
Individual Life Horizon Influences Attitudes Toward Democracy

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Abstract

Support for democracy in the population is considered critical for the emergence and stability of democracy. Macro-determinants and retrospective experiences have been shown to affect the support for democracy at the individual level. We investigate whether and how the individual life horizon, in terms of the prospective length of life and age, affect individual attitudes toward democracy. Combining information from period life tables with individual survey response data spanning more than 260,000 observations from 93 countries over the period 1994-2014, we find evidence that the expected remaining years of life influence the attitudes toward a democratic political regime. The statistical identification decomposes the influence of age from the influence of the expected proximity to death. The evidence shows that support for democracy increases with age, but declines with expected proximity to death, implying that increasing longevity might help fostering the support for democracy. Increasing age while keeping the remaining years of life fixed as well as increasing remaining years of life for a given age group both contribute to the support for democracy.

attitudes toward democracy | life expectancy | aging

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1 Introduction

The emergence and stability of political regimes crucially depends on the support for these regimes in the population. A strong preference for democracy in the population can destabilize autocracies and lead to democratization, whereas a lack of support for democracy implies the risk of destabilization and breakdown of democracy (di Palma 1990; Linz and Stepan 1996; Diamond 1999). Surprisingly little is known about the determinants of individual preferences for democracy, however. Traditionally, the literature has focused on macro-determinants that foster democratic attitudes, including, in particular, economic development, education, and inequality (Lipset 1959; Lipset 1960; Almond and Verba 1963; Persson and Tabellini 2009). Recent work has shifted attention to the analysis of survey data to explore individual support for democracy and its determinants. The results of this literature indicate that support for democracy is higher in democracies (Inglehart 2003; Inglehart and Welzel 2003), and affected by perceived government effectiveness (Magalhaes 2014). An increasing body of evidence suggests that preferences in various domains, including political preferences, are influenced by environmental conditions as well as individual life experiences (Fehr and Hoff 2011) and modernization in general (Inglehart and Welzel 2010). In the domain of political preferences, recent evidence has shown that the individual support for democracy is influenced by the individual experience with democracy, in terms of the length of time a person spent under a democratic regime (Fuchs-Schündeln and Schündeln 2015).

While this body of evidence suggests that political preferences are to some extent endogenous with respect to the overall environment and to events or experiences in the past, little is known about how the remaining life horizon affects individual political preferences. Do young individuals have a systematically different predisposition toward democracy than older ones? Is the remaining life expectancy relevant for the attitudes toward the political regime? And can the influence of age effects be separated from the role of the expected length of the remaining life?

From a theoretical point of view, retrospective experiences should matter less for regime preferences than the beliefs or expectations about the personal costs and benefits in the future implied by alternative political regimes, as well as by the time horizon over which they are expected to accrue (e.g., Acemoglu and Robinson, 2006). A prominent example of this argument is the quality of the institutions set up by colonizers, which has been found to be crucially related to the colonizers' life

expectancy (Acemoglu, Johnson, and Robinson 2001). Greater life expectancy implies a greater incentive to set up inclusive institutions that allow for political participation, secure private property and provide checks against power abuse by the state or the government, i.e., democratic regimes, in particular if the implementation of such institutions is costly and time intensive. The prominent role of demographic factors like the age structure for the emergence and stability of democracy has been recognized in the field of political demography (Dyson 2012; Wilson and Dyson 2016), but the underlying mechanisms are still not fully understood. Building on the idea of a youth bulge, according to which the presence of a large share of young adults within the population provides a favorable environment for civil conflict (Urdal 2006), Cincotta and Doces (2012) and Weber (2013) provide evidence that the age composition of the population affects the likelihood of the establishment of liberal democracies or the likelihood of dictatorships, respectively. Likewise, a considerable body of evidence in social psychology has established a link between individuals' awareness of mortality or threats to their life, and authoritarian attitudes (Sales 1973; Doty et al. 1991; Echebarria et al. 2006). The nexus between mortality salience and political attitudes has been confirmed in numerous studies (for a recent meta analysis see Burke et al. 2013). Recent work by Foa and Mounk (2016, 2017) on the decreasing support for democracy in Western countries, particularly among the young, has sparked an intense debate about "democratic deconsolidation".¹ However, a study that provides systematic evidence regarding the distinct influence of age and the expected remaining life expectancy on the preferences for democratic political regimes is still missing.

This note reports results from an empirical study that explores the effect of the expected length of the remaining life faced by individuals of different ages on individual attitudes toward democracy. The identification strategy is based on individual-level observations for political regime preferences for a panel of countries and on variation in the remaining years of life across age-gender-country-period cells. Building on work in demography by Sanderson and Sherbov (2005, 2013), this approach distinguishes between chronological age and a forward-looking definition of age reflected by remaining life expectancy. This allows controlling for other individual-level factors that might influence individual preferences for the political regime, and for potential confounds at the country level such as economic and institutional factors, health infrastructure, or life expectancy. The evidence shows that support for democracy increases with age, but declines with expected proximity to death, im-

¹See the Online Exchange on "Democratic Deconsolidation" on the website of the *Journal of Democracy*.

plying that increasing longevity might help fostering the support for democracy. Increasing age while keeping the remaining years of life fixed as well as increasing remaining years of life for a given age group both contribute to the support for democracy.

2 Data and Methodology

Data. The analysis is based on individual-level survey data collected as part of the World Value Surveys. The World Value Surveys are nationally representative surveys that are conducted repeatedly in almost 100 countries, using a common questionnaire that contains consistent and comparable sets of questions on various topics. The relevant questions for this study relate to the individual assessment of democracy as a form of governing a country, measured on a scale from 1 to 4. We also use alternative questions regarding the subjective importance associated with living in a country that is governed democratically, with having a parliament and elections rather than a strong leader, and an assessment of democracy as best form of government, as well as indices that combine these questions (see Supplementary Material for details regarding text and coding). The same questions have been used previously in research on democratic attitudes (Fuchs-Schündeln and Schündeln 2015; Inglehart and Welzel 2003). The empirical analysis is conducted using a sample with survey information from the World Value Survey rounds 3-6 (1994-1998, 1999-2004, 2005-2009 and 2010-2014) for an unbalanced panel of 93 countries for which information is available for the relevant questions regarding individual attitudes toward democracy.

These data are combined with information about the years until the expected death of an individual of a given age and gender living in a particular country at a given point in time. Data about the remaining years of life of an individual is taken from period life tables assembled by the United Nations (United Nations 2015) for the periods 1990-1995, 1995-2000, 2000-2005, 2005-2010, and 2010-2015, which contain the respective information for each country for age brackets of five years for both genders. Variation in remaining years of life is plausibly exogenous to individual preferences for a political regime and is thus suited for addressing the research question.

The pooled sample for the main specification consists of 267,426 individual observations.² Figure 1(a) displays the average attitude toward a democratic political system across countries, based on

²Tables S1-S3 in the Supplementary Material contain summary statistics and a list of countries included in the analysis.

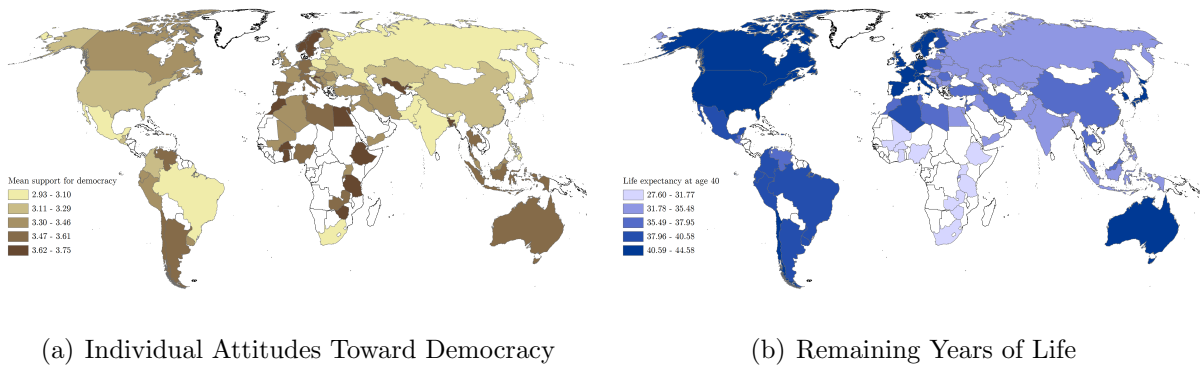


Figure 1: World Maps of Individual Democratic Attitudes and Individual Life Expectancy

Panel (a): World map of attitude toward democracy. Country averages for the estimation sample of individual responses for the most recent survey wave available in each country. Authors' calculations are based on micro data from World Values Survey. Panel (b): World map of average life expectancy in terms of remaining years of life of the respondents for the year in which the most recent survey wave was elicited. Authors' calculations are based on period life tables. In both panels, the coloring reflects quintiles; white color indicates excluded country.

individual responses for the most recent survey wave of the World Values Survey available in each country. Figure 1(b) displays the corresponding average life expectancy in terms of remaining years of life of the respondents for the year in which the most recent survey wave was elicited.

Empirical Methodology. To identify the effect of age and remaining years of life, the empirical strategy exploits variation in the remaining years of life that an individual of a given age and gender faces in the respective country at the respective point in time, therefore relying on variation across age-gender-groups in a country across time. Concretely, the estimation framework is based on a panel data set for age-gender-country-period cells and we estimate models of the general form

$$\begin{aligned}
 \textit{Attitude toward Democracy}_{iagct} &= \alpha + \sum_{\tau=1}^T \beta_{\tau} \mathcal{I}(\tau = \textit{Remaining Years}_{iagct}) \\
 &\quad + \sum_{a=15}^{97} \delta_a \mathcal{I}(a = \textit{Age}_{iagct}) + \gamma X_{iagct} + \mathcal{I}_{a,g,c,t} + \varepsilon_{iagct} \quad (1)
 \end{aligned}$$

where $\textit{Attitude toward Democracy}_{iagct}$ measures the survey response regarding attitudes toward democracy by an individual i of age $a \in [15, 97]$ and gender $g \in \{male, female\}$ in country c at time (survey period) t . $\textit{Remaining Years}_{iagct}$ measures the remaining years of life that this individual respondent can expect to live according to the most recent (period) life tables for this country. \textit{Age}_{iagct} is the age of the respondent. By estimating a distinct coefficient for each year of remaining life expectancy (the vector of β -coefficients) and for each age (the vector of δ -coefficients), this empirical specification provides flexible semi-parametric estimates of the respective patterns of the

effects of remaining years of life and of age on attitudes toward democracy. The vector X_{iagct} contains individual information about socio-demographic characteristics, such as number of children, marital status, income, and education level. Finally, $\mathcal{I}_{a,g,c,t}$ denotes a vector of binary indicator variables that account for systematically different democratic attitudes by gender, country and period cells, or heterogeneous age effects. Besides fixed effects for remaining years and age, the baseline specification includes country fixed effects, period fixed effects and gender fixed effects,

$$\mathcal{I}_{a,g,c,t} = \delta_c + \delta_t + \delta_g , \quad (1a)$$

while an extended specification also includes interactions,

$$\mathcal{I}_{a,g,c,t} = \delta_{ct} + \delta_{ga} , \quad (1b)$$

allowing for period-specific country effects and gender-specific age effects.³ The estimation is conducted by least squares, the error term ε_{iagct} allows for clustering at the country-age-gender-period level.

The identifying assumption underlying this estimation approach is that there are no unobserved factors at the age-gender-country-year level that are correlated systematically with individual remaining years of life, or age. Covariates at the age, gender, country and period level also account for factors that might affect democratic attitudes. To account for country or period-specific factors that might affect the attitudes toward democracy, the specification of the empirical model includes country and period effects that capture factors such as the quality of democratic institutions, political and civil liberties, ruling parties, the overall health status and life expectancy at birth of the population. The same is true for country-specific historical events that influence the attitudes toward democracy.⁴ Gender effects or in some specifications age-specific gender effects also capture differences between women and men that might be linked to culture or development.

With this estimation framework, the identification of the effects of remaining life years and age on attitudes toward democracy is based on within-country variation in remaining years of life

³ More formally, (1a) represents $\mathcal{I}_{a,g,c,t} = \sum_c \delta_c \mathcal{I}(c = \text{Country}_{iagct}) + \sum_t \delta_t \mathcal{I}(t = \text{Period}_{iagct}) + \delta_g \mathcal{I}(g = \text{Gender}_{iagct})$ and (1b) represents $\mathcal{I}_{a,g,c,t} = \sum_c \sum_t \delta_{ct} \mathcal{I}(c = \text{Country}_{iagct} \wedge t = \text{Period}_{iagct}) + \mathcal{I}_{a,g} = \sum_a \sum_g \delta_{ag} \mathcal{I}(a = \text{Age}_{iagct} \wedge g = \text{Gender}_{iagct})$, respectively.

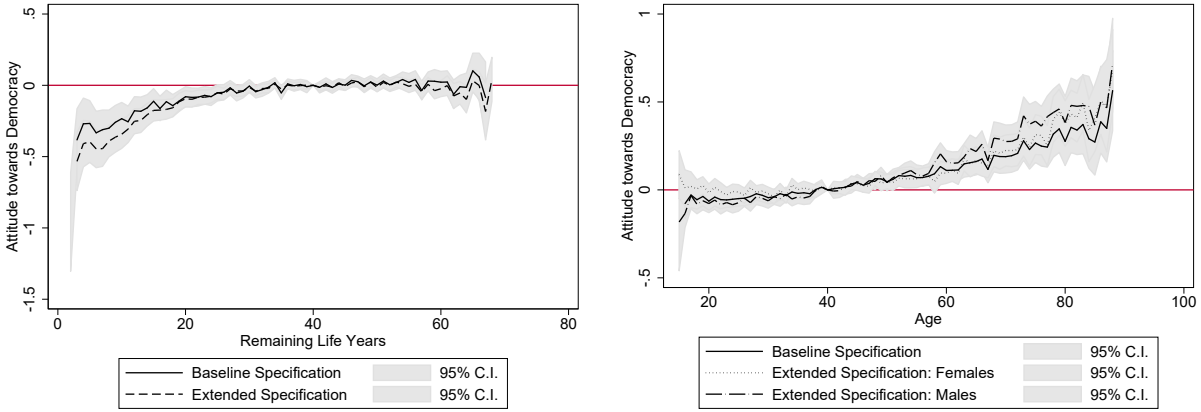
⁴Without additional assumptions, this estimation approach does not allow for a decomposition of age and cohort effects due to collinearity. However, the estimates for the effects of remaining years of life and age obtained with this panel identification approach cannot be driven by cohort effects, provided that political attitudes are persistent along cohort lines, an assumption that appears to be in line with existing evidence (Sears and Funk 1999).

across age-gender cells and over time. The use of information from life tables corresponds to quasi-experimental variation in the sense of an intention to treat approach, since individual life styles or factors directly related to the quality of or attitudes toward political institutions are not correlated with remaining years by construction and thus do not affect the estimates. In particular, endogeneity stemming from a third factor that is related to both the subjective life expectancy and the preference for democracy, as for instance with victims of political violence in autocracies who expect to only live a short period of time as consequence of ensuing health damages, or with individuals planning to conduct a suicide attack, is ruled out by this approach. Notably, such endogeneity concerns prevent the use of subjective health assessments or individual assessments of remaining years of life in terms of subjective life expectancy for the purpose of this study. Being based on objective life table information, our analysis also differs from the literature that focuses on the role of mortality salience, e.g., in the context of terror attacks, for political attitudes, see, e.g. Burke et al. (2013).

3 Results

Main Results. The estimation results reveal a significant gradient in the attitudes toward democracy with remaining life expectancy. Figure 2(a) visualizes the effect relative to the base category of individuals with 40 remaining life years. The effect is non-linear and monotonically increasing in remaining life years. Holding age and other regressors fixed, individuals that are closer to their expected end of life value democracy less than individuals that can still expect to live for 25 years or more. This effect is distinct from the age effect depicted in Figure 2(b). Relative to the base category of 40-year olds, age is associated with more positive attitudes toward democracy, with older individuals having significantly more positive attitudes toward democracy. The coefficients of remaining life years and general age-patterns (shown in Figs. 2(a) and 2(b)) are estimated jointly within the same estimation framework holding all other covariates fixed. The figures plot the results of the baseline specification with age, gender, country and period effects, as well as for the extended specification for gender-specific age and country-period fixed effects. The patterns are similar across both specifications.⁵

⁵The shaded areas correspond to the overlay of confidence intervals, thus providing a conservative illustration of statistical significance compared to the respective reference groups. Figure S1 in the Supplementary Material displays the respective cell frequencies, suggesting that the empirical pattern is not driven by outliers.



(a) Effect of Remaining Years of Life

(b) Effect of Age

Figure 2: Effect of Remaining Years of Life and Age on Subjective Assessment of Democracy. Coefficient estimates obtained from a multivariate regression model (1) with controls for a vector of binary indicator variables that identify gender, country and period cells as in the baseline specification (1a), or with controls that allow for period-specific country effects and gender-specific age effects as in the extended specification (1b). Shaded areas represent ± 1.96 standard deviation bands around the respective coefficient estimate (95% confidence intervals).

The results are reproduced in parametric multivariate regression settings with a quadratic specification of the effect of remaining years of life, see Table 1. Column (1) presents the results obtained with the baseline specification. Restricting the estimation sample to individuals age 60 and younger to reduce potential collinearity between age and remaining years delivers almost identical point estimates, see Table 1 Column (2). To account for other sources of unobserved heterogeneity related to country-specific historical events or for age-specific gender roles, alternative specifications control for country-specific period effects, Table 1 Column (3), or for gender-specific age effects, see Table 1 Column (4), respectively, with similar results. The same holds when controlling for country-specific period effects and gender-specific age effects, see Table 1 Column (5).

To rule out that individual socio-economic background conditions, which may affect both longevity and attitudes toward democracy, affect the estimates, Column (6) of Table 1 presents results for an extended specification with a vector of control variables that includes the presence of dependent children, marital status, trust, educational attainment, income, and subjective health. In addition we also control for individual experience with a democratic system (Fuchs-Schündeln and Schündeln 2015) to isolate the causal effect of remaining life expectancy on political attitudes and decompose it from the effect of democratic experience as well as country-specific period effects and gender-specific age fixed effects. Again, this specification delivers similar results as the baseline and at the same time reproduces earlier findings that individual experience with democracy shapes the

preferences for democracy. The same is true for the corresponding semi-parametric estimates for the effects of remaining years of life and age on democratic attitudes across the different specifications, see Figures S2 and S3 in the Supplementary Material.

Robustness and Additional Findings. One challenge for identification in this context is the systematic correlation between age and remaining years of life. This correlation is highest for the cells with high ages and low remaining life years.⁶ To investigate the sensitivity of the results with respect to potential empirical multicollinearity, we conduct several analyses. Estimates of variance inflation factors for the estimates for remaining years of life and age obtained on the full sample do not reveal evidence for excessive multicollinearity.⁷

Table 1: Effect of remaining years of life on democratic attitudes: Parametric Estimates

	(1) Full	(2) Age<60	(3) Full	(4) Full	(5) Full	(6) Full
Remaining Years	0.0137*** (0.0033)	0.0154*** (0.0035)	0.00750*** (0.0022)	0.0245*** (0.0036)	0.0187*** (0.0025)	0.0147*** (0.0028)
Remaining Years ²	-0.000137*** (0.0000)	-0.000134*** (0.0000)	-0.0000923*** (0.0000)	-0.000258*** (0.0000)	-0.000212*** (0.0000)	-0.000162*** (0.0000)
Democratic Capital						0.00717*** (0.0010)
Country FE	✓	✓	✓	✓	✓	✓
Survey round FE	✓	✓	✓	✓	✓	✓
Age FE	✓	✓	✓	✓	✓	✓
Gender FE	✓	✓	✓	✓	✓	✓
Country x Survey round FE			✓		✓	✓
Age x Gender FE				✓	✓	✓
Children					✓	✓
Marital Status						✓
Trust						✓
Education Dummies						✓
Income Dummies						✓
Subj. Health						✓
R ²	0.08	0.08	0.09	0.08	0.09	0.11
N	267,426	230,502	267,426	267,426	267,426	195,281
Cluster	2,909	1,966	2,909	2,909	2,909	2,426

Least squares fixed effects (FE) estimates. Columns (1), (3), (4), (5) and (6) are based on the full sample, Column (2) is based on the sample of respondents aged ≤ 60 years. Column (1) corresponds to the parametric version of the baseline specification in (1a), Column (5) to the extended specification (1b) of the empirical framework (1). Standard errors (clustered by country-age group-gender-survey period) in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Alternatively, we analyze restricted samples of individuals of age 60 years and younger, or 40 years and younger. This reduces the correlation between age and remaining years of life.⁸ The estimation results based on these sub-samples reveal similar patterns as the estimates obtained from regressions

⁶See Figure S4 in the Supplementary Material.

⁷Figure S5 in the Supplementary Material plots the respective variance inflation factors for the baseline specification. Variance inflation factors for the estimates for remaining years of life and age for the most demanding specification (Column (6) in Table 1) are higher than for the baseline but still below 10, see Figure S6 in the Supplementary Material.

⁸See Table S4 in the Supplementary Material.

using the full sample, while the variance inflation factors for these estimates are consistently below 6.⁹ The results are robust with respect to the use of alternative estimators, such as ordered logit, or when estimating the effects separately for sub-samples for Western democracies and all other countries.¹⁰ The results regarding the influence of remaining years of life and age on democratic preferences also extend to alternative measures of democratic preferences that have been used previously in the literature.¹¹

4 Discussion

This note presents novel evidence that support for democracy increases with age, but declines with expected proximity to death, indicating that longevity plays a crucial role for the support for democracy. More experience in life in general, as reflected by a greater individual age while holding other factors fixed, and a greater individual life expectancy, as reflected by the expected remaining years of life, are associated with more favorable attitudes toward democracy as political system. These findings hold above and beyond controlling for the usual macro-determinants and retrospective experiences, such as individual exposure to democracy that have been shown to affect support for democracy in the existing literature. The effects are quantitatively sizable, with an increase in remaining life years of twenty years being associated with attitudes toward democracy that are more favorable by about a third of a standard deviation of the world sample (Table 1 and Supplementary Material Table S1), and comparable in size to the age effect. Moreover, remaining years of life has the relatively largest influence of all explanatory variables.¹²

The results have implications for policy. In terms of living environment, many developing countries exhibit non-democratic or weak institutions, poor health conditions, high mortality, violent conflicts, and generally gloomy perspectives for individual lives. Our findings suggest caution regarding the scope for democracy in these environments. Individual democratic attitudes, which are considered key for the viability of democratic regimes, appear to be weakened by short life horizons. Support for democracy is predicted to be lowest among young adults in environments that

⁹Details are reported in Supplementary Material Figures S7-S12.

¹⁰Detailed results can be found in the Supplementary Material in Table S5 and Figures S13-S15.

¹¹Results are reported in the Supplementary Material in Table S6 and Figures S16-S19.

¹²Table S7 in the Supplementary Material shows standardized (beta) coefficients corresponding to the results for specifications (1) with individual controls and (1b) of Table 1. Similar effect sizes emerge for the other outcome variables, see Table S8 in the Supplementary Material.

entail a short life expectancy. These are the conditions characterizing the reality in many developing countries, where the health infrastructure and coverage is deficient, and where ongoing conflicts and ineffective institutions imply low life expectancy and, related, low future orientation among the population. Increasing the life expectancy for any given age group would contribute to the support for democracy while simultaneously implying an increase in age for a given expected length of remaining life, with similar consequences for democratic attitudes.

Conversely, the results point at potentially detrimental consequences of declining life expectancy for the support for democracy. In developing countries, falling life expectancy as consequence of epidemics or conflicts is predicted to undermine popular support for democracy. This also raises a note of caution for developed countries in which life expectancy has been stalling recently (Xu et al., 2016). In light of considerable heterogeneity in the projections of life expectancy across developed and developing countries (Kontis et al., 2017), the findings suggest the possibility of heterogeneous prospects for the popular support for democracy across the world. This also sheds new light on ongoing discussions about the stability of democracy in aging societies, which have largely focused on policies (Lee and Mason 2011; Goldstone et al. 2012), but less on the public support for the political system at large. By highlighting the potential effects of health improvements on support for democracy our results provide a novel perspective on the potential outcomes of health policies.

Future work is needed to address the links between political attitudes and institutions and between life expectancy and future orientation to corroborate the policy relevance of our results. In this respect, our study addresses two important points that deserve more attention. First, while the importance of individual attitudes toward democracy for the political system has been emphasized previously (Fuchs-Schündeln and Schündeln 2015), more evidence is needed to establish the link between individual support for democracy and the emergence and stability of democratic institutions. A mapping between attitudes and a quantifiable outcome would facilitate the quantitative interpretation of our results. Second, while remaining years of life is likely to be a critical determinant of future orientation by affecting the life horizon of an individual, direct evidence for this link is scarce. Recent work suggests that life expectancy indeed correlates with time preference (Falk et al. 2018). More work is needed to establish this link at the individual level and to uncover the causal pathways by which age and remaining life expectancy affect attitudes toward democracy.

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Supplementary Material

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Materials and Methods

Data Sources and Sample Preparation

World Value Survey The primary data source for the empirical analysis is survey information from the World Value Survey (WVS) available at <http://www.worldvaluessurvey.org/wvs.jsp>. The variables of main interest regarding preferences for democracy are contained in survey rounds 3-6 (1994-1998, 1999-2004, 2005-2009 and 2010-2014). The analysis is conducted using an unbalanced panel of all 93 countries for which information is available for the relevant questions regarding individual attitudes towards democracy. This panel data set comprises 267,426 individual responses.

UN Life Tables Expected remaining years of life is constructed using life expectancy at exact age x (years), $e(x)$, from UN Life Tables provided by the United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision*. The variable is defined as "average number of remaining years of life expected by a hypothetical cohort of males/females alive at age x who would be subject during the remaining of their lives to the mortality rates of a given period." The variable is available at the country level in 5-year intervals and for 5-year age brackets, separately by gender. The data were matched to the corresponding WVS waves ¹ for 5-year age brackets, which we match to the age reported in the WVS. We could not match data for the following countries, which are covered in the WVS: Andorra, Taiwan (both not available in UN life tables) and Serbia and Montenegro (covered as individual countries in UN Life Tables).

Data Preparation and Estimation Methods The resulting data set contains individual-level variation, which is aggregated in age-gender-country-period cells for use in panel regression models

$$\begin{aligned} \textit{Attitude toward Democracy}_{iagct} &= \alpha + \sum_{\tau=1}^T \beta_{\tau} \mathcal{I}(\tau = \textit{Remaining Years}_{agct}) \\ &+ \sum_{a=15}^A \delta_a \mathcal{I}(a_i = \textit{Age}_{iagct}) + \gamma X_{iagct} + \delta \mathcal{I}_{a,g,c,t} + \varepsilon_{iagct} \end{aligned} \quad (1)$$

- *Attitude to Democracy*_{*iagct*} measures the survey response regarding the attitudes towards democracy by an individual i with age $a \in [16, 97]$ and gender $g \in \{m, f\}$ in country c at time t . The survey questions used to create this measure are presented below.
- *Remaining Years*_{*agct*} measures the remaining years of life that this individual can expect to live according to the most recent (period) life tables for this country.
- X_{iagct} represents a vector of control variables such as years lived in democracy, marital status, number of dependent children in the household, income, education, and trust.

¹Wave 3: 1995-2000, Wave 4: 2000-2005, Wave 5: 2005-2010, Wave 6:2010-2015

- $\mathcal{I}_{a,g,c,t}$ denotes a vector of binary indicator variables that represent fixed effects for age groups, gender, country, and time (as well as interactions such as binary gender-specific age-group indicators or country-specific period indicators in some of the robustness material).

The empirical model is estimated by fixed-effects least squares. Robustness analysis also contains parametric specifications allowing for a quadratic polynomial in Remaining Years.

WVS Questions on Preferences for Democracy

E117: "I'm going to describe various types of political systems and ask what you think about each as a way of governing this country. For each one, would you say it is a very good, fairly good, fairly bad or very bad way of governing this country?"

Having a democratic political system"

- 1: Very good
- 2: Fairly good
- 3: Bad
- 4: Very bad

To facilitate the interpretation, the responses to this question have been recoded by reversing the scale as $5-i$, so that in the empirical analysis the responses are:

Attitude towards Democracy: Having a democratic political system

- 1: Very bad
- 2: Bad
- 3: Fairly good
- 4: Very good

The analysis is focused on question E117 because it is available for most survey rounds. In the robustness analysis, the following alternative questions have been used:

E114: "I'm going to describe various types of political systems and ask what you think about each as a way of governing this country. For each one, would you say it is a very good, fairly good, fairly bad or very bad way of governing this country?"

Having a strong leader who does not have to bother with parliament and elections"

- 1: Very good
- 2: Fairly good
- 3: Bad
- 4: Very bad

E123: "I'm going to read off some things that people sometimes say about a democratic political system. Could you please tell me if you agree strongly, agree, disagree or disagree strongly, after I read each one of them?"

Democracy may have problems but it's better than any other form of government" (reversed scale)

- 0: Strongly disagree
- 1: Disagree
- 2: Agree
- 3: Strongly agree

E235: "How important is it for you to live in a country that is governed democratically? On this scale where 1 means it is "not at all important" and 10 means "absolutely important" what position would you choose?"

- 1: Not at all important
- ...
- 10: Absolutely important

IW-Index: Inglehart and Welzel index created based on questions E114, E116, E117 and E123. It ranges from -6 (pro-autocracy) to +6 (pro-democracy).

Countries Included and Summary Statistics

The sample for our baseline regression comprises all 93 countries contained in the WVS. Countries that could not be matched with the UN Life Tables were eliminated from the sample. This applies to the following countries: Andorra, Taiwan (both not available in UN life tables) and Serbia and Montenegro (covered as individual countries in UN Life Tables).

As robustness checks we conducted the same analysis with different dependent variables. For these regressions the composition of the sample depends on the availability of data for the dependent variable (see table S1).

Table S3 shows a list of all countries included in the main sample and WVS data availability for round 3-6. In addition, column 5 states the average support for democracy (Outcome variable E117) in the most recent period, for which WVS data is available. Column 6, provides information about the average remaining years of life for a 40-year old person in the most recent period, for which WVS data is available.

Table S1: Summary Statistics: Outcome Variables

	Mean	Std. Dev.	Min	Max	N
E117	3.35	0.74	1	4	267,426
E114	2.76	1.03	1	4	253,469
E123	2.24	0.74	0	3	99,833
E235	8.45	2.02	1	10	144,461
IW-Index	2.72	2.24	-6	6	89,748

Table S2: Summary Statistics: Explanatory Variables (used in baseline specification)

	Mean	Std. Dev.	Min	Max	N
Remaining years of life	35.91	13.73	2	68	267,426
Age	40.68	16.06	15	97	267,426
Gender	0.49	0.50	0	1	267,426
Children	0.72	0.45	0	1	267,426
Most people can be trusted	0.26	0.44	0	1	256,534
Education	4.78	2.22	1	8	250,941
Income Steps	4.69	2.31	1	10	246,655
Democratic capital by age (PolityIV)	12.76	11.04	0	37	242,125

Table S3: Countries included in the baseline regression. Mean support for democracy (E117) and mean of remaining years are calculated for the last available survey round.

Country	Wave 3 1994-1998	Wave 4 1999-2004	Wave 5 2005-2009	Wave 6 2010-2014	Mean Support for democracy	Mean RY (at age 40)
Albania	1	1	0	0	0.32	39.29
Algeria	0	1	0	1	0.13	39.16
Argentina	1	1	1	1	0.20	38.36
Armenia	1	0	0	1	0.14	36.79
Australia	1	0	1	1	0.26	44.37
Azerbaijan	1	0	0	1	-0.27	34.77
Bahrain	0	0	0	1	-0.42	37.79
Bangladesh	1	1	0	0	0.42	34.57
Belarus	1	0	0	1	-0.27	33.65
Bosnia	1	1	0	0	0.00	37.37
Brazil	0	0	1	1	-0.38	38.87
Bulgaria	1	0	1	0	-0.26	35.14
Burkina Faso	0	0	1	0	0.45	30.10
Canada	0	1	1	0	0.11	42.71
Chile	1	1	1	1	0.17	43.32
China	0	1	1	1	-0.14	37.38
Colombia	1	0	1	1	-0.31	38.64
Croatia	1	0	0	0	0.48	35.06
Cyprus	0	0	1	1	0.35	41.33
Czech Rep.	1	0	0	0	-0.09	35.48
Dominican Rep.	1	0	0	0	0.30	37.24
Ecuador	0	0	0	1	0.01	40.47
Egypt	0	1	1	1	0.43	35.36
El Salvador	1	0	0	0	-0.37	34.72

Table S3: Countries included in the baseline regression. Mean support for democracy (E117) and mean of remaining years are calculated for the last available survey round.

Country	Wave 3 1994-1998	Wave 4 1999-2004	Wave 5 2005-2009	Wave 6 2010-2014	Mean Support for democracy	Mean RY (at age 40)
Estonia	1	0	0	1	-0.27	38.64
Ethiopia	0	0	1	0	0.53	31.77
Finland	1	0	1	0	-0.09	40.58
France	0	0	1	0	0.02	41.71
Georgia	1	0	1	1	0.04	36.67
Germany	1	0	1	1	0.35	42.11
Ghana	0	0	1	1	0.53	31.31
Great Britain	0	0	1	0	0.12	41.28
Guatemala	0	0	1	0	-0.30	36.57
Hong Kong	0	0	1	1	-0.39	44.58
Hungary	1	0	1	0	0.01	34.56
India	1	1	1	1	-0.47	33.98
Indonesia	0	1	1	0	0.25	32.92
Iran	0	1	1	0	-0.05	36.72
Iraq	0	1	1	1	0.05	34.38
Italy	0	0	1	0	0.32	42.25
Japan	1	1	1	1	-0.21	43.54
Jordan	0	1	1	1	0.05	36.51
Kazakhstan	0	0	0	1	-0.09	33.10
Kuwait	0	0	0	1	-0.08	35.92
Kyrgyzstan	0	1	0	1	-0.57	34.93
Latvia	1	0	0	0	-0.37	34.76
Lebanon	0	0	0	1	-0.26	40.23
Libya	0	0	0	1	0.24	35.87
Lithuania	1	0	0	0	-0.34	33.54
Macedonia	1	1	0	0	0.04	34.91
Malaysia	0	0	1	1	0.05	36.13
Mali	0	0	1	0	0.11	30.62
Mexico	1	1	1	1	-0.46	40.28
Moldova	1	1	1	0	-0.12	31.03
Montenegro	1	1	0	0	0.28	35.96
Morocco	0	1	1	1	0.50	36.55
Netherlands	0	0	1	1	-0.04	42.50
New Zealand	1	0	1	1	0.17	43.12
Nigeria	1	1	0	1	0.24	28.30
Norway	1	0	1	0	0.40	41.45

Table S3: Countries included in the baseline regression. Mean support for democracy (E117) and mean of remaining years are calculated for the last available survey round.

Country	Wave 3 1994-1998	Wave 4 1999-2004	Wave 5 2005-2009	Wave 6 2010-2014	Mean Support for democracy	Mean RY (at age 40)
Pakistan	1	1	0	1	-0.35	34.51
Palestine	0	0	0	1	-0.03	35.68
Peru	1	1	1	1	0.02	38.13
Philippines	1	1	0	1	-0.42	32.31
Poland	0	0	1	1	-0.46	36.36
Puerto Rico	1	1	0	0	0.35	39.32
Romania	1	0	1	1	-0.03	37.08
Russia	1	0	1	1	-0.48	33.38
Rwanda	0	0	0	1	0.19	32.49
Serbia	1	1	0	0	0.11	35.11
Singapore	0	1	0	1	-0.14	44.04
Slovakia	1	0	0	0	0.02	34.74
Slovenia	1	0	1	1	-0.38	41.11
South Africa	1	1	1	1	-0.47	27.73
South Korea	1	1	1	1	-0.57	42.44
Spain	1	1	1	1	0.28	42.68
Sweden	1	0	1	1	0.44	42.53
Switzerland	1	0	1	0	0.29	42.89
Tanzania	0	1	0	0	0.42	28.42
Thailand	0	0	1	1	0.34	37.15
Trinidad/Tobago	0	0	1	1	-0.01	36.61
Tunisia	0	0	0	1	0.24	37.86
Turkey	1	1	1	1	0.07	37.95
Uganda	0	1	0	0	0.10	27.60
Ukraine	1	0	1	1	-0.27	34.49
United States	1	1	1	1	-0.20	41.29
Uruguay	1	0	1	1	0.12	38.74
Uzbekistan	0	0	0	1	0.43	34.46
Venezuela	1	1	0	0	0.28	37.74
Vietnam	0	1	1	0	0.18	38.80
Yemen	0	0	0	1	0.05	32.24
Zambia	0	0	1	0	0.30	29.81
Zimbabwe	0	1	0	1	0.47	28.22

Additional Results Referenced in the Text

Effect on democratic attitudes: Cell Frequencies

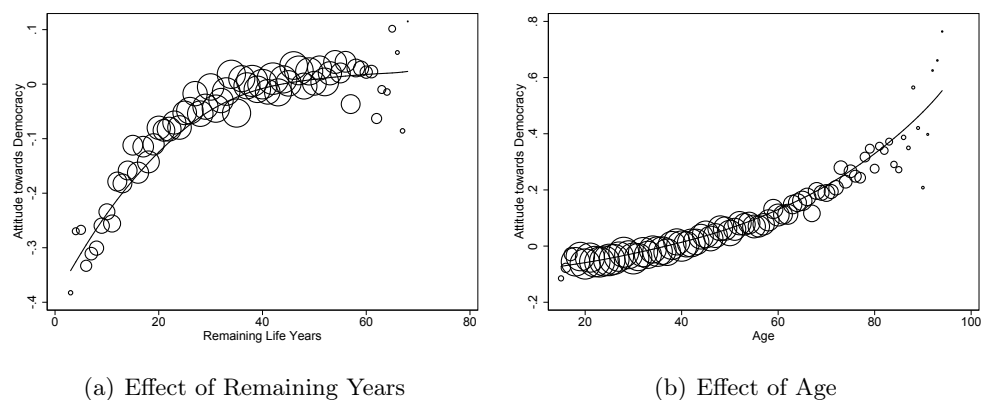


Figure S1: Determinants of Subjective Attitude Towards Democracy

Graphs for semi-parametric versions of the specifications in Table 1

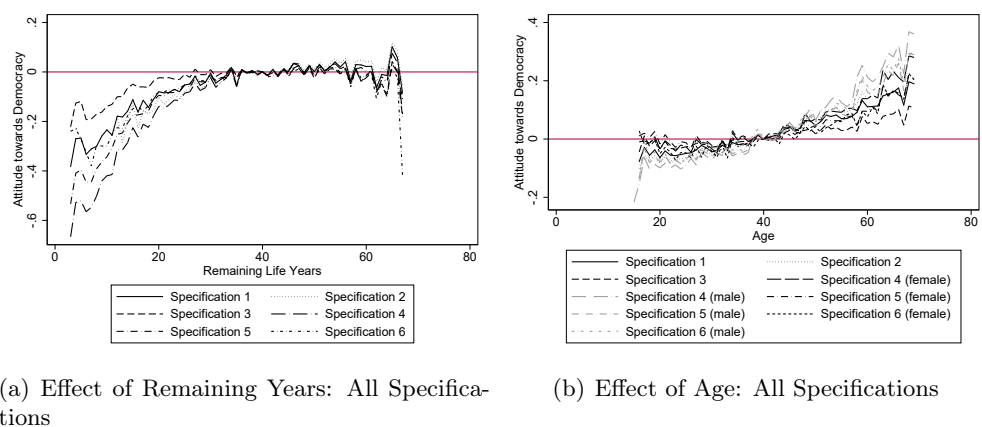
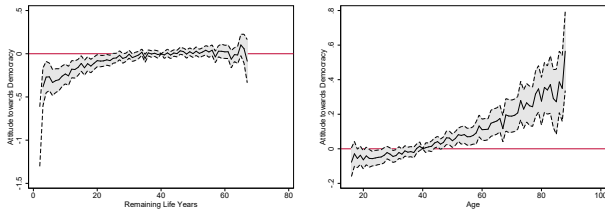
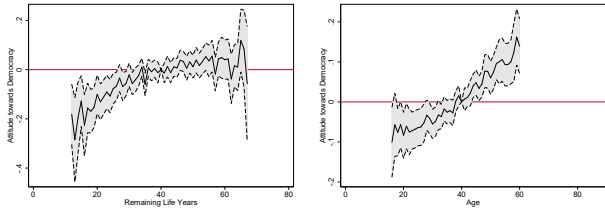


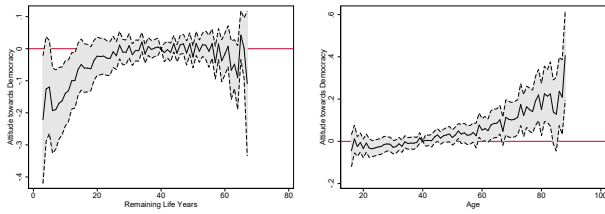
Figure S2: Determinants of Subjective Attitude Towards Democracy



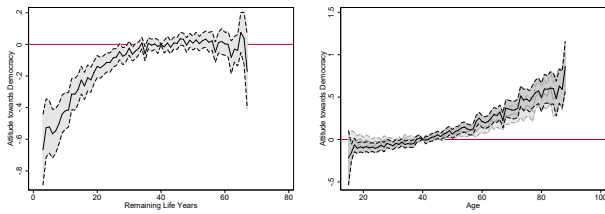
(a) Effect of Remaining Years: Specification (1) (b) Effect of Age: Specification (1)



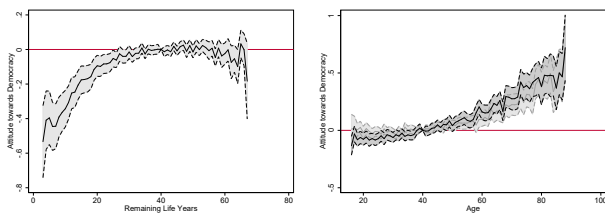
(c) Effect of Remaining Years: Specification (2) (d) Effect of Age: Specification (2)



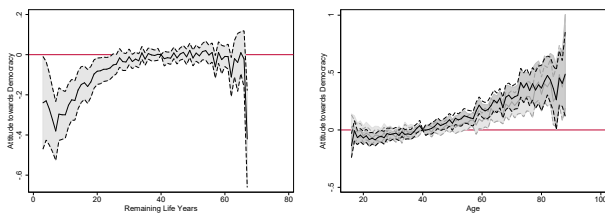
(e) Effect of Remaining Years: Specification (3) (f) Effect of Age: Specification (3)



(g) Effect of Remaining Years: Specification (4) (h) Effect of Age: Specification (4)



(i) Effect of Remaining Years: Specification (5) (j) Effect of Age: Specification (5)



(k) Effect of Remaining Years: Specification (6) (l) Effect of Age: Specification (6)

Figure S3: Determinants of Subjective Attitude Towards Democracy

Correlation between age and remaining years of life

Table S4: Correlation between age and remaining years of life

	(1)	(2)	(3)
	Age	Age<60	Age<40
Remaining years of life	-0.925	-0.876	-0.687

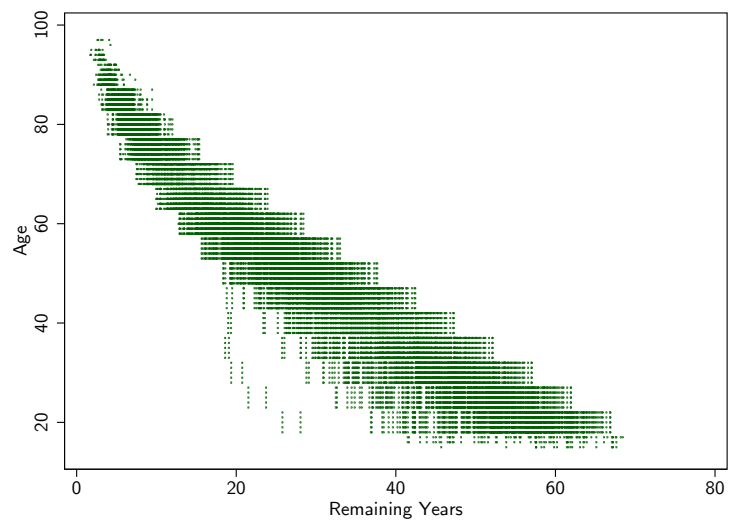


Figure S4: Correlation between Age and Remaining Years of Life

Variance Inflation Factors

Full Sample: Corresponding to Baseline Specification Table 1 Column (1)

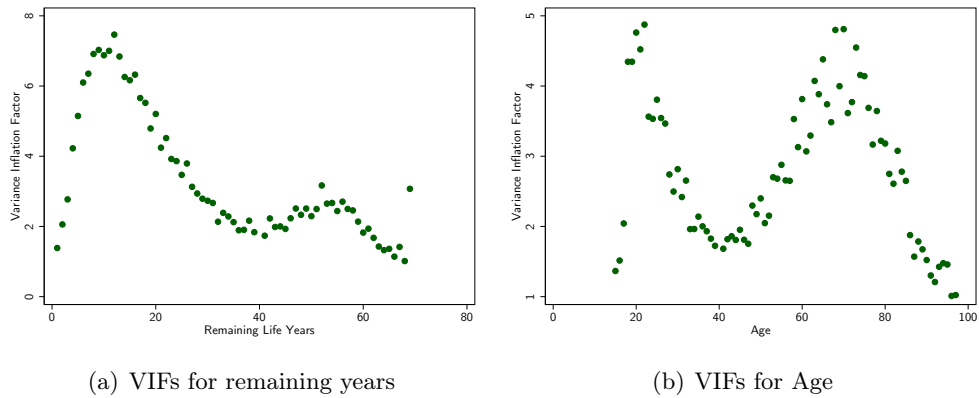


Figure S5: Variance Inflation Factors for coefficients on remaining years and age dummies

Full Sample: Corresponding to Full Specification Table 1 Column (6)

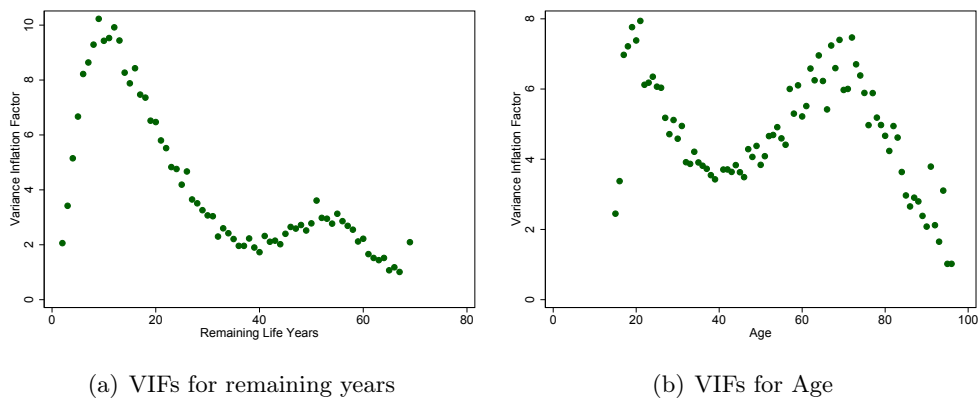


Figure S6: Variance Inflation Factors for coefficients on remaining years and age dummies

Sample Splits

60 years and younger

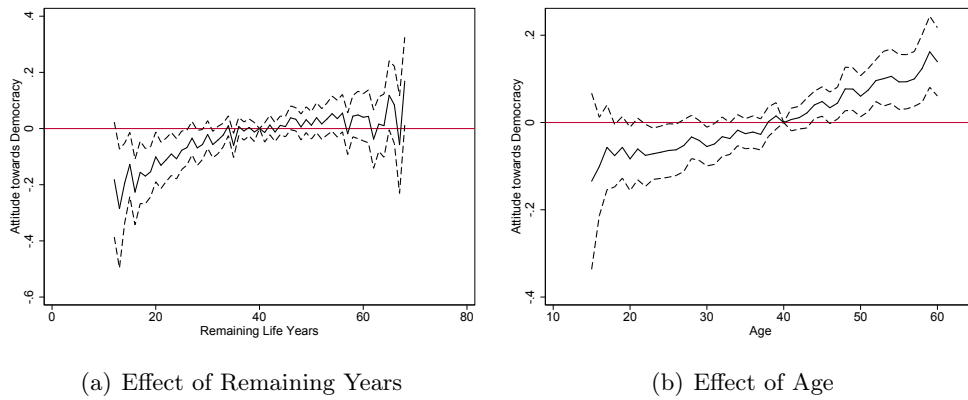


Figure S7: Determinants of Subjective Assessment of Having a Democracy for under 60-year-old people

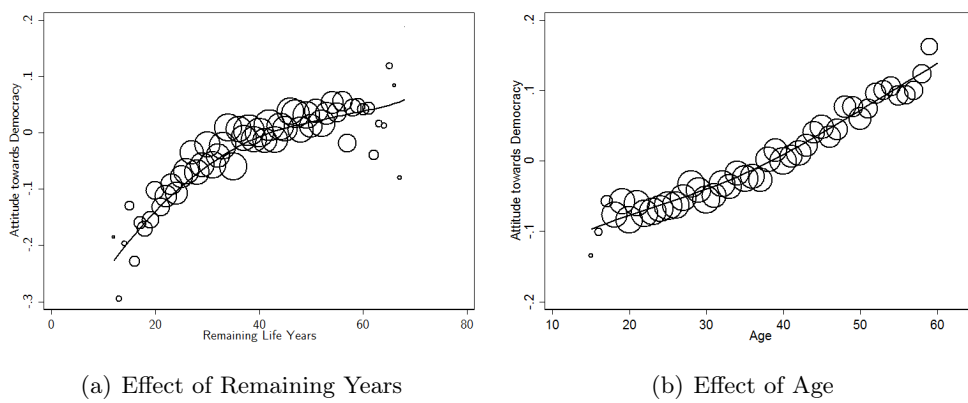


Figure S8: Determinants of Subjective Assessment of Having a Democracy for under 60-year-old people

40 years and younger

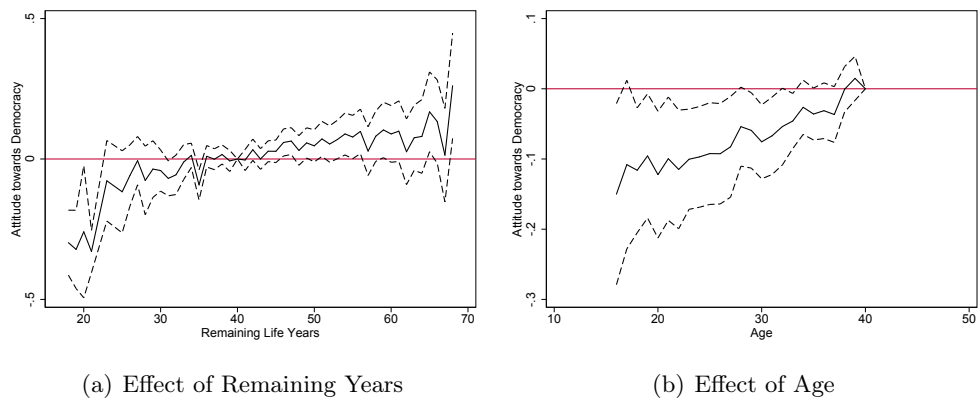


Figure S9: Determinants of Subjective Assessment of Having a Democracy for under 40-year-old people

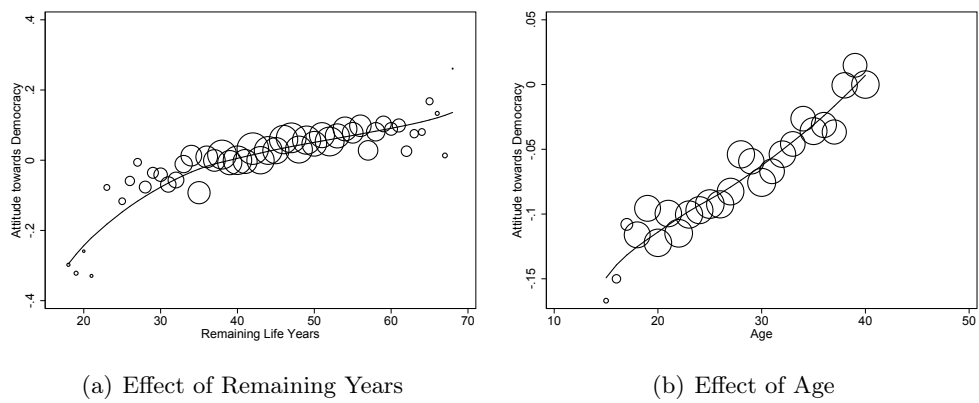


Figure S10: Determinants of Subjective Assessment of Having a Democracy for under 40-year-old people

Variance Inflation Factors

Restricted Sample: Age < 60

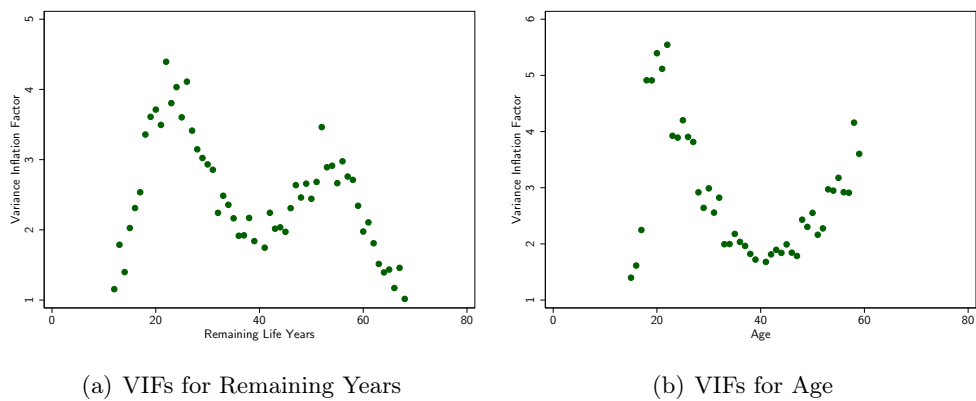


Figure S11: Variance Inflation Factors for coefficients on remaining years and age dummies

Restricted Sample: Age < 40

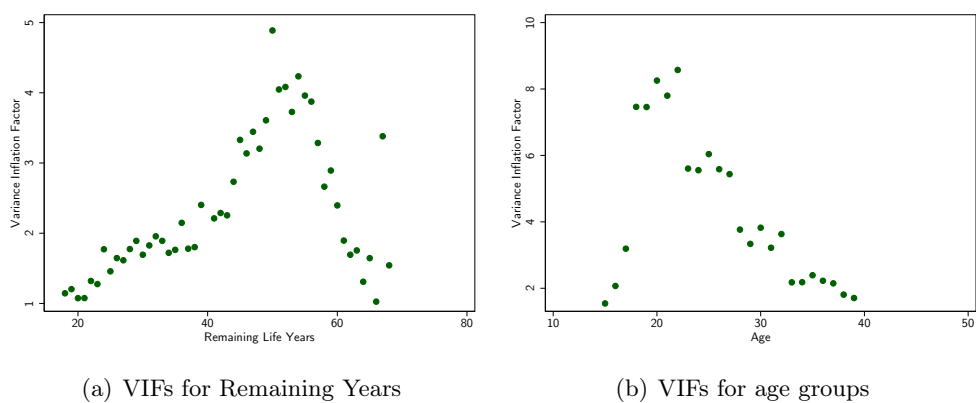


Figure S12: Variance Inflation Factors for coefficients on remaining years and age group dummies

Alternative Specifications

Table S5: Effect of remaining years of life on democratic attitudes: Alternative Specifications

Sample	(1)	(2)	(3)
Estimator	All Ordered Logit	Western Democracies OLS	All other countries OLS
Remaining Years	0.0376*** (0.0088)	0.0175** (0.0064)	0.0109** (0.0036)
Remaining Years ²	-0.000368*** (0.0001)	-0.000161*** (0.0000)	-0.0000808** (0.0000)
Country FE	✓	✓	✓
Survey round FE	✓	✓	✓
Age FE	✓	✓	✓
Gender FE	✓	✓	✓
R ²		0.06	0.08
N	267,426	62,319	205,107
Cluster	2,909	785	2,124

Ordered Logit estimation in column (1). OLS estimations in columns (2) and (3). Sample of Western democracies in Column (2) includes members of the European Union, Switzerland, Norway, USA, Canada, Australia and New Zealand. Sample in Column (3) includes all other countries contained in the data set. Standard errors (clustered by Country-Agegroup-Gender-Survey Round groups) in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

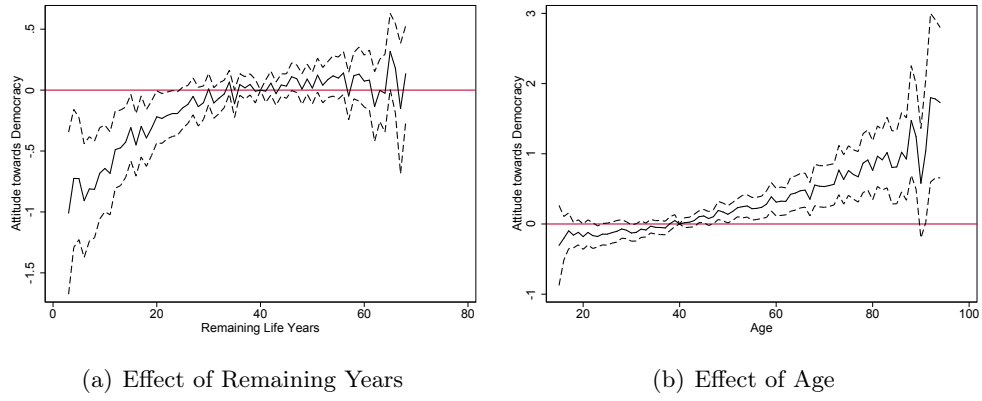


Figure S13: Ordered Logit estimation

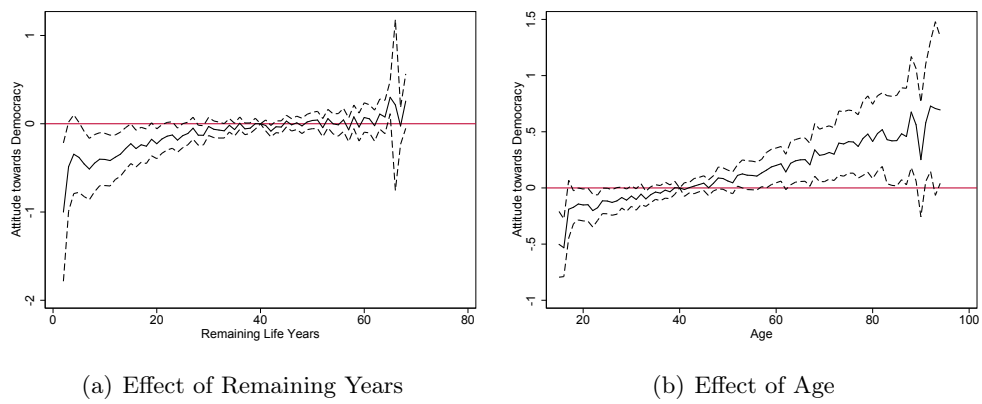


Figure S14: Baseline specification for Western democracies (members of the European Union, Switzerland, Norway, USA, Canada, Australia and New Zealand)

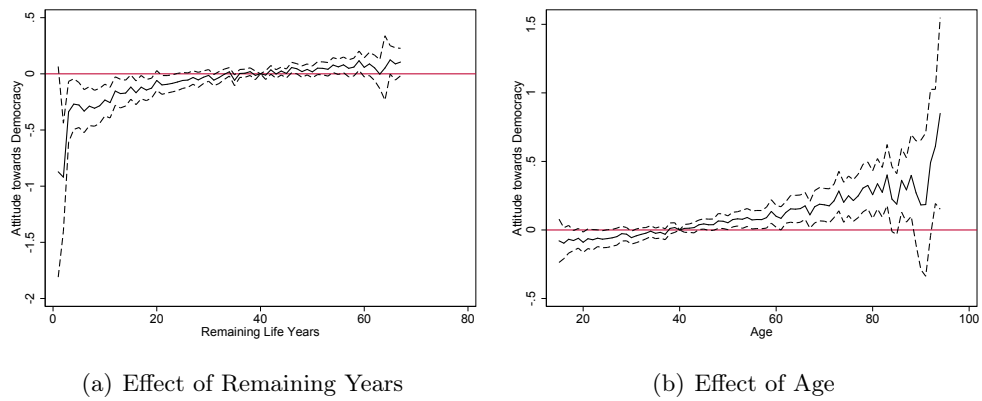


Figure S15: Baseline specification for all other countries, excluding Western democracies

Other Outcomes

Table S6: Effect of remaining years of life on democratic attitudes: Alternative Measures of Democratic Attitudes

	(1) E117	(2) E114	(3) E123	(4) E235	(5) IW Index
Remaining Years	0.0185*** (0.0044)	0.0223*** (0.0050)	0.0228*** (0.0066)	0.0177** (0.0059)	0.0229*** (0.0053)
Remaining Years ²	-0.000185*** (0.0000)	-0.000140*** (0.0000)	-0.000194* (0.0001)	-0.000245*** (0.0000)	-0.000187*** (0.0001)
Country FE	✓	✓	✓	✓	✓
Age FE	✓	✓	✓	✓	✓
Gender FE	✓	✓	✓	✓	✓
Survey round FE	✓	✓	✓	✓	✓
R ²	0.08	0.14	0.10	0.08	0.20
N	267,426	253,469	99,833	144,461	89,748
Cluster	2,909	2,903	1,181	1,610	1,160

Dependent variables are standardized (mean 0 and standard deviation 1) to facilitate comparison of coefficients. See the description above for details about the content and measurement of the different dependent variables. Standard errors (clustered by Country-Agegroup-Gender-Survey Round groups) in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

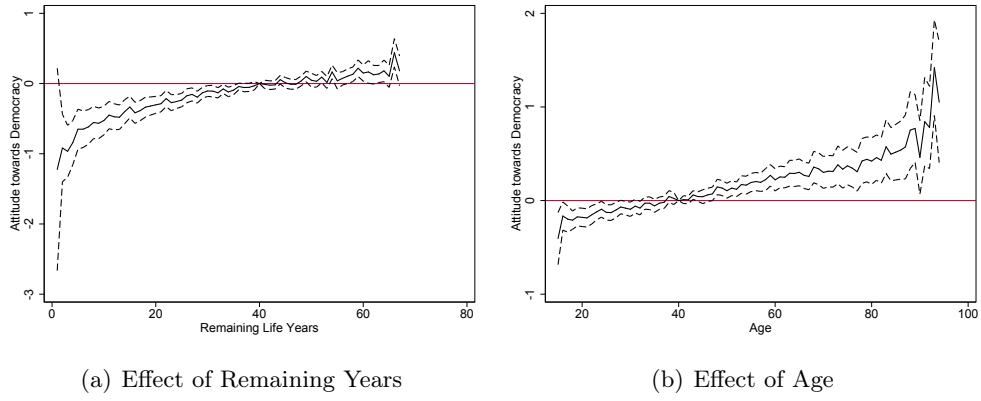


Figure S16: Outcome Variable: E114 (Strong leader)

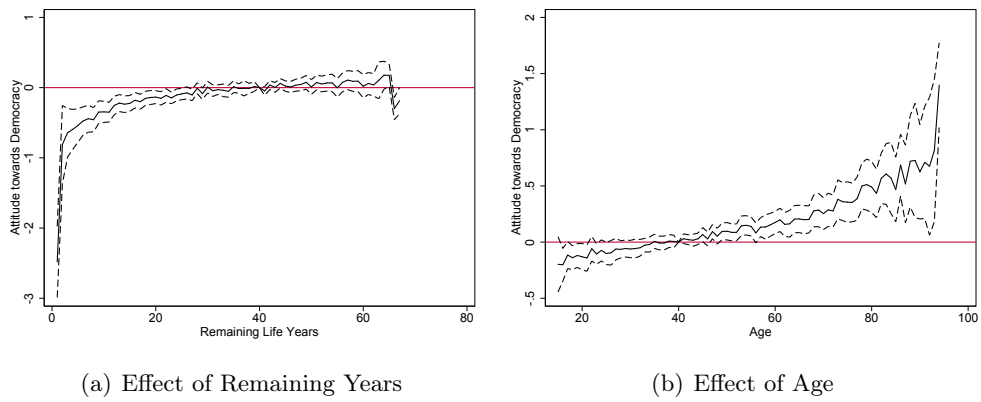


Figure S17: Outcome Variable: E123 (Democracy may have its problems but is better than other forms of government)

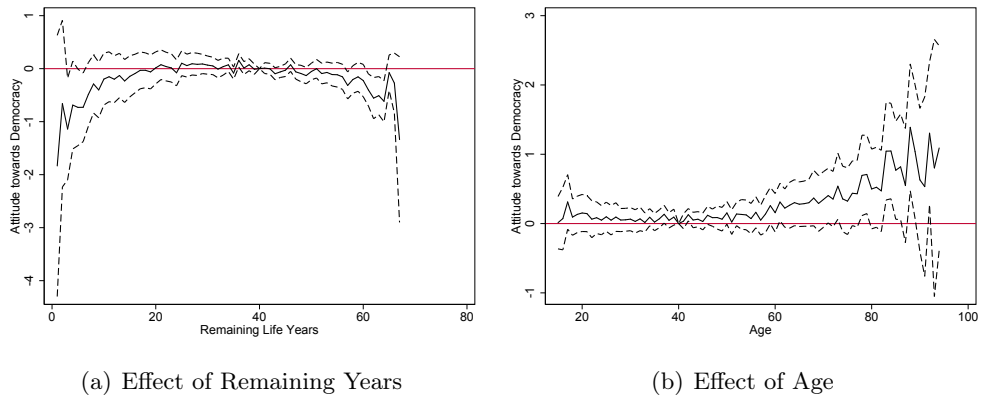
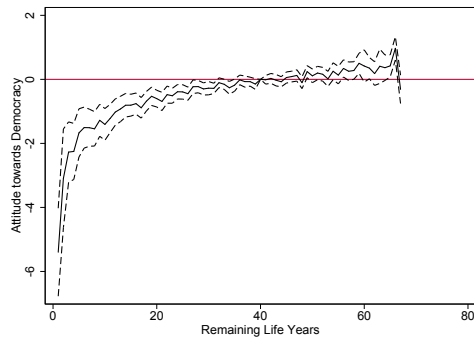
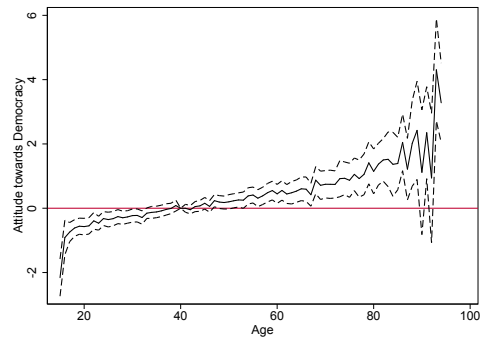


Figure S18: Outcome Variable: E235 (Importance of democracy)



(a) Effect of Remaining Years



(b) Effect of Age

Figure S19: Outcome Variable: IW Index

Beta Coefficients (regression coefficients obtained for all variables standardized with mean 0 and standard deviation of 1)

Table S7: Effect of remaining years of life on democratic attitudes: Beta coefficients corresponding to results in Table 1 Column (1) (extended for individual controls) and (6)

	(1)	(2)
	E117	E117
Remaining Years	0.267	0.269
Remaining Years ²	-0.185	-0.210
Democratic Capital	0.056	0.107
Children	-0.005	-0.005
Subj. Health	0.043	0.040
SEX		
Male	0.03	
TRUST		
High	0.025	0.027
EDUCATION		
No elementary		
Completed elementary	0.003	0.005
Incomplete secondary school	0.004	0.009
Complete secondary school	0.036	0.037
Incomplete university preparation	0.027	0.024
Complete university preparation	0.051	0.054
Some university (w/o degree)	0.062	0.062
University (with degree)	0.104	0.102
Country FE	✓	
Survey period FE	✓	
Age FE	✓	
Marital Status	✓	✓
Income Dummies	✓	✓
Country x Survey period FE		✓
Age x Gender FE		✓
R ²	0.11	0.11
N	195,281	195,281

Standardized regression coefficients (mean of 0 and a standard deviation of 1) reported. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table S8: Effect of remaining years of life on democratic attitudes:
Beta coefficients corresponding to results in Table S6

	(1)	(2)	(3)	(4)	(5)
	E117	E114	E123	E235	IW Index
Remaining Years	0.253	0.247	0.307	0.306	0.306
Remaining Years ²	-0.180	-0.244	-0.176	-0.183	-0.136
Country FE	✓	✓	✓	✓	✓
Age FE	✓	✓	✓	✓	✓
Gender FE	✓	✓	✓	✓	✓
Survey round FE	✓	✓	✓	✓	✓
R ²	0.08	0.14	0.10	0.08	0.20
N	267,426	253,469	99,833	144,461	89,748
Cluster	2,909	2,903	1,181	1,610	1,160

See the description above for details about the content and measurement of the different dependent variables. Standardized regression coefficients (mean of 0 and a standard deviation of 1) reported. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.