Universalism: An 11-year Longitudinal Study*

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September 4, 2025

Abstract

How individuals make trade-offs between socially proximate or distant groups impacts upon a wide range of social, political and economic behaviors. This article exploits Norwegian administrative register data over the 2012-2022 period to assess whether and, if so, how such '(moral) universalism' develops as individuals age and go through major life events. We show that aging is associated with increases in universalism in early adulthood and declining universalism among older individuals, but the magnitude of these changes remains very small. Similarly, major life events - such as starting higher education, first-time parenthood, positive income shocks, and retirement - have at best minor and short-lived impacts on universalism. These results add important insights regarding the (in)stability of individuals' value orientations during adulthood, and raise new questions about the potential influence of broader social forces on universalism across cohorts.

Keywords: Universalism, Life events, Aging, Register data.

JEL Classification: D64, D91

*We thank Jana Belschner, Maria Grasso, Javier Olivera, Vera Tröger, Pieter Vanhuysse, as well as seminar participants at BI Norwegian Business School and University of Bergen for insightful feedback on a previous version. Rune J. Sørensen gratefully acknowledges financial support from the Norwegian Research Council (grant no. 314079).

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1. Introduction

Economic and political decisions often involve trade-offs between individuals or groups that differ in their social proximity to ourselves. A growing academic literature documents considerable heterogeneity in how individuals make these trade-offs (for a review, see Enke, 2024). At one end of a '(moral) universalism' spectrum are those who emphasize equal treatment across all groups, referred to as 'universalists'. At the other end of the spectrum are individuals displaying stronger moral obligations toward their in-group, known as 'particularists'. This heterogeneity in individual-level universalism – defined as the extent to which altruism varies with social distance (Enke, 2024; Cappelen et al., 2025) – is important because it has been linked to a range of social, political and economic behaviors. For instance, compared to particularists, universalists display less home bias in investment choices (Enke et al., 2022), higher support for left-leaning parties (Enke et al., 2023), higher civic engagement (Cappelen et al., 2025), and lower climate change skepticism (Andre et al., 2025).

While the importance of universalism for individual decision-making is becoming widely recognized, existing research has predominantly focused on *between-person* differences in universalism. We argue that the resulting lack of longitudinal analyses creates an important knowledge gap, since the inter-temporal development of key drivers of decision-making is of critical relevance "both from the perspective of measurement and for policy" (Fitzenberger et al., 2022, p.2141).[1] In this article, we take a first step towards bridging this gap by testing whether and, if so, how universalism develops in people over time using Norwegian individual-level administrative data for the 2012-2022 period. We thereby not only focus on the potential role of aging, but also explore the impact of major life events (including education, child-birth, income shocks and retirement). Gaining a deeper understanding of these relationships is especially timely in light of major demographic changes (including declining fertility and aging) across most advanced democracies, and their potential to influence the development of universalist values in society.

[1]This importance is also reflected in recent scholarship re-evaluating the (in)stability of individuals' partisan identification (Campbell et al., 1960; Egan, 2020; Kollman and Jackson, 2021; Geys et al., 2024), post-materialist value orientation (Inglehart, 1971; Hellevik, 2002; Geys et al., 2021), and personality traits (Fitzenberger et al., 2022).

Our null hypothesis is that universalism is a stable trait displaying no systematic instability with aging or major life events once individuals reach adulthood. This hypothesis – which reflects the common assumption in extant scholarship (Enke et al., 2022; Cappelen et al., 2025; Andre et al., 2025) – captures the idea that individuals' attitudes and values are formed and become crystallized during their 'impressionable years' (Krosnick and Alwin, 1989; Giuliano and Spilimbergo, 2025). The reason is that significant socialization can only take place when people are most malleable and responsive, which is often deemed to be before the age of 25 years (Krosnick and Alwin, 1989; Giuliano and Spilimbergo, 2025). Our alternative hypothesis is that universalism continues to evolve as people age and go through major life events. This is not meant to dismiss the potentially long-lasting impact of early-life experiences (Tabellini, 2008; Malmendier and Nagel, 2011; Bagues and Roth, 2023; Daniele et al., 2023). Nonetheless, there are sound theoretical reasons to question that universalism necessarily remains static in adulthood. One argument is that aging in itself can affect individuals' personality traits, including the Big Five, locus of control, and risk aversion (Fitzenberger et al., 2022). Similarly, research suggests that in-group favoritism (Cutler et al., 2021), out-group stereotyping (Czarnek et al., 2015) and (political) conservatism (Geys et al., 2022) increase at older ages. Hence, one might suspect that individuals' position on the universalism-vs.-particularism spectrum may also shift as they age.

A second theoretical argument is provided by personality theorists arguing that major life events can act as a destabilizing force. Such events thus "represent opportunities for personality change" because they "free individuals from old habits and routines, present new challenges, and demand new strategies and goals" (Kirchmeyer, 2002, p. 932). In our setting, this could become reflected in both direct and indirect effects on individuals' position on the universalism-vs.-particularism spectrum. For instance, starting higher education may affect universalism because "one of the primary functions of education is to expand one's intellectual horizons through, among other things, exposure to a great heterogeneity of people and ideas" (Golebiowska, 1995, p. 24). In similar vein, becoming a parent or winning the lottery represent individual-level shocks that have been found to redirect individuals' attitudes and value orientations (e.g., Doherty et al., 2006; Decker and Schmitz, 2016). Alongside such

direct effects, additional indirect effects may arise from the innate human capacity to adapt to one's social environment. Research across the social sciences shows that individuals often update their political and (pro-)social attitudes in interaction with their social networks (Lazer et al., 2010; Kosse et al., 2020) or through contacts with out-group members (Tropp et al., 2022). As a result, changes in individuals' social environment arising from major life events may lead to a re-evaluation of the trade-offs between socially proximate and distant groups.

Empirically evaluating the (in)stability of individuals' universalism over time is complicated by the perfect linear dependence of age, period and cohort. We tackle this so-called APC-problem in a number of ways. First, we exploit that aging may have differential effects among young, middle-aged and older individuals, leading to non-linearities in the age-universalism relationship. While any *linear* effect of age cannot be identified, *non-linear* effects of aging can be identified by analyzing within-person changes in universalism (Cheng et al., 2017; Geys et al., 2022). Second, we rely on event-study designs to exploit variation across individuals in their exposure to certain life events at specific ages and points in time. Limiting the estimation sample to people who experience a specific life event, we can study these events' dynamic treatment effects on individuals' universalism (Schmidheiny and Siegloch, 2023; Geys and Sørensen, 2024).

Our main results indicate that becoming one year older is linked to higher levels of universalism in early adulthood (especially in one's early twenties), while it is associated with declines in universalism among older individuals (particularly in one's late sixties and seventies). The absolute size of these aging effects, however, remains very small. Similarly, when turning our attention to major life events, we find at best small and short-lived effects of starting higher education, becoming a parent for the first time, experiencing a large positive income shock (from winning the lottery), or retiring.[2] As such, individuals' universalism appears unlikely to display sudden, large shifts in response to changing personal circumstances. All in all, our findings highlight that universalism develops only very gradually once individu-

[2]The selection of these four life events is driven by both data availability and credible theoretical reasons suggesting their potential impact upon universalism. We set out these theoretical arguments in more detail later.

als reach adulthood, and thus can be viewed as a "a reasonably stable trait" among the adult population (Enke et al., 2022, p.3953).

Besides our contribution to the growing literature on individuals' universalism, our analysis also adds to the persistent and vigorous debate in socialization scholarship about whether "preferences and personality traits follow a stable pattern across the life cycle" (Fitzenberger et al., 2022, p.2141). We advance this debate on age-vs.-cohort-vs.-period effects by investigating non-linear age effects in individuals' universalism (conditional on period as well as cohort influences), and conducting systematic analyses of major life events as potential underlying mechanisms. Furthermore, we use the *distribution* of individuals' donations across distinct charitable organizations as indicative of their underlying (universalism) values and preferences (for a similar 'revealed preference' approach to donations, see Poole et al., 1987; Miles, 2015; Lee et al., 2019; Arieli et al., 2020). As such, our analysis also offers a novel extension to the considerable literature studying charitable donations. This scholarship generally focuses on how income, wealth, taxes, or the 'price' of donations affect the intensive and extensive donation margins (e.g., Adena and Huck, 2017; Adena et al., 2024; Kotsadam and Somville, 2024; Ring and Thoresen, 2025). Our findings instead help to clarify potential drivers of changes in the *distribution* of individuals' donations over time (holding constant the propensity to donate).

2. Institutional Setting, Data and Measurement

Our empirical analysis employs donation-level data from administrative tax records, which we combine with other administrative datasets at the individual and organizational levels. In this section, we describe the data and institutional setting in more detail.

2.1 *Charitable giving in Norway*

Charitable giving is a widespread phenomenon in Norway. In our sample period (2012-2022), roughly 30% of the entire Norwegian population made at least one tax-deductible donation. In 2022, the total value of tax-deductible donations was about 5 billion Norwegian kroner

(NOK).[3] For a donation to qualify as tax-deductible, it has to exceed 500 NOK within a calendar year to an organization included on a list of approved entities. Any voluntary or religious organization looking to be included in this tax-deductibility scheme (which exists since the year 2000) must apply to the tax authorities and satisfy certain criteria. For example, the organization needs to have a (inter-)national scope, operate on a non-profit basis, and receive government funding (note that political parties are excluded). There are currently more than 500 entities approved for the scheme (for instance, Doctors without Borders, Red Cross, Norwegian Air Ambulance Foundation and the Pentecostal Movement), and these organizations are themselves responsible for reporting received donations to the tax authorities. Consequently, from the tax-payer's perspective, claiming tax-deductions is effortless since donations become automatically pre-registered in their tax returns.

Our dataset includes the universe of all 15 million tax-deductible donations over the 2012-2022 period, collected from administrative tax records by Statistics Norway.[4] The dataset also includes donations made under a separate tax-deduction scheme for donations to research. This scheme functions similarly to the one for voluntary organizations, except that there is no fixed limit on the total tax-deductible amount each year. Instead, for donations exceeding 10,000 NOK, the tax deduction is capped at 10% of the tax-payer's income. Typical beneficiaries of donations within this research scheme are hospitals, universities and museums. There exist a number of organizations, however, that qualify for tax deductibility under both schemes. These include, for instance, the Norwegian Cancer Society, Normisjon (a missionary church that operates a college), and the World Wildlife Fund.

2.2 *Measuring universalism using individual-level donation choices*

Existing studies predominantly measure universalism via hypothetical 'money allocation games' embedded within a survey or provided to participants in a laboratory setting (Enke et al., 2022, 2023; Brewer et al., 2023; Cappelen et al., 2025; Enke, 2024; Andre et al., 2025). In these

[3]The maximum tax-deductible amount has varied between 12,000 and 50,000 NOK per year in our period of observation (with 1 USD $\approx$ 10 NOK throughout this period).

[4]Throughout our analysis, we include individuals between the ages of 18 and 80 years. Restricting the sample to donations where we observe the International Classification of Non-Profit Organizations (ICNPO) code of the receiving organization (which is critical to derive our measure of universalism; see below), we end up with 12.8 million donations from more than 1.4 million individuals.

games, respondents are asked to split a hypothetical sum of money between two individuals located at varying social distances from the respondent (e.g., compatriots vs. foreigners). While such approaches have been crucial to develop the universalism concept, they are different from making real-stakes decisions in life (for a discussion, see Levitt and List, 2007). In contrast, we operationalize individuals' universalism in any year t by the share of their total yearly donations directed toward an international cause rather than a national cause. This metric serves as a real-world analogue to the hypothetical money-allocation tasks used in existing work, since it captures how individuals split their actual 'donation budget' between organizations with a socially proximate (national) or distant (international) focus. By differentiating between donations to national and international causes, our measure captures what Cappelen et al. (2025) refer to as 'foreign universalism' (i.e., the fraction of money given to a global stranger when facing a trade-off with a domestic stranger).

Formally, let I denote the set of organizations with an international profile and D the set of organizations with a domestic profile. Universalism of individual i in year t is then measured as:

$$Universalism_{it} = \frac{\sum_{o \in I} Donation_{oit}}{\sum_{o \in I} Donation_{oit} + \sum_{o \in D} Donation_{oit}} \times 100 \tag{1}$$

where $Donation_{oit}$ denotes the amount (in NOK) donated to organization o by individual i in year t.

Clearly, this operationalization requires that we classify donations as either international or domestic. We do this based on the International Classification of Non-Profit Organizations (ICNPO) code of the recipient organization.[5] These codes are available from the government-administered Norwegian Register of Non-Profit Organizations (*Frivillighetsregisteret*). Although entry into this Register is voluntary, it is an eligibility requirement for many of the Norwegian government's financial support schemes. Consequently, most voluntary and charitable organizations opt into the register, which requires them to declare a

[5]The ICNPO differentiates 12 major categories, further divided into 24 subgroups, based on an organization's main economic activity. For example, the major category '1 Culture and Recreation' is further divided into '1100 Culture and Arts', '1200 Sports' and '1300 Other recreation and social clubs'.

primary ICNPO code (with the option of including secondary code). As a result, our data include ICNPO codes for the receiving organization of 85.5% of all observed donations in the 2012-2022 period (i.e. 12.8 million donations).[6]

In our preferred approach, we classify organizations with '9100 International Activities' as *either* their primary *or* their secondary ICNPO code as international, while all other organizations are deemed domestic. This classifies 69.2% of all donations and 21.3% of all organizations in our sample as international. Some prominent examples of organizations classified with 9100 as their primary INCPO code in the *Frivillighetsregisteret* are Amnesty International, Red Cross, and the Rainforest Foundation. Examples of organizations classified with 9100 as their secondary code include the Missionary Church of Norway (primary code '10100 Religious congregations and associations') and the World Wildlife Fund (primary code '5100 Environment'). Still, we will demonstrate below that our results are robust to specifying international and domestic donations based only on the organizations' primary ICNPO code (which classifies 68.0% of donations and 17.7% of organizations as international).

Three further aspects about our universalism measure are important to highlight. First, while universalism is a value, our donations data capture individuals' behavior. Clearly, behaviors and values are *not* the same thing. Nonetheless, a vast body of research suggests that behaviors are generally strongly determined by the underlying values (Miles, 2015; Arieli et al., 2020). Building on the logic of behaviors as revealed preferences (e.g., Poole et al., 1987; Lee et al., 2019, for the case of political donations), we therefore can infer important information about individuals' values by looking at their behaviors. Even so, one might worry that donations are shaped by many factors beyond universalism. While we will implement robustness checks controlling for common determinants of donation behaviors (such as age, gender, income and education), it is important to remember that we focus on the *distribution* of donations rather than their *level* (see also below). From this perspective, Enke et al. (2022) present survey evidence from the US highlighting that universalists donate significantly more

[6]In Online Appendix Figure A.1, we plot how donations are distributed across different types of causes based on organizations' primary ICNPO code. This indicates that international causes receive the most money in total (followed by religious and health organizations), while the average amount donated to religious causes is more than double that of international causes (suggesting that the latter reflects a large number of smaller donations).

to international compared to national (and local) non-profit organizations. They furthermore validate these observations from survey data using "identical, yet financially incentivized tasks" (Enke et al., 2022, p. 3592), thus providing strong *prima facie* validation of our donation-based measure of universalism.

Second, universalism refers to *how altruism varies with social distance*, and not to the *level of altruism* (Enke, 2024; Cappelen et al., 2025). In our operationalization, this is reflected in the fact that we focus on the domestic/international distribution of individuals' total donations – holding constant their donation propensity and level. Arguably, the distinction of universalism from people's level of altruism also suggests that an ideal measure should isolate the trade-off between in- and out-groups from any personal benefits. In our case, this is achieved by the requirement of the tax-deductibility scheme that approved organizations must have (at least) a national scope, which reduces concerns that donations to these organizations may reflect individuals' personal, self-serving interests (we return to this in our robustness checks).

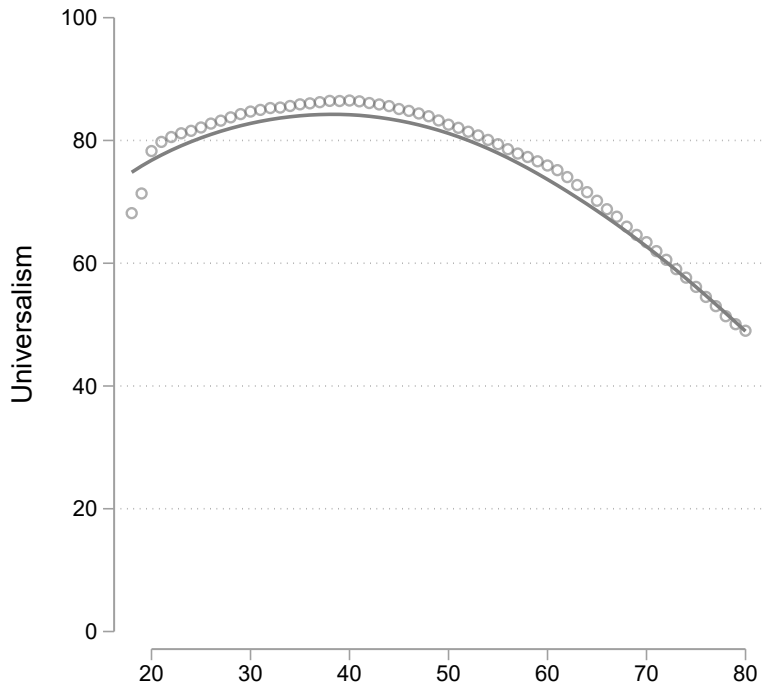
Third, our measure of universalism builds on the assumption that the Norwegian population feels greater social proximity towards domestic rather than foreign beneficiaries of their charitable donations. Naturally, this assumption may not hold for individuals with an immigrant background. Extant research suggests that immigrants typically maintain stronger identification with their country of origin than with their host country (Battu and Zenou, 2010; Casey and Dustmann, 2010), even among second-generation immigrants (Casey and Dustmann, 2010; Bisin et al., 2011). Based on these findings, it is unclear whether a higher share of international donations implies a higher or lower level of universalism for (first- and second-generation) immigrants. Hence, we exclude these around 125,000 individuals (and their donations) from our sample throughout the analysis.

2.3 *Descriptive analysis*

As a first descriptive analysis, we plot our measure of (revealed) universalism against age in Figure 1. That is, we depict the average percentage of yearly donations going to international causes on the Y axis, as donated by individuals of a given age (on the X axis). This high-

lights an inverted U-shaped relationship between age and (average) universalism. At age 18, individuals on average allocate 68.2% of their charitable donations to international causes. This share increases up to a peak at 86.5% for 40-year-olds, after which universalism progressively declines with age. This decline speeds up as age increases, such that 80-year-olds split their donations roughly equally between domestic and international causes. Hence, average universalism varies with around 36.5 percentage points across age groups in the cross-section. Naturally, this cross-sectional comparison of individuals at different ages reflects not only changes in universalism with age (both within and between individuals since we often observe the same individuals repeatedly in our eleven-year panel), but also captures differences due to period and cohort effects.

Figure 1 – Average (revealed) universalism by age in the raw, cross-sectional data.



Note: The figure plots the average percentage of individuals' yearly donation going to international (i.e. universalism) causes by age ($N = 6,954,723$).

3. Identification of the aging effect

3.1 *Empirical strategy*

Our main objective is to assess *whether*, and if so, *how* universalism changes as individuals grow older. While we can easily eliminate *between*-individual influences by exploiting only *within*-individual variation, the exact linear dependence of $age = period + cohort$ makes it impossible to separately identify the linear effect of any of these three elements on universalism. Inspired by the procedure developed in Cheng et al. (2017), we side-step this issue by focusing on non-linearities in the relationship between age and universalism (see Figure 1). Specifically, we exploit the first-derivative properties of the universalism function to study the direction and magnitude of *changes* in universalism at different ages. We do this by implementing a two-stage modelling approach (Cheng et al., 2017; Geys et al., 2022).

In the first stage, we filter cohort and period effects from our measure of universalism. Since each individual by definition remains in the same cohort across time, first-differencing our universalism measure eliminates any cohort effects. Using this first-differenced measure as the dependent variable, we can then remove year-specific (or period) effects by estimating the following regression equation (with standard errors clustered at the individual-level):

$$\Delta Universalism_{i,t} = \beta_0 + \delta_t + \varepsilon_{i,t} \tag{2}$$

where $\Delta Universalism_{i,t}$ measures the change from year $t-1$ to t in the share of international donations made by individual i. β_0 is an intercept and δ_t is a full set of year fixed effects. These year fixed effects capture any common variation across individuals specific to each year, including any variation in (the first difference of) universalism due to average age effects (Geys et al., 2022). The predicted residuals from this first-stage model ($\hat{\varepsilon}_{it}$) then capture the de-trended within-person change in universalism. Positive values thereby indicate a shift towards a more universalist position over and above any average year (and cohort) effects.

In the second stage, we regress the residuals from equation (2) on individuals' age using the following regression equation:

$$\hat{\varepsilon}_{i,t} = \gamma_0 + \gamma_1 Age_{i,t} + \delta_t + \mu_{i,t} \tag{3}$$

where $\hat{\varepsilon}_{it}$ is the residual from estimating equation (2). $Age_{i,t}$ is individual i's age in year t. $\mu_{i,t}$ is an error-term, and we once more cluster standard errors at the individual level. In contrast to Cheng et al. (2017), we also include a full set of year fixed effects in this second stage model. This is important to obtain correct standard errors and eliminate attenuation bias from the age coefficient.[7] In this model, γ_0 is an intercept reflecting the de-trended within-person change in universalism of the youngest age group (i.e. 19-year-olds in our case). Our main parameter of interest is γ_1. This parameter captures how age affects the de-trended within-person change in universalism, where $\gamma_1 \neq 0$ implies a non-linear effect of aging on universalism. More specifically, since the first derivative of a polynomial function of degree k is a polynomial function of degree $k-1$, a linear relationship between age and change-in-universalism implies a universalism function that is quadratic in age. In some specifications, we extend the model with quadratic and third-degree polynomials of $Age_{i,t}$, which will enable us to capture more complex shapes in the underlying age-universalism function.

Before we proceed, it is important to note that we can 'only' observe individuals in our dataset for at most eleven years. While this is a substantial improvement over cross-sectional datasets used in previous work, this time period naturally fails to cover the entire life-span of any individuals included in our analysis. This implies that, in practice, we estimate the shape of the age-universalism function at different parts of the life-cycle using distinct subsets of individuals. Clearly, therefore, readers should be cautious to interpret our results in terms of how universalism changes over the entire 'life-cycle'. This would require making the assumption that the first-differences of current older generations are representative of what the first-differences of the current younger generations will look like once they will have aged (and vice versa). In the absence of datasets covering a much longer time-span, this assumption

[7] By the logic of the Frisch-Waugh-Lovell theorem, estimating this two-step model produces the same coefficient and standard error for $Age_{i,t}$ as one would get from estimation of the model $\Delta Universalism_{i,t} = (\beta_0 + \gamma_0) + \gamma_1 Age_{i,t} + \delta_t + \varepsilon_{i,t}$ (Chen et al., 2018). The purpose of estimating the model in two stages is to separately identify the intercept γ_0.

is unfortunately untestable. Still, this does *not* undermine our ability to assess whether and how aging and life events affect universalism for distinct age-groups.

3.2 *Addressing selection effects*

Measuring the change in (revealed) universalism for individual i in year t naturally requires that this individual i makes a donation in years t and $t-1$. In Panel A of Online Appendix Figure A.2, we plot the number of years that each individual in our dataset makes a donation during the 2012-2022 sample period. We observe that (i) a majority of the population never donates, and (ii) most donors do not contribute every year. As a result, our estimation sample for the analysis set out in section 3.1 consists of a (self-)selected sample of donors observed in a (self-)selected sample of years. Importantly, this is not necessarily a problem to address our main research question on the (in)stability of universalism over time within individuals. Indeed, to rule out that universalism exhibits trait-like stability (our null hypothesis), it is sufficient to demonstrate a lack of such stability in at least some subset of individuals. Given our available data, our empirical strategy effectively tests for the (in)stability of universalism among relatively consistent donors.

Nonetheless, if our consistent donors differ in important respects from their non-donor and infrequent-donor peers, the generalizability of our results onto the broader population may be limited. This concern is *not* about selection bias in the conventional sense, but about external validity. Even so, we will address this non-random nature of our sample in our robustness checks using Wooldridge's (1995) two-step correction procedure for sample selection in panel data. Since we have rich register data on *all* individuals regardless of their donor status, we can first estimate individuals' propensity to donate consistently, and then adjust for this propensity in equation (3). More specifically, in the first step, we estimate the probability of individual i donating in both years t and $t-1$ (at each point in time t that we observe individual i) as a function of the individual's age, gender, income and education level using a probit model. This selection equation is specified as:

$$s_{i,t} = \beta_0 + \beta_1 Age_{i,t} + \beta_2 Gender_i + \beta_3 Income_{i,t} + \beta_4 Education_{i,t} + u_{i,t} \tag{4}$$

where $s_{i,t}$ equals 1 if $Donation_{i,t} > 0$ and $Donation_{i,t-1} > 0$, and 0 otherwise ($s_{i,t} = 1$ thus implies that the outcome $\Delta Universalism_{i,t}$ is observed). $Gender_i$ is an indicator variable for being female, $Income_{i,t}$ is log gross income in NOK and $Education_{i,t}$ is the individual's highest obtained education level as of October 1 of that year (measured in eight categories). β_0 is an intercept and $u_{i,t}$ is an error-term. The estimates from this model are used to obtain the inverse Mill's ratio $\hat{\lambda}_{i,t}$ for observations where $s_{i,t} = 1$. These can then, in the second step, be entered as an additional control variable into equation (3), estimated by pooled OLS. We use panel bootstrapping techniques to obtain the standard errors in both steps. This is important to adjust the estimated standard errors for the two-step estimation procedure and allow for heteroskedasticity and serial correlation of unknown form.

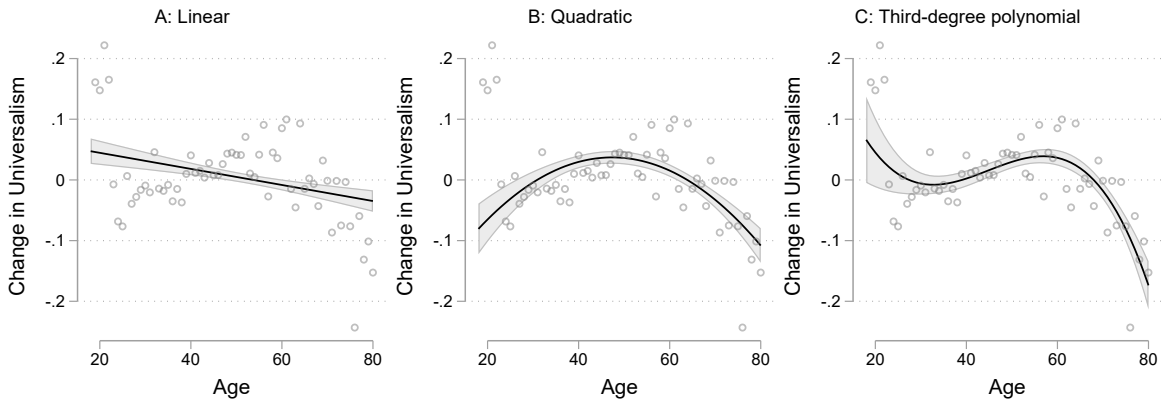
4. Aging and universalism

4.1 *Main results*

Figure 2 displays our main findings from estimating equations (2) and (3), with corresponding regression results in Online Appendix Table A.1.[8] Each scatter point in Figure 2 can be interpreted as follows: A positive value indicates an average increase in universalism from aging one year for the given age group *beyond any period (and cohort) effects*. Conversely, a negative value implies a decrease in universalism. From a visual inspection, the third-degree polynomial (Panel C in Figure 2, Column C in Online Appendix Table A.1) seems to fit the data best out of the three models. The linear, quadratic and cubic terms of age are all statistically significant at $p < 0.01$ in this model, which suggests a complex and highly non-linear relationship between universalism and age.

[8]Results are very similar when using panel bootstrapping to obtain the standard errors.

Figure 2 – Main results: predicted change in universalism by age.



Note: The figures display the predicted (de-trended) change in universalism by age, in percentage points. Universalism is thereby measured as the percentage of individuals' yearly donations going to international rather than national causes. In the left panel, the black line with a 95% confidence interval is a prediction obtained through estimation of equation (3). In the middle and right panels, quadratic and third-degree polynomials of age are added to the equation. The circles represent the average (de-trended) change in universalism at each age.

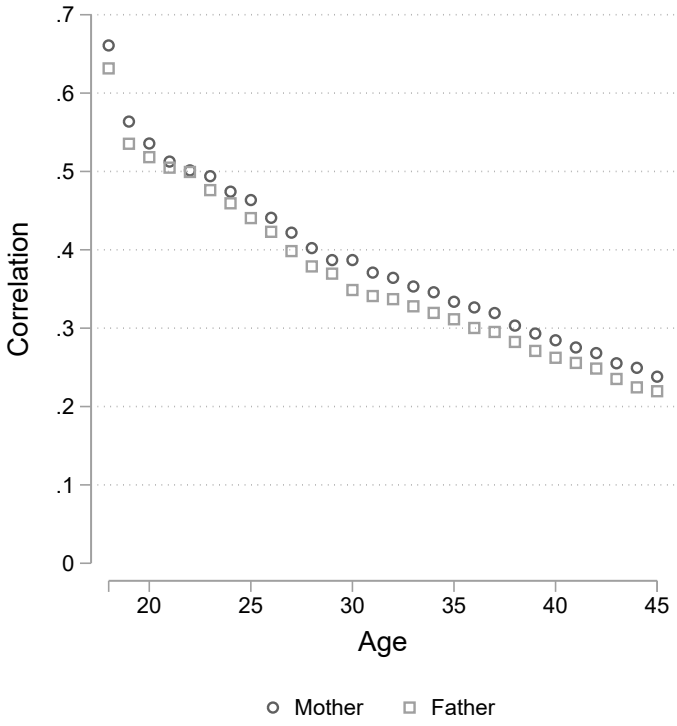
Taking the estimates of this cubic model at face value, there appear to be three turning points where the (average) change in individuals' universalism from growing one year older shifts direction (as reflected in the solid black line crossing the x-axis). After a period of increasing universalism with aging - albeit at progressively slower rates - in early adulthood, the first turning point occurs at age 28 years. This turning point heralds a period where growing one year older bears no relationship to universalism (since the predicted changes in universalism are statistically indistinguishable from zero). This period of mid-life stability in universalism lasts until the second turning point at age 40 years, which ushers in a period of increasing universalism with aging in the later mid-life period. Finally, the third turning point arises at age 68 years, after which growing one year older is linked to a rapidly accelerating decline in universalism.

Taken together, these findings appear to challenge our null hypothesis that universalism represents a fixed trait at the individual level. Yet, the observed effect sizes remain very small throughout, and are an order of magnitude smaller than the cross-sectional changes observed in Figure 1. For instance, the highest absolute value of the predicted change in universalism due to growing one year older is observed among 80-year-olds, and equals roughly

0.17 percentage points. At this rate of change, it would take well over 200 years to observe the 36.5 percentage point difference in universalism across age groups observed in the cross-section. Consequently, individuals' universalism generally develops only gradually with age, and much of the observed variation in the cross-section must be due to cohort and/or period effects (we return to this below).

Given this slow development of universalism with aging, the alignment of children's universalism with that of their parents becomes an interesting question. Figure 3 therefore plots the correlation between individuals' and their parents' universalism (by the age of the child). The results indicate a very high correlation in early adulthood (Pearson r = .66 for mothers and .63 for fathers at age 18), which gradually declines as the child ages. By age 45, the correlation coefficient is .24 and .22 with the mother's and the father's universalism, respectively. These observations not only support a strong child-parent connection early in life (reflecting the key role of parents in child socialization processes; Jennings and Niemi, 1968; Eisenberg, 1989; Kosse et al., 2020), but the gradual weakening of the correlation over time is also consistent with our findings thus far that universalism is a slow-moving concept. The positive inter-generational correlation in universalism also aligns with findings that charitable giving is, at least in part, influenced by parental behavior (Wilhelm et al., 2008).

Figure 3 – Correlations between children and parents' universalism by child's age.



Note: The figure displays the correlation (Pearson's r) between an individual's universalism and their mother's universalism (circles, $N = 1,255,904$ individual-years) and their father's universalism (squares, $N = 885,100$ individual-years) each year, by age of the child. Universalism is measured as the percentage of individuals' yearly donations going to international rather than national causes.

4.2 *Robustness*

Before we move onto the development of universalism under major life events - which may act as partial mechanisms underlying the results in Figure 2 - this section summarizes the results of four robustness checks.

4.2.1. Operationalization of international vs. domestic charitable organizations

Thus far, we have defined donations as 'international' whenever the recipient organization had '9100 International Activity' as their primary *or* secondary ICNPO code. All other donations were defined as domestic. Here, we test the robustness of our results to two different classifications. First, we use only the primary ICNPO of organizations to define them as international, which creates a stricter threshold for classifying a donation as international. For instance, donations to the World Wildlife Fund and the Missionary Church are then no longer deemed international, since these organizations only list international activity as

their secondary objective. Online Appendix Figure A.3 indicates that this leaves our findings qualitatively unaffected.

Second, donations to religious organizations may raise several concerns. They may not only in part capture a tendency to get more (or less) religiously involved with age. Religious donations could also be driven at least in part by self-interest (e.g., in the pursuit of salvation). To address this, we exclude all donations to organizations with '10100 Religious congregations and associations' as their primary or secondary ICNPO code from the sample - regardless of whether they also declare ICNPO code '9100 International Activity'. This removes 13.5% of the donations in our dataset. Online Appendix Figure A.4 illustrates that this once again leaves our main findings unaffected. The main exception occurs at the very youngest ages, where we now no longer observe an increase in universalism. Still, this discrepancy may partly stem from power issues, since the scatter plot continues to show positive (average) changes in universalism among the youngest age groups.

4.2.2. Restricting the set of organizations

Our second robustness check aims to account for the fact that charitable organizations can apply for their donations to become tax-deductible. Hence, the list of approved organizations naturally expands over time (from 323 organizations for which we observe ICNPO codes in 2012 to 465 organizations with ICNPO codes in 2022). Although the ratio of international to domestic organizations remains stable over time (i.e., 25% in 2012 vs. 23% in 2022), one potential concern may be that changes in our measure of universalism reflect a changing set of approved organizations (rather than genuine shifts in universalism). Hence, we restrict our sample throughout the entire period to the original 323 organizations appearing in our 2012 donation data. The results with this restricted sample are displayed in Online Appendix Figure A.5, and are once again nearly identical to our main findings.

4.2.3. Correcting for selection

As mentioned, our main estimation sample consists of (self-selected) donors in the (self-selected) years they make consecutive donations. To address this self-selection issue, we implement the procedure by Wooldridge (1995) outlined in Section 3.2. Essentially, we first

estimate each individual's probability of donating in consecutive years based on their age, gender, income and education level (as specified in equation (4)). We thereby use data on *all* individuals regardless of donor status. Next, we control for this predicted probability when estimating the relationship between age and universalism among consistent donors. In Online Appendix Table A.2, we show that the linear, quadratic and cubic terms of age when accounting for self-selection are very similar to those from our main analysis. This suggests that any selection based on the included variables does not create a meaningful distortion in the relationship between age and universalism in our setting.

5. Identification of major life event effects

5.1 *Empirical strategy*

So far, our results provide considerable and robust support for a gradual, non-linear evolution of individuals' universalism with aging. Now, we turn to an examination of whether and, if so, how major life events influence individuals' universalism. The underlying idea is that changing personal circumstances can act as a destabilizing force that triggers a shift in personal values (Kirchmeyer, 2002) via either direct or indirect channels (Golebiowska, 1995; Lazer et al., 2010; Decker and Schmitz, 2016; Kosse et al., 2020; Tropp et al., 2022). Hence, such life events may constitute (partial) mechanisms behind the effects of aging on universalism. Nevertheless, the potential links between major life events and universalism bear relevance to our main research question also in and of itself. Indeed, any statistically and substantively significant relationship between major life events and universalism would count against our null hypothesis that universalism is a stable trait at the individual level. Driven by the data available to us as well as theoretical relevance, we focus on starting higher education, becoming a parent for the first time, experiencing an unexpected positive income shock (due to winning a prize in a lottery), and retiring.

We study the dynamic treatment effects of these major life events on (revealed) universalism using an event-study design (Schmidheiny and Siegloch, 2023). This methodological framework examines how an outcome variable of interest (in this case, individuals' universalism) evolves within a certain 'event window' from $\underline{l}$ periods before an event until $\bar{l}$ periods

after an event. When we stack the data on a common time-scale - such that the event of interest occurs at $l = 0$, while $l < 0$ and $l > 0$ refer to periods before and after the event, respectively - we can formulate our event-study specification as (Schmidheiny and Siegloch, 2023):

$$Universalism_{i,t} = \alpha_i + \beta_{\underline{l}} \sum_{l=-\infty}^{l=\underline{l}-1} \Delta T_{i,t-l} + \sum_{l=\underline{l}}^{l=-2} \beta_l \Delta T_{i,t-l} + \sum_{l=0}^{l=\bar{l}} \beta_l \Delta T_{i,t-l} + \beta_{\bar{l}} \sum_{l=\bar{l}+1}^{\infty} \Delta T_{i,t-l} + \delta_t + \epsilon_{i,t} \quad (5)$$

where $\Delta T_{i,t-l}$ is an indicator equal to 1 when the event occurred l periods before time t. The parameters of interest are β_l, which capture the dynamic treatment effects occurring l periods before ($l < 0$) or after ($l > 0$) the event. β_{-1} is normalized to zero, such that $l = -1$ serves as the reference period. We set $l = 3$ to maintain sufficient observations (and thus statistical power) for time periods further away from the event year. Yet, to avoid biased inferences on the parameters of interest, it is important to account for potential persistent effects materializing outside this specified event window (Schmidheiny and Siegloch, 2023). We do this by binning the end points of the event window. The estimated end-point effects ($\beta_{\underline{l}}$ and $\beta_{\bar{l}}$) thus capture, respectively, the impact of a life event on individuals' universalism for all time periods prior to $l = \underline{l}$ or after $l = \bar{l}$. We complete the model with a full set of individual fixed effects (α_i; to control for the impact of any unchanging individual-level characteristics) and year fixed effects (δ_t; to control for time-specific events that affect all individuals equally). In order to maintain statistical power, we estimate the model using an unbalanced panel. Note, however, that this naturally reduces the size of our sample towards the extremes of the event window (due to the restrictions imposed by our eleven-year observation window).

We restrict the estimation sample in two ways. First, we only include individuals who experience a given life event under analysis in the 2007-2022 period (i.e. from five years before we can observe individuals' donations until the end of our sample period).[9] This is important to minimize selection bias arising from the fact that people 'opting into' a given life event (such as choosing to start higher education) may differ along several (un)observable dimensions from those that do not. While we refrain from going further back in time (since

[9]Note that we only have data on retirement and lottery wins up to 2021.

people experiencing a life event long ago may differ from those that experienced it more recently), we show in the Online Appendix that the exact cutoff for this starting point does not matter for our main inferences. Second, we exclude individuals who experience more than one lottery win during our sample period. The main reason is that multiple 'treatments' make it impossible to determine the relevant pre- and post-event periods (Schmidheiny and Siegloch, 2023; Geys and Sørensen, 2024). The same restriction is not necessary for our other life events since, self-evidently, someone can only once start higher education or become a parent *for the first time*. Likewise, given the way we define retirement (see below), it is impossible for someone to retire more than once.

The causal interpretation of our event study results rests on the identifying assumption that the average outcome trajectory for the treated units would have followed the same trend over time as the average outcome trajectory observed for units that are treated at a later time. While this assumption arguably holds for the timing of a lottery win (conditional on playing; Doherty et al., 2006; Fagereng et al., 2021; Geys and Sørensen, 2024), this may be less likely for individuals' decisions on when to start higher education, have a first child or retire. Such timing choices may to different degrees be driven by unobservable characteristics and motivations, which could be correlated with (the determinants of) individuals' donation decisions. Hence, we should be careful with any causal interpretation of these findings, and rather view them as correlational evidence (much like the approach in, for instance, Enke, 2020; Enke et al., 2022; Cappelen et al., 2025).

5.2 *Starting higher education*

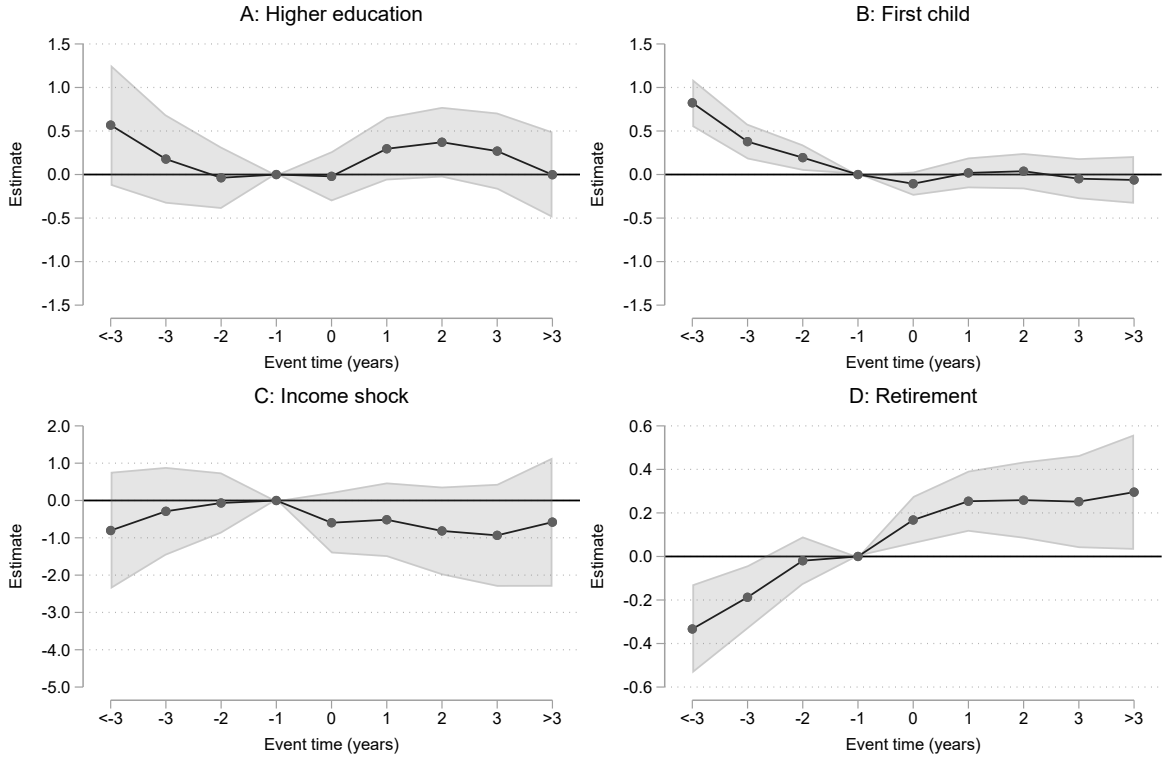
Figure 2 highlighted a particular increase in universalism with aging during early adulthood, particularly between the 'impressionable' ages of 18 and 22 years. As this is the period when individuals typically leave the parental nest to enroll in higher education, it is natural to explore the potential impact of this life event on individuals' degree of universalism.[10] From a theoretical perspective, several direct and indirect pathways may link participation in higher education to universalism. First, a direct impact may come from the educational content itself (Willeck and Mendelberg, 2022), which could cultivate more universalist values by expanding

[10]Existing empirical evidence on the association between *having completed* a higher education degree and universalism remains mixed. Cross-sectional studies show either no (Enke et al., 2022) or a weakly positive (Enke, 2020; Cappelen et al., 2025) relationship. Compared to these studies, we focus on the effect of *starting* higher education.

people's knowledge and exposing them to new perspectives. Second, an indirect impact may arise from the formation of new - and more diverse - social networks at institutions of higher education. Since individuals' moral values constitute part of their social identity (Bonomi et al., 2021), transitioning into a new social environment might work to reshape individual's degree of universalism.

Panel A of Figure 4 displays the results from estimating equation (5) when the life event under analysis is defined as starting higher education (i.e. $l = 0$ in the year of individual i's first enrollment in an institution of higher education). The corresponding regression results are in Column 1 of Online Appendix Table A.3. We find positive point estimates in the three calendar years after the year of one's first enrollment, which subsequently drop to zero in the long run. Yet, these point estimates generally fall short of statistical significance at conventional levels (though $p < 0.10$ at $l = 2$), and they are substantively very small. That is, since we measure universalism as the percentage of an individual's yearly donations going to international causes, our point estimates in Figure 4 imply an increase in the international donation share of at most 0.37 percentage points (which is less than 3.2% of the standard deviation of the dependent variable). In Online Appendix Figure A.6, we test the robustness of these results by successively excluding individuals who started higher education before 2008, 2009, 2010 or 2011 (i.e. years before we can observe individuals' donations). While this weakly strengthens the point estimates in both substantive and statistical terms, the main conclusion does not change. Any (positive) relationship between starting higher education and universalism is very small and does not appear to persist in the long term.

Figure 4 – Event study plots.



Note: The figures display the results from estimation of equation (5) with universalism as the outcome variable. Universalism is measured as the percentage of individuals' yearly donations going to international rather than national causes. Panel A displays the estimated effect of starting higher education for the first time, Panel B of having first child, Panel C of winning the lottery and Panel D of retiring. The samples in Panel A and B are individuals who experience the event between 2007-2022, while in Panel C and D it is individuals experiencing the event between 2007-2021. The coefficient for time period $t-1$ is normalized to zero, such that $l=-1$ serves as the reference period. Standard errors are clustered at the individual level.

5.3 *First-time parenthood*

Parenthood typically initiates substantial changes in many aspects of individuals' lives, which have the potential to impact upon their moral values and behaviors. For example, parenthood has been found to shift individuals' social networks 'inwards' towards their neighbors and the local community (Rözer et al., 2017). This can be expected to foster more community-centered values at the expense of more universal considerations. Having children also triggers more risk averse attitudes and the desire for a safe environment for their children (Görlitz and Tamm, 2020), which may lead parents to adopt a more conservative value orientation. This line of argument is consistent with previous research showing that parents – relative to otherwise similar individuals without children – place greater emphasis on traditional values and have

stronger in-group preferences (Kerry et al., 2022). Taken together, these arguments would suggest that first-time parenthood may be linked to a decrease in individuals' universalism.

Panel B of Figure 4 displays the results from estimation of equation (5), where $l = 0$ in the year of the birth of one's first child. The full estimation results are provided in Column 2 of Online Appendix Table A.3, and are robust to excluding individuals who become first time parents a long time ago (see Online Appendix Figure A.7). All point estimates after the event ($l > 0$) lie very close to zero and are statistically indistinguishable from zero. Nonetheless, we also observe statistically significant positive values in the years *prior* to first time parenthood. That is, universalism increases at a decreasing rate before the birth of one's first child, but then remains unchanged after the child arrives. Although such 'anticipatory' behavior can reflect unobservable characteristics correlated with the timing of having a first child, the pattern in our results may also suggests that the main 'transition' in terms of universalism occurs in the years leading up to parenthood. Such interpretation is consistent with empirical work showing that parents start changing their attitudes and behavior already before their child is born (Görlitz and Tamm, 2020).

5.4 *Transitory, positive income shock*

In correlational studies, wealthier individuals tend to be less universalist than their less wealthy peers once education is accounted for (Enke et al., 2022; Cappelen et al., 2025). In a more causally focused study using a lab-in-the-field experiment among rice farmers in Thailand, Boonmanunt and Meier (2023) investigate how financial constraints affect in-group bias in individuals' pro-social behavior. They show that in-group bias arises only after the harvest (at which point the farmers were less financially constrained), thus suggesting that financial constraints may mitigate – rather than amplify – biases in pro-social behavior. From this perspective, we leverage individual-level data on lottery wins to examine the impact of an exogenous positive income shock on universalism (which will likely considerably relax any individual-level financial constraints).

In Panel C of Figure 4, we plot the results from estimation of equation (5) when the event is winning a lottery prize exceeding 100,000 NOK (roughly 10,000 USD).[11] The full results are

[11]This win level is determined by the individual-level tax register data available to us, since only wins exceeding this level are automatically reported to the Norwegian tax authorities (even though the win itself is tax free). Note also that the median pre-tax income level across our 2012-2021 period equals approximately 450,000 NOK. Hence, the analyzed lottery windfalls constitute a substantial income shock.

provided in Online Appendix Table A.3, while robustness to different sample specifications is once again demonstrated in Online Appendix Figure A.8. Our results suggest that a large positive and transitory income shock is negatively related to universalism. Specifically, a lottery win is associated with a 0.60 percentage point decrease in universalism in the year of the windfall, and this negative relationship persists into subsequent periods. Yet, none of these effects are statistically significant at conventional levels. While this result is at odds with previous work showing that income shocks can affect individuals' value orientations (e.g., Doherty et al., 2006), one tentative explanation for this difference may lie in our use of administrative data (capturing 'revealed' preferences) rather than survey data (capturing 'stated' preferences).

5.5 *Retiring*

Finally, since our main results reveal a turning point in the development of universalism around age 68 years, we investigate the potential impact of retirement on universalism. Retirement represents a major change in lifestyle, time allocation and social networks, which could induce a re-evaluation of individuals' values and priorities. The direction of its impact on universalism is a priori uncertain. On the one hand, Comi et al. (2022, p.275) show that retirement induces a "substitution between weak (friends or colleagues) and strong ties (family)" (see also Van den Bogaard et al., 2014). This may create a narrowing down of one's social circle, which could *decrease* universalism post-retirement. On the other hand, many retirees adapt to the increase in free time in their new life by engaging in volunteer work (Chambré, 1993; Van den Bogaard et al., 2014; Georganas et al., 2022), helping out acquaintances and neighbors (Van den Bogaard et al., 2014), or other group activities (Guthmuller et al., 2024). Such activities have been found to result in increased feelings of social connectedness (Guthmuller et al., 2024). Given that social exclusion increases altruism towards in-group members (but not towards out-group members) (Ramos-Toro, 2023), this enhanced social connectedness could *increase* universalism post-retirement.

In Panel D of Figure 5, we plot the effect of retirement on universalism using the event study specification in equation (5). The full results are provided in Online Appendix Table A.3, while robustness checks excluding retirement cohorts further back in time are again provided in Online Appendix Figure A.9. Since we do not observe retirement directly in our data, we proxy it by the last year in which an individual receives a salary, conditional on having

reached the minimum legal retirement age of 62 years (https://www.nav.no/alderspensjon; Geys and Sørensen, 2024). Our main results highlight a slight increase in universalism following retirement with point estimates of .168 ($p < .01$) at $t = 0$, roughly .25 at $t = 1$ to $t = 3$, and .296 ($p < .05$) in $t > 3$. Nonetheless, the negative point estimates at $t < 0$ suggest that the increase in universalism post-retirement may just reflect a continuation of the development that predates retirement (rather than emanating from retirement itself). Hence, we conclude that retirement in itself does not appear to cause a major change in individuals' positioning on the universalism spectrum.

5.6 *Summary*

Taken together, our event-study analyses of major life events uncover at best modest and short-lived impacts of these events on individuals' universalism. This absence of large and persistent shifts in universalism as a result of changing personal circumstances is in line with the gradual movement in universalism we observed as individuals grow older (see section 4.1).

6. Conclusion

Individuals' level of universalism – which relates to how they make trade-offs between people and/or groups at distinct social distances – is critical to predicting a variety of social, political and economic behaviors (Enke et al., 2022, 2023; Cappelen et al., 2025; Andre et al., 2025). In this article, we exploited individual-level administrative panel data over an eleven-year period to provide a first empirical test of (in)stability of individuals' universalism as they grow older and experience major life events. This is an important question since understanding how key drivers of individuals' decision-making evolve over time is critical *both* to accurately measure these drivers, *and* to develop appropriate public policies related to them (Fitzenberger et al., 2022).

All in all, our main findings suggest that universalist values change only gradually in response to the biological and social processes related to aging, as well as to a set of four major life events. As such, universalism is most likely shaped predominantly by early-life experiences. This conclusion is further supported by our finding that the universalism of parents and children displays a high degree of similarity in early adulthood (which then gradually tapers off as children age). Hence, overall, our findings are consistent with a view of universalist values as "relatively stable, individual-level predispositions" once people reach

adulthood (Zaller, 1991). Yet, our findings add some nuance to this stability by showing that, insofar as changes do take place, they occur in theoretically predictable ways.[12]

Our study of universalism using real-world donation data complements existing studies based on cross-sectional survey data. Such studies have identified considerable cross-sectional heterogeneity in universalism by demographic characteristics including age, education and income (Enke, 2020; Enke et al., 2022; Cappelen et al., 2025). Our longitudinal analyses suggest that this observed heterogeneity largely stems from differences *between* individuals rather than changes in individual characteristics over time. Our results furthermore complement the considerable individual-level stability in universalism across different domains noted in Enke et al. (2022). We add to this finding by demonstrating individual-level stability in universalism also in the inter-temporal (longitudinal) dimension.

Naturally, it is important to account for the potential limitations of using real-world donation data to construct a measure of universalism. On the one hand, donations are shaped by many factors beyond universalism. While we implemented various robustness checks to buttress the validity of our inferences, further validation of our behavioral proxy of universalism would be required in future work. On the other hand, our operationalization imposes a specific cut-off between donations that benefit compatriots and donations with international beneficiaries. As the particularism-universalism spectrum ranges from caring only about one's immediate family to caring about all humanity, the placement of this cut-off may be important. Future work should therefore assess the generalizability of our findings to more granular measures of universalism.

Finally, our findings raise broader questions about the development of universalist values, opening up multiple avenues for further research. For instance, if universalism is shaped predominantly before individuals reach adulthood, then what types of experiences during childhood and adolescence contribute to the formation of these values? Future research could engage in direct, in-depth studies of the roles of parental guidance, educational institutions, early-life social interactions, as well as exposure to cultural and societal norms. A closely related second question pertains to the interplay between nature and nurture. To what extent are universalist predispositions inherited genetically, and how much do they depend

[12]While it is always hard to generalize findings from one country to other contexts, Cappelen et al. (2025) find that universalism levels in Norway are comparable in size to those of the United States, the Netherlands and the United Kingdom.

on the (family and/or social) environment within one is raised? Finally, while the descriptive pattern presented in Figure 1 suggested a decline in universalistic behavior after mid-life, our main findings suggest that this does not mean that an aging society will necessarily cause lower levels of universalistic behavior. Similarly, rising education levels, declining fertility rates, or later retirement ages are unlikely to directly influence universalistic behavior. This suggests that universalism is more likely to be driven by deeper socio-cultural factors (Enke et al., 2023; Cappelen et al., 2025), which calls for more research into the role and influence of such social forces on individuals' universalism.

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Online Appendix

Appendix tables

Table A.1 – Main results.

	(A)	(B)	(C)
Age	-0.00132	0.01293	-0.03739
	(0.00029)	(0.00202)	(0.00977)
	[-0.00189, -0.00075]	[0.00897, 0.01689]	[-0.05654, -0.01825]
Age^2		-0.00014	0.00090
		(0.00002)	(0.00020)
		[-0.00017, -0.00010]	[0.00051, 0.00129]
Age^3			-0.00001
			(0.00000)
			[-0.00001, -0.00000]
Intercept	0.06965	-0.27070	0.48447
	(0.02238)	(0.05289)	(0.15448)
	[0.02578, 0.11352]	[-0.37437, -0.16704]	[0.18170, 0.78724]
Year FE	YES	YES	YES
Observations	5,487,545	5,487,545	5,487,545
Clusters	947,149	947,149	947,149

Note: Column (A) displays results from estimation of equation (3). In Column (B), a quadratic age term is added to the equation. In Column (C), we also add a third-degree polynomial age term. Standard errors clustered at the individual level are displayed in parentheses and a 95% confidence interval in brackets.

Table A.2 – Main results correcting for selection.

	(A)	(B)	(C)
Age	-0.00156	0.02675	-0.05035
	(0.00040)	(0.00227)	(0.01227)
	[-0.00235, -0.00078]	[0.02229, 0.03120]	[-0.07439, -0.02631]
Age^2		-0.00027	0.00132
		(0.00002)	(0.00025)
		[-0.00032, -0.00023]	[0.00082, 0.00181]
Age^3			-0.00001
			(0.00000)
			[-0.00001, -0.00001]
Intercept	0.03640	-0.70072	0.48283
	(0.04263)	(0.06617)	(0.19996)
	[-0.04715, 0.11995]	[-0.83040, -0.57104]	[0.09092, 0.87473]
Year FE	YES	YES	YES
Observations	30,339,617	30,339,617	30,339,617
Clusters	2,758,147	2,758,147	2,758,147

Note: Column (A) displays results from estimation based on Wooldridge (1995)'s two-step correction procedure for selection in panel data. We estimate equation (3) while controlling for an individual's propensity to donate consistently, based on the selection mechanism specified in equation (4). In Column (B), a quadratic age term is added to the equation. In Column (C), we also add a third-degree polynomial age term. Standard errors estimated using panel bootstrapping with 100 replications are displayed in parentheses and a 95% confidence interval in brackets.

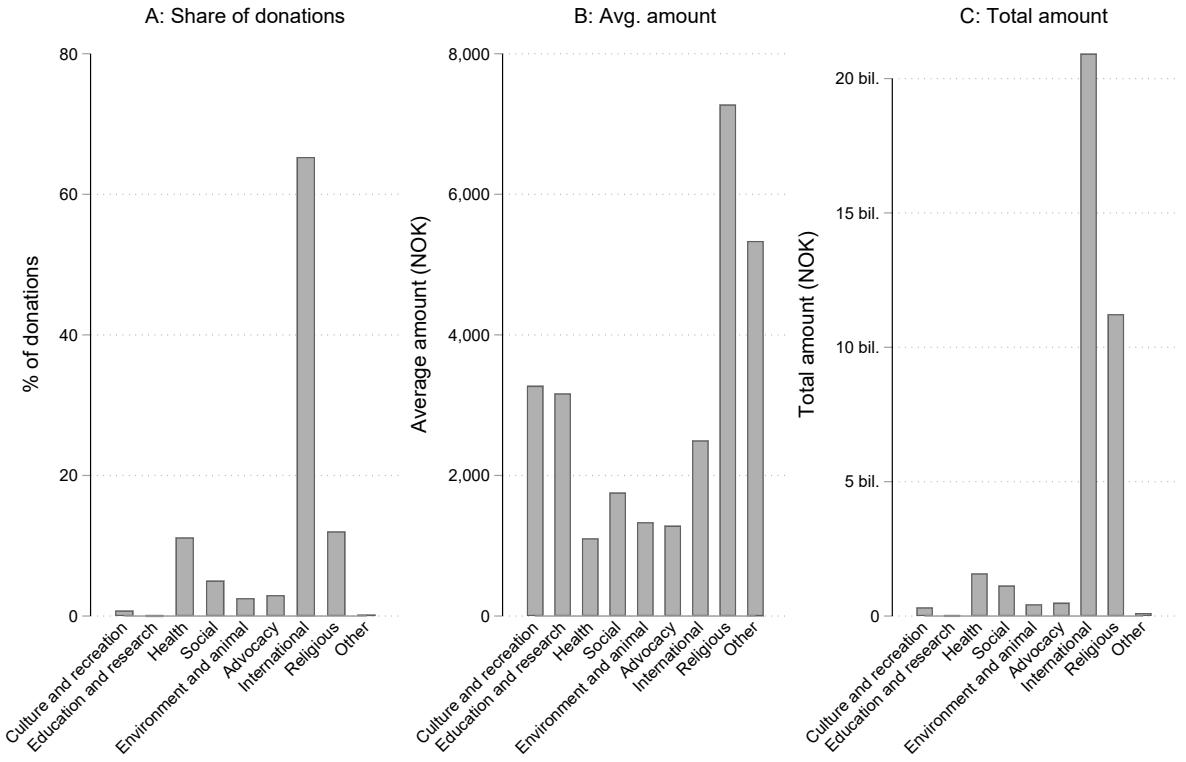
Table A.3 – Effect of different life events on universalism.

	(1)	(2)	(3)	(4)
	Education	Child	Income	Retire
$t < -3$	0.568	0.824	-0.804	-0.333
	(0.355)	(0.140)	(0.802)	(0.104)
	[-0.128, 1.263]	[0.548, 1.099]	[-2.375, 0.768]	[-0.538, -0.129]
$t = -3$	0.178	0.378	-0.289	-0.188
	(0.261)	(0.104)	(0.605)	(0.075)
	[-0.334, 0.689]	[0.174, 0.583]	[-1.475, 0.897]	[-0.334, -0.041]
$t = -2$	-0.037	0.194	-0.066	-0.019
	(0.182)	(0.077)	(0.417)	(0.057)
	[-0.395, 0.320]	[0.043, 0.346]	[-0.884, 0.752]	[-0.131, 0.092]
$t = 0$	-0.021	-0.105	-0.595	0.168
	(0.147)	(0.071)	(0.419)	(0.056)
	[-0.309, 0.267]	[-0.244, 0.033]	[-1.417, 0.226]	[0.058, 0.277]
$t = 1$	0.296	0.019	-0.516	0.254
	(0.186)	(0.090)	(0.510)	(0.071)
	[-0.068, 0.660]	[-0.158, 0.195]	[-1.515, 0.483]	[0.114, 0.394]
$t = 2$	0.371	0.038	-0.815	0.259
	(0.207)	(0.106)	(0.605)	(0.090)
	[-0.033, 0.776]	[-0.170, 0.246]	[-2.001, 0.372]	[0.082, 0.436]
$t = 3$	0.269	-0.048	-0.934	0.252
	(0.226)	(0.120)	(0.703)	(0.109)
	[-0.173, 0.712]	[-0.283, 0.187]	[-2.313, 0.445]	[0.038, 0.466]
$t > 3$	-0.002	-0.062	-0.579	0.296
	(0.253)	(0.140)	(0.883)	(0.135)
	[-0.497, 0.494]	[-0.335, 0.212]	[-2.310, 1.151]	[0.031, 0.561]
Individual FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	679,293	1,120,268	34,083	1,546,933
Clusters	124,892	171,163	4,707	215,276
R-squared	0.86	0.86	0.89	0.89

Note: The table displays the results from estimation of equation (5). In Column (1), the event is starting higher education for the first time. In Column (2), it is becoming a parent for the first time. In Column (3), the event is receiving an income shock (winning the lottery), and in Column (4) it is retiring, proxied by the last year an individual receives a wage. The samples in Column (1) and (2) are individuals who experience the event between 2007-2022, while in Column (3) and (4) it is individuals experiencing the event between 2007-2021. Standard errors clustered at the individual level are displayed in parentheses and a 95% confidence interval in brackets.

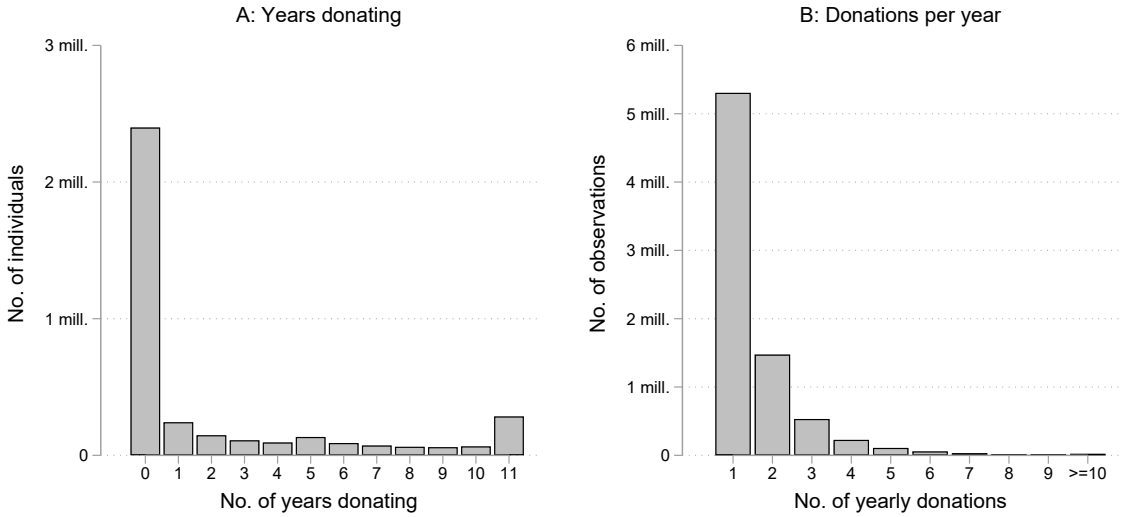
Appendix figures

Figure A.1 – Donation descriptives by type of cause.



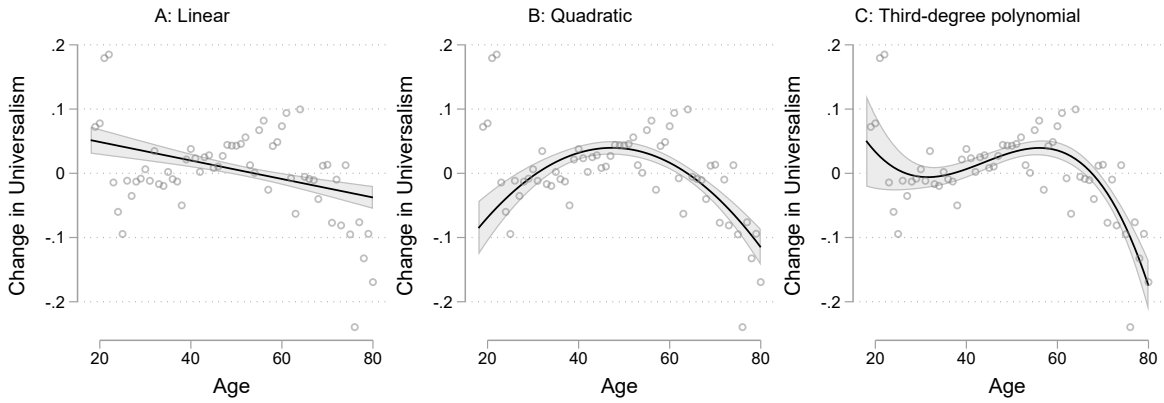
Note: In Panel A, we plot the percentage of the total number of donations ($N = 12,827,748$) to each type of cause in the 2012-2022 period. In Panel B, we plot the average amount donated to an organization of each type of cause. In Panel C, we plot the total amount donated to each type of cause. The 'Culture and recreation' category comprises of primary ICNPO codes '1100 Culture and arts', '1200 Sports', '1300 Other recreation and social clubs' and '13100 Children and youth organizations', 'Education and research' includes '2100 Primary and secondary education', '2200 Higher education', '2300 Other education' and '2400 Research'. 'Health' includes '3100 Hospitals and rehabilitation', '3300 Mental health and crisis intervention' and '3400 Other health services'. 'Social' includes '4100 Social services', '4300 Income support and maintenance' and '14100 Diversity and inclusion'. 'Environment and animal' includes '5100 Environment' and '5200 Animal protection'. 'Advocacy' includes '7100 Civic and advocacy organizations' and '7300 Political organizations'. 'International' includes '9100 International activities', and 'Religious' includes '10100 Religious congregations and associations'. 'Other' includes '4200 Emergency and relief', '7200 Law and legal services', '8100 Grant-making foundations', '8200 Other philanthropic intermediaries' and '12100 Not elsewhere classified'.

Figure A.2 – Donation descriptives.



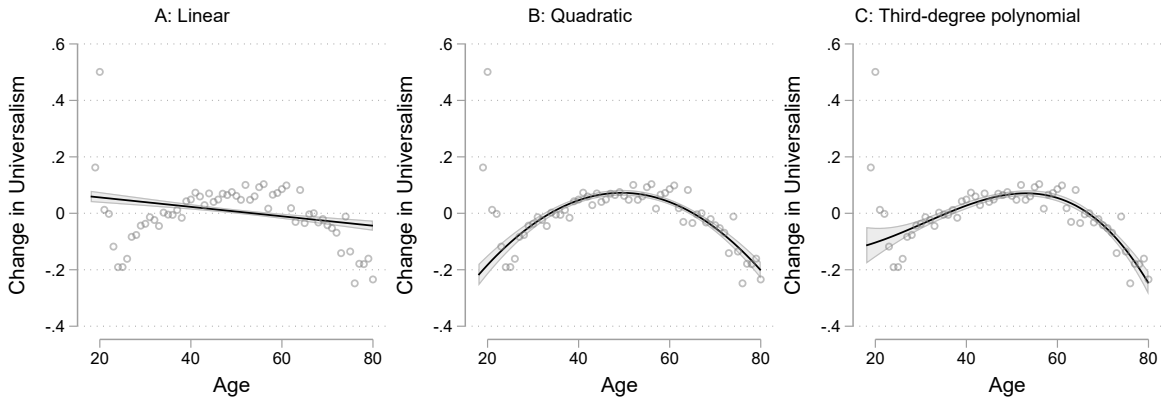
Note: In Panel A, we plot the distribution of the number of years each individual makes a tax-deductible donation during our 2012-2022 sample period. In Panel B, we plot the number of tax-deductible donations made by each individual in a calendar year, conditional on making any donation in that year.

Figure A.3 – Defining international causes from primary ICNPO code only.



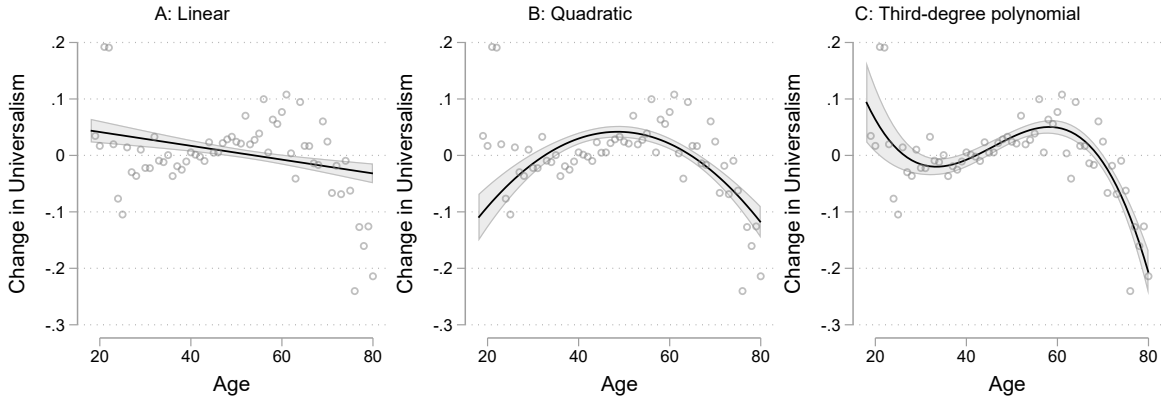
Note: The figures display the predicted (de-trended) change in universalism by age, in percentage points. In this specification, we classify an organization with '9100 International activity' as their primary ICNPO code as international, and exclude organizations with 9100 as their secondary code. In the left panel, the black line with a 95% confidence interval is a prediction obtained through estimation of equation (3). In the middle and right panels, quadratic and third-degree polynomials of age are added to the equation. The circles represent the average (de-trended) change in universalism at each age.

Figure A.4 – Excluding religious organizations.



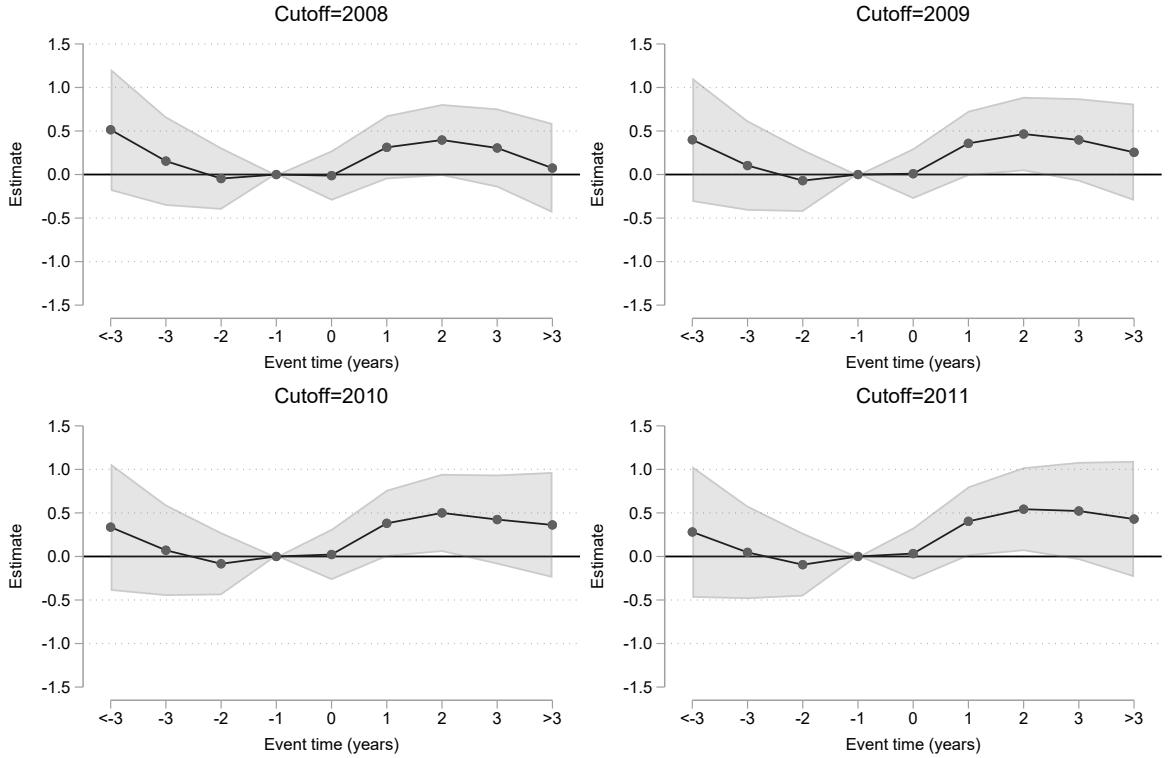
Note: The figures display the predicted (de-trended) change in universalism by age, in percentage points. In this specification, we exclude all organizations with '10100 Religious congregations and associations' as their primary or secondary ICNPO code. In the left panel, the black line with a 95% confidence interval is a prediction obtained through estimation of equation (3). In the middle and right panels, quadratic and third-degree polynomials of age are added to the equation. The circles represent the average (de-trended) change in universalism at each age.

Figure A.5 – Holding set of organizations constant.



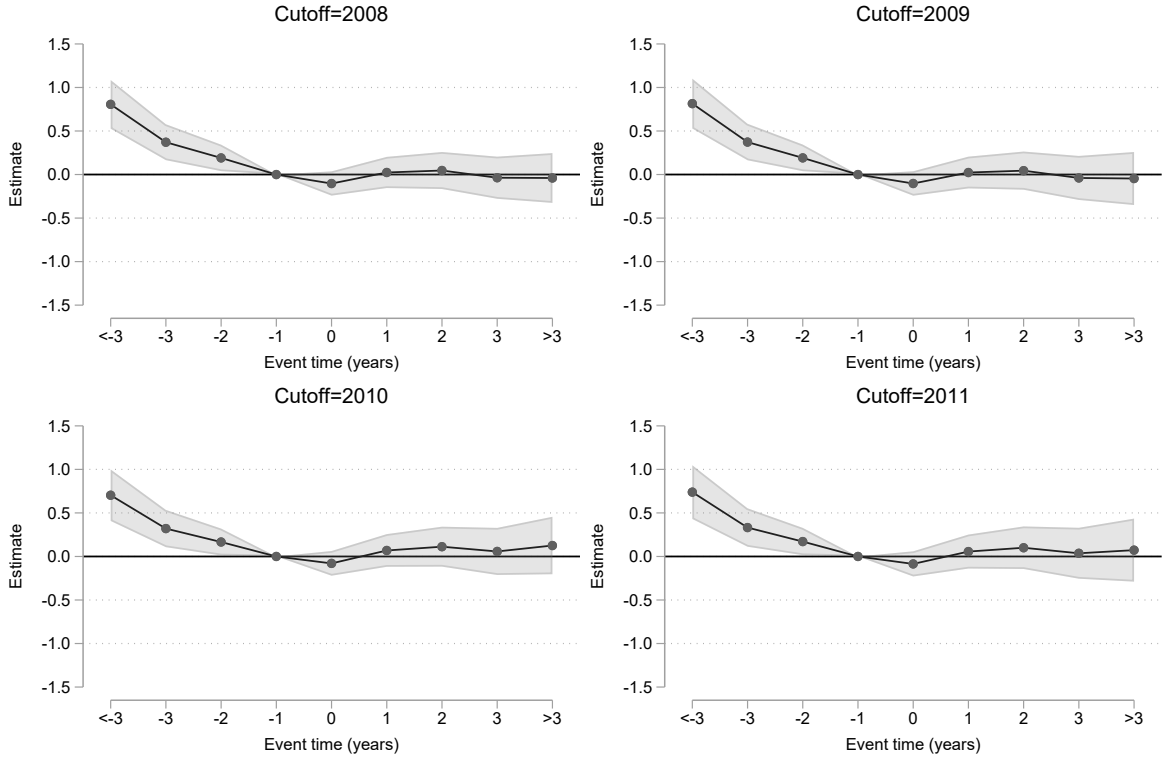
Note: The figures display the predicted (de-trended) change in universalism by age, in percentage points. In this specification, we only include organizations who appear in our first sample year 2012. In the left panel, the black line with a 95% confidence interval is a prediction obtained through estimation of equation (3). In the middle and right panels, quadratic and third-degree polynomials of age are added to the equation. The circles represent the average (de-trended) change in universalism at each age.

Figure A.6 – Event study of starting higher education with different sample restrictions.



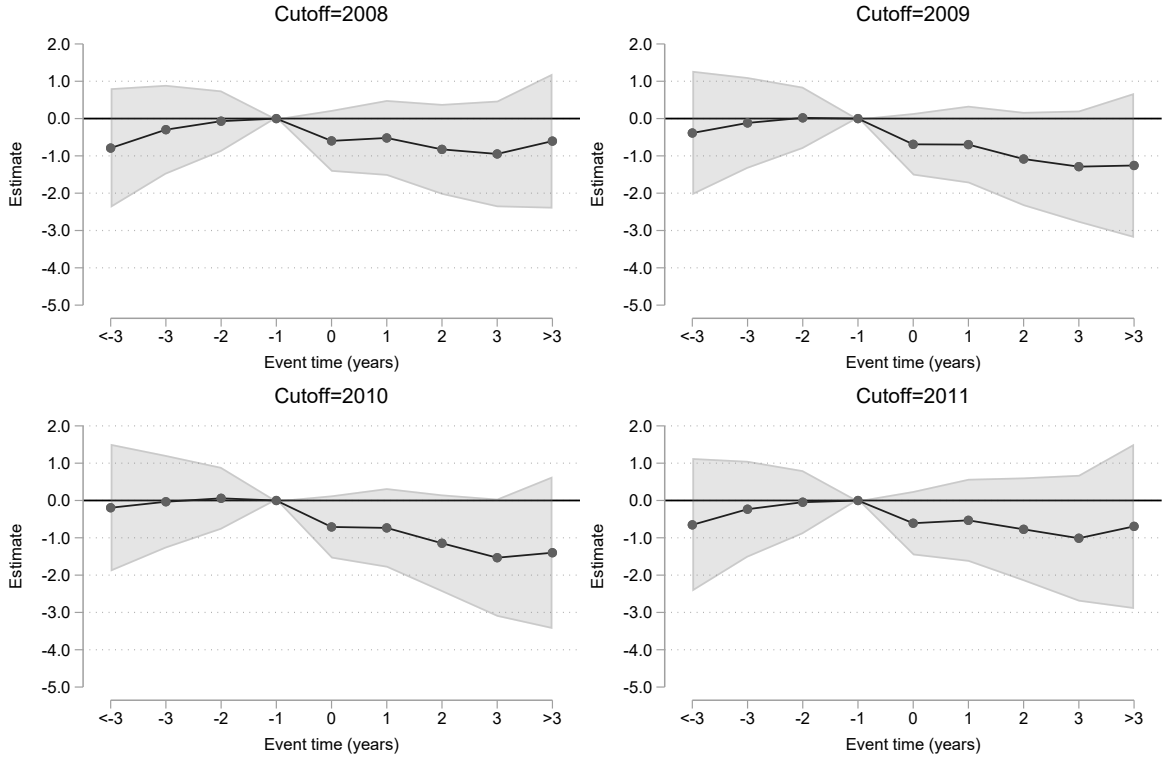
Note: The figures display the results from event studies of starting higher education for the first time (estimation of equation (5)), with different sample restrictions. We vary the earliest year (equal to the cutoff specified in the plot title) people can start higher education and be included in the sample, such that a cutoff at 2008 corresponds to a sample of people who start higher education in the period 2008-2022. Standard errors are clustered at the individual level.

Figure A.7 – Event study of first time parenthood with varying sample restrictions.



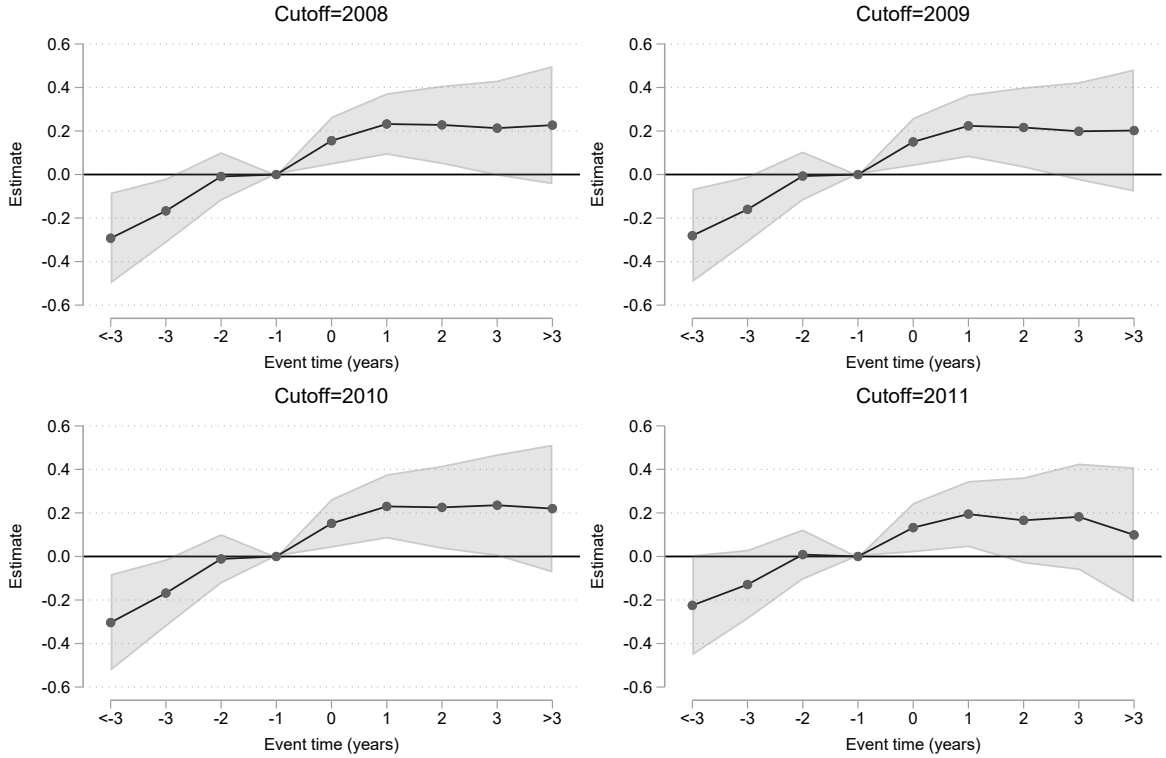
Note: The figures display the results from event studies of becoming a parent for the first time (estimation of equation (5)), with different sample restrictions. We vary the earliest year (equal to the cutoff specified in the plot title) people can have their first child and be included in the sample, such that a cutoff at 2008 corresponds to a sample of people who have their first child in the period 2008-2022. Standard errors are clustered at the individual level.

Figure A.8 – Event study of receiving an income shock with varying sample restrictions.



Note: The figures display the results from event studies of winning the lottery (estimation of equation (5)), with different sample restrictions. We vary the earliest year (equal to the cutoff specified in the plot title) people can receive an income shock and be included in the sample, such that a cutoff at 2008 corresponds to a sample of people who win the lottery in the period 2008-2021. Standard errors are clustered at the individual level.

Figure A.9 – Event study of retiring with varying sample restrictions.



Note: The figures display the results from event studies of retiring (estimation of equation (5)), with different sample restrictions. We vary the earliest year (equal to the cutoff specified in the plot title) people can retire and be included in the sample, such that a cutoff at 2008 corresponds to a sample of people who retire in the period 2008-2021. Standard errors are clustered at the individual level.