When Schools Shape Demography: Socialist Schooling, Gender Norms and the Fertility Decline in East Germany*

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Abstract

Progressive gender norms that conflict with traditional institutions are increasingly hypothesized as a key driver of declining fertility rates. This paper examines the long-run demographic effects of socialist schooling in the former German Democratic Republic, where advancing gender equality was a core educational objective. Leveraging school entry cutoffs in a difference-in-differences framework, I compare adjacent cohorts exposed to different durations of socialist instruction before reunification abruptly replaced it with more gender-traditional content amid rapid institutional transformation. I find that an additional year of exposure significantly reduces both actual fertility and desired family size. Consistent with a norm transmission mechanism, treated individuals express more egalitarian gender attitudes, and treated women exhibit higher labor force participation. Fertility effects are weaker in regions where childcare remained more accessible after reunification, suggesting that supportive institutions can buffer the influence of gender egalitarian norms on fertility choices.

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Keywords: fertility, gender norms, socialist curricula, German reunification, institution-norm mismatch

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1 Introduction

Fertility rates are declining worldwide, with profound implications for long-run economic growth and the fiscal sustainability of welfare states (Jones, 2022). While economic conditions are well-established determinants of fertility decisions (Becker, 1960; Chatterjee and Vogl, 2018; Cumming and Dettling, 2024), cultural change—particularly the evolution of gender norms—is increasingly theorized as a key driver of modern demographic transitions (Doepke et al., 2023; Kearney and Levine, 2025). Cross-country evidence reveals a striking pattern: fertility is systematically lower where egalitarian gender attitudes prevail but institutional support for working mothers remains limited. This suggests that it is not progressive norms alone, but their misalignment with traditional institutions, that may depress fertility. Yet establishing causality has proven elusive because cultural evolution and institutional change typically occur simultaneously and endogenously.

German reunification offers a unique historical moment to identify how norm-institution mismatch affects fertility. For four decades, East Germany promoted gender-egalitarian values through a state-directed education system (Jugendgesetz der DDR, 1974, §1–2; see also Anweiler, 1988), while also building a comprehensive support infrastructure—universal childcare, year-long paid parental leave, and employment guarantees. In 1990, reunification abruptly eliminated many of these institutions, including the elimination of guaranteed childcare access, replacing them with West Germany's more traditional family policy model. This shift imposed a fundamentally different institutional environment on a population socialized into egalitarian gender norms. East Germany subsequently experienced one of the steepest peacetime fertility collapse ever recorded: from 1.52 to 0.77 children per woman in five years.

While reunification's institutional shock affected all East Germans, exposure to the socialist value system varied quasi-randomly due to an administrative rule. East Germany mandated that children turning six by May 31 enter school that September, while those born on or after June 1 waited another year. When reunification abruptly replaced socialist educational content with West German curricula in 1990 (Fischer, 1992), this birth-timing cutoff translated into meaningful differences in ideological exposure: among cohorts still in school, May-born students had completed one additional year of socialist education compared to June-born peers before Western materials replaced socialist content overnight.

To isolate the causal effect of socialist educational schooling from generic age-at-school-entry effects, I employ a difference-in-differences framework. The first difference compares individuals born just before and just after the May 31 school entry cutoff who were of school age during the reunification period (birth cohorts 1974–1983). The second difference uses earlier East German cohorts (1970-1973) who experienced no content discontinuity at the cutoff, allowing me to net out any mechanical effects of starting school at a younger age.

The analysis primarily relies on the German Microcensus (2018–2019), a mandatory annual household survey covering 1% of the population, which provides sufficient statistical power to estimate effects within narrow birth cohort windows (May versus June) and after women have completed their fertility. I supplement these data with three panel surveys: the Socio-Economic Panel (SOEP), the National Educational Panel Study (NEPS), and the Family Research and Demographic Analysis survey (FReDA) to examine mechanisms and robustness.

The results indicate that exposure to socialist schooling generates lasting effects on demographic behavior. Each additional year of socialist education reduces completed fertility by approximately 0.07 children. Beyond realized fertility, treated individuals report lower ideal family sizes, suggesting that the mechanism operates through preferences rather than constraints alone. These estimates prove robust across multiple datasets, alternative treatment definitions, and a comprehensive range of controls, including labor market conditions at graduation.

Several robustness tests further support the baseline findings. Placebo tests on earlier East German cohorts (1970-1973) find no discontinuity at the cutoff, indicating the effect operates through curriculum content rather than school entry timing. The results are robust to using wild cluster bootstrap p-values, randomization-based inference around the cutoff, alternative definitions of fertility, and the inclusion of controls for labor market conditions at the time of graduation. Moreover, treatment status does not appear to be systematically related to these labor market conditions.

The evidence suggests that egalitarian gender norms, rather than human capital or other economic factors, constitute the primary mechanism. Individuals with greater exposure to socialist education do not exhibit substantial differences in educational attainment, rendering skill-based explanations unlikely. However, they display significantly more egalitarian gender attitudes: they are more likely to prioritize equal household division of labor and less likely to believe maternal employment harms children. Finally these also translate into a higher female labor force participation rate. Specifically, one additional year of socialist education increases female labor force participation by about 2 percentage points.

Further evidence emerges from heterogeneity by grade at reunification. The socialist curriculum followed a clear ideological progression, from basic skills in early grades to explicit political content in later ones.[1] Consistent with norm transmission as the key channel, fertility effects are strongest among students in upper grades where gender ideology was

1. Beginning in grade 7, the subject Staatsbürgerkunde (Civic Education) was introduced with explicit ideological objectives, including the promotion of gender equality as an achievement of socialism. Textbooks and lesson plans presented female labor force participation and women's economic independence as markers of socialist progress (Ministerium für Volksbildung der DDR, 1988; Kim, 2003).

most prominent, while no effects appear for those in early primary school. This pattern points against general school disruption or adaptation costs, which would affect all grades.

Lastly, the fertility effect varies systematically with post-reunification institutional support: regions that maintained higher childcare coverage experienced markedly smaller effects. This heterogeneity provides direct evidence that the demographic impact of socialist schooling is contingent on whether surrounding institutions reinforce or undermine the gender-egalitarian norms it promoted.

This paper makes three main contributions. First, I provide the first causal evidence on how socialist schooling affect long-run fertility decisions. While previous work documents socialism's effects on political preferences and labor market outcomes (e.g., Alesina and Fuchs-Schündeln, 2007; Fuchs-Schündeln and Schündeln, 2020; Lippmann, Georgieff, and Senik, 2020), I show that ideological education generated persistent demographic consequences. This extends recent evidence on enduring effects of ideological schooling (Voigtländer and Voth, 2015; Fuchs-Schündeln and Masella, 2016; Cantoni et al., 2017; Costa-Font, Garcıa-Hombrados, and Nicińska, 2024) to fundamental demographic behaviors. Closest to this study is Fuchs-Schündeln and Masella (2016), who also exploit East Germany's school-entry cutoffs. Using a half-year birth window around the cutoff and a West German comparison group, they examine older cohorts (born 1971–1977) who were in upper secondary school or had already entered vocational training or higher education at the time of reunification. They find that longer exposure to the socialist education system reduced college completion rates and male wages, which they attribute to non-meritocratic access restrictions. In contrast, I focus on cohorts still in compulsory schooling and exploit month-of-birth variation within East Germany. To net out age-in-grade effects, I additionally use earlier East German cohorts—thereby sidestepping complications arising from West Germany's different school-entry cutoff date (June 30) and, more importantly, its nontrivial rates of both early and delayed enrollment (Rüdiger, Kormann, and Peez, 1976).

Second, I identify education as a causal source of East–West differences in gender norms and labor supply. More than three decades after reunification, East Germans remain markedly more gender-egalitarian in their attitudes (Bauernschuster and Rainer, 2012; Campa and Serafinelli, 2019) and sustain higher female labor-force participation after childbirth (Jessen, 2022; Boelmann, Raute, and Schönberg, 2025). I show that socialist schooling was a key driver of these enduring differences, providing novel causal evidence on the malleability of gender norms through education.

The magnitude of my estimates aligns with recent evidence that even modest educational interventions can produce substantial demographic effects. In India, a classroom program totaling twenty hours over 2.5 years increased adolescents' support for gender equality by 0.18 standard deviations, with effects persisting into adulthood (Dhar, Jain, and Jay-

achandran, 2022). Likewise, Japan's desegregation of home-economics instruction—a single curriculum reform—altered fertility timing and household labor division decades later (Hara and Rodrıguez-Planas, 2025).

My findings contribute more broadly to a growing literature showing that school curricula can have lasting effects on preferences and behaviors—including financial decision-making (Bernheim, Garrett, and Maki, 2001), identity formation (Clots-Figueras and Masella, 2013), political and economic attitudes (Cantoni and Yuchtman, 2013; Cantoni et al., 2017; Braghieri and Eichmeyer, 2025), science attitudes (Arold, 2024), religiosity (Arold, Woessmann, and Zierow, Forthcoming), and labor-market outcomes (Fuchs-Schündeln and Masella, 2016; Costa-Font, Garcıa-Hombrados, and Nicińska, 2024; Li, Luo, and Wang, 2025; Meriläinen and Mitrunen, 2025). My paper extends this literature by showing that ideological content in schooling can also have sizeable and lasting demographic consequences.

Third, I provide evidence consistent with the institution-norm mismatch mechanism theorized as a driver of fertility decline (Doepke et al., 2023). The quasi-experimental variation from the combination of school entry cutoffs and German reunification allows me to estimate how education aimed at fostering gender equality affect fertility when institutional support suddenly disappears—showing that this mismatch can account for a substantial portion of East Germany's dramatic fertility collapse. This evidence complements the work by Chevalier and Marie (2017), who document negative selection among mothers who gave birth after reunification: they were younger, less educated, and their children performed worse educationally. While their study focuses on changes in cohort composition, this paper identifies an important mechanism behind the sharp fertility decline, showing that those with the strongest internalized egalitarian norms—shaped by longer exposure to socialist schooling—were most likely to reduce fertility when faced with the reintroduction of traditional West German institutions. Consistent with this interpretation, effects are largest in regions offering the least institutional support for working mothers after reunification.

The findings carry important policy implications. In particular, they illuminate why fertility continues declining despite various policy interventions (e.g., Bergsvik, Fauske, and Hart, 2021). When deeply internalized gender norms conflict with institutional realities, pro-natalist economic incentives alone cannot reverse demographic trends. The East German experience demonstrates that sustainable fertility recovery requires aligning institutional frameworks with prevailing gender norms, particularly by improving compatibility between motherhood and career aspirations.

The remainder of this paper proceeds as follows. Section 2 presents cross-country evidence and develops the theoretical framework linking gender-egalitarian norms to fertility. Section 3 describes the institutional context of divided Germany and the socialist education

system. Section 4 presents the data. Section 5 outlines the identification strategy exploiting school entry cutoffs. Section 6 presents the main results and mechanisms. Section 7 concludes.

2 Gender-Egalitarian Norms and Fertility

Cross-country evidence points to a systematic relationship between gender norms and fertility. Figure 1 analyzes 108 countries representing over 90% of the global population, revealing that nations where citizens reject traditional gender hierarchies—specifically male priority in labor markets—experience substantially lower fertility rates (correlation = -0.284). This negative association proves robust across alternative measures of both gender attitudes and fertility outcomes, persisting whether examining realized births or stated fertility preferences (Table C.1) and holding within countries (Table C.2).

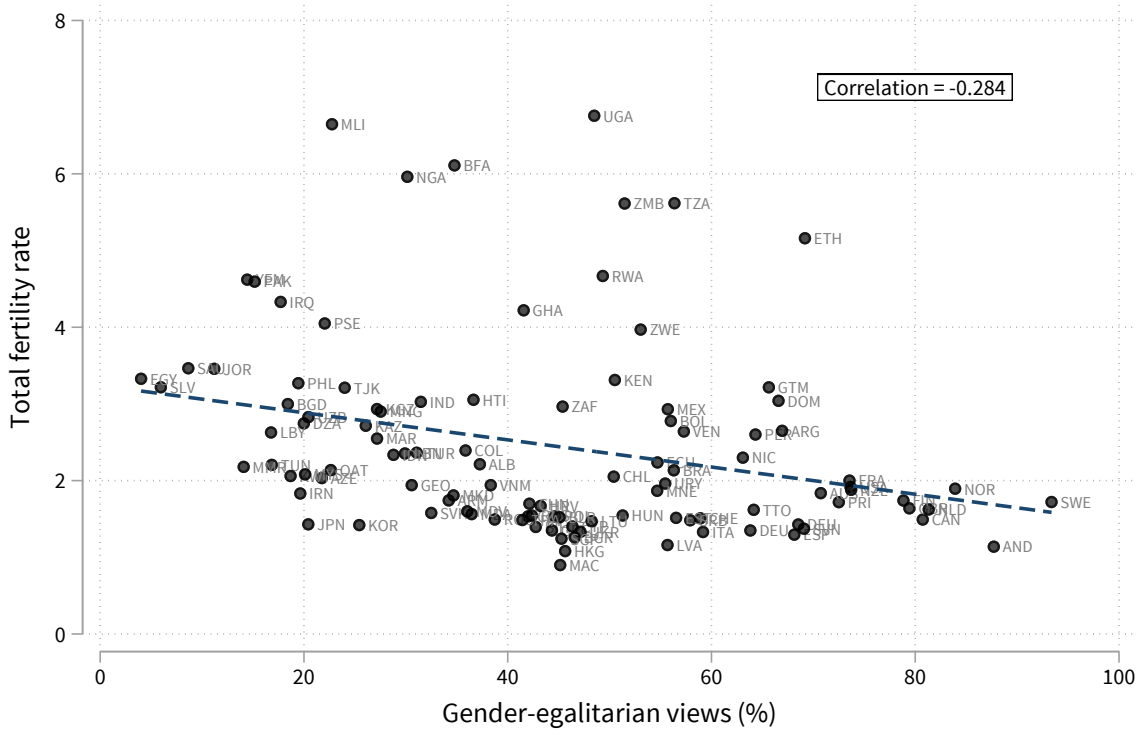


Figure 1. Gender-Egalitarian Norms and Fertility: Cross-Country Evidence

Notes. Country-level correlation between total fertility rate and gender egalitarian views, pooled 1989–2023. Gender egalitarian views measured as percentage disagreeing with "When jobs are scarce, men should have more right to a job than women." from the World Values Survey (Inglehart et al., 2022). Sample includes 108 countries covering over 90% of world population. Total fertility rates are obtained from the World Bank Development Indicators (Azevedo, 2011). Alternative measure using agreement with "A preschool child suffers with a working mother" yields correlation of −0.341.

Critically, institutional context shapes the magnitude of this relationship. Table 1 reveals that the fertility penalty associated with egalitarian gender attitudes approximately dou-

bles in countries without public childcare infrastructure—increasing from -0.010 children in high-support countries to -0.022 in low-support environments. This stark heterogeneity, consistent across both actual and ideal fertility measures (Appendix Table C.3), provides suggestive evidence for the norm-institution mismatch mechanism theorized by Doepke et al. (2023). Where institutions accommodate dual-earner aspirations through accessible childcare and flexible work arrangements, egalitarian values impose minimal fertility costs. However, when women who embrace gender equality encounter institutional frameworks premised on traditional family models, the resulting tension translates directly into reduced childbearing—complementing d'Albis, Gobbi, and Greulich (2017)'s findings on childcare availability as a key fertility determinant.

Table 1. Gender-Egalitarian Norms and Fertility by Childcare Availability: Cross-Country Evidence

Outcome variable:	**Total fertility rate**		
Childcare availability	All	High	Low
Gender egalitarian views (%)	-0.018***	-0.010	-0.022***
(country-level)	(0.005)	(0.007)	(0.006)
No. of countries	102	61	41
No. of individuals	427,569	253,883	173,686

Notes. Cross-country analysis of the relationship between gender egalitarian norms and fertility rates, 1989–2023. Gender egalitarian views measured as the country-level percentage disagreeing with "When jobs are scarce, men should have more right to a job than women" from the World Values Survey (Inglehart et al., 2022). High/low childcare availability based on whether national law establishes government provision of center-based childcare services (Bank, 2024). Total fertility rate from World Bank development indicators (Azevedo, 2011). Standard errors clustered at the country level are shown in parentheses. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

2.1 Theoretical Framework

The cross-country correlations in Figure 1 document a robust negative relationship between gender-egalitarian norms and fertility, particularly when institutions fail to accommodate these values (Tables 1 and C.3). To formalize this relationship and generate testable predictions, I develop a simple model in which exposure to gender-egalitarian norms affects fertility through institutional mismatch.[2]

2. Throughout the paper, I use the term gender-egalitarian (or progressive) norms to refer to beliefs that emphasize equal participation of men and women in both the labor market and household, rejecting a gendered hierarchy of roles or authority. Conversely, traditional (or hierarchical) gender norms assign primary breadwinning and decision-making responsibilities to men and caregiving and domestic roles to women.

Setup. Consider a woman who derives utility from children according to $u(n)$, where n denotes the number of children and $u'(n) > 0$, $u''(n) < 0$.[3] Childbearing entails costs that depend on her internalized attitudes about gender roles and the institutional environment she faces.[4]

Let $G \in [0, 1]$ denote the strength of gender-egalitarian attitudes, with higher values indicating stronger commitment to gender equality. A key insight from the developmental psychology literature is that gender norms are particularly malleable during childhood and adolescence, when identity formation occurs, but become relatively stable in adulthood (John et al., 2017). This persistence of early-life norm acquisition motivates examining school-based exposure as a critical channel. Attitudes are thus shaped by educational exposure to gender-egalitarian curricula during these formative years:

$$G = \gamma s, \tag{1}$$

where s denotes years of exposure and $\gamma > 0$ measures the effectiveness of ideological transmission.

Institutions differ in how compatible they are with these attitudes. Let $\kappa \in [0, 1]$ index how traditional the institutional environment is, with $\kappa = 0$ representing fully egalitarian institutions (e.g., universal childcare, flexible work arrangements) and $\kappa = 1$ highly traditional ones (limited childcare, rigid work schedules). Let $\bar{c}$ denote the baseline per-child cost that applies irrespective of attitudes or institutional context.

Cost structure. The cost of raising n children is given by

$$C(n, G, \kappa) = n \cdot [\bar{c} + \kappa \, \phi(G)], \tag{2}$$

where $\bar{c}$ is the baseline per-child cost and $\phi(G)$ captures the additional burden when egalitarian attitudes conflict with traditional institutions. The mismatch function satisfies $\phi(0) = 0$, $\phi'(G) > 0$, and $\phi''(G) \geq 0$, implying that the psychological and practical strain from reconciling motherhood with egalitarian ideals increases convexly with G. This mechanism is closely related to the friction emphasized by Doepke and Kindermann (2019). In their setting, disagreement between partners over the allocation of childcare raises the perceived cost of an additional child; in mine, a closely analogous burden arises from a disagreement between women's egalitarian views and the traditional institutions they face. In both cases,

3. I also assume $u'''(n) \leq 0$ (weakly concave marginal utility).

4. Institutions could also directly affect utility from children. Adding this channel by specifying $u(n, \kappa)$ with $\frac{\partial u}{\partial \kappa} < 0$ leaves the comparative statics qualitatively unchanged.

fertility falls whenever the childrearing burden is misaligned with women's preferred allocation.

Optimal fertility. The woman maximizes

$$U = u(n) - C(n, G, \kappa). \tag{3}$$

The first-order condition,

$$u'(n^*) = \bar{c} + \kappa\, \phi(G), \tag{4}$$

yields the comparative static:

$$\frac{\partial n^*}{\partial s} = \frac{\gamma\, \kappa\, \phi'(\gamma s)}{u''(n^*)} < 0. \tag{5}$$

Testable predictions. The model delivers three straightforward predictions:

(1) Main effect: Exposure to gender-egalitarian curricula reduces fertility only when women face traditional institutions ($\kappa > 0$). Under egalitarian institutions ($\kappa \approx 0$), the effect is negligible.

(2) Heterogeneity: The fertility consequences decrease with institutional support for working mothers:

$$\frac{\partial^2 n^*}{\partial s\, \partial \kappa} < 0.$$

(3) Mechanisms: Women with greater exposure to egalitarian curricula exhibit more egalitarian gender attitudes and higher labor-force participation.

Connection to the empirical strategy. German reunification provides quasi-experimental variation along both dimensions of the framework. The institutional shift from socialist East ($\kappa \approx 0$) to traditional West ($\kappa \approx 1$) environments activated the mismatch cost $\phi(G)$ for individuals socialized into more egalitarian gender attitudes. The strict May 31 school-entry cutoff generates exogenous within-cohort variation in exposure to the socialist school system, which—while encompassing more than gender-egalitarian content—nonetheless provides a source of plausibly random differences in s. In the context of the model, this variation identifies the reduced-form marginal effect of additional exposure on fertility:

$$\delta_1 = \frac{\partial n^*}{\partial s} = \frac{\gamma\, \bar{\kappa}\, \phi'(\gamma \bar{s})}{u''(n^*)}. \tag{6}$$

The model therefore provides a conceptual mapping to the empirical design, clarifying how one underlying mechanism—norm–institution mismatch—can generate the patterns

examined below, without claiming that this mechanism is uniquely identified. Regional variation in childcare provision after reunification further allows a test of heterogeneity prediction (2), as stronger institutional support should attenuate the fertility effects of higher G.

3 Institutional Context

3.1 Division and Reunification

Germany's postwar division created two societies with fundamentally different approaches to gender equality. The Soviet occupation zone became the German Democratic Republic (GDR) in 1949, while the Western zones formed the Federal Republic of Germany (FRG). This division persisted until the fall of the Berlin Wall in November 1989, after which East Germany rapidly adopted West German laws, institutions, and educational curricula. This abrupt institutional shock—completed within months of reunification—forms the basis of my identification strategy.[5]

3.2 Divergent Gender Regimes

The two German states developed starkly contrasting gender regimes. East Germany enshrined women's employment as both a constitutional right and civic duty. By 1989, this commitment had produced comprehensive support for working mothers: universal childcare covered 95% of children aged 3–6 and 80% of those under three; enterprises provided on-site childcare; mothers received shortened working hours with legal protection from dismissal; and the state offered one year of fully paid parental leave (introduced in 1976). The promotion of women's employment served both economic and ideological goals—aiming to fully mobilize female labor while dissolving women's dependence on the traditional male breadwinner and integrating them into public and political life (Kim, 2003). Cultural reinforcement was equally strong—non-working mothers faced stigmatization as "parasites" while dual-earner households became normative. These policies achieved remarkable results: female labor force participation reached 91% by 1989, with most women working full-time regardless of motherhood status (Trappe, 1996).

5. In addition to the differences created by the socialist system, Becker, Mergele, and Woessmann (2020) also document pre-division differences between East and West Germany in economic structures, political preferences, and gender roles. Importantly, my empirical strategy is orthogonal to any pre-division heterogeneity, as it exploits within–East Germany variation generated by birth timing around school-entry cutoffs.

West Germany maintained institutions supporting male-breadwinner households. Childcare coverage remained below 3% for children under three, with only part-day programs for older children. The tax system—particularly joint taxation (*Ehegattensplitting*) and dependent spouse benefits—created strong disincentives for dual earning. Cultural norms reinforced these institutions: working mothers faced disparagement as *Rabenmütter* (raven mothers), while the legal framework permitted husbands to veto wives' employment if it "interfered with family duties" until 1977. Female employment remained at 56% in 1989, predominantly part-time among mothers (Rosenfeld, Trappe, and Gornick, 2004).

3.3 Educational Content and Gender Norm Formation

The GDR educational system provides unique variation in exposure to gender-egalitarian socialization through its centralized curriculum and strict enrollment rules. From its founding in 1949, the state embedded gender equality as a foundational principle in all educational materials and pedagogical practices (Anweiler, 1988; Block and Fuchs, 1993). The 1974 Youth Law formalized this mandate, requiring schools to develop "socialist personalities" with specific emphasis on gender-egalitarian values (Jugendgesetz der Deutschen Demokratischen Republik, 1974).

All students attended the ten-year *Polytechnische Oberschule* (POS), where ideological content intensified systematically across grade levels (Appendix Figure B.3). Early primary education (grades 1-3) focused on basic literacy and numeracy with minimal ideological content. The middle stage (grades 4-6) introduced female role models in science and production. Upper grades (7-10) required *Staatsbürgerkunde* (civics), which consumed around 5 percent of instructional time and explicitly taught women's labor participation as a socialist achievement (see Appendix Table B.2 for detailed curriculum hours).

The state exercised centralized control over curricular content. Mathematics problems featured female engineers; literature highlighted women's economic contributions. Women in textbooks were depicted primarily through their public roles—as politicians and workers—rather than through family or private life (Schröter, 2002). Education Minister Margot Honecker's directive that "there is no non-political subject" formalized the requirement that all disciplines reinforce gender-egalitarian messages. Non-compliant teachers faced dismissal. This educational approach served as a central lever in the state's broader ideological effort to dissolve women's economic dependence on the traditional family and to integrate them into public and productive life as equal members of the socialist collective (Kim, 2003).

In contrast, the West German education system emphasized the free development of the individual rather than ideological conformity. The official objective was to "foster students in the development of their personality and talents," reflecting a broader commitment to personal autonomy and pluralism rather than collective socialist ideals (*Bildungsplan für*

die Grundschule, 1994). This principle was further reinforced by the Beutelsbach Consensus of 1976, which established that "students must be enabled to form their own independent opinions." (*Beutelsbacher Konsens,* 1976).

Crucially for identification, the GDR had a strict school entry rule: children turning six by May 31 entered school that September; those born after June 1 waited one year.[6] When reunification terminated socialist curricula, this enforced cutoff generated exogenous variation in exposure. Among cohorts in school during reunification (born 1974-1983), May births received one additional year of socialist curricula relative to June births.

3.4 The Reunification Shock

German reunification in 1990 constituted an extraordinary natural experiment in institutional change. The transformation was swift and comprehensive. Socialist curricula disappeared overnight, with West German textbooks replacing all GDR materials by the 1990–1991 school year. Approximately 20% of teachers were dismissed—often for political reasons—accelerating the pedagogical shift (Fischer, 1992). The content change was dramatic: socialist texts emphasizing collective responsibility and gender equality gave way to Western materials promoting individual achievement and traditional family structures. For instance, Baden-Württemberg's 1994 curriculum framework for primary schools stated that education should enable "boys and girls to discover their gender identity" (*Bildungsplan für die Grundschule,* 1994)—a sharp contrast to East German curricula that portrayed gender roles as interchangeable.

The childcare infrastructure, while remaining physically intact, experienced dramatic reductions in access and affordability. Coverage for children under three fell from over 90 percent to under 30 percent within five years as subsidies disappeared and facilities converted to other uses or closed entirely. The labor market transformation proved equally dramatic, with state enterprises employing 90 percent of East Germans collapsing rapidly. Female unemployment reached 20 percent, double the male rate, as industries with high female employment—textiles, light manufacturing, and services—contracted most severely.

West German family policies replaced GDR provisions wholesale. The generous one-year paid parental leave gave way to means-tested, largely unpaid leave provisions. Joint taxation and dependent spouse insurance created new incentives for single-earner households. Part-time work, virtually unknown in the GDR, became the primary employment option for mothers seeking to balance work and family responsibilities.

6. This rule applied uniformly without exception. Kindergarten operated separately through voluntary enrollment (Höltershinken, Hoffmann, and Prüfer, 1997).

3.5 Demographic Consequences

The institutional shock triggered a demographic collapse. East Germany's total fertility rate plummeted from 1.52 in 1989 to 0.77 in 1994—the lowest peacetime fertility ever recorded (Figure 2). West German fertility remained stable at approximately 1.4 throughout this period, confirming that the East German collapse reflected local rather than global factors.

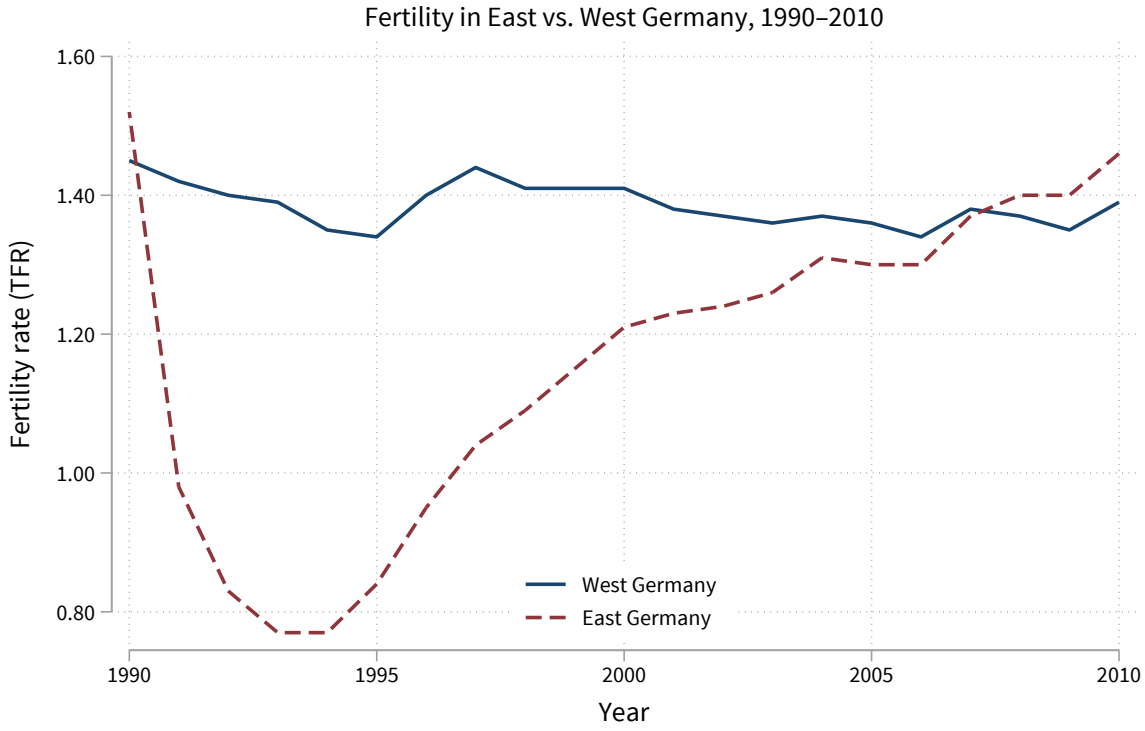


Figure 2. Total Fertility Rate in East and West Germany, 1990–2010

Sources. This figure shows the evolution of total fertility rates in East and West Germany following reunification. By 2008, rates had largely converged and have evolved in parallel since. Data source: Federal Statistical Office of Germany (Destatis), GENESIS-Online Database.

3.6 Persistence of Norm Divergence

Despite rapid institutional convergence, gender attitudes between East and West Germans remained distinctly different for decades after reunification. Post-reunification surveys from 1991 reveal that East Germans were 18 percentage points less likely to believe that "women with small children should not work" and were similarly less likely to endorse traditional male breadwinner models (Appendix Figure B.1). These differences extended across multiple dimensions of gender role attitudes, as documented in Appendix Table B.1.

While these attitudinal gaps narrowed over time, convergence proved remarkably slow. Tracking responses from 1991 to 2016 reveals persistent differences even after more than 25

years of unified governance, shared media environments, and common federal policies (Appendix Figure B.2 and Appendix Table B.1). The durability of these differences—outlasting the institutional framework that created them—suggests that early ideological exposure produced lasting norm divergence independent of subsequent institutional contexts.

4 Data

4.1 Primary Data Source: German Microcensus

The analysis relies primarily on the 2018-2019 German Microcensus, a mandatory annual survey covering one percent of the population.[7] The survey's mandatory nature ensures a response rate exceeding 97 percent, minimizing selection concerns (Federal Statistical Office, 2019).[8] I pool two cross-sections to increase statistical power for detecting effects within narrow birth-month windows while controlling flexibly for age.

The primary outcome is fertility, measured as the number of biological or adopted children residing in the household. Results remain unchanged when using alternative measures, such as the number of children in the family or the total number ever born. The Microcensus records current state of residence but not birthplace or childhood location. I therefore assign treatment based on current residence in former East German states, under the assumption that internal migration is uncorrelated with birth timing around the cutoff. Section 6 validates this assumption using complementary data with migration histories.

4.2 Supplementary Survey Data

To examine mechanisms and validate the main results, I employ three nationally representative panel surveys that track both birthplace and current residence: the German Socio-Economic Panel (SOEP), covering over 30,000 adults since 1984 (Goebel et al., 2019); the National Educational Panel Study (NEPS), following 12,000 adults with detailed educational trajectories (Blossfeld and Von Maurice, 2011); and the Family Research and Demographic Analysis survey (FReDA), a biannual panel launched in 2021 with 38,000 respondents aged 18-49 (Bujard et al., 2023). These datasets enable two critical validations. First, they allow me to verify that treatment assignment based on birthplace yields similar results to the

7. See Research Data Center of the Federal Statistical Office and Statistical Offices of the Federal States of Germany, DOI: 10.21242/12211.2018.00.00.1.1.1 and 10.21242/12211.2019.00.00.1.1.1.

8. https://www.destatis.de/DE/Methoden/Qualitaet/Qualitaetsberichte/Bevoelkerung/mikrozensus-2019.pdf?__blob=publicationFile&v=4

residence-based approach. Second, they provide rich data on potential mechanisms, including gender norms and fertility preferences.

In addition, I draw on three complementary attitudinal datasets to further strengthen the mechanisms analysis. The German Longitudinal Election Study (GLES) provides information on policy preferences regarding gender-egalitarian attitudes (Rattinger et al., 2011). Two surveys conducted shortly after reunification further capture immediate post-transition attitudes: the Shell Youth Study (1991) documents optimism and economic outlook among adolescents and young adults aged 12–25 (Fischer et al., 1999), while the DJI Youth Survey (1992) measures financial concerns and nostalgia for the former GDR among individuals aged 16–29. Taken together, these datasets offer sufficient sample sizes for mechanism analysis, although sample sizes vary depending on outcome availability. Appendix A provides detailed descriptions of each dataset, and Appendix Table A.1 presents summary statistics for additional outcomes.

4.3 Sample Construction

The main sample includes East German residents born 1974-1983 who were in school during reunification. I restrict attention to individuals born in May (treatment) or June (control) to minimize confounding from seasonal birth patterns. The comparison group comprises either earlier East German cohorts (1970-1973) who completed compulsory schooling before reunification or West German cohorts unexposed to curriculum changes. Appendix Table A.2 presents summary statistics for demographic, educational, family, and labor market outcomes.

5 Identification Strategy

The empirical design exploits quasi-random exposure to socialist schooling generated by East Germany's strict school entry cutoff. Children who turned six on or before May 31 of a given year were required to start school that September, while those born in June entered one year later. This rule implies that, among cohorts still in school when reunification occurred (1974–1983), individuals born in May received one additional year of socialist schooling relative to those born in June. Formally, I begin by estimating the following one-year exposure difference specification:

$$Y_{ic} = \alpha_0 + \alpha_1 \text{May}_i + \gamma_c + X_{ic}'\theta + \varepsilon_{ic}, \tag{7}$$

where Y_{ic} denotes fertility of individual i in cohort c, May_i is an indicator for being born in May (versus June), γ_c are cohort fixed effects, and X_{ic} includes gender and age dummies.[9]. The coefficient α_1 captures the effect of one additional year of exposure to socialist schooling. Standard errors are clustered at the cohort–month-of-birth level.

A potential concern with equation (7) is that the May–June cutoff affects not only curriculum exposure but also relative age at school entry, introducing age-in-grade differences unrelated to curriculum content. To address this, I extend the specification to a difference-in-differences framework using May-June difference of earlier East German cohorts (1970–1973) as a second difference. These cohorts had completed schooling before reunification, so the May–June cutoff affected only age-at-entry, not exposure to socialist schooling. The difference-in-differences specification is:

$$Y_{ic} = \delta_0 + \delta_1 \,\text{May}_i \times \text{Cohort74–83}_c + \delta_2 \,\text{May}_i + \delta_3 \,\text{Cohort74–83}_c + \gamma_c + X_{ic}'\theta + u_{ic}, \quad (8)$$

where Cohort74–83_c indicates the cohorts still in school during reunification. The parameter of interest, δ_1, identifies the causal effect of additional exposure to socialist schooling, net of pure age-at-entry effects.

6 Results

This section presents the main empirical results testing whether exposure to socialist curricula causally affected fertility decisions. I begin with graphical evidence before proceeding to regression estimates that isolate the causal effect through the difference-in-differences design.

6.1 Main Results

Figure 3 reveals a striking pattern. While fertility trends track closely for May and June births in the control cohorts (1970-1973), a sharp divergence emerges precisely when the curriculum content begins to matter. Starting with the 1974 cohort—the first affected by differential socialist exposure—May births consistently show lower fertility than their June counterparts. This visual evidence suggests that the additional year of socialist schooling had lasting demographic consequences. I now test whether these differences are statistically significant and robust to various specifications.

9. I pool two waves of the German Microcensus (2018-2019), which allows me to identify age and cohort effects simultaneously while focusing on completed fertility after reproductive years.

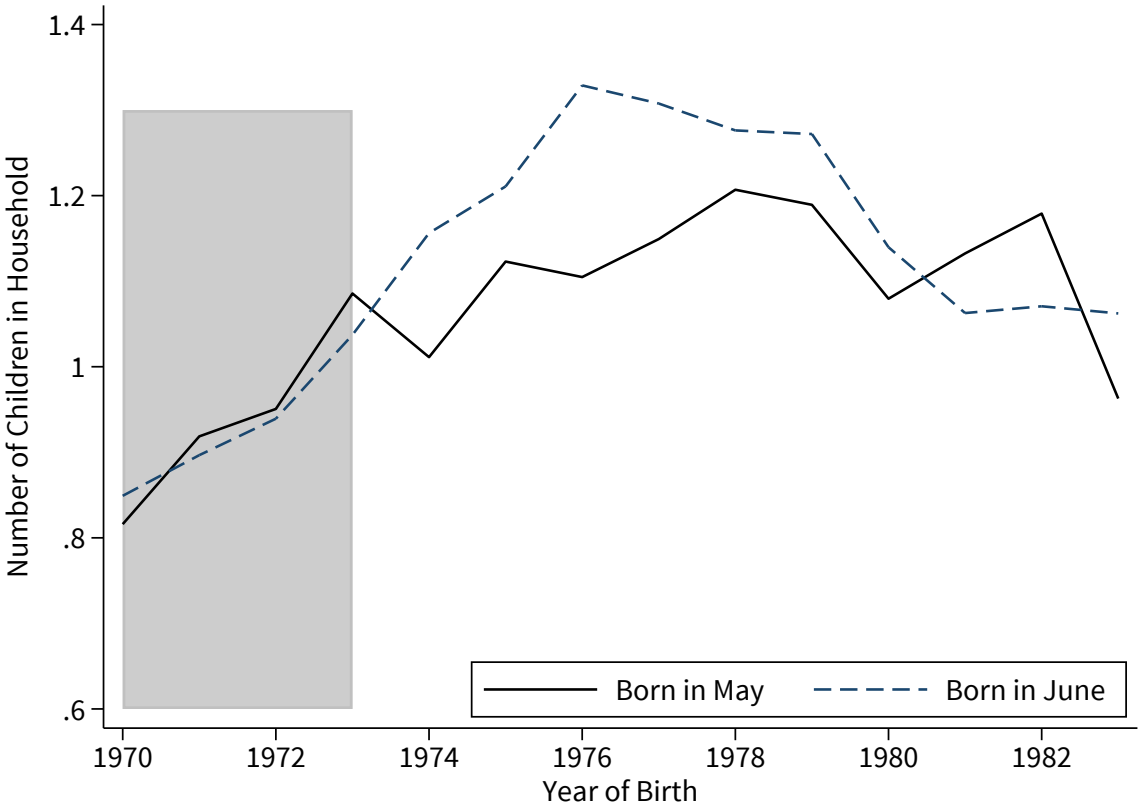


Figure 3. Fertility by Birth Cohort: May vs. June Births in East Germany

Sources. Average number of children in household by birth cohort for individuals born in May (solid line) versus June (dashed line) in East Germany. The shaded area indicates control cohorts (1970–1973) who completed their education before reunification and show no systematic differences between May and June births. The divergence beginning with the 1974 cohort reflects the differential exposure to socialist curricula caused by the school-entry cutoff. May-born individuals in post-1973 cohorts, who entered school earlier and thus received more exposure to socialist curriculum before reunification, have fewer children than their June-born counterparts. Data source: German Microcensus 2018–2019.

May vs. June Births in East Germany. Table 2 presents estimates from the regression discontinuity design comparing May versus June births in East Germany for the 1974–1983 cohorts. Column 1 shows that one additional year of exposure to socialist education reduces completed fertility by 0.072 children (SE = 0.019), a precisely estimated effect. This effect operates primarily through the extensive margin: treated women are 2.3 percentage points less likely to become mothers (SE = 0.005), accounting for approximately one half of the total fertility reduction.

The economic magnitude is substantial. The 0.072 reduction represents approximately 8 percent of East Germany's total fertility decline from 1.5 in 1989 to 0.7 in 1994. Since treated cohorts received on average one additional year of socialist education, differential exposure to socialist curricula accounts for a meaningful portion of the demographic transition.

Robustness. Multiple tests support the causal interpretation. First, placebo estimates using pre-reunification cohorts (1970–1973) show no discontinuity at the May-June cutoff, con-

Table 2. Main Results: Effects of Socialist Schooling on Fertility

	Number of Children	Having at least one child
Born before June	-0.072***	-0.023***
	(0.019)	(0.005)
WCB *p*-value	0.023	0.001
Observations	5,407	5,407

Notes. This table presents regression discontinuity estimates comparing fertility outcomes between May-born and June-born individuals in East Germany. Each column reports coefficients from a separate regression for the outcome indicated in the column header. Sample includes East German cohorts born 1974-1983, drawn from the German Microcensus 2018-2019. All specifications include age fixed effects, birth year fixed effects, and a female indicator. Standard errors are clustered at the cohort–month-of-birth level. Reported *p*-values are based on wild cluster bootstrap procedures using Webb weights (Roodman et al., 2019), with 999 iterations. As a complementary check, I implement randomization-based inference following Cattaneo, Frandsen, and Titiunik (2015), which tests the sharp null hypothesis of no discontinuity under the assumption of local random assignment around the cutoff. This procedure yields *p*-values of 0.011 and 0.077, respectively. Note that this procedure does not allow for covariate adjustment, as inference is conducted within the selected bandwidth window (Cattaneo, Titiunik, and Vazquez-Bare, 2016). Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

firming that effects operate through curriculum content rather than school-entry timing per se (Table C.11). Second, treatment assignment exhibits no systematic relationship with labor market conditions at graduation—youth unemployment, overall unemployment, and employment rates are balanced across the threshold (Table C.5). Third, post-reunification surveys reveal no differences in financial concerns, future outlook, or nostalgia for the past between treatment and control group, ruling out differential economic anxiety or pessimism as mechanisms (Appendix Tables C.6 and C.7).

The estimates are robust to a range of alternative specifications. The main coefficient remains stable when controlling for state fixed effects, state-specific birth year trends, or labor market conditions at graduation (Panels B–D, Table C.4). Expanding the bandwidth to two months yields a slightly smaller but still statistically significant estimate, consistent with treatment dilution from the inclusion of individuals whose birth timing places them farther from the cutoff (Panel E). Next, I employ two complementary small-sample inference methods to account for the limited number of clusters. The wild cluster bootstrap provides model-based, parametric inference that accounts for inference challenges arising from a limited number of clusters (Cameron, Gelbach, and Miller, 2008; Roodman et al., 2019), while randomization inference provides a design-based, nonparametric test of the sharp null hypothesis under local randomization around the cutoff (Cattaneo, Frandsen, and Titiunik, 2015; Cattaneo, Titiunik, and Vazquez-Bare, 2016). Both approaches yield similar p-values ($p < 0.05$), reinforcing the statistical significance of the estimated discontinuity (see Table 2).

Cross-validation using complementary survey data addresses potential measurement concerns. Analysis of three datasets tracking both birthplace and current residence—the SOEP, NEPS, and FReDA surveys—indicates that current residence serves as a valid proxy for birthplace-based assignment. Migration rates do not differ systematically around the cut-

off, and birthplace-based estimates closely mirror those using current residence (Tables C.8 and C.9).

Alternative fertility measures yield consistent results. Effects persist when using children in family rather than household, data from the 2020 wave despite pandemic-related attrition, or mother-specific fertility counts from the 2018 wave (Table C.10).

Grade-Specific Exposure Effects. The ideological content of East German curricula intensified systematically across grades. Beginning in grade 7, civic education explicitly taught gender equality as a socialist achievement and promoted female labor force participation (Kim, 2003). Figure 4 exploits this variation by estimating effects separately by grade bins at reunification.

The results reveal a clear exposure gradient. Students in grades 7-10, who received the most intensive ideological instruction, show the strongest fertility reductions (-0.14 children). Effects lower for grades 4-6 (-0.07 children) and disappear entirely for grades 1-3, where political content was minimal. This pattern directly speak against alternative explanations based on general educational disruption, which would affect all grades. Finally, the absence of effects among placebo cohorts who had completed schooling before the reform also included in the figure further provides evidence that curriculum content, not age-in-grade, drives the results. The following subsection exploits these untreated cohorts more formally through a difference-in-differences design that nets out any time-invariant May-June birth differences.

Difference-in-Differences Estimates. To further validate the results, I implement a difference-in-differences design using pre-reform cohorts as an additional control group. This specification removes any time-invariant differences between May and June births, isolating variation solely from differential curriculum exposure. The DiD estimate of -0.080 children (SE = 0.023) closely matches the baseline RD estimate, providing additional confidence in the causal interpretation (Appendix Table C.12).[10]

Effect on Fertility Preferences. Beyond realized fertility, the socialist curricula also reduces desired family size. Appendix Table C.15 examines ideal number of children, measured through survey questions asking respondents their preferred fertility "setting aside all obstacles." Although the sample size is limited, the pattern is clear: individuals exposed to the socialist curriculum reported lower ideal family sizes. This alignment between stated preferences and realized fertility suggests that socialist education shifted fundamental attitudes toward childbearing, rather than merely influencing fertility through economic or institutional channels. The persistence of these preference changes more than three decades after exposure underscores the durability of early ideological socialization.

10. Appendix Table C.13 replicates the robustness tests, again yielding very similar results. The same holds for the analysis of heterogeneity by grade (see Appendix Figure C.1).

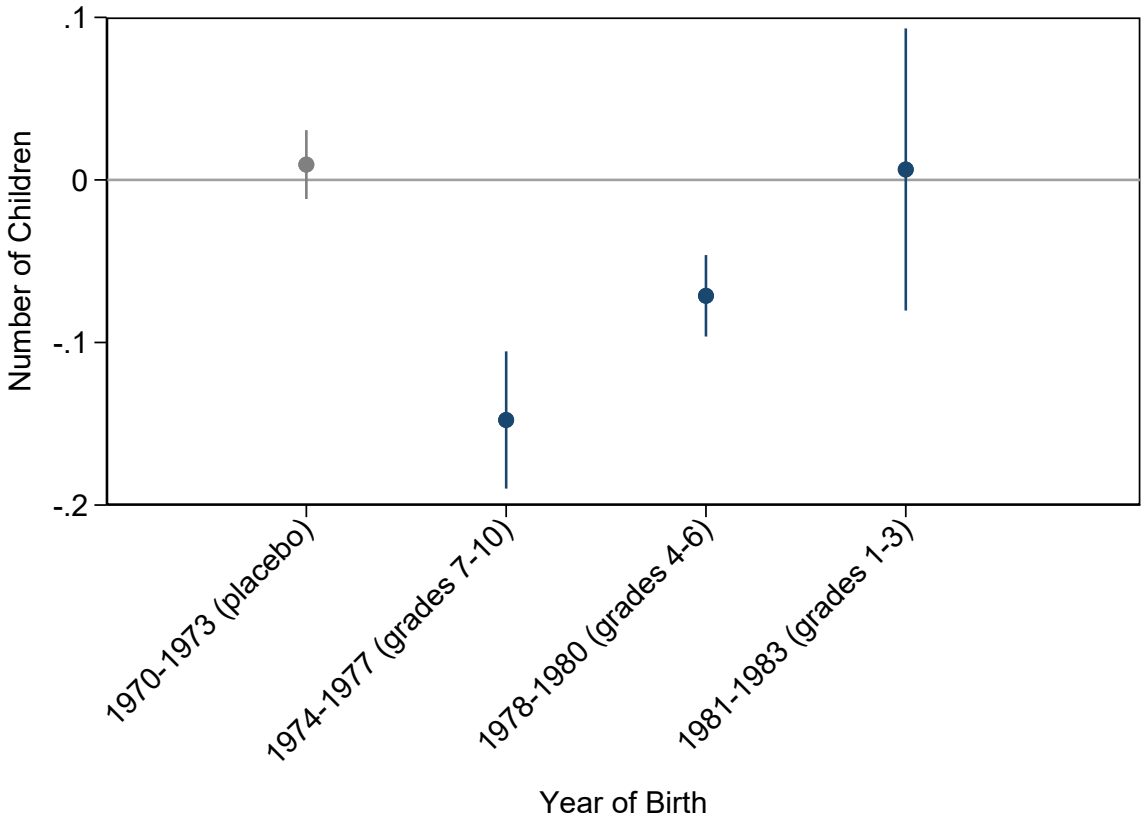


Figure 4. Grade-Level Heterogeneity in Fertility Response to Socialist Schooling

Notes. Figure shows RD estimates by grade at reunification. Grades are binned according to curriculum structure: 1-3 (minimal political content), 4-6 (moderate), 7-10 (intensive ideological instruction). Placebo cohorts (1970-1973) had completed compulsory schooling before the reform. Standard error are clustered at at the treatment-birth year-group level. Vertical bars indicate 95% confidence intervals. *Source:* German Microcensus 2018-2019. See Appendix Table C.11 for point estimates.

6.2 Mechanisms

Having established that socialist schooling reduced fertility, I now examine the mechanisms underlying this effect. The theoretical framework predicts that socialist education operated by transmitting gender-egalitarian norms that subsequently clashed with traditional post-reunification institutions. This section provides four pieces of evidence supporting this mechanism.

Gender Attitudes. Table 3 examines attitude formation three decades after exposure. Treated individuals are substantially less likely to endorse the belief that working mothers harm children—a notion explicitly challenged by socialist curricula. They also express stronger support for equal household division and are less likely to agree that women need children for fulfillment. Additionally, they place a higher value on career success. These enduring attitude shifts—observable three decades after exposure—suggest that socialist curricula effectively transmitted the gender-egalitarian values outlined in the theoretical framework.

Table 3. Effects of Socialist Curricula on Gender Role Attitudes

	Maternal Employment			Household	Female	Women Need	Career
	Harms Children			Gender	Should be	Children for	Importance
	Under Age 3 (1-7)	Under Age 6 (1-7)	Relationship (1-5)	Division (1-4)	Caregivers (1-5)	Fulfillment (1-5)	of Success (1-4)
Born before June	-0.597**	-0.260	-0.166**	0.231*	-0.078	-0.228**	0.141***
	(0.212)	(0.204)	(0.059)	(0.127)	(0.052)	(0.090)	(0.037)
Observations	128	128	438	119	437	436	544
Data source	SOEP	SOEP	FReDA	NEPS	FReDA	FReDA	SOEP

Notes. Regression discontinuity estimates comparing gender attitudes between May-born (treated) and June-born (control) individuals. Treatment represents one additional year of socialist education. Negative coefficients indicate more egalitarian views for all outcomes except "Gender Division" and "Career Importance," where positive values indicate more egalitarian attitudes. *Variable descriptions:* "Harms Children" measures agreement that children suffer when mothers work (lower = more egalitarian). "Gender Division" measures support for equal household task allocation (higher = more egalitarian). "Female Should be Caregivers" measures agreement that women should focus on family. "Women Need Children" measures belief that women need children for fulfillment. "Career Importance" measures value placed on career success. Sample: East German cohorts born 1974-1983. Data from SOEP, NEPS, and FReDA surveys. All specifications include age and birth year fixed effects and a gender indicator. Standard errors are clustered at the cohort–month-of-birth level. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

The transmission of egalitarian values extends beyond private attitudes to policy preferences. Table 4 reveals that treated cohorts express significantly stronger support for state gender-equality measures, suggesting that early ideological exposure shaped not only personal beliefs but also preferences for institutional arrangements that accommodate those beliefs.

Table 4. Effects of Socialist Curricula on Support for Gender Equality Policies

	Importance of Gender Equality		Support for State
	Continuous Scale (1-5)	Binary Indicator (0/1)	Gender Equality Measures (1-7)
Born before June	0.162	0.082*	0.344**
	(0.117)	(0.045)	(0.162)
Observations	1,955	1,955	1,955

Notes. Regression discontinuity estimates comparing policy preferences between May-born (treated) and June-born (control) individuals. Treatment represents one additional year of socialist education. Column (1): 5-point scale measuring importance of gender equality (1 = "not important at all" to 5 = "very important"). Column (2): Binary indicator for considering gender equality important or very important. Column (3): 7-point scale measuring support for state gender-equality measures (1 = "go much too far already" to 7 = "do not go nearly far enough"). Sample: East German cohorts born 1974-1983. Data source: German Longitudinal Election Study (GLES), waves 2017-2021. All specifications include wave fixed effects, birth year fixed effects, and a gender indicator. Standard errors are clustered at the cohort–month-of-birth level. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Suggestive evidence indicates these altered attitudes translate into concrete fertility-career trade-offs. When asked why they limited fertility, 12.4 percent of East German women (cohorts 1974-1983) cited career goals, compared to 7.2 percent of West German women—a 72 percent difference (Appendix Table B.3). While this East-West comparison reflects multiple factors beyond socialist schooling, the gap aligns with the causal evidence on gender attitudes presented above. East German women—educated under a system that promoted female employment as both right and duty—appear more likely to view childbearing and career advancement as competing objectives. Combined with the reduced ideal family sizes documented earlier, these patterns suggest that socialist schooling reordered

how women evaluate parenthood relative to professional achievement, with effects persisting decades after institutional convergence.

Female Labor Supply. Table 5 shows that shifts in gender attitudes are reflected in labor market behavior. Treated women's employment increases by 2.4 percentage points (SE = 1.2), while male employment remains unchanged. This gender-specific pattern mirrors the socialist emphasis on female labor force participation as both an economic necessity and an ideological imperative. The labor supply effects cannot be explained by human capital differences. Appendix Table C.16 shows no impact on educational attainment: the effects on university completion (0.021, SE = 0.012) and vocational training (0.006, SE = 0.007) are economically negligible and statistically insignificant. The absence of skill enhancement combined with female-specific employment increases indicates that socialist education operated through preference formation—changing women's valuation of market work—rather than productivity channels.[11]

Table 5. Effects of Socialist Schooling on Labor Force Participation

Labor force participation rate:	**All**	**Women**	**Men**
Born before June	0.016***	0.024*	0.009
	(0.005)	(0.012)	(0.008)
Observations	5,407	2,637	2,770

Notes. Regression discontinuity estimates comparing labor force participation between May-born (treated) and June-born (control) individuals. Each column reports coefficients from a separate regression for the outcome indicated in the column header. Sample includes East German cohorts born 1974-1983, drawn from the German Microcensus 2018-2019. All specifications include age and birth year fixed effects. The pooled specification includes a gender indicator. Standard errors are clustered at the cohort–month-of-birth level. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Institutional Complementarity. The final test exploits regional variation in post-reunification childcare infrastructure. If fertility effects stem from a mismatch between egalitarian norms and traditional institutions, effects should attenuate where institutions better accommodate dual-earner preferences. Table 6 confirms this prediction: higher childcare coverage substantially reduces the treatment effect, indicating that the demographic consequences of socialist schooling depend on institutional compatibility with internalized norms.

Specifically, the estimation interacts the treatment indicator (being born before June) with state-level childcare coverage for children under age 3 in 1994. The positive interaction coefficient indicates that greater childcare availability attenuates the fertility effect. The

11. These results complement the findings of Fuchs-Schündeln and Masella (2016), who also exploit East Germany's school-entry cutoff using a half-year birth window around the threshold and a West German comparison group. They examine older cohorts (born 1971–1977) who were in upper secondary school or had already entered vocational or higher education at the time of reunification, and find that longer exposure to the socialist education system reduced college completion rates and male wages.

treatment effect is −0.127 children (SE = 0.024) at the 25th percentile of coverage, but it falls to −0.015 (SE = 0.045) at the 75th percentile.

Although childcare coverage reflects, in principle, both supply and demand, variation in the early 1990s was predominantly supply-driven. East German childcare contracted through facility closures and funding cuts rather than declining demand—coverage fell from 80% to around 40% between 1990 and 1994, with regional variation stemming from fiscal and political factors (Deutsches Jugendinstitut, 2002; Borchardt, 2023) Moreover, using 1998 coverage yields very similar results (Appendix Table C.17), confirming that institutional support persistently moderates the effect of internalized norms on fertility, and that this pattern is robust across alternative post-reunification snapshots.

Table 6. Heterogeneity by Institutional Support: Fertility Effects by Childcare Availability

	Number of Children
Born before June	-0.493**
	(0.209)
Childcare availability (in %)	0.003
	(0.004)
Born before June ×	0.011*
Childcare availability (in %)	(0.006)
Implied effect at:	
25th percentile childcare (32.8%)	-0.127***
	(0.024)
75th percentile childcare (42.9%)	-0.015
	(0.045)
Observations	5,407

Notes. This table examines heterogeneity in fertility effects by institutional support, proxied by childcare availability. Childcare availability is measured as the percentage of available slots for children under age 3 by state in 1994: Berlin (28.7%), Brandenburg (54.1%), Mecklenburg-Vorpommern (39.0%), Saxony (32.8%), Saxony-Anhalt (42.9%), and Thuringia (36.4%) (Deutsches Jugendinstitut, 2002). The interaction term captures whether fertility responses differ by levels of childcare provision. Implied effects are calculated at the 25th (32.8%) and 75th (42.9%) percentiles of the 1994 childcare distribution. The sample includes East German cohorts born between 1974 and 1983, drawn from the 2018–2019 German Microcensus. Standard errors are clustered at the cohort–month-of-birth level. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

7 Conclusion

This paper establishes that socialist schooling causally reduced long-run fertility. Exploiting the combination of German reunification and strict school-entry cutoffs, I show that one additional year of exposure to socialist schooling—which explicitly promoted gender equality—reduced fertility by about 0.07 children. The effect seems to operate through trans-

mitted values rather than acquired skills: treated individuals hold more egalitarian gender attitudes and women are more likely to participate in the labor force, while human-capital outcomes remain largely unchanged. Critically, the fertility effect attenuates in regions with greater post-reunification childcare availability, indicating that demographic outcomes depend on the alignment between internalized values and institutional constraints.

These findings yield two broader insights. First, they provide empirical support for the norm-institution mismatch hypothesis central to recent explanations of modern demographic transitions (Doepke et al., 2023). When reunification abruptly replaced East Germany's supportive infrastructure with West Germany's traditional family model, cohorts with stronger egalitarian socialization reduced fertility most sharply. Second, they identify schooling as a causal source of persistent East-West differences in gender norms and female labor supply—differences that endure decades after institutional convergence (Campa and Serafinelli, 2019; Boelmann, Raute, and Schönberg, 2025). The malleability of gender norms through educational content, combined with their demographic consequences, underscores how early-life socialization shapes fundamental life decisions.

The implications extend beyond post-socialist transitions, offering insights into contemporary demographic trends in advanced economies. The East German case provides one possible lens for understanding a phenomenon observed across many countries, as it reflects an accelerated form of a broader global pattern: while younger cohorts increasingly embrace egalitarian gender norms (Perales, Lersch, and Baxter, 2019), family institutions often remain embedded in traditional frameworks. This growing misalignment may contribute to persistently low fertility rates. The limited success of many pro-natalist policies (e.g., Bergsvik, Fauske, and Hart, 2021) might stem not primarily from insufficient generosity, but from operating within institutional structures that are misaligned with the evolving values of younger populations. The heterogeneity in treatment effects by childcare availability observed in my study suggests that institutional adaptation may be a key mechanism. As the divergence between gender norms and institutional structures persists, aligning family policies with the egalitarian expectations of younger cohorts may become increasingly important for addressing long-term demographic challenges.

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Appendix A Data Sources

This appendix provides detailed information on the individual-level datasets used in the analysis, in addition to the German Microcensus.

A.1 National Education Panel Study (NEPS)

The National Education Panel Study (NEPS) is a large-scale longitudinal survey documenting educational trajectories and life courses in Germany (Blossfeld and Von Maurice, 2011). It follows six starting cohorts, ranging from newborns to adults, across repeated waves. Each starting cohort comprises multiple birth cohorts. I use Starting Cohort 6, which tracks the educational and professional careers of a representative adult sample, covering individuals born between 1944 and 1988. The survey began in 2007/2008 and continues with regular follow-up waves through 2022. NEPS provides retrospective information on educational biographies, including respondents' state of birth, which I use to infer whether individuals attended school in East Germany.

My analysis sample consists of individuals born between 1974 and 1983 in East Germany who report state of birth, month and year of birth, and basic demographics. NEPS offers several outcomes relevant to this study. The primary outcome is fertility, measured as the number of children residing in the household. Respondents are also asked about ideal fertility—"If you set aside all obstacles, how many children would you ideally like to have in total?"—and about gender-related attitudes, including support for an equal division of household tasks.

A.2 German Socio-Economic Panel (SOEP)

The German Socio-Economic Panel (SOEP) is a nationally representative longitudinal household survey covering a wide range of topics. I employ SOEP Core 1984–2022 (v.39), which has followed individuals since 1984, with periodic sample refreshes (Goebel et al., 2019).

I restrict the sample to East German individuals born between 1974 and 1983 who report state of birth, month and year of birth, and basic demographics. SOEP provides multiple outcomes relevant to this study. The primary outcome is fertility, measured as the number of children in the household. In addition, respondents report ideal fertility and a range of gender-related attitudes, such as whether maternal employment harms young children and the importance of career success.

A.3 Family Research and Demographic Analysis (FReDA)

The Family Research and Demographic Analysis (FReDA) survey is a large-scale, biannual panel survey designed to be nationally representative of individuals aged 18 to 49 in Germany (Bujard et al., 2023). The survey is conducted in mixed mode, combining self-administered web and paper questionnaires. Data collection began in early 2021 with an initial sample of about 38,000 respondents.

I restrict the sample to East German respondents born between 1974 and 1983 who report state of birth, month and year of birth, and basic demographics. FReDA provides rich demographic and attitudinal information. The primary outcome is fertility, measured as the sum of biological children with the current partner and with former partners. Respondents are also asked about gender-related attitudes, including whether maternal employment harms relationships, whether women should be primary caregivers, and whether women need children for a fulfilled life.

A.4 Additional Datasets

A.4.1 German Longitudinal Election Study (GLES). The German Longitudinal Election Study (GLES) is a nationally representative survey that investigates political attitudes and behavior in Germany (Rattinger et al., 2011). I use the GLES cross-sectional data from 2017 to 2021, which include detailed items on social and policy views. The key variables capture respondents' positions on gender equality, such as support for equal career opportunities for women and opinions on whether the government should actively promote gender parity.

A.4.2 Shell Youth Study (1991). The Shell Youth Study is a nationally representative survey series of young people in Germany aged 12 to 25, focusing on social values, political orientations, and economic expectations. I use the 1991 wave, conducted shortly after reunification, to capture early post-transition attitudes (Fischer et al., 1999). To align the analysis with the study's cohort window, I restrict the sample to respondents born between 1974 and 1978, who were aged 13 to 17 at the time of the survey. The data provide rich information on respondents' economic outlook, perceived life opportunities, and confidence in Germany's future, allowing for an early assessment of how optimism and expectations differed between those raised under socialist and capitalist systems.

A.4.3 DJI Youth Survey (1992, 1997, and 2003). The DJI Youth Survey (1992, 1997, and 2003) is a nationally representative study conducted by the German Youth Institute, covering adolescents and young adults aged 16 to 29 across East and West Germany. It collects detailed information on financial concerns, life satisfaction, and attitudes toward social change

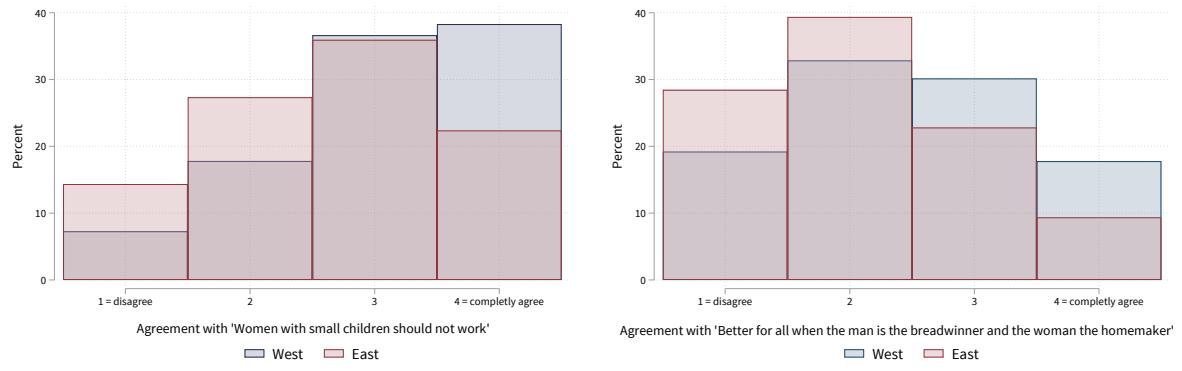
in the aftermath of reunification. Importantly, it includes measures of nostalgia for the former GDR, providing insights into how young people evaluated the institutional transition and its socioeconomic consequences during the early 1990s.

Table A.1. Descriptive Statistics for Supplementary Outcome Variables

	Mean	Std. dev.	Min.	Max.	Obs.	Data Source	Waves
Number of Children	1.608	0.961	0	8	395	NEPS, FReDA, SOEP	2021
Ideal Number of Children	2.189	1.329	0	12	212	NEPS, SOEP	2019-2022
Currently Living in East Germany	0.752	0.432	0	1	3,104	NEPS, SOEP	1991-2021
Gender Role Attitudes							
Maternal Employment: Harms Children (Age < 3)	2.867	1.933	1	7	128	SOEP	2018
Maternal Employment: Harms Children (Age < 6)	2.469	1.788	1	7	128	SOEP	2018
Gender Role Division in Household	1.412	0.630	1	4	119	NEPS	2013, 2016, 2022
Working Mother: Can Build Warm Relationship with Child	4.648	0.783	1	5	438	FReDA	2021
Women Should Be Primary Caregivers	2.014	1.051	1	5	437	FReDA	2021
Children Essential for Life Fulfillment	2.190	1.185	1	5	436	FReDA	2021
Career Success Important for Life Fulfillment	3.029	0.659	1	4	544	SOEP	1992, 1995, 2004, 2008, 2012, 2016, 2021
Support for Gender Equality Policies							
Importance of Gender Equality (continuous)	3.374	1.131	1	5	1,955	GLES	2017–2021
Importance of Gender Equality (binary; =1 if >3)	0.470	0.499	0	1	1,955	GLES	2017–2021
Support for State Gender Equality Measures	4.496	1.568	1	7	1,955	GLES	2017–2021
Future outlook and economic attitudes							
Satisfaction with financial situation	4.722	2.667	0	10	579	DJI Youth Survey	1992, 1997, 2003
People were better off in the past	2.744	0.935	1	4	577	DJI Youth Survey	1992, 1997, 2003
Optimism about personal future	2.296	0.558	1	3	81	Shell Youth Study	1991
Optimism about society's future	1.765	0.426	1	2	81	Shell Youth Study	1991

Notes. This table reports descriptive statistics for the supplementary outcome variables used in the analysis. The sample includes, where possible, individuals born in East Germany between 1974 and 1983. Reported values correspond to the estimation samples used in the regressions.

Appendix B Supplementary summary statistics



(a) (b)

Figure B.1. East–West Gap in Child-Rearing Gender Norms, 1991

Notes: Distribution of responses to gender role attitudes in East and West Germany, measured in 1991. Panel (a) shows agreement with the statement "Women with small children should not work" and Panel (b) shows agreement with "Better for all when the man is the breadwinner and the woman the homemaker." Scale: 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree. Data source: German General Social Survey (ALLBUS), 1991.

Table A.2. Descriptive Statistics: Microcensus Sample (2018–2019)

Variable	Obs.	Mean	Std. dev.	Min	Max
Demographics					
Gender (1 = male, 2 = female)	5,407	1.488	0.500	1	2
Year of birth	5,407	1978.733	2.886	1974	1983
Month of birth (5 = May, 6 = June)	5,407	5.491	0.500	5	6
Age	5,407	39.402	2.988	34	45
Household and Labor Market					
Unemployed (=1)	5,402	0.067	0.256	0	1
Monthly household net income[a] (EUR)	5,352	3,467.788	2,169.374	75	22,500
Monthly individual net income[a] (EUR)	5,377	1,917.156	1,324.345	0	22,500
Weekly working hours[b]	4,873	33.067	15.158	0	80
Education					
Highest ISCED education level	5,404	4.146	1.663	1	8
University degree (=1)	5,407	0.296	0.456	0	1
Further training last year (=1)	5,403	0.216	0.412	0	1
Family and Relationship Status					
Not married (=1)	5,407	0.493	0.500	0	1
Has children (=1)	5,407	0.676	0.469	0	1
Number of children in household	5,407	1.148	1.007	0	6
Number of children in family	5,407	0.999	1.018	0	6
Employment Rates					
Overall employment	5,407	0.901	0.298	0	1
Male employment	2,770	0.915	0.279	0	1
Female employment	2,637	0.887	0.317	0	1

Notes. The table reports descriptive statistics for the estimation sample drawn from the 2018–2019 Microcensus. The sample includes individuals born between 1974 and 1983 in May or June who currently reside in East Germany. [a] Midpoints of income brackets are used. For the top-coded category (€18,000 or more), the midpoint is set to €22,500 (1.25 × €18,000). [b] Conditional on employment; the question asks: "How many hours did you actually work last week?"

Appendix C Supplementary results

Table B.1. Gender Role Attitudes in East and West Germany, 1991–2016

	East		West	
	1991	2016	1991	2016
"A working mother can establish just as loving and secure a relationship with her children as a mother who doesn't work."	89.9	92.5	72.9	85.9
"A small child is bound to suffer if his or her mother goes out to work."	57.6	26.0	75.9	44.0
"It is much better for everyone concerned if the man goes out to work and the woman stays at home and looks after the house and children."	32.4	13.7	50.1	26.2
"A child actually benefits if his or her mother has a job rather than just concentrating on the home"	60.9	79.6	34.4	62.1
"A married woman should not work if there are not enough jobs to go round and her husband is also in a position to support the family."	43.7	15.0	52.5	22.1

Notes. Values show the percentage of respondents reporting "agree" or "strongly agree" on a four-point Likert scale ranging from "strongly disagree" to "strongly agree." Source: German General Social Survey (ALLBUS), 1991 and 2016.

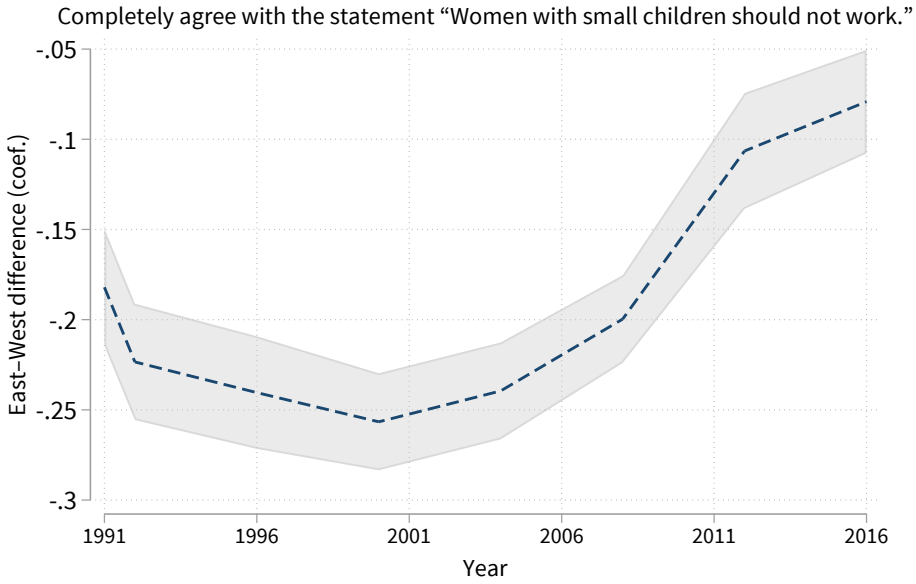


Figure B.2. Evolution of the East–West gap in attitudes toward mothers of young children working

Notes: This figure tracks the evolution of East-West differences in agreement with "Women with small children should not work." The coefficient represents the gap between East and West Germany, with negative values indicating East Germans are less likely to agree with this statement (i.e., hold more egalitarian views). Shaded area represents 95% confidence intervals. Data source: German General Social Survey (ALLBUS), repeated cross-sections 1991–2016.

Table B.2. Timetable for the ten-grade secondary school from school year 1971/72

Subject / Grade	1		2	3	4	5	6	7	8	9	10
	1st H.	2nd H.									
German	11	10	12	14	14	7	6	5	4+1	3	3+1
Russian	—	—	—	—	—	6	5	3	3	3	3
Mathematics	5	5	6	6	6	6	6	6	4	5	4
Physics	—	—	—	—	—	—	3	2	2	3	3
Astronomy	—	—	—	—	—	—	—	—	—	—	1
Chemistry	—	—	—	—	—	—	—	2	4	2	2
Biology	—	—	—	—	—	2	2	1	2	2	2
Geography	—	—	—	—	—	2	2	2	2	1	2
Handicraft	1	1	1	1	2	2	2	—	—	—	—
School garden	—	1	1	1	1	—	—	—	—	—	—
Polytechnic education, including	—	—	—	—	—	—	—	4	4	5	5
Introduction to social production	—	—	—	—	—	—	—	(1)	(1)	(2)	(2)
Technical drawing	—	—	—	—	—	—	—	(1)	(1)	(—)	(—)
Productive work	—	—	—	—	—	—	—	(2)	(2)	(3)	(3)
History	—	—	—	—	—	1	2	2	2	2	2
Civics	—	—	—	—	—	—	—	1	1	1	2
Drawing	1	1	1	1	2	1	1	1	1	1	—
Music	1	1	1	2	1	1	1	1	1	1	1
Physical education	2	2	2	2	3	3	3	2	2	2	2
Weekly hours	21	21	24	27	29	31	33	32	32+1	31	32+1
Optional											
Needlework	—	—	—	—	1	1	—	—	—	—	—
2nd foreign language	—	—	—	—	—	—	—	3	3	3	2
Weekly hours	21	21	24	27	30	32	33	35	35+1	34	34+1

Notes. Directive on the introduction of the timetable for the ten-grade general polytechnical secondary school for the school year 1970/71 and from 1971/72. — indicates no hours allocated; entries such as "4+1" denote additional hours (study groups / specialization). Source: Schmidt (1988)

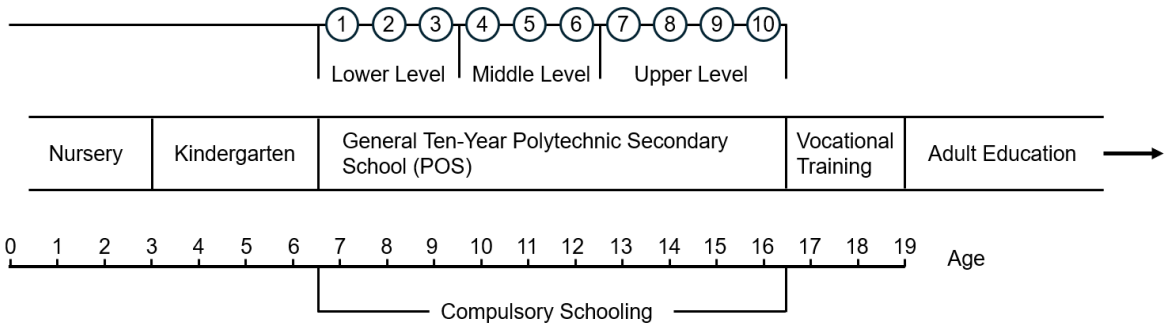


Figure B.3. The Education System in the GDR

Notes: This figure illustrates the structure of the education system in the German Democratic Republic (GDR). Children typically entered the General Ten-Year Polytechnic Secondary School (POS) at age 6 and progressed through lower, middle, and upper levels over ten grades. Compulsory schooling spanned from ages 6 to 16. After completing the POS, students could enter vocational training or pursue further education in adult institutions. Source: Schmidt (1988)

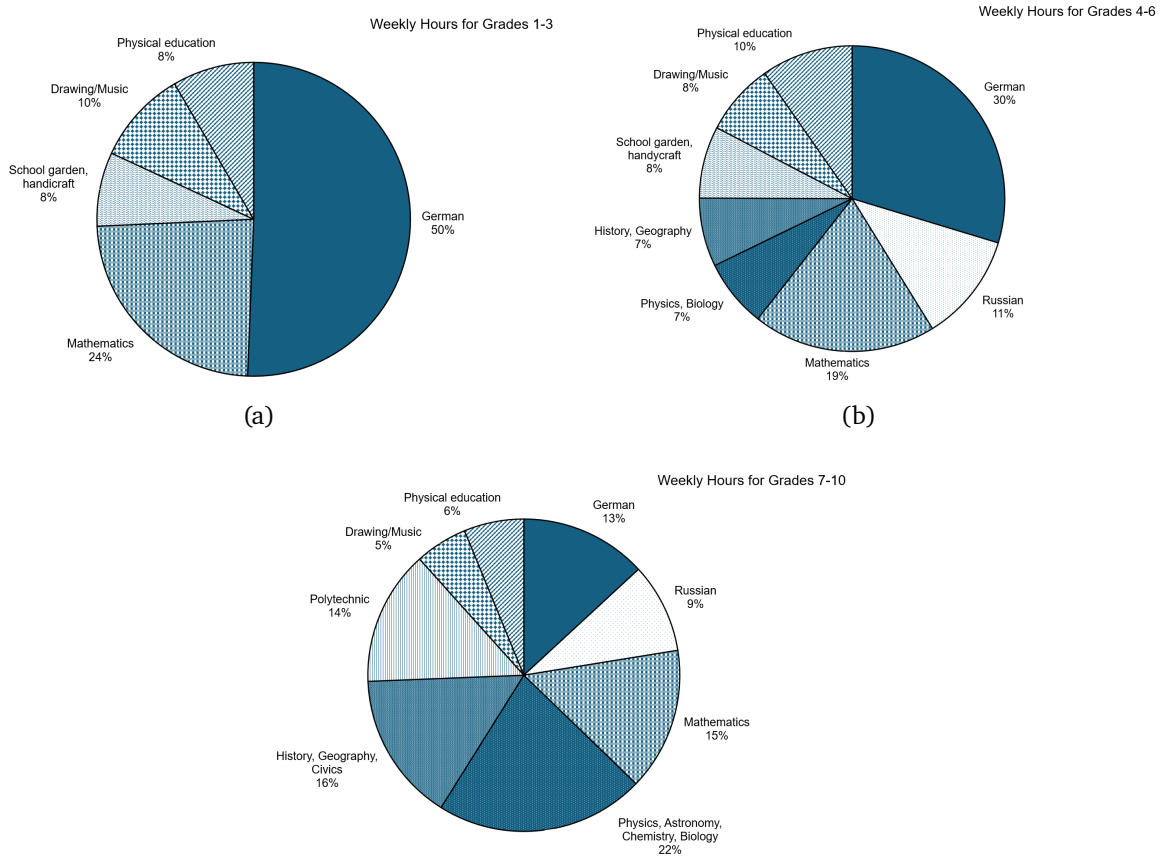


Figure B.4. Distribution of Teaching Time by Subject and Grade Level

Notes: This figure displays the allocation of weekly instruction time across subjects in the GDR's polytechnic school system, based on official curriculum standards. Detailed curriculum hours are reported in Table B.2. Data source: Schmidt (1988).

Table B.3. Reasons Reported by Women for Not Having Additional Children, SOEP 2012

	East	West
No further children due to career goals	12.4	7.2
Panel B: Other reasons		
No further children due to health reasons	9.2	12.8
No further children because already enough children	67.9	65.9
No further children due to having no partner	8.3	11.0
No further children for financial reasons	22.6	25.2
No further children due to concerns about children's future	28.2	27.6
No further children because partner is too old	6.2	6.8
No further children because partner opposes it	8.6	15.1
No further children due to relationship problems	4.3	3.7
No further children because another child would be overwhelming	12.8	14.2

Notes. Values report the percentage of respondents selecting 'strongly agree' on a four-point Likert scale (ranging from 'strongly disagree' to 'strongly agree'). Sample restricted to female respondents born 1974–1983. Data source: SOEP, 2012.

Table C.1. Gender-Egalitarian Norms and Ideal Number of Children: Cross-Country Evidence

Outcome variable:	**Ideal Number of Children**		
Gender egalitarian view (dummy)	-0.182***	-0.157***	-0.155***
(individual-level)	(0.043)	(0.045)	(0.017)
Year FE	NO	YES	YES
Country FE	NO	NO	YES
Observations	144,340	144,340	144,340

Notes. Individual-level analysis using World Values Survey data (Inglehart et al., 2022), 1989–2023. Gender egalitarian view coded as 1 if respondent disagrees with "When jobs are scarce, men should have more right to a job than women," 0 otherwise. Ideal number of children based on respondent's stated preference. Standard errors clustered at the country level are shown in parentheses. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.2. Gender-Egalitarian Norms and Fertility: Cross-Country Evidence

Outcome variable:	**Total fertility rate**		
Gender egalitarian views (%)	-0.018***	-0.018***	-0.012***
(country-level)	(0.005)	(0.005)	(0.003)
Year FE	NO	YES	YES
Country FE	NO	NO	YES
Observations	437,374	437,374	437,374

Notes. Cross-country analysis of the relationship between gender egalitarian norms and fertility rates, 1989–2023. Gender egalitarian views measured as the country-level percentage disagreeing with "When jobs are scarce, men should have more right to a job than women" from the World Values Survey (Inglehart et al., 2022). Total fertility rate from World Bank development indicators (Azevedo, 2011). Standard errors clustered at the country level are shown in parentheses. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.3. Gender-Egalitarian Norms and Ideal Number of Children by Childcare Availability: Cross-Country Evidence

Outcome variable:	**Ideal Number of Children**		
Childcare availability	All	High	Low
Gender egalitarian view (dummy)	-0.183***	-0.146***	-0.235***
(individual-level)	(0.043)	(0.047)	(0.083)
Observations	143,167	91,657	51,510

Notes. Individual-level analysis using World Values Survey data (Inglehart et al., 2022), 1989–2023. Gender egalitarian views coded as 1 if respondent disagrees with "When jobs are scarce, men should have more right to a job than women," 0 otherwise. High/low childcare availability based on whether national law establishes government provision of center-based childcare services (Bank, 2024). Standard errors clustered at the country level are shown in parentheses. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.4. Fertility Effects of Socialist Schooling: Robustness Checks

	Number of Children
Panel A: Baseline	
Born before June	-0.072***
	(0.019)
Observations	5,407
Panel B: Including State fixed effects	
Born before June	-0.075***
	(0.019)
Observations	5,407
Panel C: Including State-specific linear trends in year of birth	
Born before June	-0.074***
	(0.019)
Observations	5,407
Panel D: Including Labor market conditions after graduating	
Born before June	-0.055***
	(0.022)
Observations	5,407
Panel E: Two months before and after	
Born before June	-0.042***
	(0.015)
Observations	10,715

Notes. This table presents regression discontinuity estimates comparing fertility outcomes between May-born and June-born individuals in East Germany. Baseline specifications control for age dummies, birth-year dummies, and a binary indicator for being female. Panel B adds state fixed effects based on current residence. Panel C alternatively includes state-specific linear trends by year of birth. Panel D augments the baseline specification with measures of local labor market conditions at labor market entry—youth unemployment rate, overall unemployment rate, and employment rate—with the 1990 value imputed using 1991 data. Labor market entry is defined as 16 years after birth for the treatment group (born in May) and 17 years for the control group (born in June). Finally, Panel E expands the estimation window to include individuals born within two months on either side of the school-entry cutoff. Sample includes East German cohorts born 1974-1983, drawn from the German Microcensus 2018-2019. Standard errors are clustered at the cohort–month-of-birth level. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.5. Treatment Status and Labor Market Conditions at Graduation

	Youth Unemployment Rate (%)	Overall Unemployment Rate (%)	Employment Rate (%)
Born before June	-0.084	-0.822	1.017
	(0.611)	(1.291)	(1.489)
Observations	5,407	5,407	5,407

Notes. This table presents regression discontinuity estimates of labor market conditions at graduation for May- and June-born individuals in East Germany. Each column reports coefficients from a separate regression for the outcome indicated in the column header. Labor market at graduation is defined as age 16 for May births (earlier school entry) and age 17 for June births. Labor market conditions include youth unemployment rate, overall unemployment rate, and employment rate. 1990 values are imputed using 1991 data. Data source: DESTATIS Statistisches Bundesamt matched to cohort-specific graduation years. Sample includes East German cohorts born 1974-1983 from the German Microcensus 2018-2019. All specifications include age fixed effects, birth year fixed effects, and a female indicator. Standard errors clustered at the cohort-month-of-birth level in parentheses. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.6. Effects of Socialist Schooling on Financial Concerns

Outcomes:	Satisfaction with financial situation	People were better off in the past
Panel A: Cohorts 1974-1983 (Waves: 1992, 1997, 2003)		
Born before June	-0.220	-0.006
	(0.173)	(0.059)
WCB *p*-value	0.431	0.942
Observations	579	577
Panel B: Cohorts 1974-1977 (Wave: 1992)		
Born before June	-0.359	0.014
	(0.634)	(0.051)
WCB *p*-value	0.871	0.883
Observations	86	86

Notes. Regression discontinuity estimates comparing financial attitudes between May-born (treated) and June-born (control) individuals. Treatment represents one additional year of socialist education. Column (1) shows responses on current financial satisfaction, measured on an 11-point scale from 0 (completely dissatisfied) to 10 (completely satisfied). Column (2) uses responses to "People were better off in the past," measured on a 4-point Likert scale from 1 (does not apply at all) to 4 (applies completely). All regressions include birth year fixed effects. Data source: DJI Youth Survey, a representative sample of teenagers and young adults in Germany. Standard errors clustered at the cohort-month-of-birth level are shown in parentheses. p-values are based on wild cluster bootstrap procedures using Webb weights (Roodman et al., 2019), with 999 iterations. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.7. Effects of Socialist Schooling on Future Outlook: Survey Evidence from 1991

Outcomes:	Optimism about personal future	Optimism about society's future
Born before June	0.140	0.030
	(0.088)	(0.086)
WCB *p*-value	0.160	0.752
Observations	81	81

Notes. Regression discontinuity estimates comparing future outlook between May-born (treated) and June-born (control) individuals. Treatment represents one additional year of socialist education. Column (1) examines optimism about personal future, measured on a three-point scale: mostly gloomy (1), mixed (2), or mostly confident (3). Column (2) examines optimism about society's future, measured as mostly gloomy (1) or mostly confident (2). Data source: Shell Youth Study, a representative survey of East German adolescents conducted shortly after reunification (Fischer et al., 1999). Sample includes cohorts born 1974–1978 (ages 13–17 at survey). All regressions include birth year fixed effects. Standard errors clustered at the cohort-month-of-birth level are shown in parentheses. p-values are based on wild cluster bootstrap procedures using Webb weights (Roodman et al., 2019), with 999 iterations. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.8. Treatment Status and Current Residence in East Germany

	Currently Living in East Germany
Born before June	-0.015
	(0.034)
WCB *p*-value	0.80
Observations	3,104

Notes. This table presents regression discontinuity estimates comparing East–West migration rates between individuals born just before and just after the school-entry cutoff in East Germany. Sample: Individuals born in East Germany 1974-1983, pooled from SOEP and NEPS panels (waves 1991-2021). Treatment assigned based on birth location. All specifications include age and birth year fixed effects, gender indicator, and dataset indicator. Standard errors are clustered at the cohort–month-of-birth level. *p*-values are based on wild cluster bootstrap procedures using Webb weights (Roodman et al., 2019), with 999 iterations. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.9. Fertility Results Using Pooled 2021 Survey Data (SOEP, NEPS, FReDA)

	Number of Children
Born before June	-0.117**
	(0.047)
WCB *p*-value	0.069
Observations	395

Notes. This table presents the regression discontinuity estimate comparing the number of children between May-born and June-born individuals in East Germany. Sample includes East German-born individuals from the 1974–1983 cohorts, pooled from SOEP, NEPS, and FReDA (2021 wave). Fertility is measured as the number of children in the household (SOEP, NEPS) or total biological children across all partnerships (FReDA). All regressions include birth year fixed effects and control for age, gender, and survey source. Standard errors are clustered at the cohort–month-of-birth level. *p*-values are based on wild cluster bootstrap procedures using Webb weights (Roodman et al., 2019), with 999 iterations. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.10. Fertility Effects of Socialist Schooling: Alternative Fertility Measures

	Number of Children
Panel A: Number of Children in Household (baseline)	
Born before June	-0.072***
	(0.019)
Observations	5,407
Panel B: Number of Children in Household (2020 wave)	
Born before June	-0.078***
	(0.026)
Observations	2,847
Panel C: Number of Children in Family	
Born before June	-0.075***
	(0.015)
Observations	5,407
Panel D: Number of Children Born (only mothers in wave 2018)	
Born before June	-0.092*
	(0.051)
Observations	1,230

Notes. Each panel reports estimates from a regression discontinuity specification comparing May-born versus June-born individuals. Panel A presents the baseline specification using children in the household. Panel B restricts the sample to the 2020 wave, which experienced higher non-response due to the COVID-19 pandemic. Panel C uses number of children in the family rather than household (correlation = 0.979). Panel D uses the reported number of children ever born, available only for mothers in the 2018 wave, resulting in a smaller sample. Sample includes East German cohorts born 1974–1983 from the German Microcensus. All specifications include age fixed effects, birth year fixed effects, and a female indicator. Standard errors are clustered at the cohort–month-of-birth level. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.11. Heterogeneous Effects of Socialist Schooling by Grade Level at Reunification

Outcome variable:	**Number of Children**			
Cohorts:	**placebo (1970-1973)**	**1974-1977**	**1978-1980**	**1981-1983**
Born before June	0.009	-0.148***	-0.071***	0.006
	(0.009)	(0.018)	(0.010)	(0.034)
WCB *p*-value	0.587	0.006	0.018	0.924
Observations	2,289	2,004	1,606	1,797

Notes. This table presents regression discontinuity estimates comparing fertility outcomes between May-born and June-born individuals in East Germany. The table presents heterogeneous effects by grade level at reunification, with columns corresponding to distinct curricular phases in the East German education system: grades 7–10 (birth cohorts 1974–1977) experienced intensive ideological instruction, grades 4–6 (1978–1980) received moderate political content, and grades 1–3 (1981–1983) had minimal exposure to socialist ideology. Placebo cohorts (1970-1973) had completed compulsory schooling before the reform. Sample includes East German cohorts born 1970–1983 from the German Microcensus 2018–2019. All specifications include age fixed effects, birth year fixed effects, and a female indicator. Standard errors are clustered at the cohort–month-of-birth level. *p*-values from the wild cluster bootstrap routine using weights from Webb's distribution (Roodman et al., 2019) and 999 iterations. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.12. Fertility Effects Using Earlier East German Cohorts as Control Group

	Number of Children
Born before June ×	-0.080***
Treated cohorts (1974-1983)	(0.023)
WCB *p*-value	0.043
Observations	7,696

Notes. Estimates come from a difference-in-differences specification that compares May-born versus June-born individuals in cohorts exposed to reunification (1974–1983) relative to earlier cohorts (1970–1973) who had completed schooling before reunification. This design nets out mechanical age-at-entry effects. All regressions control for age and birth year fixed effects, as well as a female indicator. The sample includes cohorts born between 1970 and 1983, drawn from the German Microcensus 2018–2019. Standard errors are clustered at the cohort–month-of-birth level. p-values are based on wild cluster bootstrap procedures using Webb weights (Roodman et al., 2019), with 999 iterations. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

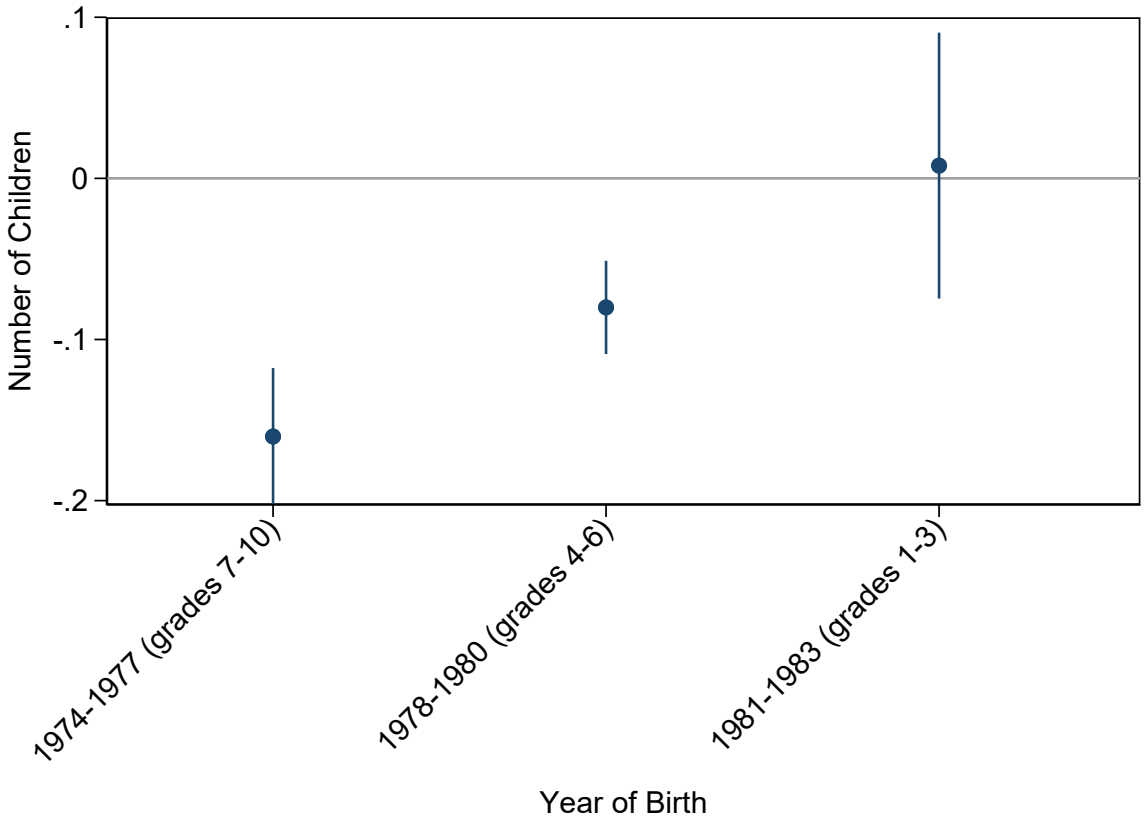


Figure C.1. Heterogeneity by grade cohorts: Difference-in-differences

Sources. This figure presents difference-in-differences estimates comparing May-born versus June-born individuals in treated cohorts relative to earlier cohorts (1970–1973) who completed schooling before reunification, netting out mechanical age-at-entry effects. The heterogeneous effects correspond to distinct curricular phases in the East German education system: cohorts in grades 7–10 at reunification (1974–1977), grades 4–6 (1978–1980), and grades 1–3 (1981–1983). Sample includes East German cohorts born 1970–1983 from the German Microcensus 2018–2019. All specifications include age fixed effects, birth year fixed effects, and a female indicator. Standard error are clustered at at the treatment-birth year-group level. Vertical bars indicate 95% confidence intervals. See Appendix Table C.14 for underlying estimates.

Table C.13. Fertility Effects Using Earlier East German Cohorts as Control Group: Robustness

	Number of Children
Panel A: Baseline	
Born before June ×	-0.080***
Treated cohorts (1974-1983)	(0.023)
Observations	7,696
Panel B: Including state fixed effects	
Born before June ×	-0.082***
Treated cohorts (1974-1983)	(0.024)
Observations	7,696
Panel C: Including state-specific linear trends in year of birth	
Born before June ×	-0.088***
Treated cohorts (1974-1983)	(0.024)
Observations	7,696
Panel D: Two months before and after	
Born before June ×	-0.052***
Treated cohorts (1974-1983)	(0.016)
Observations	15,336
Panel E: Two months before and after (excluding June)	
Born before June ×	-0.047***
Treated cohorts (1974-1983)	(0.016)
Observations	11,530

Notes. Estimates come from a difference-in-differences specification that compares May-born versus June-born individuals in cohorts exposed to reunification (1974–1983) relative to earlier cohorts (1970–1973) who had completed schooling before reunification. This design nets out mechanical age-at-entry effects. Baseline specifications control for age dummies, birth-year dummies, and a binary indicator for being female. Panel B adds state fixed effects based on current residence. Panel C alternatively includes state-specific linear trends by year of birth. Finally, Panel D expands the estimation window to include individuals born within two months on either side of the school-entry cutoff, while Panel E drops observations from June births in that window. The sample includes cohorts born between 1970 and 1983, drawn from the German Microcensus 2018–2019. Standard errors are clustered at the cohort–month-of-birth level. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.14. Fertility Effects Using Earlier East German Cohorts as Control: Heterogeneity by Grade at Reunification

Outcome variable:	**Number of Children**		
Cohorts:	**1974-1977**	**1978-1980**	**1981-1983**
Born before June ×	-0.160***	-0.080***	0.008
Treated cohorts (1974-1983)	(0.020)	(0.013)	(0.038)
WCB *p*-value	0.000	0.004	0.923
Observations	4,293	3,895	4,086

Notes. Estimates come from a difference-in-differences specification comparing May-born versus June-born individuals in treated cohorts relative to earlier cohorts (1970–1973) who completed schooling before reunification. This design nets out mechanical age-at-entry effects. The table presents heterogeneous effects by grade level at reunification: columns show cohorts in grades 7–10 (1974–1977), grades 4–6 (1978–1980), and grades 1–3 (1981–1983), corresponding to distinct curricular phases in the East German education system. All regressions control for age and birth year fixed effects, as well as a female indicator. The sample includes cohorts born between 1970 and 1983, drawn from the German Microcensus 2018–2019. Standard errors are clustered at the cohort–month-of-birth level. *p*-values from the wild cluster bootstrap routine using weights from Webb's distribution (Roodman et al., 2019) and 999 iterations. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.15. Effect of Socialist Schooling on on Desired Family Size

	Ideal Number of Children
Born before June	-0.358***
	(0.096)
WCB *p*-value	0.008
Observations	212

Notes. This table presents the regression discontinuity estimate comparing ideal number of children between May-born and June-born individuals in East Germany. The sample comprises birth cohorts 1974–1983 from the German SOEP and NEPS, observed in survey waves 2019–2022. In NEPS, ideal fertility is measured by the question: "If you set aside all obstacles, how many children would you ideally like to have in total?" In SOEP (2019 wave), ideal fertility is measured by the question: "How many children would you ideally like to have?" All regressions control for age, birth year fixed effects, and a female indicator. Standard errors are clustered at the cohort–month-of-birth level. p-values are based on wild cluster bootstrap procedures using Webb weights (Roodman et al., 2019), with 999 iterations. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.16. Effects of Socialist Schooling on Future Human Capital Formation

	Educational Attainment ISCED (1-8)	**University Degree** (0/1)	**Further Training** (0/1)
Born before June	-0.080*	0.021	0.006
	(0.042)	(0.012)	(0.007)
Observations	5,404	5,404	5,403

Notes. This table presents regression discontinuity estimates comparing human capital outcomes between May-born and June-born individuals in East Germany. Each column reports coefficients from a separate regression for the outcome indicated in the column header. The variable further training refers to participation in further training during the last year. Sample includes East German cohorts born 1974-1983, drawn from the German Microcensus 2018-2019. All specifications include age fixed effects, birth year fixed effects, and a female indicator. Standard errors are clustered at the cohort–month-of-birth level. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C.17. Heterogeneity by Institutional Support: Fertility Effects by Childcare Availability (1998 Data)

	Number of Children
Born before June	-0.294**
	(0.139)
Childcare availability (in %)	-0.002
	(0.003)
Born before June ×	0.007
Childcare availability (in %)	(0.004)
Implied effect at:	
25th percentile childcare (24.1%)	-0.136***
	(0.037)
75th percentile childcare (47.2%)	0.016
	(0.070)
Observations	5,407

Notes. This table examines heterogeneity in fertility effects by institutional support, proxied by childcare availability in 1998. Childcare availability is measured as the percentage of available slots for children under age 3 by state: Berlin (32.2%), Brandenburg (51.9%), Mecklenburg-Vorpommern (30.8%), Saxony (24.1%), Saxony-Anhalt (47.2%), and Thuringia (25.9%) (Deutsches Jugendinstitut, 2002). The interaction term captures whether fertility responses differ by levels of childcare provision. Implied effects are calculated at the 25th (24.1%) and 75th (47.2%) percentiles of the 1998 childcare distribution. The sample includes East German cohorts born between 1974 and 1983, drawn from the 2018–2019 German Microcensus. Standard errors are clustered at the cohort–month-of-birth level. Significance: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.