trinidad and Tobago	✓	✗	✗	✗	✓
Tunisia	✓	✗	✗	✗	✓
Türkiye	✓	✗	✗	✗	✓
Uganda	✓	✗	✗	✗	✓
Ukraine	✓	✗	✗	✓	✗
United Kingdom	✓	✓	✓	✗	✗
United States	✓	✓	✓	✗	✗
Uruguay	✓	✗	✗	✗	✓
Uzbekistan	✓	✗	✗	✓	✗
Venezuela	✓	✗	✗	✗	✓
Vietnam	✓	✗	✗	✓	✗
Yemen	✓	✗	✗	✗	✓
Zambia	✓	✗	✗	✗	✓
Zimbabwe	✓	✗	✗	✗	✓

Note: This table reports all 106 countries and territories in the World Value survey. Of these, we use the 95 countries—among them 26 Western democracies and 29 former Eastern bloc countries—for which data on democratic attitudes and all covariates are available. Western democracies include 19 countries in the European Union (EU), Australia, Canada, New Zealand, Norway, Switzerland, the United Kingdom, and the United States of America. Traditional Western democracies exclude 11 new EU countries that have joined the union since 2004. Eastern bloc countries comprise 20 member states of the Soviet Union and the Warsaw Pact, Mongolia, Vietnam, and temporarily aligned countries, such as Albania, China, Ethiopia, and four member states of Yugoslavia. We retain the 51 non-Western/Eastern bloc countries as comparison sample.

A.2 Descriptive Analysis and Estimates for Illustrations

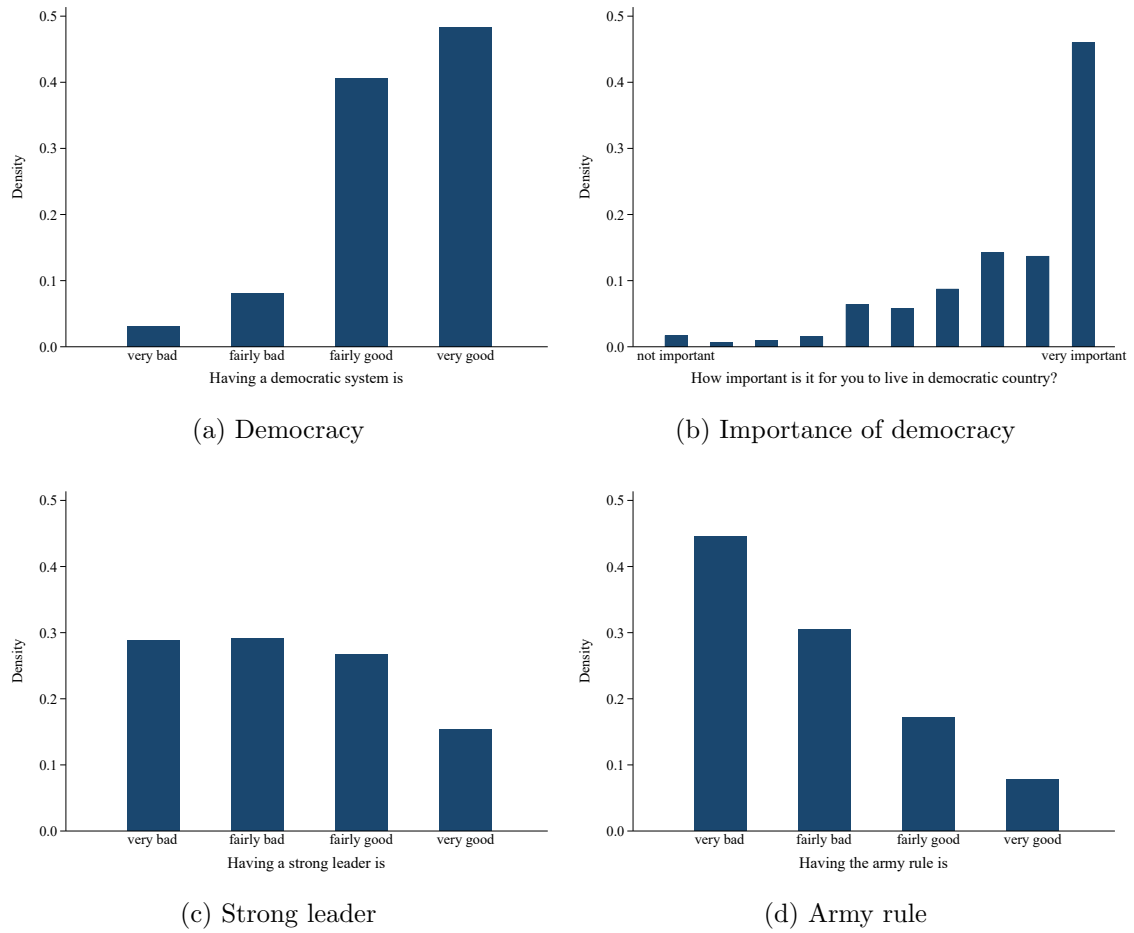
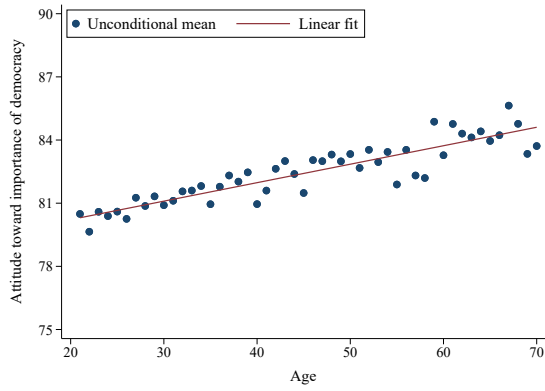
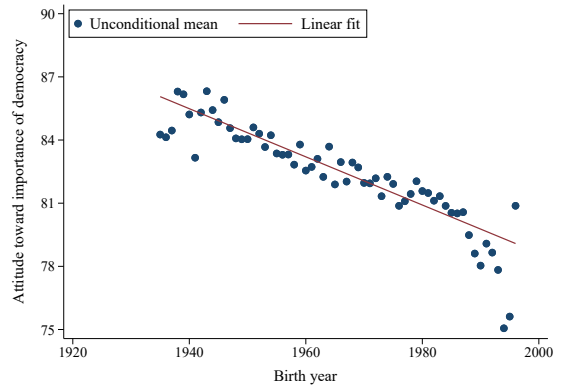


Figure A.1: Distribution of survey responses

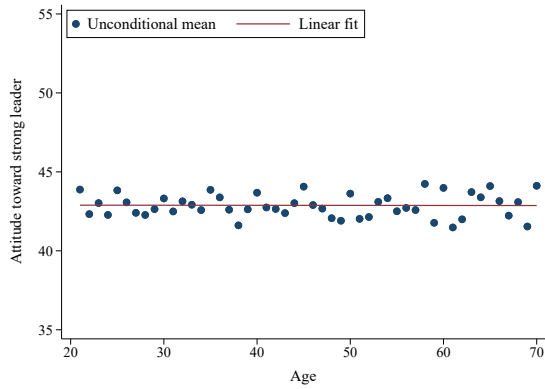
Note: This figure depicts the density of survey responses for about 225,000 observations from 95 countries.



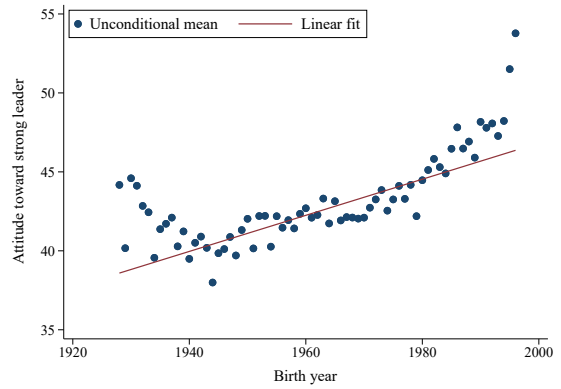
(a) Age gradient: importance of democracy



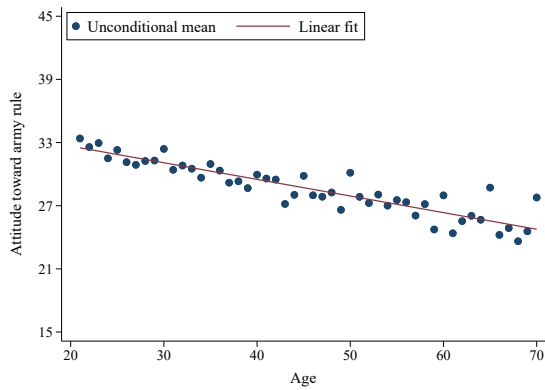
(b) Cohort gradient: importance of democracy



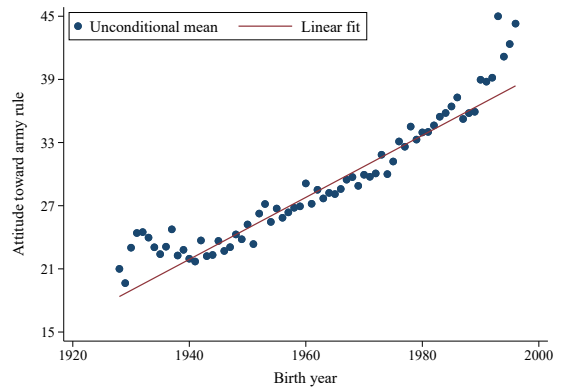
(c) Age gradient: strong leader



(d) Cohort gradient: strong leader



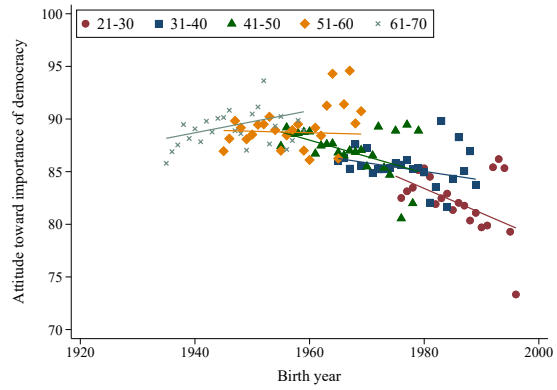
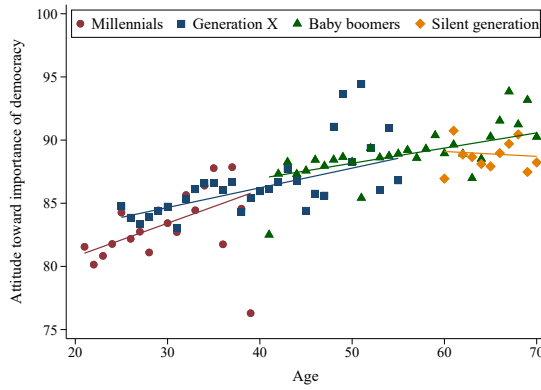
(e) Age gradient: army rule



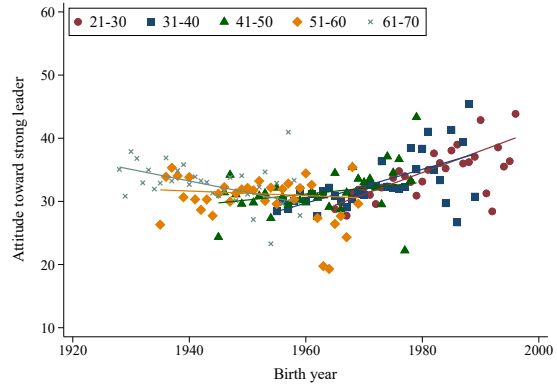
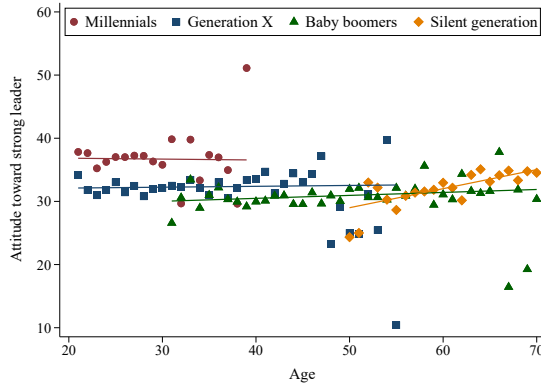
(f) Cohort gradient: army rule

Figure A.2: Demography and attitudes: descriptive evidence for alternative measures

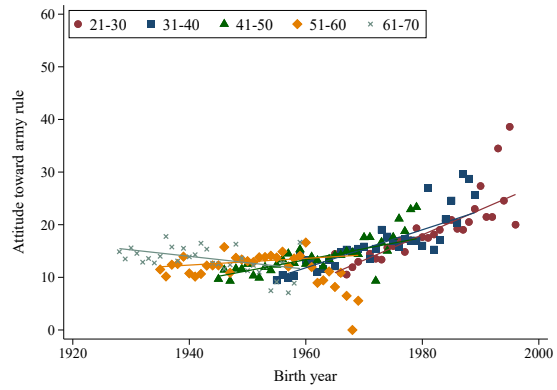
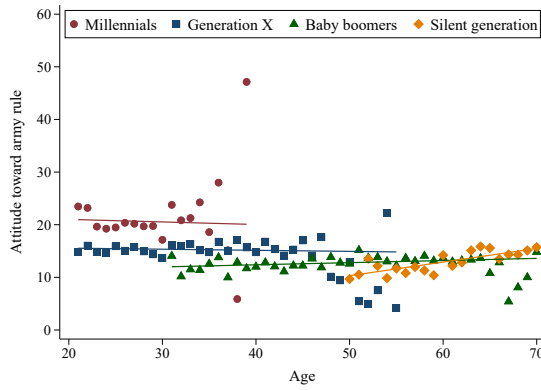
Note: This figures depicts mean democratic attitudes by age and birth year (dots) and a linear fit (line).



(a) Age gradient by cohort: importance of democracy (b) Cohort gradient by age: importance of democracy



(c) Age gradient by cohort: strong leader (d) Cohort gradient by age: strong leader



(e) Age gradient by cohort: army rule (f) Cohort gradient by age: army rule

Figure A.3: Demography and attitudes: descriptive evidence for alternative measures

Note: This figures depicts mean democratic attitudes by age and birth year (dots) and a linear fit (line).

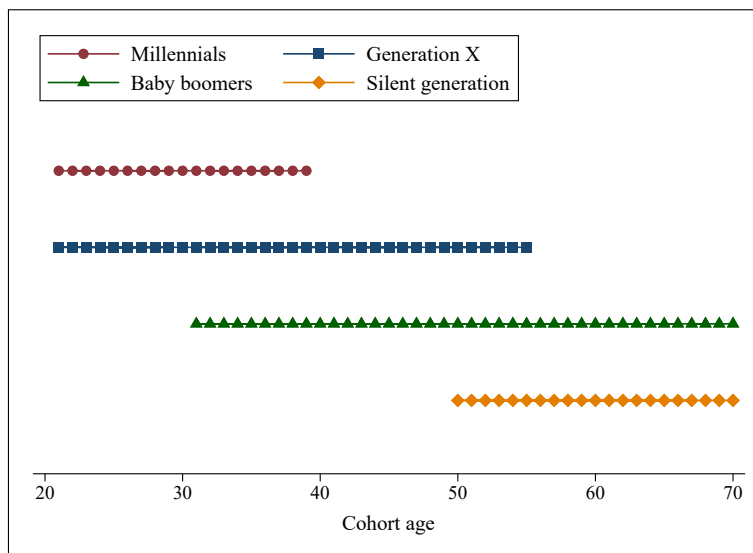


Figure A.4: Observed age range by birth cohort

Table A.4: Determinants of democratic attitudes across different samples

Attitudes toward democracy in	All Western democracies		Traditional Western democracies		Former Eastern bloc		Non-Western/ Eastern bloc countries	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Age 21–30	-1.92** (0.83)	-0.54 (0.71)	-3.23*** (0.99)	-0.40 (0.76)	0.28 (0.60)	0.27 (0.60)	-1.21*** (0.37)	-1.04*** (0.39)
Age 31–40	-1.50*** (0.43)	-0.84* (0.44)	-2.20*** (0.45)	-0.91* (0.49)	0.24 (0.36)	0.23 (0.36)	-0.83*** (0.24)	-0.78*** (0.25)
Age 51–60	1.39*** (0.45)	0.86* (0.51)	1.35** (0.58)	0.25 (0.63)	0.30 (0.38)	0.30 (0.38)	0.71*** (0.26)	0.69*** (0.26)
Age 61–70	2.43*** (0.62)	1.47* (0.74)	2.63*** (0.76)	0.78 (0.84)	1.11** (0.55)	1.12** (0.55)	1.36*** (0.40)	1.33*** (0.40)
Silent generation (1928–1945)	-0.21 (0.46)	-0.37 (0.49)	0.02 (0.55)	-0.30 (0.56)	-1.48*** (0.51)	-1.48*** (0.51)	-0.51 (0.56)	-0.55 (0.56)
Generation X (1965–1980)	-0.54 (0.50)	-0.23 (0.52)	-0.13 (0.59)	0.43 (0.59)	-0.50 (0.44)	-0.49 (0.44)	-0.36 (0.24)	-0.28 (0.24)
Millennials (1981–1996)	-3.25*** (1.13)	-2.44** (1.15)	-2.04 (1.24)	-0.56 (1.26)	-1.46 (0.92)	-1.45 (0.92)	-1.00** (0.44)	-0.92** (0.44)
Middle class (2 nd – 4 th quintile)	2.71*** (0.44)	2.56*** (0.44)	2.42*** (0.56)	2.35*** (0.56)	1.07* (0.58)	1.07* (0.58)	0.67 (0.45)	0.67 (0.45)
Rich (5 th quintile)	4.92*** (0.71)	4.73*** (0.71)	4.72*** (0.88)	4.69*** (0.88)	2.09** (0.91)	2.09** (0.91)	1.58** (0.74)	1.58** (0.74)
Secondary education	3.32*** (0.60)	3.21*** (0.61)	3.81*** (0.73)	3.60*** (0.77)	1.79*** (0.60)	1.79*** (0.60)	2.06*** (0.39)	2.07*** (0.39)
Tertiary education	9.51*** (0.88)	9.43*** (0.88)	10.95*** (1.06)	10.78*** (1.08)	4.80*** (0.64)	4.80*** (0.64)	5.60*** (0.66)	5.60*** (0.66)
Democratic capital	—	0.29*** (0.08)	—	0.41*** (0.08)	—	-0.31 (1.10)	—	0.09 (0.06)
R^2	0.10	0.10	0.09	0.09	0.11	0.11	0.09	0.09
Unconditional mean	80.6	80.6	82.4	82.4	74.8	74.8	78.2	78.2
Age effects (joint p -value)	0.00	0.16	0.00	0.20	0.23	0.23	0.00	0.00
Cohort effects (joint p -value)	0.03	0.09	0.33	0.52	0.02	0.02	0.11	0.13
Country-wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓
Gender-specific intercepts	✓	✓	✓	✓	✓	✓	✓	✓
Clusters	60	60	40	40	65	65	134	134
Countries	26	26	15	15	29	29	50	50
Observations	49985	49985	34280	34280	56318	56318	132475	132475

Note: Estimates are obtained from ordinary least squares. The sample consists of 26 Western democracies in columns (1) and (2), 15 traditional Western democracies in columns (3) and (4), 29 former Eastern bloc countries in columns (5) and (6), and 50 non-Western/Eastern bloc countries in columns (7) and (8). Democratic capital measures years lived under democracy depreciated by two percent per year. All specifications include country-wave fixed effects and gender-specific intercepts. The omitted reference groups are age group 41–50, baby boomers (1946–1964), the poor (first income quintile), and individuals with primary education or less. The rows age and cohort effects report p -values for the hypotheses that either age or cohort effects are jointly zero; that is, $H_0 : \beta_a = 0$ or $H_0 : \gamma_b = 0$. Standard errors are clustered at the country-wave level and reported in parentheses. Asterisks indicate significance levels: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.5: Democratic capital, demography, and democratic attitudes

Attitudes toward	Democracy	Importance of democracy	Strong leader	Army rule
	(1)	(2)	(3)	(4)
Democratic capital	0.29*** (0.08)	0.33*** (0.10)	-0.41*** (0.08)	-0.25*** (0.07)
Age 21–30	-0.54 (0.71)	-1.13* (0.64)	-2.26** (1.05)	-0.41 (0.74)
Age 31–40	-0.84* (0.44)	-0.37 (0.42)	-0.70 (0.59)	0.48 (0.40)
Age 51–60	0.86* (0.51)	0.83 (0.54)	-0.31 (0.60)	-0.61 (0.47)
Age 61–70	1.47* (0.74)	1.51** (0.62)	0.31 (0.93)	-0.52 (0.62)
Silent generation (1928–1945)	-0.37 (0.49)	-0.34 (0.40)	1.02 (0.83)	1.46** (0.56)
Generation X (1965–1980)	-0.23 (0.52)	-1.14** (0.54)	0.97* (0.58)	1.36*** (0.46)
Millennials (1981–1996)	-2.44** (1.15)	-2.84** (1.19)	4.31*** (1.51)	5.01*** (1.20)
Middle class (2 nd – 4 th quintile)	2.56*** (0.44)	2.51*** (0.46)	-1.99*** (0.48)	-1.46*** (0.37)
Rich (5 th quintile)	4.73*** (0.71)	4.54*** (0.74)	-3.98*** (0.92)	-2.57*** (0.64)
Secondary education	3.21*** (0.61)	4.07*** (0.60)	-6.01*** (0.62)	-3.42*** (0.49)
Tertiary education	9.43*** (0.88)	9.03*** (0.76)	-14.74*** (0.85)	-9.49*** (0.80)
R^2	0.10	0.08	0.18	0.12
Unconditional mean	80.6	86.8	32.2	14.4
Age effects (joint p -value)	0.16	0.18	0.20	0.20
Cohort effects (joint p -value)	0.09	0.11	0.02	0.00
Country-wave fixed effects	✓	✓	✓	✓
Gender-specific intercepts	✓	✓	✓	✓
Clusters	60	39	61	61
Countries	26	22	26	26
Observations	49985	32568	50166	50730

Note: Estimates are obtained from ordinary least squares. The sample includes 26 Western democracies. Democratic capital measures years lived under democracy depreciated by two percent per year. All specifications include country-wave fixed effects and gender-specific intercepts. The omitted reference groups are age group 41–50, baby boomers (1946–1964), the poor (first income quintile), and individuals with primary education or less. The rows age and cohort effects report p -values for the hypotheses that either age or cohort effects are jointly zero; that is, $H_0 : \beta_a = 0$ or $H_0 : \gamma_b = 0$. Standard errors are clustered at the country-wave level and reported in parentheses. Asterisks indicate significance levels: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

A.3 Alternative Estimation Procedures

Heteroskedastic ordered probit estimates. To address potential concerns regarding the results' sensitivity with respect to the ordinary least squares estimator and to account explicitly for the ordinal nature of the survey data on democratic attitudes, we reproduce the estimation employing a heteroskedastic ordered probit estimator.

The model links latent and observed democratic attitudes via the cumulative distribution function of the standard normal distribution $\Phi(\cdot)$,

$$\Pr(Y_{iabct} = m) = \Pr(\kappa_{m-1} < Y_{iabct} \leq \kappa_m) = \Phi\left(\frac{\kappa_m - X'_{iabct}\theta}{\sigma_{iabct}}\right) - \Phi\left(\frac{\kappa_{m-1} - X'_{iabct}\theta}{\sigma_{iabct}}\right), \quad (1)$$

with Y_{iabct} denoting the observed democratic attitudes on the ordinal scale $m = 1, 2, \dots, M$, and $\kappa_1, \dots, \kappa_M$ representing the cutoffs between different realizations of democratic attitudes. The vector $X'_{iabct}\theta$ denotes the explanatory variables multiplied by their respective parameters, and σ_{iabct} is the standard deviation normalizing the errors to unit variance. If error variances differ across groups within the sample, this normalization can bias the point estimates (Williams 2009). To avoid this bias, we model the error variance by the exponential function of the explanatory variables: $\sigma_{iabct} = \exp(X'_{iabct}\lambda)$. This modeling accounts for heteroskedasticity and possible correlation of error terms within country surveys. The probability of observing outcome m in the heteroskedastic ordered probit model is then given by

$$\Pr(Y_{iabct} = m) = \Phi\left(\frac{\kappa_m - X'_{iabct}\theta}{\exp(X'_{iabct}\lambda)}\right) - \Phi\left(\frac{\kappa_{m-1} - X'_{iabct}\theta}{\exp(X'_{iabct}\lambda)}\right). \quad (2)$$

The corresponding results confirm our main findings (Table A.6).

Table A.6: Demography and democratic attitudes in Western democracies: heteroskedastic ordered probit

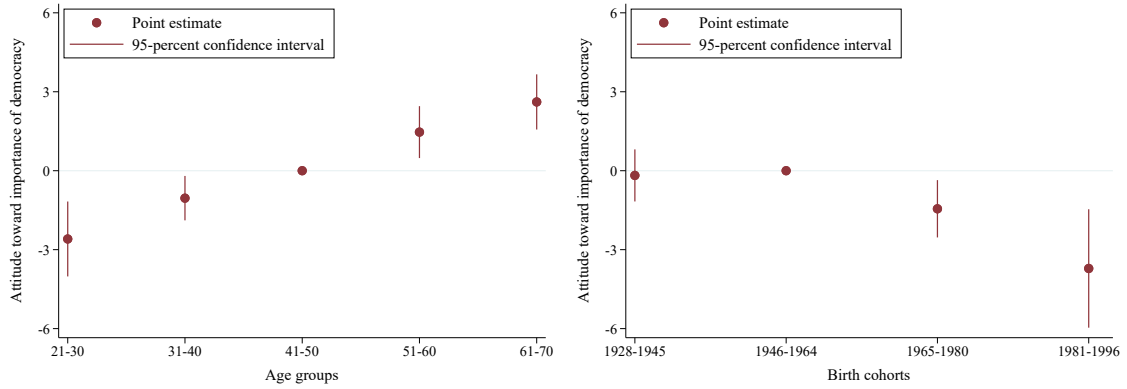
Attitudes toward	Democracy			Importance of democracy			Strong leader			Army rule		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				
Age 21–30	-0.08** (0.04)	-0.03 (0.04)	-0.11** (0.04)	-0.03 (0.04)	0.01 (0.04)	-0.07* (0.04)	0.04 (0.04)	-0.01 (0.04)				
Age 31–40	-0.08*** (0.02)	-0.06*** (0.02)	-0.04* (0.02)	0.00 (0.02)	0.02 (0.02)	-0.02 (0.02)	0.06** (0.02)	0.04 (0.02)				
Age 51–60	0.08*** (0.02)	0.07** (0.03)	0.09*** (0.03)	0.06** (0.03)	-0.04** (0.02)	-0.02 (0.02)	-0.07*** (0.02)	-0.05** (0.03)				
Age 61–70	0.11*** (0.03)	0.08* (0.04)	0.14*** (0.04)	0.08 (0.05)	-0.04 (0.03)	0.01 (0.03)	-0.08*** (0.03)	-0.04 (0.03)				
Silent generation (1928–1945)	-0.03 (0.02)	-0.04 (0.03)	-0.02 (0.04)	-0.02 (0.04)	0.03 (0.03)	0.04 (0.03)	0.08*** (0.03)	0.09*** (0.03)				
Generation X (1965–1980)	-0.00 (0.02)	0.02 (0.02)	-0.08*** (0.02)	-0.07*** (0.02)	0.04** (0.02)	0.03 (0.02)	0.08*** (0.03)	0.06** (0.03)				
Millennials (1981–1996)	-0.09* (0.05)	-0.06 (0.06)	-0.20*** (0.05)	-0.15*** (0.04)	0.18*** (0.06)	0.14*** (0.05)	0.26*** (0.06)	0.22*** (0.06)				
Middle class (2 nd – 4 th quintile)	0.09*** (0.02)	0.09*** (0.02)	0.06*** (0.02)	0.05** (0.02)	-0.06*** (0.02)	-0.05*** (0.02)	-0.02 (0.02)	-0.01 (0.02)				
Rich (5 th quintile)	0.20*** (0.03)	0.22*** (0.04)	0.16*** (0.04)	0.15*** (0.05)	-0.13*** (0.03)	-0.13*** (0.03)	-0.08*** (0.03)	-0.07** (0.03)				
Secondary education	0.14*** (0.02)	0.16*** (0.02)	0.20*** (0.02)	0.20*** (0.02)	-0.21*** (0.02)	-0.22*** (0.03)	-0.16*** (0.03)	-0.15*** (0.03)				
Tertiary education	0.39*** (0.04)	0.45*** (0.05)	0.42*** (0.03)	0.41*** (0.04)	-0.51*** (0.04)	-0.57*** (0.06)	-0.48*** (0.06)	-0.48*** (0.07)				
Democratic capital	—	0.02*** (0.01)	—	0.02*** (0.01)	—	-0.02*** (0.00)	—	-0.01*** (0.00)				
Age effects (joint p -value)	0.00	0.03	0.00	0.04	0.24	0.21	0.00	0.05				
Cohort effects (joint p -value)	0.00	0.00	0.00	0.02	0.09	0.12	0.00	0.00				
Country-wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓				
Gender-specific intercepts	✓	✓	✓	✓	✓	✓	✓	✓				
Clusters	60	60	39	39	61	61	61	61				
Countries	26	26	22	22	26	26	26	26				
Observations	49985	49985	32568	32568	50166	50166	50730	50730				

Note: This table reproduces results from Table 1 in the main text and Table A.5 in the appendix employing heteroskedastic ordered probit models. The sample includes 26 Western democracies. Democratic capital measures years lived under democracy depreciated by two percent per year. All specifications include country-wave fixed effects and gender-specific intercepts. The omitted reference groups are age group 41–50, baby boomers (1946–1964), the poor (first income quintile), and individuals with primary education or less. The rows age and cohort effects report p -values for the hypotheses that either age or cohort effects are jointly zero; that is, $H_0 : \beta_a = 0$ or $H_0 : \tau_b = 0$. Standard errors are clustered at the country-wave level and reported in parentheses. Asterisks indicate significance levels: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

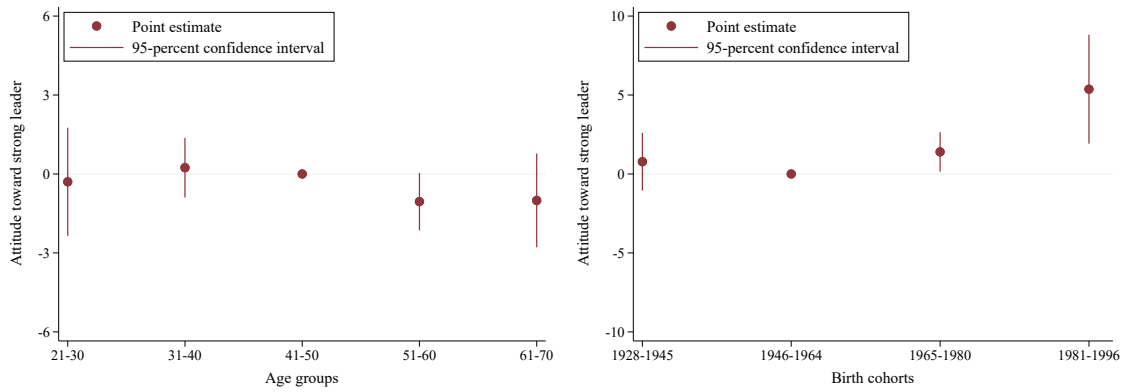
A.4 Additional Results

Alternative measures of democratic attitudes. Figure 2 in the main text documents that demography shapes attitudes toward democracy via a fairly linear age gradient and a non-monotonic cohort gradient. These findings obtain not only for attitudes toward democracy but also for alternative measures of democratic attitudes (Table 1, columns 2–4). Figure A.5 illustrates the corresponding age and cohort gradients for attitudes toward importance of democracy (Panels a and b), attitudes toward a strong leader unconstrained by checks and balances (Panels c and d), and attitudes toward army rule (Panels e and f), which were not shown in the main text.

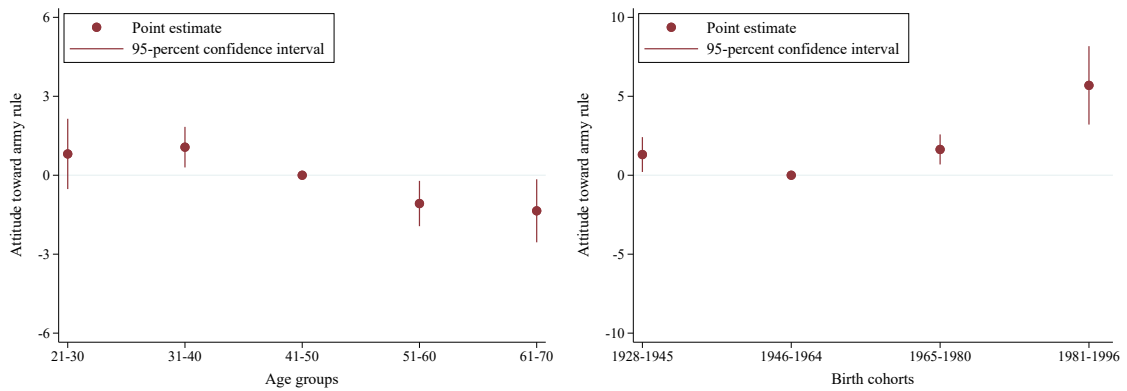
Furthermore, Figures A.6, A.7, and A.8 show that these alternative measures also exhibit similar heterogeneity across samples compared to attitudes toward democracy. Analogous to the illustrations in Figures 3 and 4, the results reveal a significant age gradient in Western democracies that contrasts with a flat age gradient in the former Eastern bloc. In addition, the results reveal an even more pronounced non-monotonic cohort gradient compared to the evidence for attitudes toward democracy. Once we control for democratic capital, the effect of demography on attitudes is attenuated in Western democracies but not in other countries.



(a) Age gradient: importance of democracy (b) Cohort gradient: importance of democracy



(c) Age gradient: strong leader (d) Cohort gradient: strong leader



(e) Age gradient: army rule (f) Cohort gradient: army rule

Figure A.5: Demography determines democratic attitudes: alternative measures

Note: This figure depicts conditional means by age group and birth cohort for 26 Western democracies (estimates obtained from Table 1, columns 2–4, in the main text). The plotted estimates reflect differences relative to the reference age group 41–50 or the reference cohort born 1946–1964.

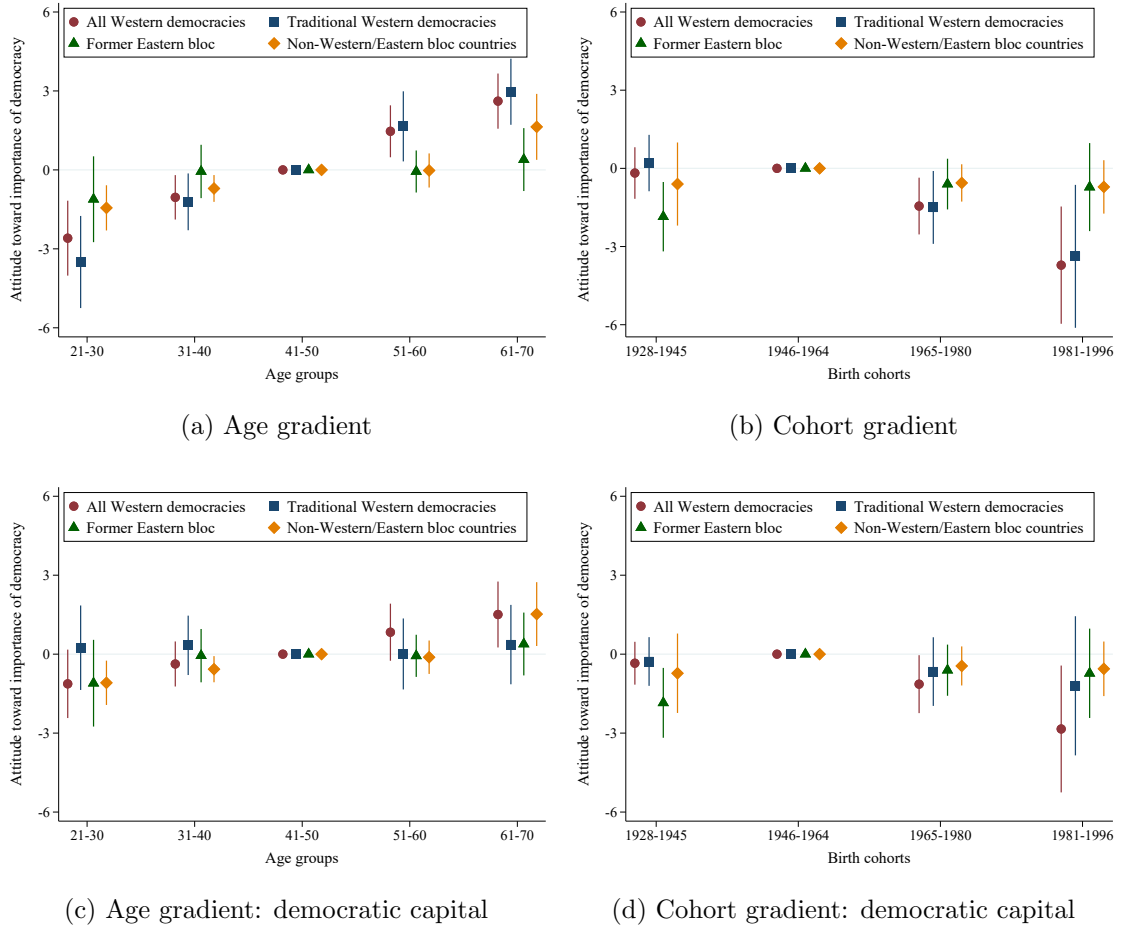
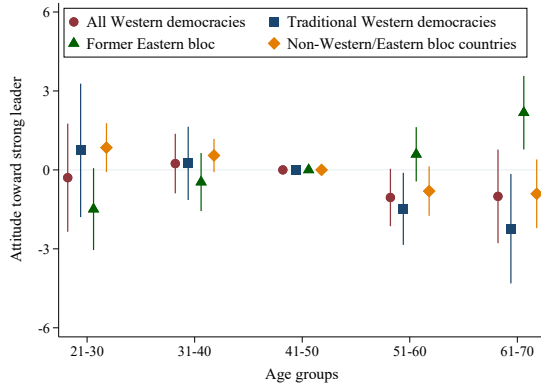
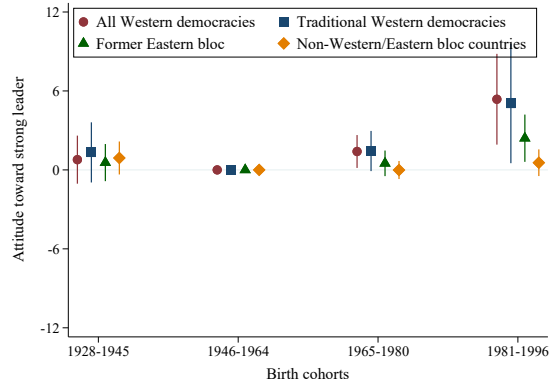


Figure A.6: Age and cohort gradients in attitudes toward importance of democracy

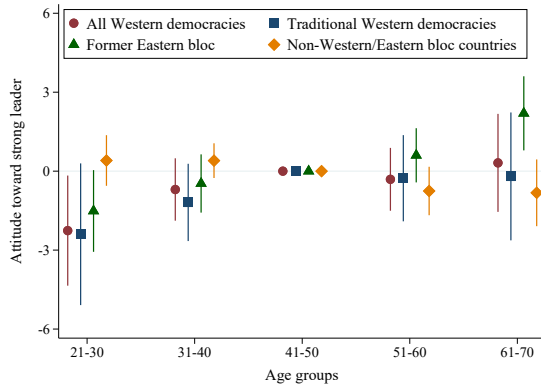
Note: This figure reproduces the results of Figures 3 and 4 in the main text for attitudes toward importance of democracy. The figure contrasts conditional means by age groups and birth cohorts across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.



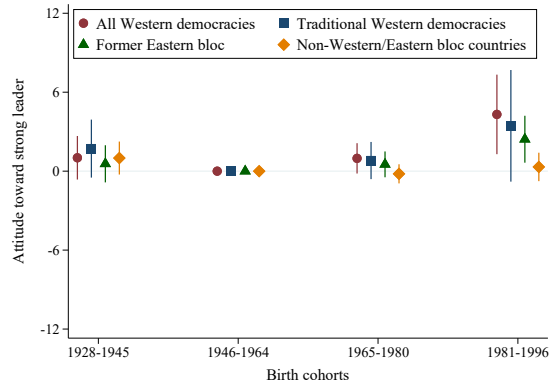
(a) Age gradient



(b) Cohort gradient



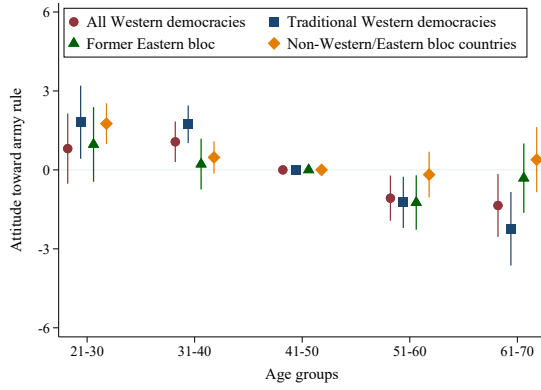
(c) Age gradient: democratic capital



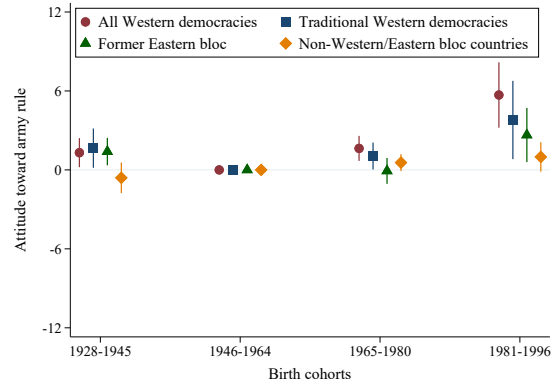
(d) Cohort gradient: democratic capital

Figure A.7: Age and cohort gradients in attitudes toward a strong leader

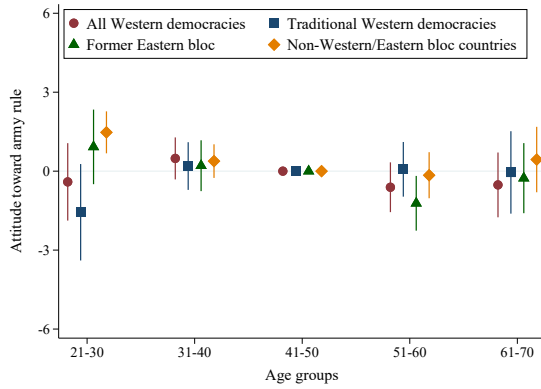
Note: This figure reproduces the results of Figures 3 and 4 in the main text for attitudes toward a strong leader. The figure contrasts conditional means by age groups and birth cohorts across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.



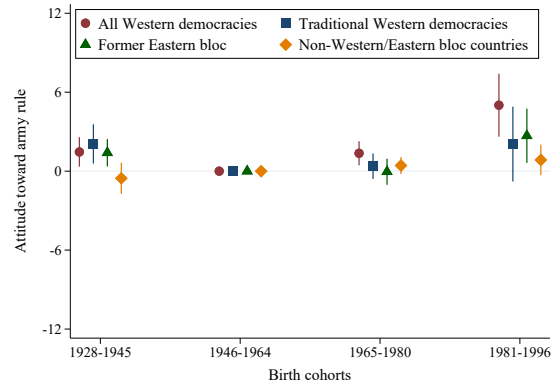
(a) Age gradient



(b) Cohort gradient



(c) Age gradient: democratic capital



(d) Cohort gradient: democratic capital

Figure A.8: Age and cohort gradients in attitudes toward army rule

Note: This figure reproduces the results of Figures 3 and 4 in the main text for attitudes toward army rule. The figure contrasts conditional means by age groups and birth cohorts across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.

A.5 Robustness Checks and Additional Analysis

Sensitivity of results with respect to age and cohort grouping. Our identification of age and cohort gradients is based on discrete age and cohort groups. A potential concern with this approach is that coarsely defined age and cohort groups mechanically absorb the same variation in democratic attitudes. If the countries in our different samples differ in their demographic structure, such a mechanical correlation could explain some of the heterogeneity in attitudes across samples. To address this concern and to investigate the role of pooling persons in age and cohort groups, we conduct robustness checks in which we define finer age groups or leave out one cohort at a time.

Figure A.9 shows qualitatively and quantitatively similar results when estimating the model for 5-year age groups rather than for 10-year age groups. Likewise, Figures A.10, A.11, A.12, and A.13 corroborate the robustness of our main findings with respect to omitting single cohorts from the analysis. The results document qualitatively similar age and cohort patterns even though they are less precise because of the considerable reduction in observations. Overall, these results suggest that the distinct age and cohort effects in the main analysis are not driven by a mechanical correlation.

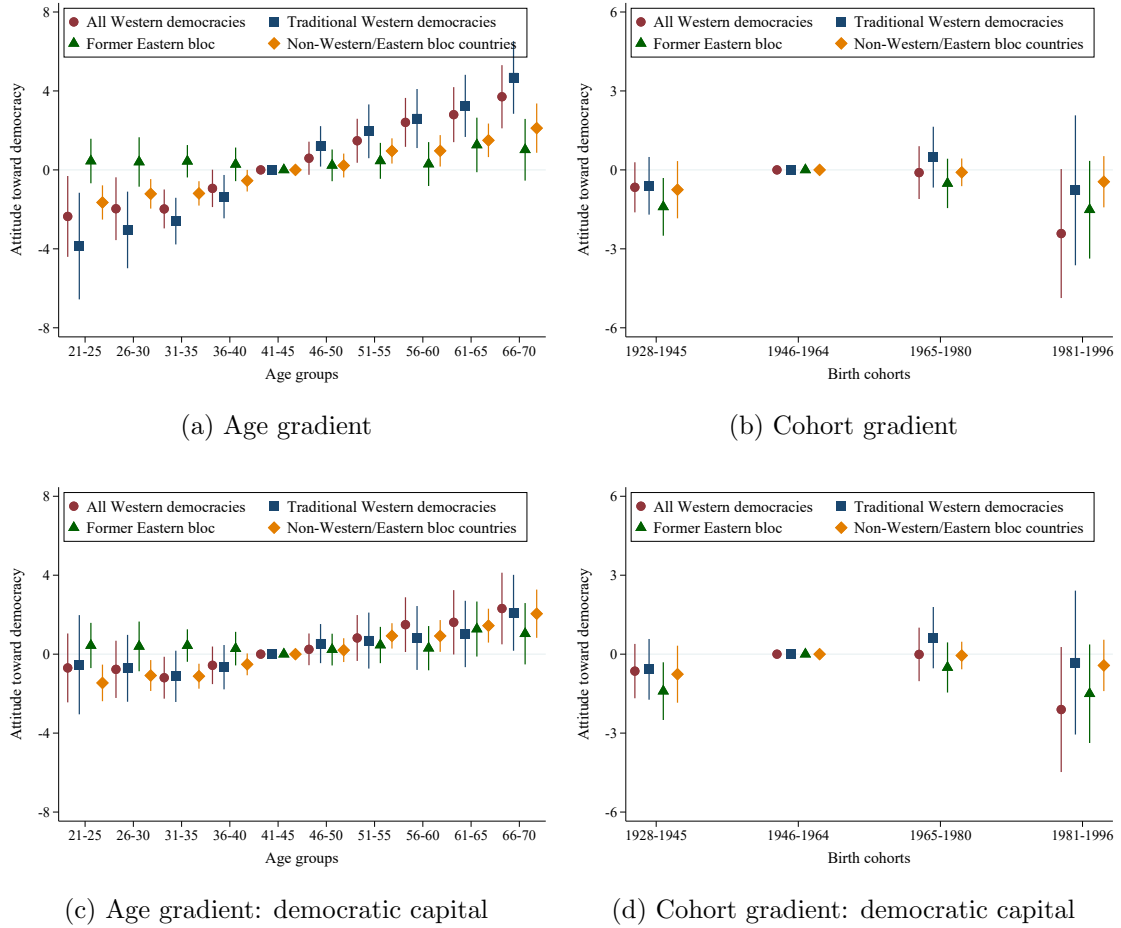


Figure A.9: Age and cohort gradients: finer age groups

Note: This figure reproduces the results of Figures 3 and 4 in the main text with finer-coded age groups. The figure contrasts conditional means by age groups and birth cohorts across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.

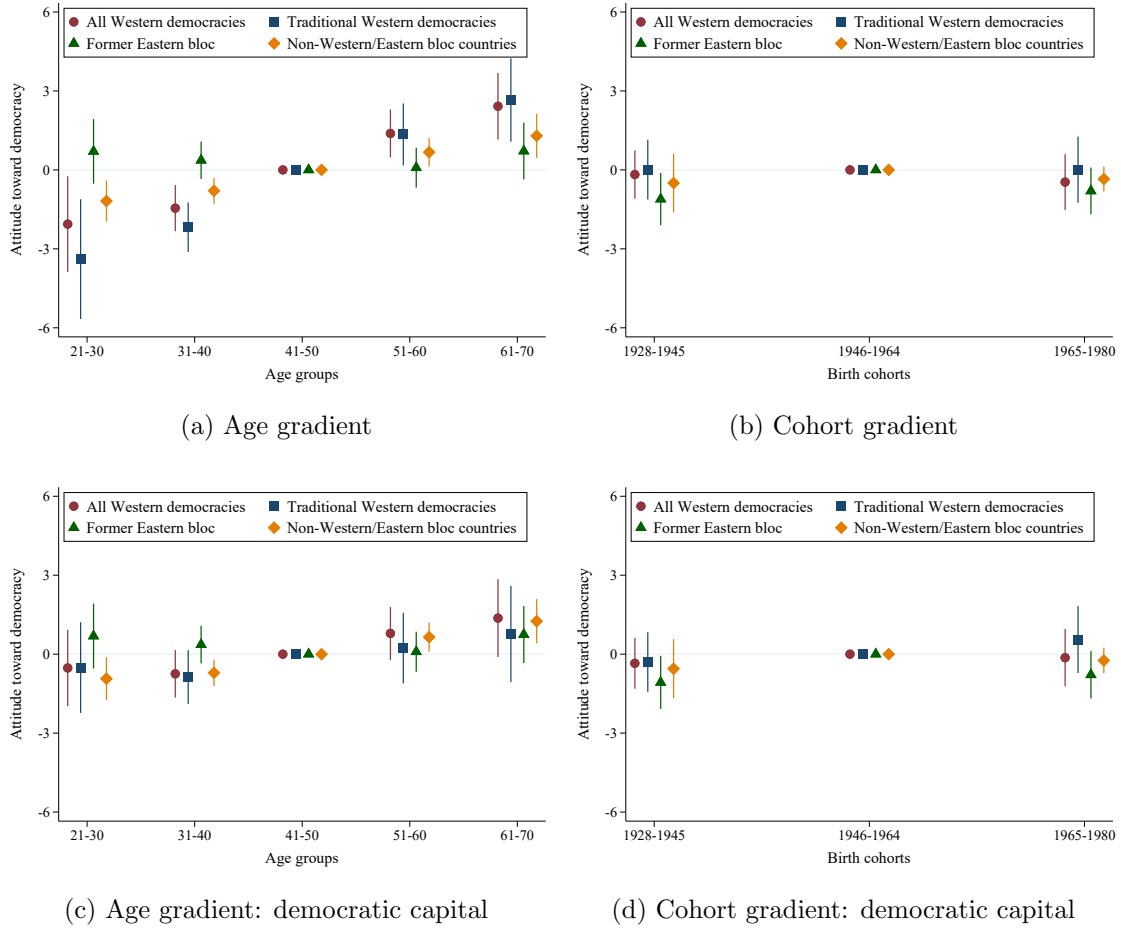


Figure A.10: Age and cohort gradients: omitting millennials

Note: This figure reproduces the results of Figures 3 and 4 in the main text omitting millennials. The figure contrasts conditional means by age groups and birth cohorts across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.

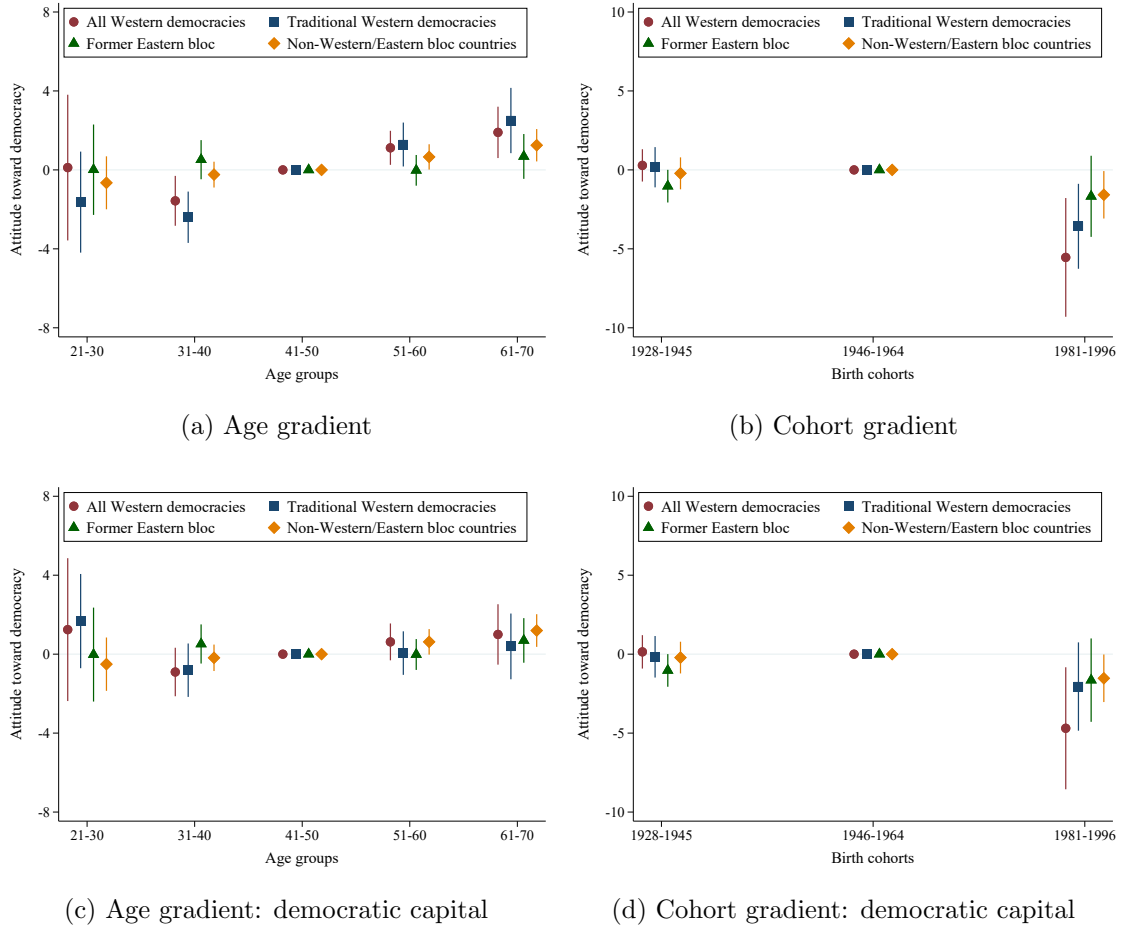


Figure A.11: Age and cohort gradients: omitting Generation X

Note: This figure reproduces the results of Figures 3 and 4 in the main text omitting Generation X. The figure contrasts conditional means by age groups and birth cohorts across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.

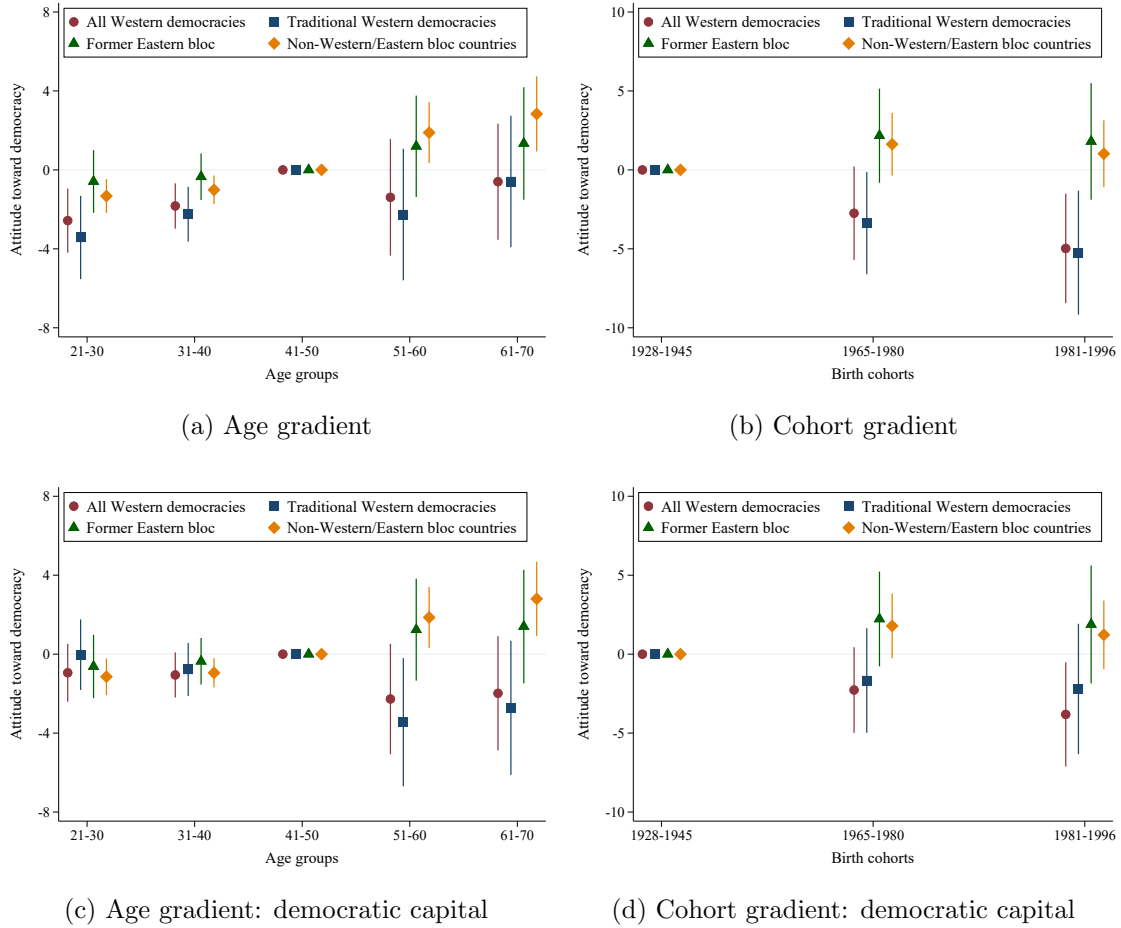


Figure A.12: Age and cohort gradients: omitting baby boomers

Note: This figure reproduces the results of Figures 3 and 4 in the main text omitting baby boomers. The figure contrasts conditional means by age groups and birth cohorts across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.

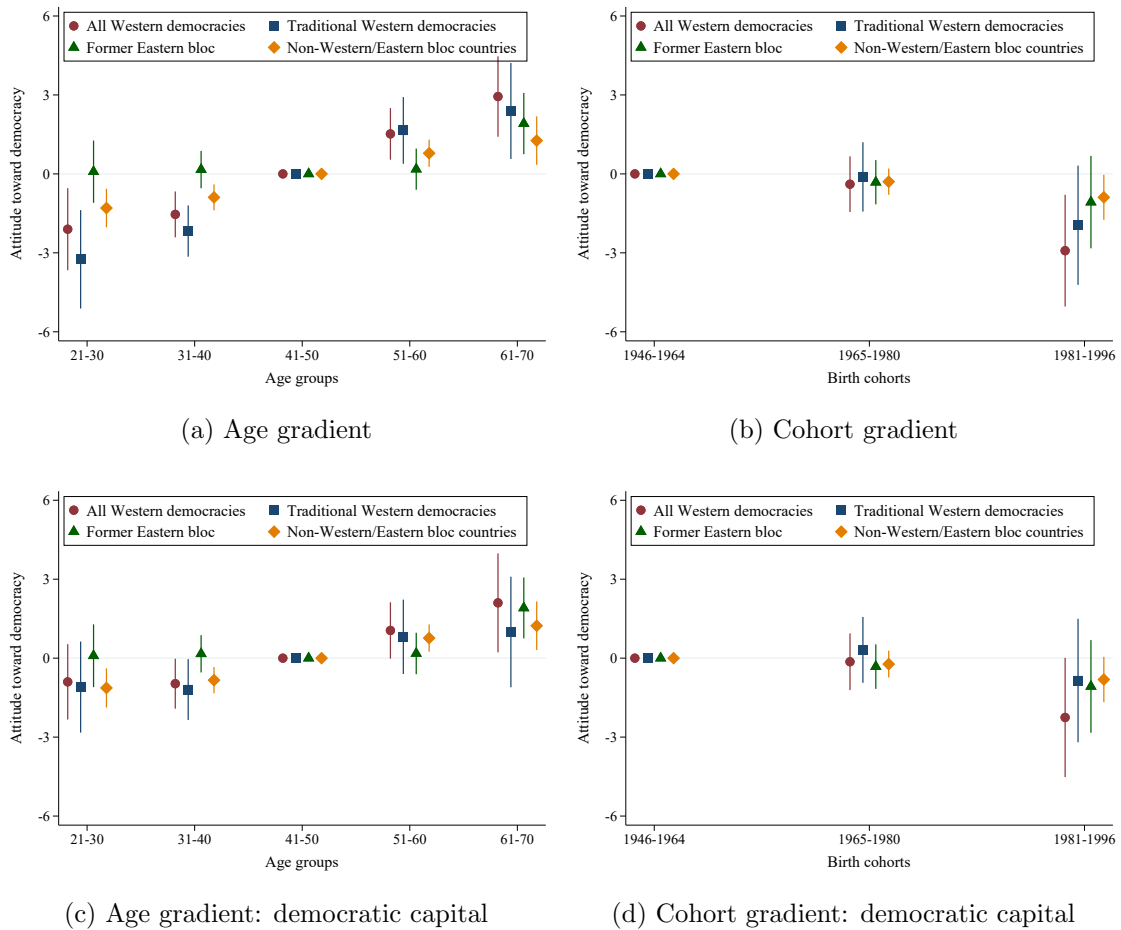


Figure A.13: Age and cohort gradients: omitting the silent generation

Note: This figure reproduces the results of Figures 3 and 4 in the main text omitting the silent generation. The figure contrasts conditional means by age groups and birth cohorts across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.

Weighted estimates. The World Value Survey uses complex sampling procedures to reduce costs of data collection and ensure the sample's representativeness at the population level. Specifically, country surveys draw randomly selected or stratified subsamples of the population, creating samples that may deviate from a sample that was randomly drawn from the entire population. To correct for such potential deviations, the World Value Survey provides sampling weights. In regression analysis, one can ignore these deviations if only the exogenous regressors are stratified and the model is correctly specified (Cameron and Miller 2015, p. 18). In our baseline analysis, we follow this rationale and ignore the sampling weights because stratification pertains to plausibly exogenous demographic characteristics of the population.

Nevertheless, we reproduce the baseline estimates applying population size-balanced sampling weights. Figure A.14 depicts the corresponding age and cohort gradients. The estimates are qualitatively and quantitatively very similar to the age and cohort gradients in our preferred specifications. We conclude that weighting is inessential for our main findings.

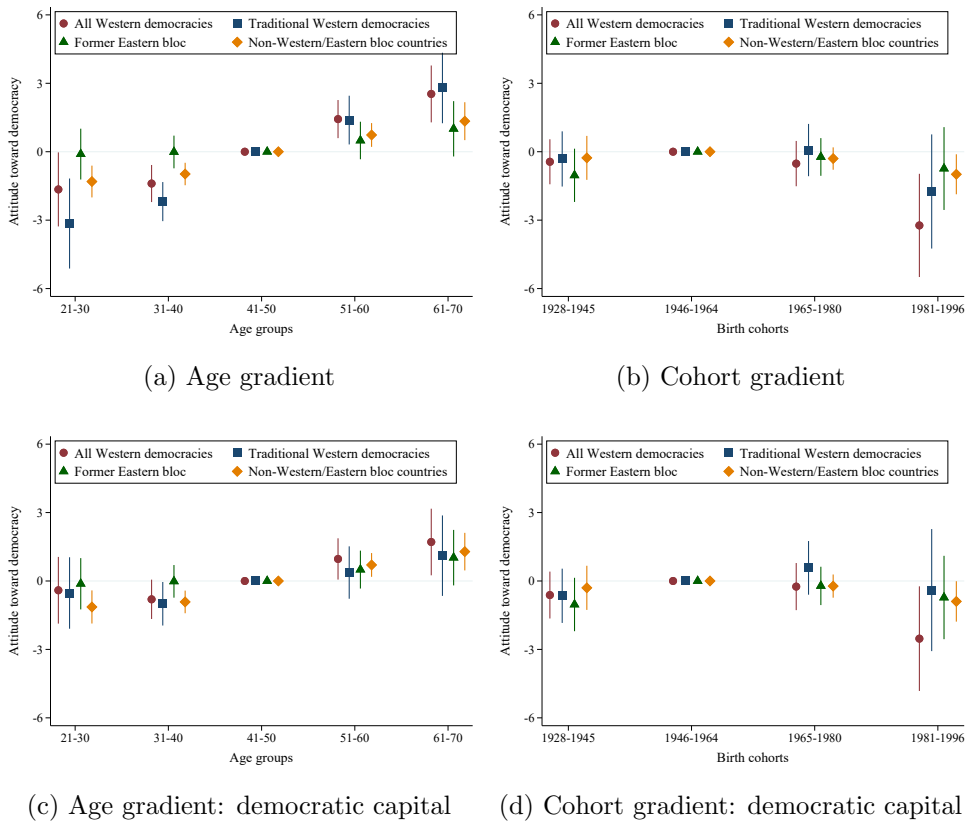


Figure A.14: Age and cohort gradients: weighted estimates

Note: This figure reproduces the results of Figures 3 and 4 in the main text employing sampling weights. The figure contrasts conditional means by age groups and birth cohorts across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.

Inference based on cluster-bootstrapped results. In our baseline analysis, we cluster standard errors at the country-wave level to account for systematic unobserved heterogeneity within surveys. This clustering produces correct standard errors if the number of clusters is sufficiently large. Even though many of our regressions use at least 60 different clusters, we reproduce our baseline results with bootstrapped t -statistics to rule out the possibility that our inference critically hinges on the fixed number of clusters. We bootstrap t -statistics and compute the corresponding confidence intervals and p -values using the wild bootstrap with Rademacher weights (see Cameron et al. 2008; Roodman et al. 2019, for details). Figure A.15 and Table A.7 show the corresponding results, which confirm our main findings. We find similar results for bootstrapped t -statistics for standard errors clustered at the country level (results are available upon request).

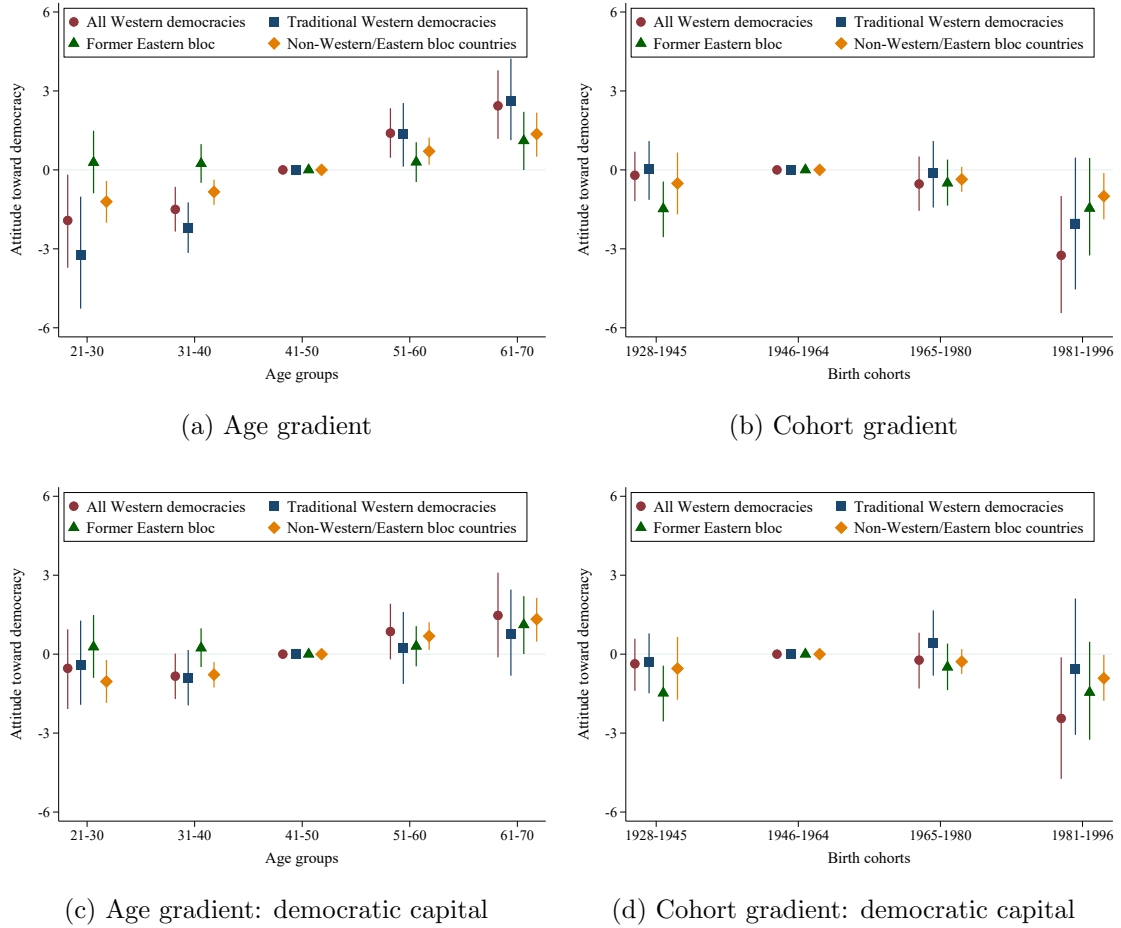


Figure A.15: Age and cohort gradients: bootstrapped results

Note: This figure reproduces the results of Figures 3 and 4 in the main text bootstrapping confidence intervals. The figure contrasts conditional means by age group and birth cohort across samples. Panels (a) and (b) show age and cohort gradients for the baseline specification, whereas (c) and (d) show gradients for an extended specification that controls for differences in democratic capital.

Table A.7: Demography and democratic attitudes in Western democracies: bootstrapped results

Attitudes toward	Democracy			Importance of democracy			Strong leader			Army rule		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				
Age 21–30	-1.92** (0.03)	-0.54 (0.47)	-2.59*** (0.00)	-1.13* (0.09)	-0.30 (0.78)	-2.26* (0.05)	0.81 (0.25)	-0.41 (0.59)				
Age 31–40	-1.50*** (0.00)	-0.84* (0.06)	-1.04** (0.02)	-0.37 (0.40)	0.24 (0.68)	-0.70 (0.25)	1.07*** (0.01)	0.48 (0.22)				
Age 51–60	1.39*** (0.01)	0.86 (0.11)	1.47*** (0.01)	0.83 (0.16)	-1.05* (0.06)	-0.31 (0.62)	-1.08** (0.02)	-0.61 (0.21)				
Age 61–70	2.43*** (0.00)	1.47* (0.06)	2.61*** (0.00)	1.51** (0.03)	-1.01 (0.28)	0.31 (0.73)	-1.35** (0.02)	-0.52 (0.39)				
Silent generation (1928–1945)	-0.21 (0.65)	-0.37 (0.47)	-0.18 (0.73)	-0.34 (0.39)	0.78 (0.41)	1.02 (0.24)	1.31** (0.02)	1.46*** (0.01)				
Generation X (1965–1980)	-0.54 (0.32)	-0.23 (0.67)	-1.45** (0.02)	-1.14* (0.06)	1.40** (0.04)	0.97* (0.10)	1.63*** (0.00)	1.36*** (0.00)				
Millennials (1981–1996)	-3.25*** (0.01)	-2.44** (0.04)	-3.71*** (0.00)	-2.84** (0.03)	5.37*** (0.00)	4.31*** (0.00)	5.69*** (0.00)	5.01*** (0.00)				
Middle class (2nd – 4th quintile)	2.71*** (0.00)	2.56*** (0.00)	2.67*** (0.00)	2.51*** (0.00)	-2.20*** (0.00)	-1.99*** (0.00)	-1.59*** (0.00)	-1.46*** (0.00)				
Rich (5th quintile)	4.92*** (0.00)	4.73*** (0.00)	4.70*** (0.00)	4.54*** (0.00)	-4.23*** (0.00)	-3.98*** (0.00)	-2.72*** (0.00)	-2.57*** (0.00)				
Secondary education	3.32*** (0.00)	3.21*** (0.00)	4.13*** (0.00)	4.07*** (0.00)	-6.15*** (0.00)	-6.01*** (0.00)	-3.51*** (0.00)	-3.42*** (0.00)				
Tertiary education	9.51*** (0.00)	9.43*** (0.00)	9.10*** (0.00)	9.03*** (0.00)	-14.85*** (0.00)	-14.74*** (0.00)	-9.55*** (0.00)	-9.49*** (0.00)				
Democratic capital	—	0.29*** (0.00)	—	0.33*** (0.01)	—	-0.41*** (0.00)	—	-0.25*** (0.00)				
R^2	0.10	0.10	0.08	0.08	0.18	0.18	0.12	0.12				
Unconditional mean	80.6	80.6	86.8	86.8	32.2	32.2	14.4	14.4				
Age effects (joint p -value)	0.00	0.18	0.00	0.25	0.41	0.25	0.03	0.24				
Cohort effects (joint p -value)	0.05	0.13	0.03	0.13	0.03	0.03	0.00	0.00				
Country-wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓				
Gender-specific intercepts	✓	✓	✓	✓	✓	✓	✓	✓				
Clusters	60	60	39	39	61	61	61	61				
Countries	26	26	22	22	26	26	26	26				
Observations	49985	49985	32568	32568	50166	50166	50730	50730				

Note: This table reproduces results from Table 1 in the main text and Table A.5 in the appendix basing inference on bootstrapped t -statistics. Estimates are obtained from ordinary least squares. The sample consists of 26 Western democracies. Democratic capital measures years lived under democracy depreciated by two percent per year. All specifications include country-wave fixed effects and gender-specific intercepts. The omitted reference groups are age group 41–50, baby boomers (1946–1964), the poor (first income quintile), and individuals with primary education or less. The rows age and cohort effects report p -values for the hypotheses that either age or cohort effects are jointly zero; that is, $H_0: \beta_a = 0$ or $H_0: \gamma_a = 0$. Cluster-robust t -statistics were bootstrapped using the wild bootstrap (Cameron et al. 2008; Roodman et al. 2019), with clustering at the country-wave level; the corresponding p -values are reported in parentheses. Asterisks indicate significance levels: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Separability of age and cohort effects. Our empirical model (1) assumes that age and cohort effects—incorporated via dummies D_a and D_b —are additively separable. Separability implies a stable age profile across cohorts and thus precludes interactions between age and cohort effects in shaping democratic attitudes (Fitzenberger et al. 2022).

We estimate an extended specification that interacts age and cohort groups to test whether their effects can indeed be separated. This specification uses broader age bins than our baseline specification because the World Value Survey’s waves 3–7 only span the time period 1994–2022. Testing for age-cohort interactions requires sufficient information for all age groups across all birth cohorts, which is challenging for the earliest-born cohorts—which were not interviewed at young ages—and the latest-born cohorts—which could not be interviewed at old ages yet. We lack data to estimate this specification for attitudes toward importance of democracy, which were elicited in waves 5–7 only. Because this specification is very data-demanding, we combine the information from all samples in a world sample of 95 countries. In addition, we choose age group 21–35 and millennials as reference groups to maximize the amount of data for identification of age-cohort interactions.

The corresponding results in Table A.8 support separability of age and cohort effects. None of the age-cohort interactions is significant at conventional levels. Moreover, the results confirm our main findings of monotonic age and non-monotonic cohort gradients; however, the implied age profile is less precise because of coarser age groups.

Table A.8: Separability of age and cohort effects

Attitudes toward	Democracy	Strong leader	Army rule	Democracy	Strong leader	Army rule
	(1)	(2)	(3)	(4)	(5)	(6)
Age 36–54	0.14 (0.73)	-0.20 (0.85)	-1.94* (1.04)	-0.21 (0.73)	0.22 (0.85)	-1.62 (1.05)
Age 55–70	0.42 (0.92)	0.24 (1.10)	-2.40** (1.17)	-0.04 (0.92)	0.79 (1.09)	-1.96* (1.16)
Silent generation (1928–1945)	2.76*** (0.90)	-1.33 (1.12)	-1.09 (1.17)	1.85** (0.91)	-0.26 (1.09)	-0.31 (1.15)
Baby boomers (1946–1964)	1.60*** (0.52)	-0.89 (0.72)	-2.26*** (0.57)	1.02** (0.51)	-0.22 (0.71)	-1.76*** (0.58)
Generation X (1965–1980)	1.11*** (0.27)	-1.19*** (0.41)	-1.49*** (0.35)	0.92*** (0.28)	-0.97** (0.38)	-1.33*** (0.35)
Age 36–54 × baby boomers	0.88 (0.86)	-0.95 (1.05)	0.91 (1.14)	0.93 (0.85)	-1.01 (1.05)	0.85 (1.14)
Age 36–54 × Generation X	0.51 (0.76)	-0.10 (0.90)	0.86 (1.06)	0.54 (0.76)	-0.12 (0.89)	0.83 (1.06)
Age 55–70 × baby boomers	1.43 (1.05)	-1.87 (1.25)	0.46 (1.22)	1.40 (1.06)	-1.83 (1.24)	0.45 (1.21)
Age 55–70 × Generation X	-1.32 (1.91)	-2.65 (2.54)	2.20 (2.69)	-1.33 (1.89)	-2.62 (2.53)	2.20 (2.67)
Middle class (2nd–4th income quintile)	1.03*** (0.33)	-0.75** (0.36)	-1.53*** (0.34)	0.99*** (0.33)	-0.71** (0.36)	-1.50*** (0.34)
Rich (5th income quintile)	2.55*** (0.52)	-1.48** (0.68)	-1.02 (0.68)	2.50*** (0.52)	-1.42** (0.68)	-0.97 (0.69)
Secondary education	2.09*** (0.32)	-2.00*** (0.36)	-3.52*** (0.34)	2.08*** (0.32)	-1.99*** (0.36)	-3.51*** (0.34)
Tertiary education	6.13*** (0.48)	-7.33*** (0.53)	-8.63*** (0.43)	6.14*** (0.48)	-7.33*** (0.53)	-8.63*** (0.43)
Democratic capital	— —	— —	— —	0.29*** (0.05)	-0.34*** (0.06)	-0.25*** (0.05)
R^2	0.10	0.20	0.25	0.10	0.20	0.25
Unconditional mean	78.1	42.9	29.4	78.1	42.9	29.4
Age effects (joint p -value)	0.86	0.79	0.12	0.91	0.67	0.24
Cohort effects (joint p -value)	0.00	0.03	0.00	0.00	0.04	0.00
Separability (joint p -value)	0.48	0.35	0.79	0.49	0.35	0.81
Country-wave fixed effects	✓	✓	✓	✓	✓	✓
Gender-specific intercepts	✓	✓	✓	✓	✓	✓
Clusters	242	243	237	242	243	237
Countries	95	95	95	95	95	95
Observations	225145	222683	219007	225145	222683	219007

Note: Estimates are obtained from ordinary least squares. The sample includes 95 countries. All specifications include country-wave fixed effects and gender-specific intercepts. The omitted reference groups are age group 21–35, millennials (1981–1996), the poor (first income quintile), and individuals with primary education or less. The rows age and cohort effects report p -values for the hypotheses that either age or cohort effects are jointly zero; that is, $H_0 : \beta_a = 0$ or $H_0 : \gamma_b = 0$. The row separability reports p -values for the hypothesis that all age-cohort interactions are jointly zero. Standard errors are clustered at the country-wave level and reported in parentheses. Asterisks indicate significance levels: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Unobserved heterogeneity. Our main findings show significant heterogeneity in democratic attitudes with respect to a person's income and education. A potential concern is that demographic variables capture other systematic variation related to socioeconomic status rather than age or cohort effects. We extend the baseline specifications with additional controls for health, marital status, and life satisfaction, which potentially correlate with both demographic variables and democratic attitudes. We create dummies for each dimension and code persons (i) to have good health if they rate their health as good or very good; (ii) to live in marriage or a similar arrangement if they are married, widowed, or living together; and (iii) to be satisfied with their lives if they rate their life satisfaction by 6 or higher on a scale from 1 to 10.

Table A.9 shows that including additional dimensions of socioeconomic status does not change our main findings. In addition, the results reveal that people approve significantly more of democracy if they have good health and if they are satisfied with their lives. In contrast, marital status does not influence a person's democratic attitudes.

Table A.9: Demography and democratic attitudes in Western democracies: additional controls

Attitudes toward	Democracy		Importance of democracy		Strong leader		Army rule	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Age 21–30	-2.21** (0.87)	-0.93 (0.75)	-2.90*** (0.70)	-1.59** (0.64)	-0.11 (1.07)	-2.02* (1.08)	0.86 (0.72)	-0.27 (0.79)
Age 31–40	-1.62*** (0.44)	-1.00** (0.46)	-1.23*** (0.41)	-0.63 (0.41)	0.37 (0.58)	-0.55 (0.61)	1.08*** (0.40)	0.53 (0.42)
Age 51–60	1.46*** (0.45)	0.96* (0.51)	1.52*** (0.46)	0.95* (0.50)	-1.03* (0.53)	-0.29 (0.59)	-1.07** (0.43)	-0.63 (0.48)
Age 61–70	2.45*** (0.62)	1.54*** (0.75)	2.50*** (0.51)	1.52** (0.61)	-0.89 (0.88)	0.45 (0.93)	-1.23** (0.61)	-0.43 (0.64)
Silent generation (1928–1945)	-0.07 (0.47)	-0.20 (0.50)	-0.08 (0.43)	-0.24 (0.39)	0.65 (0.93)	0.85 (0.85)	1.18** (0.55)	1.30** (0.56)
Generation X (1965–1980)	-0.71 (0.51)	-0.41 (0.52)	-1.63*** (0.53)	-1.35** (0.54)	1.65** (0.63)	1.21** (0.58)	1.79*** (0.48)	1.52*** (0.46)
Millennials (1981–1996)	-3.54*** (1.12)	-2.75** (1.15)	-3.97*** (1.09)	-3.20*** (1.16)	5.85*** (1.71)	4.71*** (1.50)	5.97*** (1.27)	5.27*** (1.23)
Middle class (2 nd – 4 th quintile)	2.13*** (0.43)	2.02*** (0.44)	1.63*** (0.46)	1.53*** (0.47)	-1.86*** (0.51)	-1.70*** (0.51)	-1.36*** (0.39)	-1.27*** (0.40)
Rich (5 th quintile)	4.17*** (0.76)	4.03*** (0.76)	3.37*** (0.73)	3.27*** (0.75)	-3.34*** (0.90)	-3.14*** (0.92)	-2.32*** (0.69)	-2.20*** (0.69)
Secondary education	3.08** (0.61)	3.00*** (0.62)	3.90*** (0.57)	3.87*** (0.58)	-5.61*** (0.59)	-5.48*** (0.61)	-3.41*** (0.49)	-3.33*** (0.50)
Tertiary education	9.07*** (0.90)	9.02*** (0.89)	8.58*** (0.74)	8.56*** (0.74)	-14.25*** (0.87)	-14.18*** (0.86)	-9.37*** (0.82)	-9.33*** (0.81)
Good health	1.64*** (0.29)	1.49*** (0.29)	1.14*** (0.29)	0.97*** (0.28)	-1.06*** (0.39)	-0.84** (0.40)	-0.54* (0.29)	-0.41 (0.29)
Married	-0.31 (0.26)	-0.29 (0.26)	-0.12 (0.26)	-0.08 (0.25)	0.63 (0.38)	0.59 (0.38)	0.28 (0.26)	0.26 (0.25)
Satisfied with life	2.50*** (0.37)	2.44*** (0.37)	4.10*** (0.49)	4.03*** (0.48)	-2.24*** (0.46)	-2.15*** (0.46)	-1.24*** (0.40)	-1.18*** (0.41)
Democratic capital	—	0.27*** (0.08)	—	0.28*** (0.09)	—	-0.40*** (0.08)	—	-0.24*** (0.07)
R^2	0.10	0.10	0.09	0.09	0.18	0.19	0.12	0.12
Unconditional mean	80.4	80.4	86.8	86.8	32.3	32.3	14.5	14.5
Age effects (joint p -value)	0.00	0.12	0.00	0.09	0.35	0.26	0.03	0.24
Cohort effects (joint p -value)	0.02	0.08	0.01	0.06	0.01	0.01	0.00	0.00
Country-wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓
Gender-specific intercepts	✓	✓	✓	✓	✓	✓	✓	✓
Clusters	59	59	39	39	59	59	59	59
Countries	26	26	22	22	26	26	26	26
Observations	48784	48784	32310	32310	48421	48421	48963	48963

Note: This table reproduces results from Table 1 in the main text and Table A.5 in the appendix including additional controls. Estimates are obtained from ordinary least squares. The sample includes 26 Western democracies. All specifications include country-wave fixed effects and gender-specific intercepts. The omitted reference groups are age group 41–50; baby boomers (1946–1964); the poor (first income quintile); individuals with primary education or less; individuals who judge their health as fair, poor, or very poor; individuals who are neither married, widowed, nor living together with their partner as married; and individuals who are rather dissatisfied with their lives. The rows age and cohort effects report p -values for the hypotheses that either age or cohort effects are jointly zero; that is, $H_0 : \beta_a = 0$ or $H_0 : \gamma_b = 0$. Standard errors are clustered at the country-wave level and reported in parentheses. Asterisks indicate significance levels: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Measurement of democratic capital. Following Persson and Tabellini (2009), we depreciate democratic capital by 2 percent per year to put more weight on recent experiences with democracy. A potential concern is that this depreciation absorbs variation in demographic variables and democratic attitudes in a non-trivial way that would spuriously suggest a relation between democratic capital and demography’s effect on attitudes. An alternative approach is to equally weight experiences with democracy at all stages of the life course implying no depreciation of democratic capital.

Figure A.16 depicts the results. The estimated age and cohort gradients are quantitatively close to those depicted in Figure 4, thereby confirming our main findings.

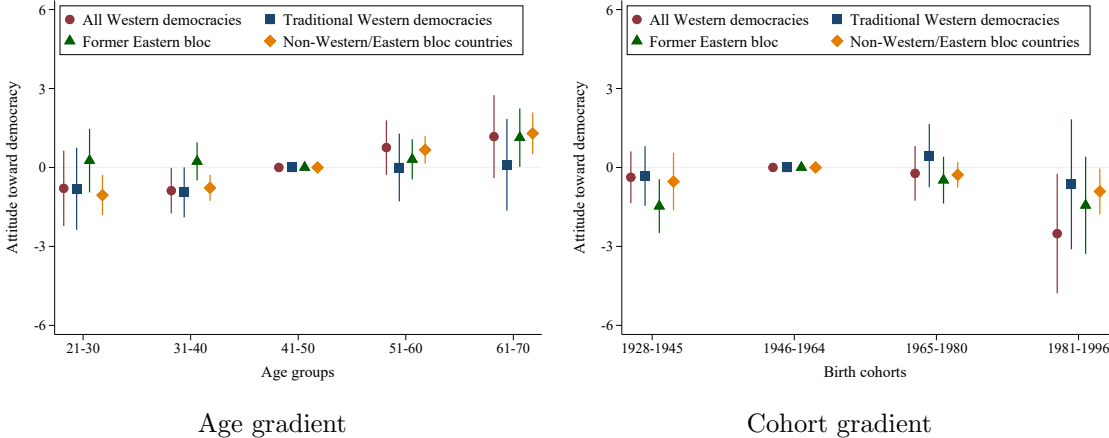


Figure A.16: Age and cohort gradients: no depreciation of democratic capital

Note: This figure reproduces the results of Figure 4 in the main text for a specification in which democratic capital is not depreciated. The figure contrasts conditional means by age group and birth cohort across samples. Plotted estimates account for differences in democratic capital.

References

- Cameron, A. Colin, Jonah B. Gelbach, and Douglas L. Miller (2008). Bootstrap-Based Improvements for Inference with Clustered Errors. *Review of Economics and Statistics* 90(3), 414–427.
- Cameron, A. Colin and Douglas L. Miller (2015). A Practitioner’s Guide to Cluster-Robust Inference. *Journal of Human Resources* 50(2), 317–372.
- Donnelly, Michael J. and Grigore Pop-Eleches (2018). Income Measures in Cross-National Surveys: Problems and Solutions. *Political Science Research and Methods* 6(2), 355–363.
- Fitzenberger, Bernd, Gary Mena, Jan Nimczik, and Uwe Sunde (2022). Personality Traits Across the Life Cycle: Disentangling Age, Period and Cohort Effects. *Economic Journal* 132(646), 2141–2172.
- Freedom House (2022). *Freedom in the World 2022*. Washington, DC: Freedom House.
- Inglehart, Ronald, Christian Haerpfer, Alejandro Moreno, Christian Welzel, Kseniya Kizilova, Jaime Diez-Medrano, Marta Lagos, Pippa Norris, Eduard Ponarin, and Bi Puranen (2022). *World Values Survey: All Rounds – Country-Pooled Datafile Version 3.0*. Madrid and Vienna: JD Systems Institute and WVSA Secretariat.
- Marshall, Monty G. and Ted Robert Gurr (2020). *Polity5 Project: Political Regime Characteristics and Transitions, 1800–2018*. Vienna, VA: Center for Systemic Peace.
- Persson, Torsten and Guido Tabellini (2009). Democratic Capital: The Nexus of Political and Economic Change. *American Economic Journal: Macroeconomics* 1(2), 88–126.
- Roodman, David, Morten Ørregaard Nielsen, James G. MacKinnon, and Matthew D. Webb (2019). Fast and Wild: Bootstrap Inference in Stata Using Boottest. *Stata Journal* 19(1), 4–60.
- Williams, Richard (2009). Using Heterogeneous Choice Models to Compare Logit and Probit Coefficients Across Groups. *Sociological Methods & Research* 37(4), 531–559.