Television and family demography: Evidence from a natural experiment in East Germany

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Abstract

This paper examines the causal effects of television exposure on individual decisions regarding marriage, divorce, and family planning by utilizing a natural experiment in the German Democratic Republic during the period of German division. I exploit the fact that individuals in some East German areas could not receive Western television due to their place of residence before reunification in 1990. By analyzing survey data from the German Socio-Economic Panel, my results reveal that exposure to Western TV significantly reduced the likelihood of marriage and childbirth while increasing the probability of divorce among East Germans. Analyzing administrative data at the county level supports these findings. In addition, survey data from the late 1980s indicates that the observed effects are primarily due to changes in attitudes towards relationships and family life, particularly among women.

Keywords: Television; Divorce; Marriage; Fertility; East Germany; Natural experiment

JEL classification: J12; J13; L82

Data availability statement

In Sections 4 and 5, I use data from the German Socio-economic Panel Study, reference: SOEP-Core v36 (`https://doi.org/10.5684/soep.core.v36eu`). Data is accessible after signing a data distribution contract, which can be requested with a form, available at `http://www.diw.de/soepforms`. The analysis of county-level data presented in Subsection 4.2 and Appendix B is based on data from Federal Institute for Research on Building, Urban Affairs and Spatial Development (2020) and the statistical offices of the Länder in Germany, available from the respective offices or the corresponding author upon reasonable request. GDR survey data that support the findings of Section 5 are available in the GESIS Data Archive at `https://doi.org/10.4232/1.6869`, reference number ZA6869 (Data file Version 1.0.0). Finally, Figure A.2 and Table 2 are based on survey data available in the GESIS Data Archive at `https://doi.org/10.4232/1.6008`, reference number ZA6008 (Data file Version 1.0.0).

Disclosure statement

The author has no material or financial obligations to disclose that are relevant to this work.

1   Introduction

In recent decades, traditional family relations have undergone significant transformation. During this period, divorce rates, for instance, have increased in nearly all OECD countries, including Belgium, Greece, Israel, Luxembourg, Korea, Norway, Portugal, and Slovakia who have experienced more than a doubling of their crude divorce rates compared to previous rates. Concurrently, marriage rates have declined overall. While in 1970 the number of marriages per 1,000 inhabitants ranged from around 7 to 10, the numbers have decreased to around 5 to 7 in 2016. A similar pattern exists for fertility rates, which have also dropped significantly in these countries over the past decades (OECD, 2019). In the long run, such demographic changes can impose substantial economic costs, especially among industrialized countries. Declining birth rates, particularly below the replacement rate, contribute to an inverted population pyramid, leading to severe consequences for health care and pension systems, government spending, and tax revenues. Higher divorce rates can also strain welfare systems through financial transfers to those in need (Schramm, 2006, Schramm et al., 2013). Furthermore, divorce can adversely impact individuals by diminishing their well-being and overall health (Lorenz et al., 2006), a concern that is particularly acute for children impacted by divorce (Auersperg et al., 2019).[1]

Given these developments, it is crucial for both researchers and policymakers to understand the mechanisms contributing to these developments. Among various influencing factors, the media has attracted much attention in recent decades as a vital determinant of socialization. In this regard, the influence of media is considered a fundamental element in developing and perpetuating social norms and gender stereotypes, even over multiple generations (Signorielli, 1990). Several studies have demonstrated that portrayals of women on television, which reflect prevailing gender norms, reinforce stereotypes about women and their roles in society. These portrayals encompass a range of topics, including professional roles, domestic responsibilities, and sexual behaviors (Holbert et al., 2003).

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[1]It is essential to note that these costs can, to some extent, be considered beneficial costs, as they enable individuals to escape abusive relationships.

In this study, I investigate whether television content can influence individuals' decisions regarding marriage, divorce, and family planning. To analyze causal effects, I utilize a natural experiment that occurred in the German Democratic Republic (GDR) during the period of German division. In particular, I focus on the fact that certain parts of the East German population – depending on the geographical location of their residence – had access to West German television (West German TV) programs before reunification. I argue that these programs regularly exposed their audience to characters who were single or unmarried, and rarely depicted as parents. Such portrayals may have fostered preferences for living alone rather than being in a partnership or a marriage. The same applies to the relatively minor role of families with children in West German TV programs, which might have led to different decisions regarding family planning. While previous studies indicate that East Germans, on average, hold more egalitarian gender-role attitudes than their Western counterparts (Bauernschuster and Rainer, 2012), I concentrate on character representations in West German TV programs, which were strongly influenced by international content and differed significantly from the prevailing social norms in West Germany at the time (Küchenhoff, 1975, Weiderer and Faltenbacher, 1994).

In my analysis, I leverage multiple data sources to explore these hypotheses. The main analysis utilizes the German Socio-Economic Panel (SOEP) study, which enables me to examine treatment effects at the individual level while mitigating potential distortions from internal migration. The findings indicate that exposure to West German TV significantly decreases the likelihood of marriage and childbirth while increasing the probability of divorce. Focusing on the dynamics of the TV effect in reunified Germany, I find evidence of a convergence between regions with and without former West German TV reception. To assess the robustness of these findings, I further analyze administrative county-level data, confirming that West German TV exposure negatively impacts marriage and birth rates while positively affecting divorce rates.

To gain a deeper understanding of how TV exposure influences decisions related to marriage, divorce, and family planning, I investigate potential mechanisms in the second part of the analysis. First, I incorporate survey data conducted by the Institute for Sociology and Social Policy at the Academy of Sciences of the GDR (*Institut für Soziologie und Sozialpolitik an der Akademie der Wissenschaften der DDR*) in 1987 to show that West German TV shaped individ-

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uals' attitudes towards relationships and family life by exposing them to different role models. The analysis further reveals that women, in particular, were affected by the treatment, causing them to perceive marriage and motherhood as less desirable. Secondly, I explore whether West German TV exposure affected individuals' social behavior such as their leisure activities, their involvement in associations or sports clubs, or the frequency of meeting their friends, as previous studies have shown that increased TV consumption can create a substitution effect with other leisure activities that might be relevant for finding a partner (Olken, 2009). However, I do not obtain evidence supporting this hypothesis. Third, I assess whether Western TV influenced individuals by providing a more realistic picture of the economic situation in the GDR. Recent studies have highlighted that economic uncertainty during the reunification process reduced fertility in East Germany (Chevalier and Marie, 2017, 2024). Nonetheless, I find no evidence that West German TV affected fertility or decisions regarding marriage and divorce by altering economic concerns. Lastly, having access to Western TV may have reduced the consumption of East German TV programs, which would result in reduced exposure to propaganda from the GDR regime (Campa and Serafinelli, 2019). Therefore, I examine the role of propaganda in shaping preferences regarding family planning and the decision to marry or divorce. While I find little evidence overall in favor of propaganda being the primary mechanism, I cannot completely dismiss the possibility that the TV effect is partly attributed to decreased exposure to propaganda.

Over the past two decades, numerous studies have documented the impact of television content on individuals' attitudes, preferences, and decisions. For instance, Gentzkow (2006), DellaVigna and Kaplan (2007), Enikolopov et al. (2011), and Durante et al. (2019) have demonstrated that television reception can shape political attitudes and influence voting behavior. Additionally, Olken (2009) provides evidence of a negative relationship between increased television access and participation in social organizations, as well as self-reported trust in Indonesia. Moreover, previous research has shown that TV programs can positively influence children's school performance and enhance interest in topics like entrepreneurship (Gentzkow and Shapiro, 2008, Kearney and Levine, 2019, Nieto, 2019, Bjorvatn et al., 2020).

With the present study, I am contributing to two specific strands of literature. The first examines how repeated media exposure impacts families.[2] Chong and La Ferrara (2009) explore the link between the geographical expansion of cable television and divorce rates in Brazil. They report a significant increase in the proportion of separated or divorced women after gaining access to RedeGlobo, a Brazilian television network. Their results indicate that soap operas, which often exposed their audience to modern lifestyles, including a high percentage of divorced and separated women, challenged traditional values. Additionally, these programs commonly portrayed families with fewer children, which led to decreasing fertility rates (La Ferrara et al., 2012). By using the variation in the introduction of cable television in India, Jensen and Oster (2009) find that the introduction is associated with declining fertility rates, reduced preferences for sons, and lower acceptance of domestic violence against women.[3] While these studies examine natural experiments in developing countries, this study focuses on a developed country, the GDR. The fact that I obtain qualitative similar results in a different institutional setting strengthens the overall confidence in previous conclusions that exposure to diverse lifestyles in TV influences fertility and decisions regarding divorces. Furthermore, this study offers additional insights by showing that television content can also influence the decision to enter a marriage. Finally, my study provides novel evidence that television content shapes individuals' attitudes towards relationships and family life with children. Unlike previous studies, which primarily rely on census data, I analyze changes in individual attitudes using rich survey data.[4]

The second strand of literature deals with the impact of West German TV in the GDR. This natural experiment represents merely a fraction of a much broader experiment. Over the past two decades, various studies have utilized West Germany as a control group to explore the impact of socialism in East Germany on individuals' preferences and behavior (Alesina and Fuchs-Schündeln, 2007, Bauernschuster and Rainer, 2012, Heineck and Suessmuth, 2013, Friehe and

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[2]For an extensive literature review, see Price and Dahl (2012). In addition, DellaVigna and La Ferrara (2015) provide a comprehensive literature review, in which they summarize studies analyzing the impact of media on further outcomes (e.g., education, labor, health, crime, etc.).

[3]In these studies, the effects of television consumption arise from modern portrayals of women that challenge traditional values, consequently reshaping women's roles. However, Kearney and Levine (2015) provide evidence that television formats can also influence women's fertility behavior by providing information related to pregnancy.

[4]The study by Jensen and Oster (2009) is an exception. However, the authors focus on attitudes towards the acceptance of domestic violence against women and son preferences.

Mechtel, 2014, Campa and Serafinelli, 2019, Friehe and Pannenberg, 2020). More recently, scholars have also exploited the exogenous variation in the availability of West German TV within the GDR. On this topic, Bursztyn and Cantoni (2016) find evidence that advertisements on Western television influenced consumer decisions. Similarly, Hornuf et al. (2023) document that former West German TV reception has had a mitigating effect on xenophobic attitudes, even 25 years after reunification. Further studies have examined the impact of West German TV exposure on various outcomes, including crime (Friehe et al., 2018), material aspirations (Hyll and Schneider, 2013), entrepreneurship (Slavtchev and Wyrwich, 2023), self-reported support for the GDR regime (Kern and Hainmueller, 2009), voting behavior (Friehe et al., 2020) and individual beliefs about what drives success in life (Hennighausen, 2015). Although Campa and Serafinelli (2019) demonstrate that women from East Germany are more likely to prioritize career success than their West German counterparts, they find no significant relationship between West German TV exposure and the perceived importance of career success among East German women. Most closely related to this paper is the study by Bönisch and Hyll (2023), which explores how lifestyles promoted on West German TV affected women's decisions regarding pregnancy. While their study focuses only on the extensive and intensive margins of childbearing, I extend these insights by showing that West German TV exposure also affected the timing of fertility, analyzing the dynamics of this impact in reunified Germany, and exploring how the effect varies across different cohorts.

The remainder of this paper is structured as follows: Section 2 briefly outlines the history of the divided Germany and the role of West German TV regarding family relations. In Section 3, I describe the natural experiment, the empirical strategy, and the data. The main analysis is conducted in Section 4, while Section 5 discusses several mechanisms through which Western TV may have influenced the preferences of East Germans. Finally, Section 6 presents the conclusion of this study.

2 The role of West German TV on family relations

2.1 Institutional background

After World War II, Allied forces divided Nazi Germany and the city of Berlin into four military occupation zones, respectively. In 1949, the western sectors, controlled by the United States, France, and Great Britain, merged to form the Federal Republic of Germany, which has been a parliamentary democracy and a social market economy since its creation. The Soviet occupation zone in the east of Germany developed into a socialist state with a one-party system, namely the GDR, which was controlled militarily and politically by the Soviet Union. The fall of the Berlin Wall on November 9, 1989, represented the beginning of a rather rapid reunification process, which translated first into the economic union in July 1990 and second into the political reunification in October 1990.

Following the German division in 1949, the media landscape in East and West Germany drifted apart in many aspects throughout their development. Strict censorship of all media on behalf of the government characterized the situation in East Germany (Kochanowski et al., 2012). Additionally, the government imposed import bans on print media from the West, enforced by rigorous border controls (Kuschel, 2016, p. 111 ff. and 144 ff.). In terms of television stations, only DFF 1 (*German Television Broadcasting 1*) and DFF 2 (*German Television Broadcasting 2*) existed, which started broadcasting in 1952 and 1969, respectively. Both television networks were also controlled by the ruling Socialist Unity Party of Germany and were used mainly as a means of propaganda (Großmann, 2015, p. 53 ff.). As a result, the credibility of the broadcast content was rather low in the eyes of the general population (Hesse, 1990, Kochanowski et al., 2012). Therefore, the East German population was inclined to watch programs provided by West German TV stations, which they considered the only "window to the world" (Stiehler, 2001, p. 13), since they offered the opportunity to obtain uncensored information from outside

of the GDR.[5] Since there were no language barriers or different technical reception systems between the two countries, the number of East German viewers increased quickly and significantly. This development was reinforced by the ensuing increase in the number of households with a television set. By the end of the 1980s, about 98 % of the households had a television set, and approximately 85 % of the population watched West German TV regularly (Förster, 1995, Müller, 2000).[6] The socialist government first tried to ban the viewing of these programs, which were strongly affected by Western influence (e.g., from the United States, Great Britain, and France). Since the over-the-air signal could not be interrupted by border authorities, the government abandoned these efforts due to lack of feasibility (Boyd, 1983, Kuschel, 2016, p. 143 ff.).

Especially during the 1960s, the West German government set up numerous television transmitters along the entire inner German border and in West Berlin.[7] Ultimately, the majority of the East German population was able to receive West German TV. Only the inhabitants in the northeastern part of the GDR and the southeastern area, around the third-largest city Dresden, did not have access to these programs. In particular, the latter was therefore called the "valley of the clueless" by the rest of the East German population. The lack of Western TV reception was mainly due to the geographical distance to the West German TV transmitters as depicted in Figure 1. In addition, the topography of the landscape influenced the reception.[8]

Figure 1 around here.

With the reunification on October 3, 1990, the DFF was no longer the state broadcaster of the GDR. The shutdown of the DFF took place in two steps. After the ARD had already taken

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[5]The television landscape in the Federal Republic of Germany was also characterized by two television channels at that time. The West German counterparts to DFF1 and DFF2 were the ARD (*First German Television*) founded in 1952 and the ZDF (*Second German Television*), which began broadcasting in 1963. The two public television stations were extended in the mid- to late-1960s by the regional third programs of the ARD. Private broadcasting was permitted in 1981, leading to a further increase in the number of available television channels.

[6]There were also households in West Germany that were able to receive East German TV programs, but the number of actual viewers was relatively low (Boyd, 1983).

[7]As shown in Figure 1, there is no indication that the West German government has prioritized certain regions.

[8]Since the inhabitants without access to Western TV live in clustered areas located far away from the inner German border, I check whether those individuals are similar to individuals living in regions with Western TV reception regarding their socioeconomic characteristics. I do this in detail in Section 3.1 and Figure A.1.

over the television station DFF 1 on December 15, 1990, the remaining broadcasting of the DFF was ceased on the basis of Article 36 of the Unification Treaty between the two German states on December 31, 1991.

2.2 Perception of families in East and West German TV

The differences between East and West German TV were diverse and not only limited to different political ideologies portrayed in the programming. Due to the strong influence of the socialist government on the program content in East Germany, aspects such as materialistic aspirations and the "Western way of life" itself were portrayed as something highly negative (Hyll and Schneider, 2013). For this reason, the proportion of international TV content on Eastern TV was considerably lower than in West Germany (Hornuf et al., 2023). In addition, there was no advertising on East German TV until shortly before reunification (Bursztyn and Cantoni, 2016). In general, the content on East German TV was intended to encourage citizens to participate in building and maintaining a socialist society in the interests of the government, with TV characters often serving as role models aligned with government objectives.[9] In contrast, TV content that fictionalized reality intending to emotionalize it and restrict it to private problems did not correspond to the government's ideas (The Federal Agency for Civic Education, 2021). This ideological stance affected how relationships and families were depicted in TV genres like soap operas. In this regard, the issues of marriage and family planning were more prominent in East German programs compared to their Western counterparts. The main reason for this was that the socialist government used TV programs as a tool to support its family policy and to counteract declining fertility rates across Eastern Germany, especially in the 1960s (Engelhardt-Wölfler et al., 2002).[10] Under these circumstances, the image of women on screen was based precisely on the women's policy propagated by the socialist government (Bühler,

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[9]For example, television detectives in crime series were not allowed to be shown smoking, as they had a role model function as an essential part of the state apparatus (German Historical Museum, 2016).

[10]After World War II, the integration of women into the workforce was prioritized by the government of the GDR, becoming one of its most important goals (Kranz, 2005). While these efforts were relatively successful, they contributed to declining fertility rates across Eastern Germany. The overall goal of the government was population development in the form of birth promotion (Engelhardt-Wölfler et al., 2002). Among other things, the government tried to enforce this by reducing the working hours of mothers and by providing extensive and publicly financed child care (Rosenfeld et al., 2004, Kranz, 2005).

1997). Consequently, the image of women generally followed a predefined path to marriage and then motherhood (Dölling, 1993, Adler, 1997). This representation remained consistent in East German media until reunification, with marriage seen as the foundation of the family and central to the government's agenda (Engelhardt-Wölfler et al., 2002, Hannover and Birkenstock, 2005, p. 40).[11]

In contrast, marriage and family planning did not play a decisive role in West German TV programming. Analyzing the programming of the two public television stations in West Germany for six weeks in 1975, Küchenhoff (1975) shows that only 0.2 % of all recorded news broadcasts dealt with the issue of family and children. In a similar study conducted in July 1990, Weiderer and Faltenbacher (1994) observe a proportion of 3.6 %. In addition to the smaller number of non-fictional television formats (like documentaries or news magazines) dealing with these topics, there were also differences in the characterization of male and female roles in fictional formats such as movies and soap operas. To examine the content of such formats in West German TV in more detail, I collected data on the programming of the two public West German TV stations from 1970 to 1989, available on the websites of Retro-Media and Shoutwiki. Although both sites do not cover the entire program, I was able to gather information on the program content of 1,667 days on ARD and 1,627 days on ZDF. The most frequently broadcast soap opera during this time was *Lindenstraße*, aired every Sunday at prime time. Based on the British soap Coronation Street, this show was intended to address current social issues such as patchwork relationships, homosexuality, and racism, leading to a high diversity level within the characters and their family constellations. Another popular domestic TV series was *Die Schwarzwaldklinik*. Although this medical drama was less concerned with diverse social issues, there were still various relationship and family constellations within the characters. For example, a substantial part of the characters were portrayed as single or divorced, which aligns with the results of the studies by Küchenhoff (1975) and Weiderer and Faltenbacher (1994), both highlighting that single women and men are significantly overrepre-

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[11]The religious aspect of marriage was irrelevant to the government. In addition to church marriages, so-called socialist marriage also existed in the GDR.

sented in West German TV.[12] In addition to domestic TV series, West German TV was strongly influenced by international productions, mainly from the US (Hornuf et al., 2023). Soap operas such as *Dallas* (from 1981 to 1990 on ARD), which was the second most frequently broadcast series on West German TV in my data set, and *Dynasty* (from 1983 to 1993 on ZDF) were aired at prime time, with viewing figures of up to 40 % (Hannover and Birkenstock, 2005). Both shows featured multiple female main characters who were divorced and less often portrayed fulfilling the role of mothers. In this regard, Küchenhoff (1975) and Weiderer and Faltenbacher (1994) document that children played a subordinate role in West German TV programs and that, on average, more male than female main characters regularly appear with children.[13] Overall, these portrayals of female characters in West German TV often diverged from the gender-role attitudes prevalent in West German society.

The results of the aforementioned studies relate only to the frequency with which the issues of family and marriage are addressed in West German TV or the frequency in which characters are presented as spouses or parents. Additionally, these studies highlight the fact that characteristics that are commonly viewed as more negative are often ascribed to female characters who are wives and mothers. These characters are frequently depicted as financially dependent and even unattractive, while unmarried women are characterized as younger, independent, and more attractive. This paradigm does not exist for male characters (Küchenhoff, 1975).

Overall, this raises the question of whether repeated exposure to West German TV content influenced East Germans' attitudes towards marriage, divorce, or family planning. The lower relevance of marriage in these programs might have influenced the opinions of men and women, leading to varying decisions about marriage. In addition, regular exposure to divorced characters (fictional or non-fictional) may also have eroded social norms surrounding marriage, which could potentially translate into higher divorce rates. The same applies to the subordinate role of families with children, which may have created different preferences concerning family planning. Taken as a whole, the aforementioned studies document a discrepancy between the

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[12]Comparable results also exist for television advertising (Kotelmann and Mikos, 1981). Additionally, Weiderer and Faltenbacher (1994) note that the proportion of people living in separation has risen continuously since the study by Küchenhoff to about 8.5 %.

[13]It is also noteworthy that even characters who were portrayed as mothers and fathers, raising children and living together with their children as a family, often did not play an important role.

portrayal of families in Western TV programs and the prevailing image on East German TV. This discrepancy, however, is more pronounced in female characters than in male characters. This fact could result in gender-specific differences relating to the television effect. Moreover, the stereotypical depictions of female characters might reinforce this argument. These stereotypical images connect female characters in the roles of wives and mothers with more negative traits, while more positive attributes are ascribed to single and childless women. Such content might have created preferences for living alone instead of being married or preferences for remaining childless.

3   Empirical strategy and data

3.1   Identification strategy

To identify the causal effect of West German TV exposure on preferences regarding family planning and the decision to marry or divorce, I utilize the fact, that prior to the reunification, the population in certain regions of the GDR had access to West German TV programs. Important for my empirical strategy is that solely the geographical distance to the West German TV transmitters determined whether inhabitants were able to receive these programs or not. However, before I examine the differences between regions with and without previous access to West German TV, I have to ensure the validity of the identification strategy.

First of all, it is essential for my analysis that the individuals who potentially had access to West German TV due to their geographical location could in fact receive the corresponding programs. In the late 1980s, the proportion of households owning their own television set was 98 %, with each household owning an average of 1.25 television sets (Statistical Yearbook of the German Democratic Republic, 1990, Müller, 2000). In addition, there were no significant differences between television sets in West and East Germany that would have prevented the reception of West German programs in the East. Moreover, due to the lack of language barriers, the number of East Germans that watched West German TV programs regularly was substantial (about 85 % of the population (Förster, 1995)).

Secondly, it is crucial to my approach that the only difference between the inhabitants of the treatment and the control group is the reception of West German TV and that there were no significant differences otherwise, for example, in terms of demographic characteristics and economic conditions. In order to verify this, I use data from the statistical yearbooks of the GDR to determine whether the two groups differed from one another before the introduction of the treatment and at the end of the GDR period. Similar approaches are used by Kern and Hainmueller (2009), Bursztyn and Cantoni (2016), and Hornuf et al. (2023). The results shown in Panel A in Table A.1 in the appendix indicate no significant differences between the districts of the treatment and the control areas either in 1955, the first year, for which I can use information from the statistical yearbooks of the GDR, or in 1989. In addition, Table A.1 indicates no differential trends between 1955 and 1989 across the districts with and without West German TV reception. In particular, the results from 1989 correspond to the remarks made by Hyll and Schneider (2013), who describe how the government of the GDR places a special focus on the reduction of regional differences.[14] Moreover, if there were differences in marriage, divorce, or birth rates between the two areas prior to the introduction of West German TV, this would potentially invalidate my identification strategy. With this in mind, I also test whether there were any differences in terms of these variables in Panel B of Table A.1. Once again, no significant differences are observed. Finally, if less traditional norms prevailed in the regions with West German TV reception prior to the introduction of the treatment, finding lower marriage and birth rates and higher divorce rates post-treatment could be partly explained by differences in traditional norms pre-treatment. Therefore, in Panel C, I look at three aspects correlated with traditional norms: Denominational affiliation (1925), female labor force participation (1925), and non-marital births (1937).[15] There are no differences between the counties in the treatment and control regions regarding the female labor force participation rate or the proportion of the Protestant, Catholic, or Jewish population. I find a difference between the two

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[14]The only exception is the district of East Berlin, which was not officially listed as a district but functioned as one. Nevertheless, due to its role as the capital, East Berlin had a particular position that distinguished it from other districts. Therefore, it is not included in Table A.1. However, I consider Berlin's unique role in the robustness section.

[15]The data comes from Becker et al. (2020). The counties from 1925 and 1937 were assigned to the treatment and control group using ArcGIS. In cases where a historic county is partially located in the treatment and control area, it was assigned to the group in which more than 50 % of its total area is located.

regions only in the number of non-marital births, with counties in the control region exhibiting a 1.59 percentage point higher non-marital birth share. However, this comparison suggests that more traditional norms tended to prevail in regions with later West German TV reception. This implies that lower marriage and birth rates and higher divorce rates after treatment are not a consequence of historically less traditional norms in the treated regions before treatment.

Another aspect of great relevance to my approach is migration. Here, I have to distinguish between migration before and after the reunification. In the period before 1990, residential and labor mobility were severely restricted. This stemmed from several factors: one being the conflict between the state-planned economy and spatial mobility and the other being the extreme scarcity of free housing in the GDR (Kern and Hainmueller, 2009, Hyll and Schneider, 2013, Bursztyn and Cantoni, 2016). As a result, the number of migrations across county or municipal boundaries was very low and had been declining steadily since the 1950s. For instance, the number of migrations across county borders per 100 inhabitants decreased from 4.8 in 1953 to only 1.6 in 1970 (Grundmann, 1998, pp. 96–97). In this regard, selective spatial sorting before reunification should be less of a concern for my procedure. However, as I am also interested in the long-term impact of the treatment, I have to consider possible migration flows after reunification as well. In this context, Bursztyn and Cantoni (2016) show that migration rates from East to West Germany were overall relatively low, except for a short period of time immediately after reunification (Hunt, 2006). More importantly, they document that there were no significant differences concerning migration rates to West Germany between my treatment and control regions. In line with Friehe et al. (2018), they also report that migration rates between the two groups were relatively low in the first half of the 1990s and did not exhibit a systematic connection.

3.2 Data and empirical approach

To investigate the effects of West German TV reception, I use data from the SOEP, an annual representative panel study of German households (see Goebel et al. (2019) and SOEP v38 (2021)). One advantage of the SOEP is that this study was carried out in the area of the GDR for the first time in June 1990, a few months before the official reunification. In total, 4,453 people

in the East were interviewed at that time. To avoid incorrect assignments, I restrict my sample to respondents who claim to have already been living in the GDR in 1989. This approach also ensures that I do not include individuals in the sample who moved either from West Germany or from abroad to the East after the border reopened in November 1989. Since residential and labor mobility were highly limited before reunification, as described in Section 3.1, it is reasonable to assume that the people lived in the same place during the GDR era as where they were interviewed in 1990. This enables me to divide individuals into treatment and control groups, while keeping possible distortions caused by internal migration to a minimum.[16] After this assignment, I can examine the effect of West German TV on the probability of an individual being married or divorced, and on the likelihood of them having children. To be more specific, I estimate the following equation using a OLS regression:

$$Y_i = \beta_0 + \beta_1 TV_i + \beta_2 X_i + \varepsilon_i, \tag{1}$$

where Y_i represents a dummy variable that equals one if individual i is married in 1990 and zero otherwise.[17] To analyze the effect of West German TV on the likelihood of being divorced, I use the same approach and simply change the dependent variable. For both variables, I only consider individuals older than 18 years.[18] To examine the relationship between the treatment and fertility, I use the fact that the participants were asked whether there were any children in their household who were born between 1974 and 1990. Given this question, I focus solely on participants between 18 and 50 years of age when investigating the treatment effects regarding fertility. However, my results are robust to a wide range of different age restrictions. In addition to the binary indicator characterizing the presence of children, I also analyze the number of children born between 1974 and 1990.[19]

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[16] In the robustness section, I also exploit the panel dimension of the SOEP, which leads to very similar results. This holds even if I exclude individuals who migrated to the West after reunification.

[17] The reason for focusing on the 1990 wave is that my identification strategy relies on the individuals that have been interviewed in 1990. With each additional survey year that I include, there is an increasingly greater attrition bias as people leave the SOEP, but no new participants are added whom I can assign to the treatment and control group.

[18] Moreover, my results remain unchanged if I exclude widowed individuals.

[19] All results presented in Section 4 continue to hold if I employ probit models for the binary outcomes variables and Poisson regressions when analyzing the number of children.

X_i in equation (1) denotes the vector of covariates that includes demographic characteristics such as sex, age, age^2, age^3, and migration background. In addition, I include a dummy variable for having a religious affiliation, as religious beliefs play a significant role in attitudes towards marriage, divorce, and fertility. Since educational attainment and economic independence may influence marriage stability and family planning (James and Vujić, 2019, Kountouris, 2020), I also add another specification including a set of socioeconomic controls that cover years of education, the logarithm of household income, and the individual's employment status. Since the latter variables may themselves be influenced by the treatment, I do not include them in my preferred specification. ε_i represents the error term. TV_i takes the value of one if individual i was interviewed in a county that had access to West German TV before 1990. Similar to the approach of Crabtree et al. (2015), I use a TV signal strength of -86.5 dBm as the critical threshold.[20] If the average signal strength of a county exceeded this threshold, I assume that West German TV reception was possible in this county. Using this threshold, in more than 80 % of the 217 GDR counties, the signal strength was sufficient to facilitate West German TV reception. These counties represent my treatment group, whereas the remaining counties constitute my control group. Overall, the treatment definition corresponds very closely to that of Bursztyn and Cantoni (2016).[21]

I report summary statistics in Table A.2 in the appendix, while I display the covariate balance in Figure A.1. Overall, there are hardly any differences between the participants in the treatment and the control group. I only find a significant difference concerning the years of education. This is, however, negligible. On average, the participants in the control group have three more months of education.[22]

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[20]Crabtree et al. (2015) use a Longley-Rice electromagnetic signal propagation model, terrain data as well as data on the location and technical characteristics of West German TV transmitters to model signal strength. They discretize the continuous measure of West German TV signal strength and generate four different categories: -86.5 dBm, -85 dBm, -82.5 dBm, and -80 dBm. As shown in Section 4.2, my results remain unchanged if I use the other signal strengths as the relevant threshold.

[21]Bursztyn and Cantoni (2016) carry out the signal estimation at the municipality level. Since the SOEP data only contains information on the county of residence before the year 2000, I allocate the treatment at the county level.

[22]This difference in averages is similar across almost all birth cohorts. Only among the participants over 65, I find no difference between the two groups.

4 Results

4.1 Main results

Table 1 reports the main results. For each outcome variable, I include only the treatment indicator first, while I add two sets of controls step-wise. The estimates in column (3) indicate that the likelihood of being married is on average 2.9 percentage points lower for participants living in the treatment areas. In addition to the treatment effect, several other explanatory variables influence the likelihood of being married. In this regard, it appears that respondents with a religious affiliation and a higher household income are more likely to be married. Moreover, the results reveal a significant but non-linear effect of an individual's age. In contrast to columns (1) to (3), I observe a positive treatment effect regarding the probability of being divorced, which is 2.4 percentage points higher in regions with former West German TV reception compared to the control group. Furthermore, the estimates show a positive coefficient for age, while having a religious affiliation is negatively associated with the likelihood of being divorced. The latter also applies to household income.

Table 1 around here.

Columns (7) to (9) in Table 1 reveal a negative treatment effect for the respondents' likelihood of having children born between 1974 and 1990. In column (9), the difference between the treatment and the control group is 4 percentage points. Finally, in columns (10) to (12), I also observe a negative TV effect regarding the number of children. In addition, I find positive coefficients for household income and religious affiliation.

4.2 Robustness and further results

The findings in Section 4.1 indicate that exposure to West German TV programs reduced the likelihood of being married and having children while concurrently elevating the frequency of

divorces. Within this section, I assess the validity of the results through a series of robustness checks and offer additional insights into the observed television effect.

Varying of the sample

At first, I look more closely at the individuals residing in close proximity to the West German border. The reason behind this is that West German influences might have been more decisive in these areas after the fall of the Iron Curtain. To rule out the possibility that those individuals are the driving force behind my results, I exclude all respondents residing in counties that share a border with West Germany. I do this in Table A.3 in two steps. First, I exclude individuals living in the 18 counties that are located directly on the inner German border (Panel A). By doing so, my estimates remain unaffected. In the next step, I further omit Berlin and the eight counties that share a border with Berlin (Panel B). As discussed in Section 3.1, Berlin was not only an economic, but also a cultural center within East Germany. Potential changes in social norms could spread from here and affect regions in the Berlin catchment area more rapidly than regions at a distance. Columns (5) to (8) indicate that my main findings continue to hold.

Geographic regression discontinuity design

In Table A.4, I restrict the treatment group to only those counties close to the control regions. As a result, I am now comparing individuals living in areas that are in close spatial proximity to each other and differ only in the reception of West German TV. In a broader sense, this procedure follows the idea of a geographic regression discontinuity design according to Keele and Titiunik (2015). I start with a radius of 100 km, implying that I restrict the sample to those counties located in the control group or within a 100 km radius of the control group. This procedure reduces the sample by more than 56 %. As shown in Panel A in Table A.4, I find no substantial impact on my results. I now gradually reduce the radius by 25 km to 75 km, which reduces the sample by 70 %. By doing so, I continue to find significant treatment effects regarding the likelihood of being married, divorced or having children. Only for the number of children do I obtain a coefficient of the TV-dummy that is no longer statistically significant. Finally, when applying an even more restrictive cutoff of 50 km, I can still identify a significant West German TV effect for the likelihood of being married, divorced or having children. The

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fact that the coefficients of the TV-dummy concerning the number of children in columns (8) and (12) are no longer significant might be due to the fact that I exclude the majority of the respondents in this robustness test and, therefore, have less statistical power (more than 76 % of the sample in column (12)).

Distance to West Germany

One potential concern might be that the treatment effects shown in the previous section are purely a result of the longer distance of the control regions to the West German border and not due to West German TV reception. Even though there is no evidence suggesting that marriage, divorce, or family planning preferences depend directly on the distance to the West German border, it is crucial to focus on this alternative explanation. I address this point by including the linear distance between each county and its closest point to the West German border as an additional control variable. The findings in Table A.5 show that I still find a significant TV effect and that the magnitude of the coefficients changes only slightly. This change is not surprising, since the distance to the West German border is a central component of TV reception. Therefore, in this estimation, the TV-dummy only measures the geographic features of the landscape that might have prevented the reception of Western TV, e.g., through mountains (Bursztyn and Cantoni, 2016). The fact that the treatment indicator remains significant suggests that the measured effects are actually driven by the TV reception and are not caused by a spurious correlation between the dependent variables and the border distance.

Yet another way to address this concern is to examine whether the distance to the West German border explains decisions regarding marriage, divorce, and fertility if I focus exclusively on the treated counties (Bursztyn and Cantoni, 2016). Therefore, I run the same regressions as in Panel A, but this time only among individuals residing in counties that have been treated. The results of this placebo test suggest that the border distance has almost no explanatory power (see Panel B). Only column (1) shows a significant relationship between the linear distance and the likelihood of being married.

Alternative specifications of the TV-dummy and choice of the regression model

In my main specification, I use a TV signal cutoff-level of -86.5 dBm to divide counties into

treatment and control areas. The main results are broadly robust to several different specifica-
tions of the TV-dummy. In Table A.6, I show that my results hardly change when I use a signal
strength of -80.0 dBm, -82.5 dBm, or -85.0 dBm as a relevant threshold.

Finally, Table A.7 shows that the results remain unchanged when I use probit models to ana-
lyze the probability of being married, divorced, or having children instead of OLS regressions.
The same applies to using Poisson regressions when examining the effect of West German TV
exposure on the number of children.

Cohort analysis

Next, I analyze whether the effects of West German TV access differ across cohorts. For this
purpose, I categorize individuals into three groups based on their year of birth: those born before
1940, between 1940 and 1960, and after 1960. For each cohort, I replicate the main estimates
from Table 1, with all models including the preferred set of covariates. As illustrated in Fig-
ure 2, the two younger cohorts, in particular, were influenced by the treatment concerning the
probability of being married and the number of children. Taken as a whole, this is not particu-
larly surprising, as one would expect younger people's attitudes to be more easily influenced by
the media (Hennighausen, 2015, Kearney and Levine, 2015). Moreover, the youngest cohort is
the only cohort whose birth years fall entirely within the treatment period.

Analyzing the likelihood of being divorced, I find no significant effect for the youngest co-
hort but for the individuals born between 1940 and 1960. However, divorces generally happen
most often in this age range (30 to 50 years). In the data set, individuals in this age group
account for more than 52 % of the overall divorces. In contrast, divorces among the youngest
cohort are relatively rare, accounting for around 11 % of the overall number of divorces in the
sample. Overall, I do not obtain significant treatment effects among the oldest cohort except
for the likelihood of being divorced ($p = 0.084$). Again, this is not surprising since decisions
regarding family planning, for example, were already made for most of these individuals before
they were able to receive West German TV.

Figure 2 around here.

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Dynamics of the West German TV effect

One question that arises is whether the effects of West German TV exposure will diminish over time in reunified Germany or will persist. During the course of reunification in 1990, individuals in the control group also gained access to Western television, leading to the expectation that preferences between the treatment and control group would converge. However, previous studies have reached different conclusions. In this context, Bursztyn and Cantoni (2016) identify a significant effect of West German TV on individuals' consumption patterns, which fades by the end of the 1990s. By analyzing the impact of West German TV on East Germans' beliefs about what drives success in life, Hennighausen (2015) provides further evidence of a declining West German TV effect over time in reunified Germany. In contrast, Hornuf et al. (2023) and Slavtchev and Wyrwich (2023) document that even after 25 years, inhabitants in both groups differ significantly in xenophobic attitudes and their likelihood of becoming self-employed.

Since the SOEP data covers an extensive period, I can examine whether the differences between areas with and without earlier West German TV access have diminished following reunification. However, it is essential to point out that I can only consider individuals who were part of the survey in 1990. Individuals whose first interview occurred in subsequent years cannot be assigned to the treatment or control group. Since restricting the sample to respondents from the 1990 survey may cause an attrition bias over time, the following analysis only provides a broad overview of the development of the West German TV effect. To examine possible dynamic effects, I interact the treatment indicator with dummy variables that indicate the period from 1990 to 2019, divided into five-year intervals. In this regard, Figure 3a illustrates the differences in the predicted likelihood of being married between the treatment and control group over time. The figure shows that the negative treatment effect still exists one decade after reunification. Subsequently, however, it starts to disappear. Similarly, the probability of being divorced also converges between the two groups after two decades (Figure 3b).

Figure 3 around here.

When analyzing the development over time with respect to the likelihood of having children, I need to adjust the approach. The dependent variable is set to one if a respondent currently has a child in the household or previously had one. This procedure ensures that I do not assign a value of 0 to respondents whose children have already moved out of the household.[23] Furthermore, I focus only on the cohort born after 1960. Unlike the outcomes depicted in Figures 3a and 3b, changes in the presence of children do not occur in later survey waves among older respondents since their family planning has already been completed. Figure 3c and 3d show that the negative TV effect remains relatively constant over the entire period.

Overall, several factors might contribute to the persistence of the TV effect. First, previous studies analyzing the persistence of cultural traits and family attitudes argue that once such preferences are formed over decades, they tend to be long-lasting (Giavazzi et al., 2019, Guiso et al., 2016). Second, Figure 2 shows that the treatment influenced the attitudes of younger age groups in particular. Therefore, systematic differences between treated and non-treated individuals concerning decisions to marry or divorce might only manifest with a delay after reunification.

Timing of fertility

Regarding fertility, the analysis has focused so far on whether West German TV influences the probability of having children or the number of children. In Table A.8, I examine whether West German TV also affects the timing of fertility. For this purpose, I use information about a woman's age at the birth of her first child.[24] The results in columns (1) and (2) show that Western TV reception significantly increases the probability that a woman will have her first child when she is over 30 or over 35, respectively. In contrast, there is no effect regarding the probability of having the first child at a very young age (see columns (3) and (4)).[25]

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[23]I proceed analogously with the number of children.

[24]The information comes from the SOEP biographical questionnaires and is updated every survey year. This allows me to include births of women that take place after 1990. One limitation of this approach is that information provided after 1990 could be influenced by attrition bias.

[25]For a subsample of these women, I can also investigate whether West German TV influences the probability of non-marital births. However, no significant association was found.

Self-reported West German TV consumption during GDR period

To investigate the effects of Western TV access, I have so far relied on exogenous variation in the West German TV signal. The advantage of this approach is that it circumvents potential selection issues that arise when individuals make conscious decisions concerning which media content they consume or avoid. To further investigate the robustness of my results, I now use survey data that includes self-reported West German TV consumption and was collected before the fall of the Berlin Wall. Between the end of 1988 and the beginning of 1989, the Zentralinstitut für Jugendforschung (1989) surveyed 3,564 individuals aged 15 to 50 in eight of the total 14 GDR districts. As in my main analysis, I restrict the sample to individuals who are at least 18 years old and focus on the likelihood of being married, divorced, or having children. Once again, I also consider the number of children.

In addition to their socioeconomic characteristics, respondents were also asked how regularly they watch West German TV programs. They were able to answer on the following scale: *never*, *less than once per week*, *once per week*, *several times a week*, or *daily*. Panel A in Table 2 presents the results using a binary indicator, which equals one if an individual watches West German TV at least once a week. This applies to around 78 % of respondents in my sample. All models include a set of covariates that covers sex, age, age^2, and age^3. The results remain unchanged if I add the employment status, education level, vocational qualification, and monthly income. My results in Table 2 reveal that individuals who regularly watch West German TV are on average 2.9 percentage points less likely to be married and 2.3 percentage points more likely to be divorced. In addition, their likelihood of having children is 4 percentage points lower, and their average number of children is lower. Overall, the estimates are very similar to those from my main results in Table 1. Instead of using a binary indicator for West German TV consumption, I employ an ordinal measure in Panel B of Table 2 utilizing the information of all answer categories. By doing so, I obtain results that are qualitatively similar. Overall, the results show that the effects of West German TV reception can already be observed prior to the fall of the Iron Curtain.

Table 2 around here.

County-level evidence

So far, the analysis has been based on survey data. To further ensure the robustness of my findings, I use administrative county-level data from 1990 to 2017 in this part of the study. To test the effect of West German TV reception on marriage, divorce, and birth rates, I employ linear random-effects models, allowing me to identify non-time varying factors such as television reception with the following regression equation:

$$Y_{it} = \beta_0 + \beta_1 TV_i + \beta_2 X_{it} + \mu_t + U_i + \varepsilon_{it}, \tag{2}$$

where Y_{it} represents the crude marriage rate in county i in year t, which is defined as the number of marriages per 1,000 of the population.[26] To examine the influence on divorces, I use both the crude divorce rate, which is measured by the number of divorces per 1,000 inhabitants, and the divorce-to-marriage ratio as dependent variables. The latter is expressed by the number of divorces divided by the number of marriages, offering insights into how the stock of marriages changes over time as it compares how many marriages are ending relative to how many are beginning.[27] Finally, as a measure for fertility, I use the crude birth rate, which displays the number of births per 1,000 of the population. X_{it} denotes a vector of covariates for county i at time t that covers the population density, the share of women, the share of foreigners, GDP per capita, and the unemployment rate.[28] Furthermore, I include a dummy variable which equals one if the respective county is an urban county (*kreisfreie Stadt*).[29] While μ_t represents year-fixed effects, U_i signifies the county-specific random effect, i.e., it measures the

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[26]Based on Breusch-Pagan Lagrangian Multiplier tests, I favor using linear random-effects models instead of pooled OLS. However, all findings presented in this subsection and in Appendix B remain unchanged if I apply pooled ordinary least squares regressions instead of linear random-effects models.

[27]The divorce-to-marriage ratio compares two different groups in the population: (i) those who can marry and (ii) those who can divorce. Therefore, changes in cohort size can influence this measure. One way to extract even more information about the stability of marriages would be to lag the number of marriages by the mean duration. However, this is not feasible due to data limitations, as my data set only starts in 1990.

[28]Overall, the data on the characteristics of the counties come from Federal Institute for Research on Building, Urban Affairs and Spatial Development (2020) and the statistical offices in Germany. Table B.1 in the appendix shows a description of each variable used in the analysis of the county-level data set, while Table B.2 contains descriptive statistics. In addition, I provide the covariate balance for 2017 in Figure B.1.

[29]In Germany, the federal states are divided into administrative districts known as *Kreise*, which correspond to the NUTS 3 level. Typically, such a district comprises several municipalities. However, some densely populated cities do not belong to a *Kreis* but have an independent status and fulfill the tasks of a *Kreis* itself. These cities are called urban counties (*kreisfreie Stadt*) and usually have more than 100,000 inhabitants.

difference between the average marriage rate in county i and the average marriage rate in all East German counties. ε_{it} indicates the error term. Finally TV_i takes the value of one if county i had access to West German TV prior to reunification. Therefore, β_1 is the coefficient of interest.

Table 3 around here.

Panel A in Table 3 shows the results for marriage and divorce rates, while Panel B includes the findings for the divorce-to-marriage ratio and birth rates. At first, I only include the treatment indicator for each outcome variable. In the second step, I add a set of demographic characteristics, while in the final specification, I also adjust for economic disparities between the counties. The results in columns (1) to (3) reflect the average difference in the crude marriage rate between the counties with and without access to West German TV, indicating that the crude marriage rate is, on average, significantly lower among the treated counties. In addition to the treatment indicator, I find lower marriage rates in more densely populated areas and in counties that exhibit a higher proportion of women. By adding the economic controls, I further notice a negative impact of GDP per capita. Unlike marriage rates, I observe a positive and significant treatment effect for divorce rates and the divorce-to-marriage ratio. Furthermore, my findings suggest that divorces are more likely in urban regions than in rural areas. Moreover, it seems that couples are less likely to divorce in times of greater economic uncertainty, which is in line with the findings of previous studies (Schaller, 2013). Finally, columns (10) to (12) reveal a negative relationship between former West German TV exposure and birth rates. The coefficient in column (12) indicates that the number of births per 1,000 inhabitants in the treatment area is on average -0.322 lower than in the control area due to TV reception, which corresponds to a difference of 3.77 % compared to the overall mean. In addition, birth rates are more pronounced in counties that exhibit a higher share of foreigners as well as a higher total net migration. In line with other studies, column (12) shows that birth rates tend to be pro-cyclical to the economic cycle (Sobotka et al., 2011, Schaller, 2016).

While the results in Table 3 are consistent with the findings from the individual-level analysis and remain robust across various validity checks (as detailed in Appendix B), it is important

to acknowledge the potential impact of internal migration, particularly in the years following reunification. Differential migration patterns across genders might confound the estimates. Figure B.2 in Appendix B shows a slightly higher internal migration balance in counties with former West German TV reception, suggesting that these areas experienced more inbound than outbound migration. Looking at the internal migration balance for women and men separately reveals no deviating pattern between both genders. This holds even when focusing on different age groups. Nevertheless, the fact that the data does not allow me to observe the exact characteristics of the individuals who migrate represents a limitation of this data set. Consequently, the results of this analysis only serve as supplementary evidence and should be interpreted with caution.

5 Mechanisms

There are various mechanisms through which television can influence individuals' decisions regarding marriage, divorce, or family planning. This section discusses several potential channels that could explain the results presented in Section 4.

Relationship and family attitudes

One explanation for the results is that West German TV has influenced preferences regarding relationships and family planning by exposing individuals to different lifestyles and providing alternative role models. Therefore, regularly seeing childless or divorced characters in Western soap operas and movies might have liberalized attitudes and questioned traditional values.[30] In this context, psychological studies document that repeated exposure to television over long periods also affects beliefs about the real world, causing individuals to believe that social reality corresponds to the reality shown on television (Gerbner and Gross, 1976). In this regard, the stereotypical portrayal of female characters documented in the studies of Küchenhoff (1975) and Weiderer and Faltenbacher (1994), which displayed married women and women with children in a rather negative way, may have led to different effects for men and women

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[30]The influence of role models in Western TV programs also becomes visible through the naming patterns of children in the GDR (e.g. Kleinteich, 1992).

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(see Section 2.2). Therefore, I also investigate whether West German TV has influenced attitudes towards relationships and family life of women and men to the same extent.

For this purpose, I use survey data that was collected by the Institute for Sociology and Social Policy at the Academy of Sciences of the GDR (1987) from March 1987 to September 1987.[31] In total, the written survey includes 2,710 women and 1,425 men, aged 18 to 40 years, residing in the four GDR districts Berlin, Dresden, Frankfurt, and Neubrandenburg. The survey contains several questions that capture information on various attitudes about relationships and family life. The first four questions capture attitudes about relationships, with question a) and b) referring to characteristics of a relationship that are related to the concept of marriage: long-term partnership and faithfulness. While question c) relates to how important it is for a person to be able to separate in a non-harmonious relationship, question d) addresses whether respondents prefer cohabitation to marriage as a form of permanent partnership. The exact wording of the questions is:

a) *How important is it for you that you live with your partner all your life?*

b) *How important is it for you that you are faithful to each other?*

c) *How important is it for you that you can separate in inharmonious relationships?*

d) *Cohabitation is a better way for partners to live together permanently than marriage. What do you think?*

In addition, participants were also asked three questions about the importance of children to family life:

e) *How important is it for you to live with children?*

f) *How important is it for you to live harmoniously together as a family with children?*

g) *Family life without a child is not real family life at all. What do you think?*

In questions d) and g), respondents were asked to report their level of agreement with the two statements, where they could choose between *do not agree*, *partly agree*, or *fully agree*. The participants could answer the remaining five questions on a scale ranging from 1 *unimportant* to 5 *very important*. Given the skewed distribution of the answer categories, I generate a dummy

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[31] The data set, questionnaire, and further information on the selection method are available at https://doi.org/10.4232/1.6869.

variable for each question that equals one if the participant has answered with *fully agree* or *very important*, respectively.[32]

In addition to these attitude questions, the data set includes socio-economic characteristics of the respondents as well as the location where the survey took place, which enables me to allocate the survey participants to the treatment and control group. In a similar fashion to the studies by Kern and Hainmueller (2009), Hyll and Schneider (2013), Hennighausen (2015), and Hornuf et al. (2023), I assume that people who lived in the GDR district of Dresden had no West German TV reception.[33] This assumption is also supported by the results of a survey conducted by the Zentralinstitut für Jugendforschung (1989), in which the participants were asked, among other things, how often they watched West German TV programs. While 67.85 % of the respondents living in the Dresden district stated that they never watched West German TV programs, the value concerning the remaining districts considered in this study ranged from 0.24 % to 5.47 %. Figure A.2 in the appendix presents the television viewing habits of the participants divided into treatment and control group. Table A.9 in the appendix provides summary statistics.

To examine whether the reception of West German TV influenced the attitudes of both male and female participants, I divide the sample into a female and a male subsample. I then estimate one OLS model for each question and subsample using the seven dummy variables capturing the relationship and family attitudes as outcome variables. In addition to the treatment indicator, I control for an individual's age, age^2, age^3, and whether the respondent has siblings. While I document the regression results in Table A.10 in the appendix, I visualize the findings in Figures 4a to 4g.[34] The figures display, for both female and male respondents, the predictive probability of considering the respective statement very important or fully agreeing with the statement, respectively, divided into treatment and control groups.

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[32]My results hardly change if I construct the dummy variables differently. Furthermore, I arrive at similar results if I employ ordinal measures using the information on all answer categories. The regression results are not included in the text for spatial reasons, but they are available to any interested reader.

[33]In total, 518 female and 292 male participants come from the Dresden district. The districts in the northeastern part of the GDR, which also had partly no access to West German TV, were not included in the survey.

[34]In addition to the OLS models, I also ran probit and logistic regressions, which lead to similar results. Moreover, the results remain unchanged if I extend the set of covariates to include a respondent's education level, employment status, qualification level, and the industry in which the respondent works.

Figure 4 around here.

Overall, I observe a similar pattern regarding treatment effects for most questions for both sexes (excepting Figure 4d). However, the differences between the treatment and control group are more pronounced among the female participants, where I obtain significant treatment effects for all seven questions. Conditional on the controls, females living in regions with West German TV access are 8.8 percentage points less likely to consider living with a partner all their life as very important (Figure 4a) and 7.4 percentage points less likely to perceive faithfulness in a partnership as very important (Figure 4b). Both statements contain aspects that are important to the concept of marriage. In contrast, Figure 4c identifies a positive treatment effect for females indicating that female participants from the treatment group are 5.1 percentage points more likely to perceive the ability to separate in an inharmonious partnership as very important. A higher willingness to separate in inharmonious partnerships might contribute to elevated divorce rates among the treated counties. Moreover, regarding the statement that *cohabitation is a better form of permanent relationship than marriage*, being from a region with West German TV reception increases the likelihood of agreeing by 3.3 percentage points. Focusing on attitudes towards family life among the female participants, I find that being from regions with West German TV access reduces the likelihood of perceiving *living with children* or *having a harmonious family life with children* as very important by 5 and 4.8 percentage points, respectively. In line with these findings, females in the treatment group are less likely to agree with the statement that *family life without a child is not real family life* compared to their counterparts in the control group. Here, the effect size is 4.6 percentage points.

In contrast to the female respondents, I only find a significant difference between the treatment and control group among the male participants for one question (Figure 4a). At this point, however, it is essential to mention that only 1,425 men were interviewed compared to 2,710 women. To ensure that the results were not driven by a different number of observations for men and women, I repeatedly drew random samples of 1,425 women and repeated the estimates. By doing so, I obtain similar results. Overall, the results indicate that mainly women's attitudes towards relationships and family life were influenced by the treatment, while hardly

any differences between the treatment and control regions can be found among the male partic-ipants.[35]

Since the cohort analysis in Section 4.2, shows that there are slight differences in treatment effects across cohorts, I examine whether this also applies to the treatment effects regarding attitudes. I differentiate between the cohort of under 30-year-olds and the cohort of over 30-year-olds.[36] Figure A.3 (a) shows that the reception of West German TV influences the attitudes of both younger women and women over 30. Only in one of the seven questions do I find a difference between the two cohorts. This concerns the importance of being able to separate in an inharmonious relationship, which tends to be higher in the younger cohort. Figure A.3 (b) again shows that West German TV hardly affects the attitudes of the male participants. I only find a significant treatment effect for the importance of lifelong cohabitation with a partner in the younger cohort.

The role of propaganda

Another potential channel is exposure to propaganda of the GDR regime. Section 2.2 describes how the GDR government tried to counteract declining fertility rates in the 1960s with family policies that focused on the importance of motherhood (Kranz, 2005). Since the regime used the media landscape in GDR to support its initiatives, people who watched East German TV more frequently were consequently more exposed to its propaganda. In contrast, individuals with access to West German TV were probably less exposed as they had a greater variety of TV channels to choose from (Campa and Serafinelli, 2019). Thus, the question arises as to whether the previous results are due to the content of West German TV programs or reduced consumption of East German TV. If relationship and family attitudes are indeed shaped by propaganda, one would expect to find a similar effect from sources of propaganda exposure other than East German TV. First, I assume that individuals working directly for the government or in the public

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[35]Similar to the study by Campa and Serafinelli (2019), I find no effect of West German TV reception on the career aspirations of women and men.

[36]As the survey includes only people up to the age of 40, I only differentiate between these two cohorts.

sector during the GDR period should be more exposed to the regime's propaganda. To test this conjecture, I estimate the following regression:

$$Y_i = \beta_0 + \beta_1 Public\ Sector_i + \beta_2 X_i + \varepsilon_i, \tag{3}$$

where Y_i represents one of the four outcome variables used in the main estimations.[37] X_i denotes the set of controls used in the preferred specification outlined in Section 3.2. The variable *Public Sector$_i$* is constructed using the following question from the survey in 1990: *Is the company where you work part of the state apparatus or public service?* This applies to roughly 25 % of the sample. Panel A of Table A.11 shows that being employed in the public sector does not influence the outcomes analyzed. Another way to address this concern is to add the public sector variable into the main specification as an additional control. By doing this, I still find significant effects of West German TV exposure similar to the main findings in Table 1 and no significant influence of working in the public sector.

In a similar vein, individuals who are more sympathetic to the regime might have been more exposed to the regime's propaganda. Following Campa and Serafinelli (2019), I use two variables to proxy attitudes towards the regime. The first proxy, *Satisfaction with Democracy*, measures the respondents' satisfaction with democracy in the GDR, which was asked in 1990 on a four-step Likert scale, ranging from 1 *very dissatisfied* to 4 *very satisfied*. In addition, I use the respondents' political party preferences, which were surveyed in 1992, to generate the second proxy. The binary indicator, *PDS Support*, equals one if a respondent supports the party PDS (Party of Democratic Socialism), which was founded in 1990 as the successor party to the SED (Socialist Unity Party of Germany), the ruling party in the GDR. I estimate the following two models:

$$Y_i = \beta_0 + \beta_1 Satisfaction\ with\ Democracy_i + \beta_2 X_i + \varepsilon_i, \tag{4}$$

$$Y_i = \beta_0 + \beta_1 PDS\ Support_i + \beta_2 X_i + \varepsilon_i, \tag{5}$$

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[37]I exclude retired individuals from this analysis as the SOEP does not provide information on whether they worked in the public sector before their retirement.

The estimates in Table A.11 show no significant influence of satisfaction with democracy in the GDR regarding the four outcomes. Concerning the second proxy, the results reveal that the probability of being married is significantly higher among supporters of the PDS. I also find a difference of 3.3 percentage points in the probability of being divorced between supporters and non-supporters. Regarding the likelihood of having children and the number of children, I do not observe a significant effect. The fact that the difference between the two groups in column (11) is not significant could be due to the relatively large standard errors. Overall, only 2.8 % of respondents support the PDS. While I find no effects using two of the three measures of propaganda exposure, the estimates regarding PDS support do not entirely rule out the possibility that the impact of Western TV reception is partly attributed to decreased exposure to regime propaganda.[38] Repeating all estimates across genders and cohorts leads to similar results across the subgroups.

Changes in social capital

One may argue that the results presented in Section 4 are not due to the content provided by West German TV programs but rather by individuals increasing the time spent in front of the TV set. Increased TV consumption could affect individuals' social behavior as they have less time available for other activities, which might be relevant for finding potential partners and building relationships. In this sense, having access to West German TV programs might have created a substitution effect concerning other leisure activities, such as meeting friends or going to concerts (Olken, 2009). Overall, based on the SOEP data from 1990, the findings presented in Table A.12 in the appendix indicate that there is no significant relationship between West German TV reception and the frequency of individuals going to the cinema, discos, or religious events. Moreover, receiving these programs does not influence the regularity with which respondents meet their friends or neighbors, engage in sports, or do volunteer work.[39] Even if the estimations are carried out separately for women and men or among different cohorts, the TV-dummy remains insignificant in all regressions.

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[38]If I add the three variables, *Public Sector*, *Satisfaction with Democracy*, and *PDS Support*, each as a control variable in the main specification, I still find significant coefficients for the TV-dummy.

[39]Only for one outcome I find a weakly significant effect. Individuals from the treatment group are less likely to attend cultural events such as classical concerts, operas, or exhibitions.

Economic uncertainty

Another relevant mechanism concerns economic uncertainty. Several studies have shown that fertility is procyclical with economic development, while the reverse is true for divorce rates (Sobotka et al., 2011, Schaller, 2013, 2016, Gozgor et al., 2021). In the course of the reunification process, East Germany suffered from high economic uncertainty, also leading to lower fertility rates (Chevalier and Marie, 2017, 2024). Individuals with West German TV reception may have been able to anticipate the future economic uncertainties better than those without access. While the fact that I find a positive treatment effect for the frequency of divorces speaks against this theory, the findings regarding fertility could be influenced by economic uncertainty. Again, I use information from the SOEP and examine whether West German TV influences people's general optimism about their future. In addition, I investigate whether participants expect the following four scenarios to happen within the next two years: (i) a job loss, (ii) a career deterioration, (iii) a change of occupation, and (iv) a significant reduction in employment in their current company. Table A.13 shows that none of these analyses reveal a significant association with the treatment. Separate estimates for both genders and for different cohorts also lead to the same results.[40]

6   Conclusion

Utilizing exogenous variation in Western TV reception in the GDR, I investigated whether television content can affect an individual's likelihood of marrying and divorcing, as well as decisions regarding family planning. The analysis reveals that individuals exposed to West German TV were significantly less likely to be married or have children, while they exhibited a higher probability of being divorced. I conducted various robustness checks to ensure that these observed differences between individuals in the treatment and control areas were not due to factors other than West German TV reception. The analysis of administrative county-level data further

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[40]Furthermore, in the survey conducted by Institute for Sociology and Social Policy at the Academy of Sciences of the GDR (1987) used in the first part of this subsection, participants were asked if having a child/another child would cause financial problems. My results show that such financial concerns do not differ between the treatment and the control group. The results are available to any interested reader.

supports these findings, showing that former West German TV exposure had a significant and negative effect on marriage and birth rates and a positive impact on divorce rates in East Germany.

While I explored several potential mechanisms, the findings of this study suggest that the impact of West German TV exposure arises primarily through changes in attitudes towards relationships and family life. The analysis of survey data from the late 1980s indicates that the treatment mainly affected women's attitudes, while there was hardly any effect on men. One possible explanation for this gender difference might be that women spent more time watching television and were, therefore, more exposed to Western television content. However, survey data from the Zentralinstitut für Jugendforschung (1989) shows that, on average, women watched West German TV less frequently than men.

Although this study examines a unique scenario, its findings are of great relevance beyond the specific geographical and temporal context. Overall, the results suggest that television content can influence fundamental life decisions by shaping individuals' attitudes towards family issues. Previous research has shown that once formed, such attitudes tend to remain stable over time and can even be passed on from one generation to another (Guiso et al., 2016, Giavazzi et al., 2019). This could potentially explain the persistence of the West German TV effect even a decade after reunification. However, it remains unclear whether an intergenerational transmission of the effect occurs, which could be a focus for future research. Investigating this in more detail requires individuals whose parents were part of the natural experiment, but who were not themselves exposed. From an empirical point of view, this is challenging because, as of today, this group has not reached the age at which their family planning is complete.

Given that television is still one of the most time-consuming forms of recreational activity in many countries, the findings of this study carry important policy implications. Television programs could serve as an efficient and inexpensive method to reach a substantial part of society across all social classes.

References

Adler, M. A. (1997). Social change and declines in marriage and fertility in Eastern Germany. *Journal of Marriage and Family 59*(1), 37–49.

Alesina, A. and N. Fuchs-Schündeln (2007). Goodbye Lenin (or not?): The effect of communism on people's preferences. *American Economic Review 97*(4), 1507–1527.

Auersperg, F., T. Vlasak, I. Ponocny, and A. Barth (2019). Long-term effects of parental divorce on mental health – a meta-analysis. *Journal of Psychiatric Research 119*, 107–115.

Bauernschuster, S. and H. Rainer (2012). Political regimes and the family: How sex-role attitudes continue to differ in reunified Germany. *Journal of Population Economics 25*(1), 5–27.

Becker, S. O., L. Mergele, and L. Woessmann (2020). The separation and reunification of Germany: Rethinking a natural experiment interpretation of the enduring effects of communism. *Journal of Economic Perspectives 34*(2), 143–71.

Bjorvatn, K., A. W. Cappelen, L. H. Sekei, E. Ø. Sørensen, and B. Tungodden (2020). Teaching through television: Experimental evidence on entrepreneurship education in Tanzania. *Management Science 66*(6), 2308–2325.

Bönisch, P. and W. Hyll (2023). Television and fertility: Evidence from a natural experiment. *Empirical Economics 64*, 1025–1066.

Boyd, D. A. (1983). Broadcasting between the two Germanies. *Journalism Quarterly 60*(2), 232–239.

Bühler, G. (1997). *Mythos Gleichberechtigung in der DDR: Politische Partizipation von Frauen am Beispiel des Demokratischen Frauenbunds Deutschlands*. Frankfurt am Main: Campus.

Bursztyn, L. and D. Cantoni (2016). A tear in the Iron Curtain: The impact of Western television on consumption. *The Review of Economics and Statistics 98*(1), 25–41.

Campa, P. and M. Serafinelli (2019). Politico-economic regimes and attitudes: Female workers under state socialism. *The Review of Economics and Statistics 101*(2), 233–248.

Chevalier, A. and O. Marie (2017). Economic uncertainty, parental selection, and children's educational outcomes. *Journal of Political Economy 125*(2), 393–430.

Chevalier, A. and O. Marie (2024). Risky moms, risky kids? Fertility and crime after the fall of the wall. *Journal of Public Economics 230*, 105048.

Chong, A. and E. La Ferrara (2009). Television and divorce: Evidence from Brazilian novelas. *Journal of the European Economic Association 7*(2-3), 458–468.

Crabtree, C., D. Darmofal, and H. L. Kern (2015). A spatial analysis of the impact of West German television on protest mobilization during the East German revolution. *Journal of Peace Research 52*(2), 269–284.

DellaVigna, S. and E. Kaplan (2007). The Fox News effect: Media bias and voting. *The Quarterly Journal of Economics 122*(3), 1187–1234.

DellaVigna, S. and E. La Ferrara (2015). Economic and social impacts of the media. In Simon P. Anderson, Joel Waldfogel and David Strömberg (Ed.), *Handbook of Media Economics*, Volume 1, pp. 723–768. North-Holland.

Dölling, I. (1993). Gespaltenes Bewußtsein: Frauen- und Männerbilder in der DDR. In Helwig, Gisela and Nickel, Hildegard M. (Ed.), *Frauen in Deutschland 1945-1992*, pp. 23–52. Bonn: Bundeszentrale für Politische Bildung.

Durante, R., P. Pinotti, and A. Tesei (2019). The political legacy of entertainment TV. *American Economic Review 109*(7), 2497–2530.

Engelhardt-Wölfler, H., H. Trappe, and J. Dronkers (2002). Differences in family policies and the intergenerational transmission of divorce: A comparison between the former East and West Germany. *Demographic Research 6*(11), 295–324.

Enikolopov, R., M. Petrova, and E. Zhuravskaya (2011). Media and political persuasion: Evidence from Russia. *American Economic Review 101*(7), 3253–3285.

Federal Institute for Research on Building, Urban Affairs and Spatial Development (2020). Inkar (Indikatoren und Karten zur Raum- und Stadtentwicklung). https://www.inkar.de/. Accessed on August 29, 2024.

Federal Statistical Office and the Statistical Offices of the Länder (2014). Religious affiliation. https://ergebnisse.zensus2011.de/?locale=en. Accessed on August 29, 2024.

Förster, P. (1995). Die deutsche Frage im Bewusstsein der Bevölkerung in beiden Teilen Deutschlands. Das Zusammengehörigkeitsgefühl der Deutschen. Einstellungen junger Menschen in der DDR. In Deutscher Bundestag (Ed.), *Materialien der Enquete-Kommission 'Aufarbeitung von Geschichte und Folgen der SED-Diktatur in Deutschland'*, Volume V/2, pp. 1212–1380. Nomos Verlag.

Friehe, T. and M. Mechtel (2014). Conspicuous consumption and political regimes: Evidence from East and West Germany. *European Economic Review 67*, 62–81.

Friehe, T., H. Müller, and F. Neumeier (2018). The effect of Western TV on crime: Evidence from East Germany. *European Journal of Political Economy 55*, 346–372.

Friehe, T., H. Müller, and F. Neumeier (2020). Media's role in the making of a democrat: Evidence from East Germany. *Journal of Comparative Economics 48*(4), 866–890.

Friehe, T. and M. Pannenberg (2020). Time preferences and political regimes: Evidence from reunified Germany. *Journal of Population Economics 33*(1), 349–387.

Gentzkow, M. (2006). Television and voter turnout. *The Quarterly Journal of Economics 121*(3), 931–972.

Gentzkow, M. and J. M. Shapiro (2008). Preschool television viewing and adolescent test scores: Historical evidence from the Coleman study. *The Quarterly Journal of Economics 123*(1), 279–323.

Gerbner, G. and L. Gross (1976). Living with television: The violence profile. *Journal of Communication 26*(2), 172–199.

German Historical Museum (2016). Puff by puff: How cigarettes were extinguished from public life. https://www.dhm.de/blog/2016/07/25/history-of-non-smoking/. Accessed on August 29, 2024.

Giavazzi, F., I. Petkov, and F. Schiantarelli (2019). Culture: Persistence and evolution. *Journal of Economic Growth 24*, 117–154.

Goebel, J., M. M. Grabka, S. Liebig, M. Kroh, D. Richter, C. Schröder, and J. Schupp (2019). The German Socio-Economic Panel (SOEP). *Jahrbücher für Nationalökonomie und Statistik 239*(2), 345–360.

Gozgor, G., M. H. Bilgin, and P. Rangazas (2021). Economic uncertainty and fertility. *Journal of Human Capital 15*(3), 373–399.

Großmann, T. (2015). *Fernsehen, Revolution und das Ende der DDR*. Göttingen: Wallstein Verlag.

Grundmann, S. (1998). *Bevölkerungsentwicklung in Ostdeutschland: Demographische Strukturen und räumliche Wandlungsprozesse auf dem Gebiet der neuen Bundesländer (1945 bis zur Gegenwart)*. Opladen: Leske und Budrich.

Guiso, L., P. Sapienza, and L. Zingales (2016). Long-term persistence. *Journal of the European Economic Association 14*(6), 1401–1436.

Hannover, I. and A. Birkenstock (2005). *Familienbilder im Fernsehen: Familienbilder und Familienthemen in fiktionalen und nichtfiktionalen Fernsehsendungen*. Marl: Adolf Grimme Institut.

Heineck, G. and B. Suessmuth (2013). A different look at Lenin's legacy: Trust, risk, fairness and cooperativeness in the two Germanys. *Journal of Comparative Economics 41*(3), 789–803.

Helfferich, C., H. Klindworth, and S. Bühler (2016). *Frauen Leben. 3-Familienplanung im Lebenslauf von Frauen. Schwerpunkt: Ungewollte Schwangerschaften*. Köln: Bundeszentrale für gesundheitliche Aufklärung BZgA.

Hennighausen, T. (2015). Exposure to television and individual beliefs: Evidence from a natural experiment. *Journal of Comparative Economics 43*(4), 956–980.

Hesse, K. R. (1990). Cross-border mass communication from West to East Germany. *European Journal of Communication 5*(2), 355–371.

Holbert, R. L., D. V. Shah, and N. Kwak (2003). Political implications of prime-time drama and sitcom use: Genres of representation and opinions concerning women's rights. *Journal of Communication 53*(1), 45–60.

Hornuf, L., M. O. Rieger, and S. A. Hartmann (2023). Can television reduce xenophobia? The case of East Germany. *Kyklos 76*(1), 77–100.

Hunt, J. (2006). Staunching emigration from East Germany: Age and the determinants of migration. *Journal of the European Economic Association 4*(5), 1014–1037.

Hyll, W. and L. Schneider (2013). The causal effect of watching TV on material aspirations: Evidence from the "valley of the innocent". *Journal of Economic Behavior and Organization 86*, 37–51.

Institute for Sociology and Social Policy at the Academy of Sciences of the GDR (1987). Desire for children 1987 - objective and subjective factors of birth development. GESIS data archive ZA6869, Data file version 1.0.0,.

James, J. and S. Vujić (2019). From high school to the high chair: Education and fertility timing. *Economics of Education Review 69*, 1–24.

Jensen, R. and E. Oster (2009). The power of TV: Cable television and women's status in India. *The Quarterly Journal of Economics 124*(3), 1057–1094.

Kearney, M. S. and P. B. Levine (2015). Media influences on social outcomes: The impact of MTV's 16 and pregnant on teen childbearing. *American Economic Review 105*(12), 3597–3632.

Kearney, M. S. and P. B. Levine (2019). Early childhood education by television: Lessons from Sesame Street. *American Economic Journal: Applied Economics 11*(1), 318–350.

Keele, L. J. and R. Titiunik (2015). Geographic boundaries as regression discontinuities. *Political Analysis 23*(1), 127–155.

Kern, H. L. and J. Hainmueller (2009). Opium for the masses: How foreign media can stabilize authoritarian regimes. *Political Analysis 17*(4), 377–399.

Kleinteich, B. (1992). *Vornamen in der DDR. Vornamen in der DDR 1960-1990*. Berlin: Akademie-Verlag.

Kochanowski, K., S. Trültzsch, and R. Viehoff (2012). An evening with friends and enemies: Political indoctrination in popular East German family series. In *Popular Television in Eastern Europe During and Since Socialism*, pp. 93–114. Routledge.

Kotelmann, J. and L. Mikos (1981). *Frühjahrsputz und Südseezauber: Die Darstellung der Frau in der Fernsehwerbung und das Bewusstsein von Zuschauerinnen*. Baden-Baden: E. Baur.

Kountouris, Y. (2020). Higher education and fertility: Evidence from reforms in Greece. *Economics of Education Review 79*, 102059.

Kranz, S. (2005). Women's role in the German Democratic Republic and the state's policy toward women. *Journal of International Women's Studies 7*(1), 69–83.

Küchenhoff, E. (1975). *Die Darstellung der Frau und die Behandlung von Frauenfragen im Fernsehen*. Stuttgart: Kohlhammer.

Kuschel, F. (2016). *Schwarzhörer, Schwarzseher und heimliche Leser: Die DDR und die Westmedien*. Göttingen: Wallstein Verlag.

La Ferrara, E., A. Chong, and S. Duryea (2012). Soap operas and fertility: Evidence from Brazil. *American Economic Journal: Applied Economics 4*(4), 1–31.

Lorenz, F. O., K. A. S. Wickrama, R. D. Conger, and J. Glen H. Elder (2006). The short-term and decade-long effects of divorce on women's midlife health. *Journal of Health and Social Behavior 47*(2), 111–125.

Müller, S. (2000). *Von der Mangel- zur Marktwirtschaft : Analyse der Konsumbedingungen und des Konsumverhaltens in der DDR*. Leipzig : IM.

Nieto, A. (2019). Television, time use and academic achievement: Evidence from a natural experiment. *Granger Centre Discussion Paper No. 19/06*.

OECD (2019). OECD family database. https://www.oecd.org/els/family/database.htm, OECD Family Database. Accessed on August 29, 2024.

Olken, B. A. (2009). Do television and radio destroy social capital? Evidence from Indonesian villages. *American Economic Journal: Applied Economics 1*(4), 1–33.

Price, J. and G. B. Dahl (2012). Using natural experiments to study the impact of media on the family. *Family Relations 61*(3), 363–373.

Rosenfeld, R. A., H. Trappe, and J. C. Gornick (2004). Gender and work in Germany: Before and after reunification. *Annual Review of Sociology 30*, 103–124.

Schaller, J. (2013). For richer, if not for poorer? Marriage and divorce over the business cycle. *Journal of Population Economics 26*(3), 1007–1033.

Schaller, J. (2016). Booms, busts, and fertility. *Journal of Human Resources 51*(1), 1–29.

Schramm, D. G. (2006). Individual and social costs of divorce in Utah. *Journal of Family and Economic Issues 27*, 133–151.

Schramm, D. G., S. M. Harris, J. B. Whiting, A. J. Hawkins, M. Brown, and R. Porter (2013). Economic costs and policy implications associated with divorce: Texas as a case study. *Journal of Divorce & Remarriage 54*(1), 1–24.

Signorielli, N. (1990). Children, television, and gender roles: Messages and impact. *Journal of Adolescent Health Care 11*(1), 50–58.

Slavtchev, V. and M. Wyrwich (2023). The effects of TV content on entrepreneurship: Evidence from German unification. *Journal of Comparative Economics 51*(2), 696–721.

Sobotka, T., V. Skirbekk, and D. Philipov (2011). Economic recession and fertility in the developed world. *Population and Development Review 37*(2), 267–306.

SOEP v38 (2021). Socio-Economic Panel, data from 1984-2021. SOEP-Core v38.

Statistical Yearbook of the German Democratic Republic (1955). *Statistisches Jahrbuch der Deutschen Demokratischen Republik*. Staatsverlag der Deutschen Demokratischen Republik.

Statistical Yearbook of the German Democratic Republic (1990). *Statistisches Jahrbuch der Deutschen Demokratischen Republik 1990*. Staatsverlag der Deutschen Demokratischen Republik.

Statistisches Reichsamt (1941). Die Bevölkerung des Reichs, der Reichsteile, der größeren und kleineren Verwaltungsbezirke, der Gaue der NSDAP sowie der Großstädte nach Religionszugehörigkeit auf Grund der Volkszählung vom 17. Mai 1939. *Sonderbeilage zu "Wirtschaft und Statistik" 21*(9), 1–15.

Stiehler, H.-J. (2001). *Leben ohne Westfernsehen: Studien zur Medienwirkung und Mediennutzung in der Region Dresden in den 80er Jahren*. Leipzig: Leipziger Universitätsverlag.

The Federal Agency for Civic Education (2021). Doku-Soaps und Reality-Soaps ab den 50er Jahren. https://www.bpb.de/themen/medien-journalismus/deutsche-fernsehgeschichte-in-ost-und-west/245159/doku-soaps-und-reality-soaps-ab-den-50er-jahren/. Accessed on August 29, 2024.

Weiderer, M. and C. Faltenbacher (1994). Das Frauen-und Männerbild in Familienserien des deutschen Fernsehens: Inhaltsanalytische Untersuchung und Folgerungen für die Pädagogik. *Medien und Erziehung 38*, 208–214.

Zentralinstitut für Jugendforschung (1989). Political Climate and Social Conditions in the GDR 1988/89. GESIS data archive ZA6008, Data file version 1.0.0,.

Figure 1: Reception of West German TV in the GDR
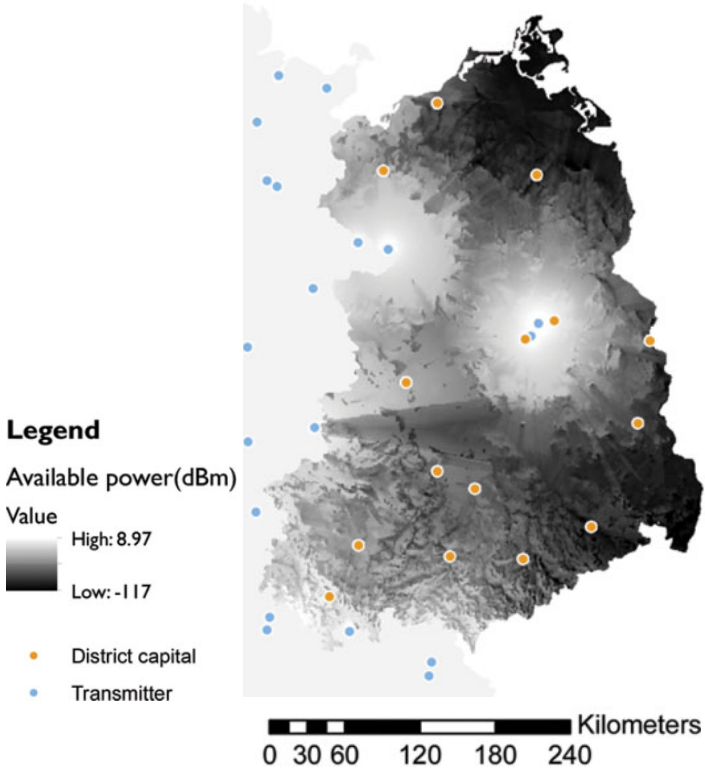
Notes: Brighter areas indicate regions with a stronger West German TV over-the-air signal and thus a better television reception, while dark areas had weak to no reception. This illustration is taken from Crabtree et al. (2015) with slight modification.

Figure 2: Treatment effects by cohorts
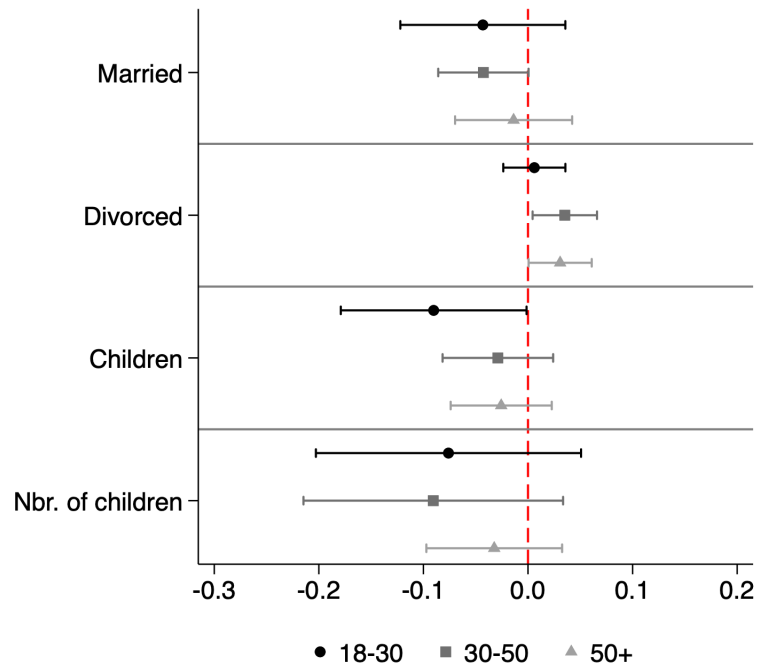
Notes: This figure reports the results from OLS regressions and shows the effect of the West German TV exposure across different cohorts. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level. 95 percent confidence interval levels are displayed. Data source: SOEP v38 (2021), survey year 1990.

Figure 3: Development of the West German TV effect

(a) Likelihood to be married

(b) Likelihood to be divorced

(c) Likelihood of having children
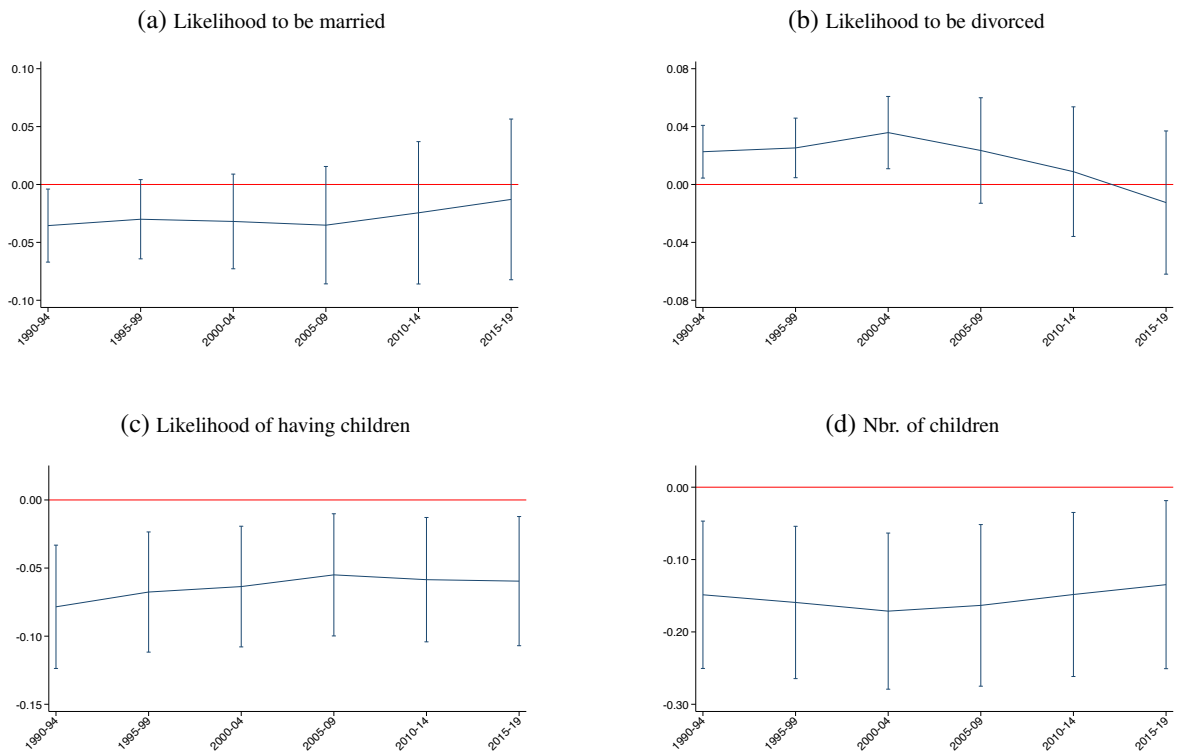
(d) Nbr. of children

Notes: Figures (a) to (c) show the differences in the predicted probabilities of being married, divorced, and having or having had children in the household, respectively. Figure (d) illustrates the difference in the predicted number of children. I use random-effects regressions where I interact the treatment indicator with dummy variables indicating the period from 1990 to 2019 split in five-year intervals. The analyses on which Figures (c) and (d) are based include only individuals born after 1960. All models include the preferred set of control variables described in Section 3.2. In addition, I add a dummy variable indicating if a respondent moved to West Germany. Standard errors are clustered at the individual level. 95 percent confidence interval levels are displayed. Data source: SOEP v38 (2021).

Figure 4: West German TV and attitudes towards relationships and family life

(a) Importance of living with your partner all your life
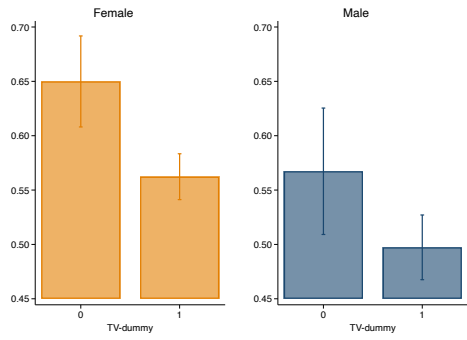
(b) Importance of faithfulness
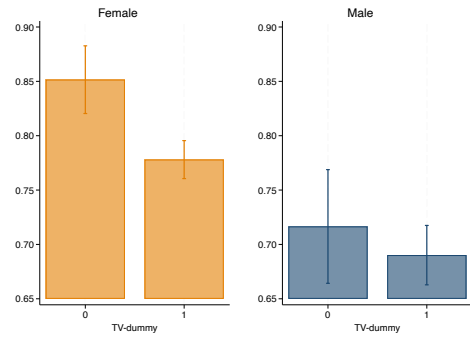
(c) Importance of being able to separate in inharmonious relationships
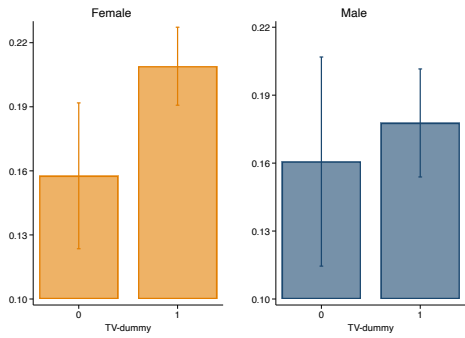
(d) Cohabitation is a better form of permanent relationship than marriage
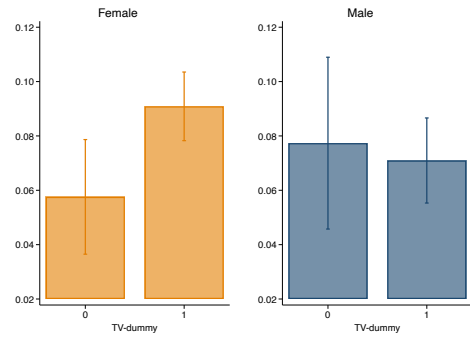
(e) Importance of living together with children
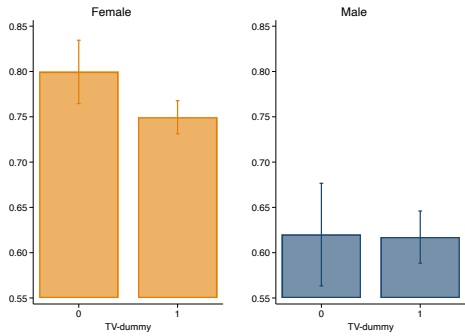
(f) Importance of harmonious family life with children
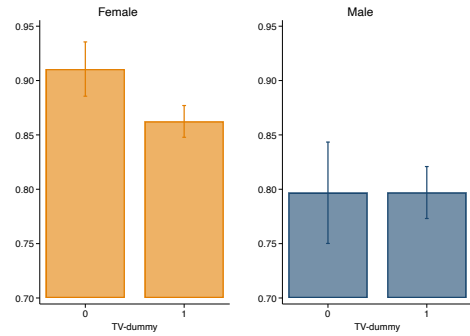
(g) Family life without a child is not real family life
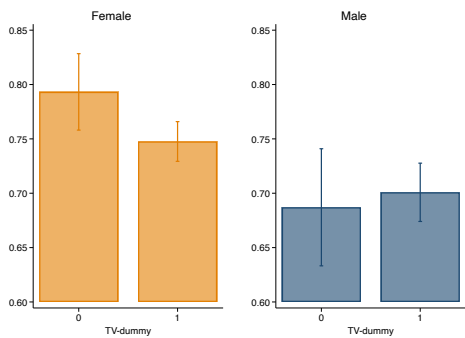
Notes: Figures (a) to (g) show the predicted probabilities of considering the respective issue as very important or fully agreeing with the statement separately for male and female respondents. In addition, I differentiate between the treatment and control groups within the female and male subsample. All regressions include the following controls: Age, age^2, age^3, and a binary indicator of having siblings. Data source: GESIS data archive ZA6869, Data file version 1.0.0, 1987.

Table 1: West German TV and the likelihood of marriage, divorce, and having children

	Married (yes/no)			Divorced (yes/no)			Children (yes/no)			Number of children		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
TV-dummy	−0.039*	−0.032*	−0.029*	0.025***	0.026***	0.024***	−0.068***	−0.049**	−0.040*	−0.131**	−0.094**	−0.077*
	(0.021)	(0.017)	(0.016)	(0.010)	(0.010)	(0.009)	(0.026)	(0.023)	(0.023)	(0.055)	(0.047)	(0.047)
Female		−0.042***	−0.057***		0.037***	0.045***		0.043***	0.031*		0.029	−0.009
		(0.012)	(0.013)		(0.007)	(0.008)		(0.015)	(0.017)		(0.031)	(0.033)
Age		0.167***	0.158***		0.013***	0.010**		0.132***	0.209***		0.336***	0.604***
		(0.006)	(0.008)		(0.004)	(0.005)		(0.042)	(0.049)		(0.077)	(0.091)
Age²		−0.003***	−0.003***		−0.000**	−0.000		−0.001	−0.003**		−0.004	−0.011***
		(0.000)	(0.000)		(0.000)	(0.000)		(0.001)	(0.001)		(0.002)	(0.003)
Age³		0.000***	0.000***		0.000	0.000		−0.000	0.000		−0.000	0.000*
		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
Religious affiliation		0.023*	0.026**		−0.028***	−0.028***		0.026	0.025		0.135***	0.130***
		(0.013)	(0.012)		(0.008)	(0.008)		(0.017)	(0.017)		(0.036)	(0.036)
Migration background		0.002	0.017		−0.026	−0.036**		0.004	−0.010		−0.013	−0.010
		(0.033)	(0.031)		(0.018)	(0.018)		(0.057)	(0.059)		(0.115)	(0.117)
Years of education			0.005*			0.002			0.018***			0.014*
			(0.003)			(0.002)			(0.004)			(0.008)
Log. household income			0.223***			−0.120***			0.017			0.181***
			(0.018)			(0.013)			(0.026)			(0.048)
Employment status:												
Part-time			0.136***			−0.054***			0.041*			0.117**
			(0.019)			(0.013)			(0.025)			(0.053)
Apprentice			−0.111***			−0.009			0.233***			0.636***
			(0.028)			(0.013)			(0.063)			(0.098)
Not working			0.090***			−0.051***			0.086***			0.314***
			(0.027)			(0.013)			(0.030)			(0.063)
Retired			0.119***			−0.065***			−0.118			−0.228
			(0.031)			(0.019)			(0.123)			(0.232)
R^2	0.001	0.288	0.332	0.001	0.018	0.059	0.002	0.233	0.243	0.002	0.258	0.273
Observations	4258	4258	4181	4258	4258	4181	2926	2926	2886	2926	2926	2886

Notes: This table shows results from OLS regressions. Omitted variable in columns (3), (6), (9), and (12): Full-time. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Table 2: Self-reported West German TV consumption

Panel A: Binary indicator for West German TV consumption

	Married (yes/no) (1)	Divorced (yes/no) (2)	Children (yes/no) (3)	Number of children (4)
TV consumption (dummy)	-0.029^*	0.023^{***}	-0.040^{**}	0.079^{**}
	(0.016)	(0.009)	(0.018)	(0.032)
Controls	Yes	Yes	Yes	Yes
R^2	0.361	0.057	0.445	0.437
Observations	2556	2556	2556	2556

Panel B: Ordinal measure for West German TV consumption

	Married (yes/no) (5)	Divorced (yes/no) (6)	Children (yes/no) (7)	Number of children (8)
TV consumption (ordinal)	-0.009^*	0.006^{**}	-0.009^*	0.020^{**}
	(0.005)	(0.002)	(0.005)	(0.009)
Controls	Yes	Yes	Yes	Yes
R^2	0.361	0.056	0.445	0.437
Observations	2556	2556	2556	2556

Notes: This table shows results form OLS regressions. In Panel A, I use a binary indicator equaling one if a respondent watches West German TV at least once per week. In Panel B, I employ an ordinal measure ranging from 1 *never* to 5 *daily*. All models include a set of covariates that covers sex, age, age^2, and age^3. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: GESIS data archive ZA6008, Data file version 1.0.0, 1989.

Table 3: Effects of West German TV exposure using county-level data

Panel A: Marriage and divorce rate

	Marriage rate			Divorce rate		
	(1)	(2)	(3)	(4)	(5)	(6)
TV-dummy	−0.740**	−0.629*	−0.610*	0.087***	0.113***	0.095**
	(0.311)	(0.325)	(0.314)	(0.031)	(0.040)	(0.039)
Log. population density		−0.425*	−0.449*		−0.027	−0.039
		(0.229)	(0.231)		(0.052)	(0.054)
Total net migration		−0.000	0.005		−0.001	−0.001
		(0.004)	(0.004)		(0.002)	(0.002)
Women (%)		0.697***	0.750***		0.091*	0.099**
		(0.177)	(0.184)		(0.048)	(0.050)
Foreigners (%)		−0.077	0.018		0.014	0.010
		(0.058)	(0.059)		(0.015)	(0.016)
Urban county		0.217	0.320		0.269***	0.275***
		(0.297)	(0.305)		(0.075)	(0.077)
Unemployment rate (%)			−0.011			−0.011**
			(0.012)			(0.005)
GDP per capita			−0.066***			0.003
			(0.015)			(0.004)
Year	Yes	Yes	Yes	Yes	Yes	Yes
Between R^2	0.084	0.035	0.043	0.013	0.183	0.166
Observations	6076	6076	6076	6076	6076	6076

Panel B: Divorce-to-marriage ratio and birth rate

	Divorce-to-marriage ratio			Birth rate		
	(7)	(8)	(9)	(10)	(11)	(12)
TV-dummy	0.058***	0.056***	0.050***	−0.194*	−0.250**	−0.322***
	(0.014)	(0.013)	(0.013)	(0.117)	(0.115)	(0.115)
Log. population density		0.024***	0.020***		0.132	0.119
		(0.007)	(0.007)		(0.135)	(0.141)
Total net migration		−0.000	−0.001		0.011***	0.007**
		(0.000)	(0.000)		(0.004)	(0.003)
Women (%)		−0.009	−0.009		−0.198	−0.218*
		(0.009)	(0.009)		(0.124)	(0.121)
Foreigners (%)		0.006	0.001		0.245***	0.148***
		(0.004)	(0.004)		(0.052)	(0.042)
Urban county		0.059***	0.059***		0.148	0.083
		(0.022)	(0.023)		(0.186)	(0.195)
Unemployment rate (%)			−0.003*			−0.025*
			(0.002)			(0.013)
GDP per capita			0.004***			0.067***
			(0.001)			(0.015)
Year	Yes	Yes	Yes	Yes	Yes	Yes
Between R^2	0.055	0.379	0.363	0.007	0.361	0.360
Observations	6076	6076	6076	6076	6076	6076

Notes: The time period studied is 1990 – 2017. Random effects models. Standard errors clustered at county level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Online appendix

Appendix A

Figure A.1: Covariate balance in 1990
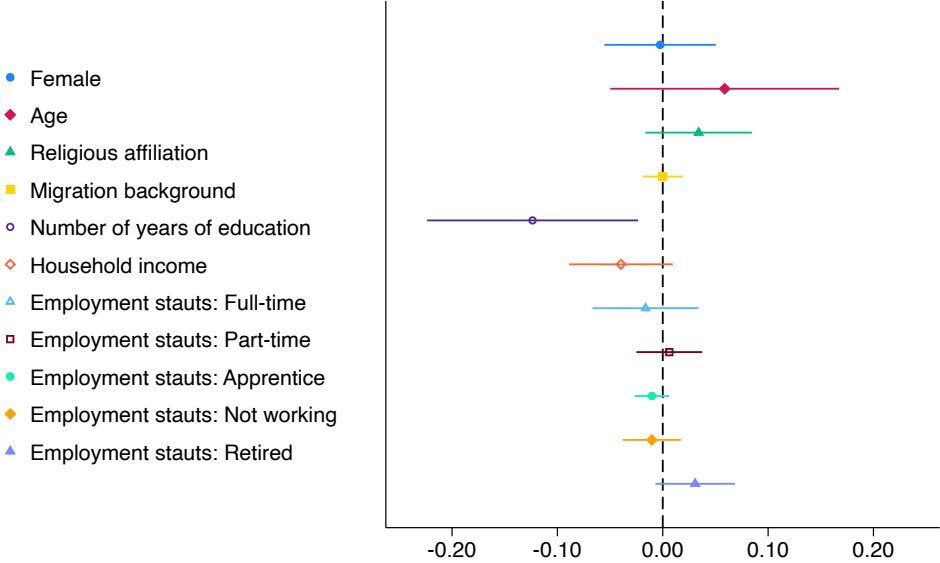
Notes: Balance in the values of the covariates in the survey wave in 1990. The figure presents the estimated coefficients from bivariate regressions in which the treatment indicator is used as independent variable. The variables age and years of education are standardized in this figure for presentation reasons. The confidence intervals shown are set at the 95 % level of statistical significance. Data source: SOEP v38 (2021), survey year 1990.

Figure A.2: West German TV consumption in treatment and control group
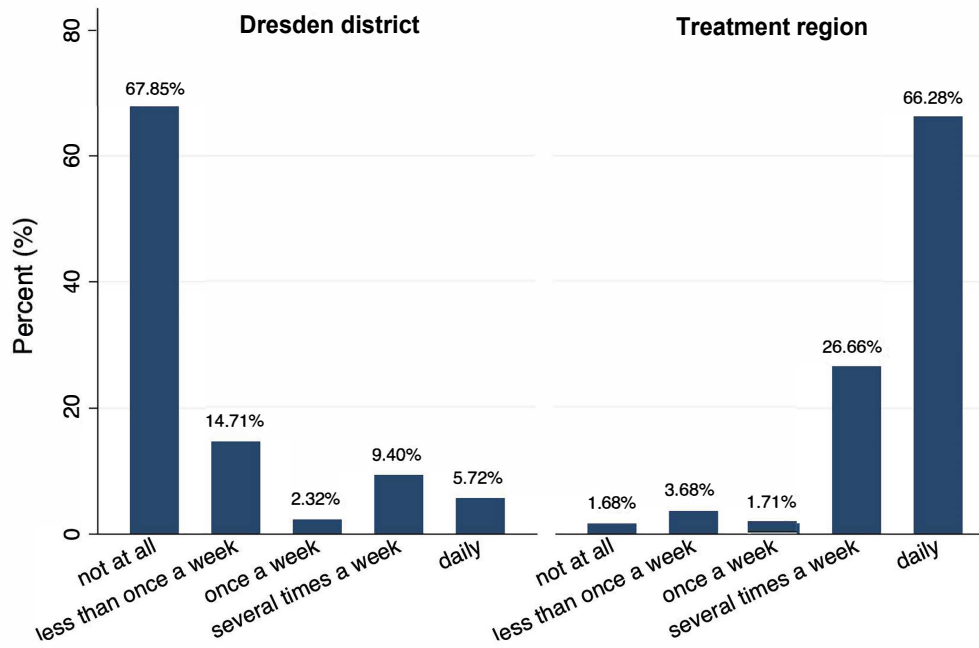
Notes: This figure shows how regularly individuals in the treatment (with West German TV reception) and control (Dresden district without West German TV reception) groups watched Western television. This computation is based on 3,480 individuals interviewed in the survey "Political Climate and Social Conditions in the GDR 1988/89" (*Politisches Klima und gesellschaftliche Bedingungen in der DDR 1988/89*), which the Zentralinstitut für Jugendforschung (1989) conducted between late 1988 and early 1989. Data source: GESIS data archive ZA6008, Data file version 1.0.0, 1989.

Figure A.3: Attitudes towards relationships and family life: Differences across cohorts
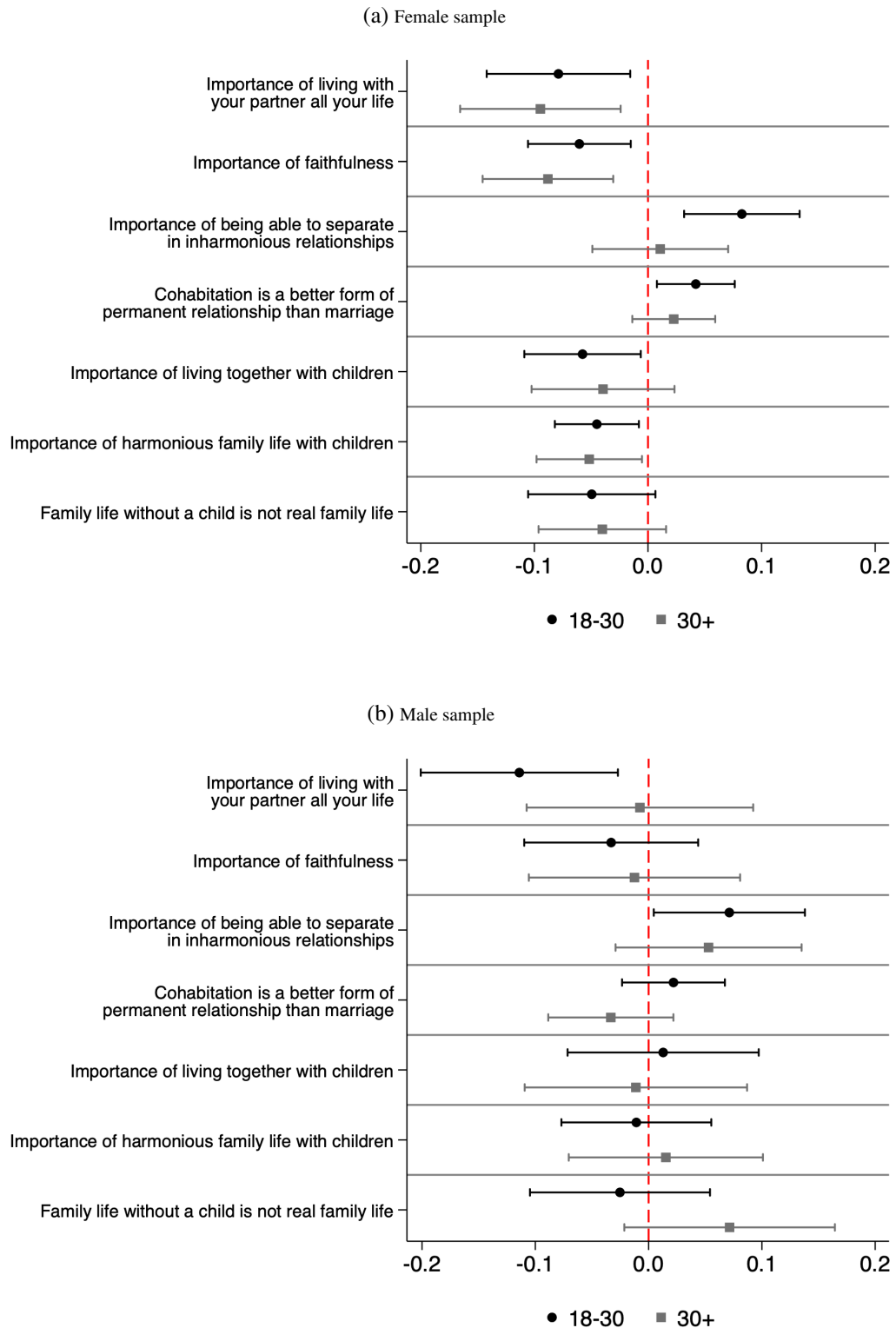
(a) Female sample

(b) Male sample

Notes: This figure reports the results from OLS regressions and shows the effect of the West German TV exposure across different cohorts. All regressions include the following controls: Age, age2, age3, and a binary indicator of having siblings. Standard errors are clustered at the individual level. 95 percent confidence interval levels are displayed. Data source: GESIS data archive ZA6869, Data file version 1.0.0, 1987.

Table A.1: Regional characteristics between treatment and control regions

Panel A: Differences between treatment and control districts

	Treatment Area	Control Area	Difference		
	mean	mean	difference	se	p-value
1955					
share of women *(%)*	57.20	57.04	0.16	0.93	0.870
population density	207.17	203.18	3.99	74.20	0.958
infant mortality	49.79	42.72	7.07	4.41	0.135
suicides per 100,000 inhabitants	26.01	24.87	1.14	4.46	0.803
sales per capita	1680.42	1684.31	−3.89	80.86	0.962
employed in agriculture *(%)*	22.79	26.83	−4.04	9.53	0.679
employed in industry *(%)*	23.63	28.91	−5.28	9.16	0.575
employed in trade *(%)*	10.59	10.86	−0.27	0.30	0.384
1989					
share of women *(%)*	52.11	51.90	0.21	0.53	0.695
population density	176.14	181.24	−5.10	58.65	0.932
share of foreigners *(%)*	1.13	1.12	0.01	0.28	0.984
infant mortality	7.78	6.83	0.95	0.50	0.081
hospital beds per 1,000 inhabitants	9.85	9.63	0.22	0.46	0.638
medical doctors per 1,000 inhabitants	2.13	2.34	−0.21	0.23	0.377
suicides per 100,000 inhabitants	27.70	26.37	1.33	1.70	0.449
sales per capita	7544.16	7836.19	−292.03	188.77	0.148
employed in agriculture *(%)*	11.31	13.50	−2.19	4.34	0.623
employed in industry *(%)*	39.47	33.41	6.06	6.90	0.397
employed in trade *(%)*	9.68	10.30	−0.62	0.63	0.345
1955–1989: Trends					
share of women *(%)*	−5.00	−5.03	0.03	0.61	0.958
population density	−24.77	−17.32	−7.45	15.75	0.645
infant mortality	−42.13	−36.07	−6.06	4.45	0.198
suicides per 100,000 inhabitants	1.97	1.83	0.14	3.42	0.969
sales per capita	5869.42	6147.95	−278.53	193.05	0.175
employed in agriculture *(%)*	−11.93	−13.66	1.73	4.95	0.732
employed in industry *(%)*	5.70	5.00	0.70	2.57	0.790
employed in trade *(%)*	−0.87	−0.59	−0.28	0.54	0.611

Panel B: Marriage, divorce, and birth rates by treatment status in 1955

	Treatment Area	Control Area	Difference		
	mean	mean	difference	se	p-value
I: District differences in 1955					
marriages per 1,000 inhabitants	8.56	8.75	−0.19	0.27	0.485
divorces per 1,000 inhabitants	1.39	1.23	0.16	0.12	0.230
divorce-marriage-ratio	0.16	0.14	0.02	0.02	0.251
births per 1,000 inhabitants	16.43	17.55	−1.12	2.01	0.587
II: County differences in 1955					
marriages per 1,000 inhabitants	8.63	8.80	−0.17	0.26	0.525
births per 1,000 inhabitants	17.06	17.32	−0.26	1.48	0.863

Panel C: County differences in 1925

	Treatment Area	Control Area	Difference		
	mean	mean	difference	se	p-value
female labor force participation (%)	34.32	34.39	−0.07	1.56	0.965
non-marital fertility (%) (1937)	9.59	11.18	−1.59	0.67	0.020
share of Protestants (%)	91.19	90.75	0.44	2.06	0.830
share of Catholics (%)	5.19	6.36	−1.17	2.06	0.569
share of Jews (%)	0.22	0.22	0.00	0.06	0.991

Notes: Note: Panel A and Part I of Panel B show district differences between the treatment (11) and control area (3). Part II of Panel B displays differences on county-level between the treatment (194) and control area (25) in 1955. Population-weighted averages. Panel C shows county-level differences between the treatment (175) and control area (23). East Berlin is excluded from this analysis. Further tests are shown in Bursztyn and Cantoni (2016).

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Table A.2: Descriptive statistics of the SOEP data

	mean	sd	min	max	N
Dependent variables					
Married (yes/no)	0.71	0.46	0.00	1.00	4258
Divorced (yes/no)	0.06	0.24	0.00	1.00	4258
Children (yes/no)	0.47	0.50	0.00	1.00	4258
Number of children	0.76	0.95	0.00	5.00	4258
Explanatory variables					
TV-dummy	0.88	0.32	0.00	1.00	4258
Female	0.53	0.50	0.00	1.00	4258
Age	42.70	16.09	18.00	95.00	4258
Religious affiliation	0.35	0.48	0.00	1.00	4258
Migration background	0.03	0.18	0.00	1.00	4258
Years of education	11.79	2.18	7.00	18.00	4244
Log. household income	6.76	0.46	5.04	7.87	4195
Employment status					
Full-time	0.66	0.47	0.00	1.00	4258
Part-time	0.10	0.29	0.00	1.00	4258
Apprentice	0.02	0.15	0.00	1.00	4258
Not working	0.07	0.26	0.00	1.00	4258
Retired	0.15	0.36	0.00	1.00	4258

Notes: This table shows descriptive statistics (means, standard deviation, minimum, and maximum) for the survey year 1990. N refers to the number of observations. Data source: SOEP v38 (2021).

Table A.3: Varying of the sample

Panel A: Exclusion of counties bordering the inner German border

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(1)	(2)	(3)	(4)
TV-dummy	−0.045***	0.029***	−0.053**	−0.103**
	(0.017)	(0.010)	(0.023)	(0.047)
R^2	0.284	0.018	0.220	0.245
Observations	3819	3819	2615	2615

Panel B: Exclusion of counties bordering the inner German border or Berlin

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(5)	(6)	(7)	(8)
TV-dummy	−0.037**	0.027***	−0.057**	−0.104**
	(0.017)	(0.010)	(0.023)	(0.048)
R^2	0.282	0.015	0.218	0.245
Observations	3287	3287	2228	2228

Notes: This table shows results from OLS regressions. In Panel A, I exclude the 26 counties that are located directly on the inner German border. Panel B further omits Berlin and the nine counties that share a border with Berlin. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Table A.4: Geographic regression discontinuity design

Panel A: Radius of 100 km

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(1)	(2)	(3)	(4)
TV-dummy	−0.034*	0.025**	−0.060**	−0.091*
	(0.019)	(0.011)	(0.025)	(0.051)
R^2	0.271	0.016	0.209	0.257
Observations	2003	2003	1384	1384

Panel B: Radius of 75 km

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(5)	(6)	(7)	(8)
TV-dummy	−0.040*	0.022*	−0.062**	−0.084
	(0.021)	(0.012)	(0.029)	(0.059)
R^2	0.283	0.015	0.208	0.256
Observations	1293	1293	874	874

Panel C: Radius of 50 km

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(9)	(10)	(11)	(12)
TV-dummy	−0.058**	0.027*	−0.064**	−0.045
	(0.024)	(0.014)	(0.032)	(0.067)
R^2	0.309	0.021	0.236	0.274
Observations	1004	1004	688	688

Notes: This table shows results from OLS regressions. In Panel A, only the treated counties within a radius of 100 km from a county in the control group are considered. In Panels B and C, I reduce the radius to 75 km and 50 km, respectively. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Table A.5: Distance to the West German border

Panel A: Including the border distance to West Germany

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(1)	(2)	(3)	(4)
TV-dummy	−0.064***	0.032***	−0.058**	−0.115**
	(0.018)	(0.010)	(0.024)	(0.049)
Log. distance to the West German border	−0.032***	0.006	−0.009	−0.022
	(0.006)	(0.004)	(0.008)	(0.016)
R^2	0.292	0.018	0.233	0.259
Observations	4258	4258	2926	2926

Panel B: Placebo test

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(5)	(6)	(7)	(8)
Log. distance to the West German border	−0.033***	0.006	−0.010	−0.026
	(0.006)	(0.004)	(0.008)	(0.016)
R^2	0.282	0.018	0.235	0.255
Observations	3750	3750	2567	2567

Notes: This table shows results from OLS regressions. In Panel A, I expand the set of control variables to include the log. distance between each county and the border to West Germany. In Panel B, I restrict the sample to the counties in the treatment region and repeat the estimates from Panel A. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Table A.6: Variation of the TV-signal threshold

Panel A: TV-signal threshold of -85.0 dBm

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(1)	(2)	(3)	(4)
TV-dummy	-0.031^*	0.025^{**}	-0.051^{**}	-0.088^*
	(0.017)	(0.010)	(0.023)	(0.048)
R^2	0.288	0.017	0.233	0.258
Observations	4258	4258	2926	2926

Panel B: TV-signal threshold of -82.5 dBm

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(5)	(6)	(7)	(8)
TV-dummy	-0.040^{**}	0.027^{***}	-0.061^{***}	-0.097^{**}
	(0.016)	(0.009)	(0.023)	(0.046)
R^2	0.288	0.018	0.234	0.258
Observations	4258	4258	2926	2926

Panel C: TV-signal threshold of -80.0 dBm

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(5)	(6)	(7)	(8)
TV-dummy	-0.031^{**}	0.032^{***}	-0.055^{***}	-0.121^{***}
	(0.015)	(0.008)	(0.021)	(0.043)
R^2	0.288	0.019	0.234	0.259
Observations	4258	4258	2926	2926

Notes: This table shows results from OLS regressions. In each panel, I replicate the main findings based on different TV signal thresholds. I distinguish between the signal strengths of -85.0 dBm, -82.5 dBm, and -80.0 dBm. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Table A.7: Alternative sepcifications

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(1)	(2)	(3)	(4)
TV-dummy	−0.036**	0.030**	−0.049**	0.935*
	(0.018)	(0.013)	(0.024)	(0.037)
Pseudo R^2	0.238	0.042	0.186	0.103
Observations	4258	4258	2926	2926

Notes: Columns (1) to (3) report probit average marginal effects, while columns (4) shows incident rate ratios from Poisson regressions. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Table A.8: West German TV and the timing of fertility

| | Age at the birth of the first child | | | |
| | ≥ 30 | ≥ 35 | ≤ 18 | ≤ 20 |
	(1)	(2)	(3)	(4)
TV-dummy	0.026*	0.009***	0.038	0.038
	(0.013)	(0.003)	(0.037)	(0.037)
R^2	0.030	0.012	0.009	0.009
Observations	1309	1309	1309	1309

Notes: This table shows results from OLS regressions. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Table A.9: Descriptive statistics of the GDR survey data

	mean	sd	min	max	N
Dependent variables					
Importance of living with your partner all your life	0.56	0.50	0	1	3730
Importance of faithfulness	0.76	0.43	0	1	3804
Importance of being able to separate in inharmonious relationships	0.19	0.39	0	1	3357
Cohabitation is a better form of permanent relationship than marriage	0.08	0.27	0	1	3538
Importance of of living together with children	0.71	0.45	0	1	3787
Importance of harmonious family life with children	0.85	0.36	0	1	3784
Family life without a child is not real family life	0.74	0.44	0	1	3790
Explanatory variables					
TV-dummy	0.80	0.40	0	1	3827
Female	0.65	0.48	0	1	3827
Age	28.61	6.14	18	41	3827
Siblings	0.88	0.32	0	1	3827
Education					
Below 8th grade	0.02	0.14	0	1	3827
8th grade	0.14	0.35	0	1	3827
10th grade	0.70	0.46	0	1	3827
12th grade	0.14	0.35	0	1	3827
Job					
Full time	0.89	0.31	0	1	3827
Short hours	0.07	0.26	0	1	3827
Unemployed	0.00	0.07	0	1	3827
In training	0.04	0.19	0	1	3827
Qualification					
Unskilled	0.03	0.18	0	1	3827
Semi-skilled	0.03	0.18	0	1	3827
Skilled worker	0.60	0.49	0	1	3827
Foreman	0.03	0.18	0	1	3827
Trade/ technical school degree	0.20	0.40	0	1	3827
University degree	0.09	0.29	0	1	3827
Industry					
Industrial/ construction business	0.32	0.47	0	1	3827
Service	0.09	0.28	0	1	3827
Transport/ traffic/ postal/ telecommunication	0.06	0.23	0	1	3827
Healthcare sector	0.09	0.29	0	1	3827
Government bodies/ armed forces	0.09	0.28	0	1	3827
Education	0.08	0.27	0	1	3827
Crafts business	0.02	0.14	0	1	3827
Agriculture/ forestry	0.13	0.34	0	1	3827
University/ technical school/ scientific institution	0.02	0.13	0	1	3827
Still in training	0.03	0.17	0	1	3827
Other	0.07	0.26	0	1	3827

Notes: This table shows descriptive statistics (means, standard deviation, minimum, and maximum). N refers to the number of observations. Data source: GESIS data archive ZA6869, Data file version 1.0.0, 1987.

Table A.10: Attitudes towards relationships and family life

Panel A: Female subsample

	Importance of living with your partner all your life (1)	Importance of faithfulness (2)	Importance of being able to separate in inharmonious relationships (3)	Cohabitation is a better form of permanent relationship than marriage (4)	Importance of living with children (5)	Importance of harmonious family life with children (6)	Family life without a child is not real family life (7)
TV-dummy	−0.088***	−0.074***	0.051***	0.033***	−0.050**	−0.048***	−0.046**
	(0.024)	(0.018)	(0.020)	(0.013)	(0.020)	(0.015)	(0.020)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.015	0.014	0.005	0.008	0.007	0.005	0.018
Observations	2599	2653	2342	2449	2647	2640	2643

Panel B: Male subsample

	Importance of living with your partner all your life (1)	Importance of faithfulness (2)	Importance of being able to separate in inharmonious relationships (3)	Cohabitation is a better form of permanent relationship than marriage (4)	Importance of living with children (5)	Importance of harmonious family life with children (6)	Family life without a child is not real family life (7)
TV-dummy	−0.070**	−0.027	0.019	−0.005	−0.003	0.000	0.012
	(0.033)	(0.030)	(0.027)	(0.018)	(0.032)	(0.027)	(0.031)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.011	0.004	0.008	0.004	0.006	0.002	0.020
Observations	1354	1383	1222	1300	1371	1374	1378

Notes: The table reports results from OLS regressions. Standard errors are clustered at the individual level and shown in parentheses. All regressions include the following controls: Age, age^2, age^3, and a binary indicator of having siblings. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: GESIS data archive ZA6869, Data file version 1.0.0, 1987.

Table A.11: Propaganda exposure and the likelihood of marriage, divorce, and having children

Panel A: Working for the state apparatus or public service

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(1)	(2)	(3)	(4)
Public sector	0.021	−0.004	0.012	−0.031
	(0.014)	(0.009)	(0.017)	(0.034)
R^2	0.305	0.015	0.235	0.263
Observations	3441	3441	2780	2780

Panel B: Satisfaction with democracy in the GDR

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(5)	(6)	(7)	(8)
Satisfaction with democracy	0.013	−0.003	0.001	−0.030
	(0.009)	(0.005)	(0.011)	(0.023)
R^2	0.288	0.016	0.233	0.259
Observations	4245	4245	2921	2921

Panel C: Support for PDS

	Married (yes/no)	Divorced (yes/no)	Children (yes/no)	Number of children
	(9)	(10)	(11)	(12)
PDS support	0.094***	−0.033*	−0.061	−0.051
	(0.035)	(0.019)	(0.063)	(0.121)
R^2	0.292	0.020	0.264	0.275
Observations	3687	3687	2410	2410

Notes: This table shows results from OLS regressions. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Table A.12: West German TV and social capital

	Visiting cultural events	Going to the cinema, dances, discos or sporting events	Attending religious events	Practice sports	Socializing with friends, relatives or neighbors	Voluntary activities in clubs, associations, or social services
	(1)	(2)	(3)	(4)	(5)	(6)
TV-dummy	-0.031^*	0.002	-0.010	-0.006	-0.023	-0.007
	(0.016)	(0.017)	(0.012)	(0.017)	(0.022)	(0.018)
R^2	0.004	0.250	0.147	0.048	0.055	0.038
Observations	4056	4056	4056	4056	4044	4056

Notes: All columns report results from OLS regressions. For each activity listed in columns (1) to (6), individuals were asked how regularly they engaged in it. They could answer on the following scale: *never*, *less than once a month*, *every month*, or *every week*. I create a dummy that equals one if a person reports doing the corresponding activity at least once a month. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Table A.13: West German TV and economic concerns

| | Optimistic about own future (1) | Do you think the following scenarios are likely within the next two years? | | | |
		Job loss (2)	Career deterioration (3)	Change of occupation (4)	Current employer lays off many employees (5)
TV-dummy	0.012	0.007	0.028	−0.015	−0.000
	(0.023)	(0.026)	(0.017)	(0.022)	(0.024)
R^2	0.023	0.015	0.013	0.019	0.005
Observations	4241	3187	3187	3187	3187

Notes: All columns report results from OLS regressions. For the outcome in column (1), individuals are asked on a scale of 1 (*not at all*) to 4 (*completely*) whether they are optimistic about their future. I create a dummy that equals one if a person is slightly or very optimistic. In the remaining columns, all employed individuals were asked how likely they perceive each scenario to occur within the next two years. I again create a binary indicator that is one if a person answered with *very likely* or *likely* and zero if the answer was *unlikely* or *certainly not*. All models include the preferred set of control variables described in Section 3.2. Standard errors are clustered at the individual level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Data source: SOEP v38 (2021), survey year 1990.

Appendix B

Robustness of county-level data analysis

In this section, I assess the validity of the results presented in Table 3 in the main paper through a series of robustness checks. Table B.1 shows a description of each variable used in the analysis of the county-level data set, while Table B.2 reports descriptive statistics. In addition, I provide the covariate balance for 2017 in Figure B.1.

Construction of the TV-dummy
In Table 3 in Section 4.2, I use a cutoff-level of -86.5 dBm to divide counties into treatment and control areas. The main results are broadly robust to several different specifications of the TV-dummy. In Table B.3, I show that my results hardly change when I use a signal strength of -80.0 dBm, -82.5 dBm, or -85.0 dBm as a relevant threshold.

Further control variables
In Table 3 in Section 4.2, I adjust for several demographic and economic county characteristics. Nevertheless, there are also other characteristics, such as the age distribution, that could play a crucial role. Such information, however, is often unavailable at the county level, especially in the early 1990s. In Table B.4, I use a more extensive set of control variables that includes the average age of the population, the disposable income per capita, and the share of school leavers with a higher education entrance degree. With the latter, I try to capture educational differences between the counties. This additional information is only available from 1995 onward, meaning I have to exclude the period right after reunification in this robustness check. As shown in Table B.4, the main results remain.[41]

Distance to the West German border
Next, I test if my results continue to hold when I add the border distance to West Germany as an additional control variable. The findings in Panel A in Table B.5 show that I still find a significant TV effect and that the magnitude of the coefficients changes only slightly. The fact that the treatment indicator remains significant and changes only slightly in magnitude makes me confident that the measured effects are actually driven by the TV reception and are not caused by a spurious correlation between the dependent variables and the border distance.

In Panel B, I restrict the sample to the counties in the treatment region and repeat the estimates from Panel A. The results of this placebo test suggest that the distance to the Western

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[41] In addition to my main results, all robustness tests also hold if I use the extended set of covariates.

border has almost no explanatory power. Only column (8) shows a relationship of slight significance between the linear distance and birth rates.

Varying of the sample

Similar to Section 4.2, I verify whether the results are driven by counties located in the vicinity of the border with West Germany. Panels A and B in Table B.6 show that the results are hardly affected by excluding counties close to the inner German border or in Berlin. To expand on this approach, I now focus only on treated counties located within a certain radius of the control areas. This procedure follows the idea of a geographic regression discontinuity design according to Keele and Titiunik (2015). I start with a radius of 100 km, implying that I restrict the sample to those counties located in the control group or within a 100 km radius of the control group. This procedure reduces the sample by more than 36 %. As shown in Table B.7, I find no substantial impact on my results. I now gradually reduce the radius by 25 km to 75 km and, finally, 50 km, which reduces the sample by 47 % and 60 %, respectively. When applying these more restrictive cutoffs, the effect sizes of the treatment indicator change only marginally. Furthermore, I can still identify a significant West German TV effect for all four outcomes at a radius of 75 km. While at a radius of 50 km, I still obtain significant estimates for the divorce-to-marriage ratio and birth rates, the p-values for the West German TV effect on marriage and divorce rates are now $p = 0.122$ and $p = 0.187$, respectively.

Regional differences in denomination

Another possible concern might be that the geographic location of a particular county is related to a person's preferences for marriage, divorce, or family planning. For example, regional differences in religious denomination in Eastern Germany exist. This applies particularly to the federal state of Thuringia, where the proportion of members of the Protestant church is significantly higher than in the remaining five eastern German states. However, the majority of the East German population does not belong to any religious denomination. In all East German states, the share of the population without a denomination exceeds 60 %; in Mecklenburg-Western Pomerania and Saxony-Anhalt even 78 % and 80 %, respectively (Federal Statistical Office and the Statistical Offices of the Länder, 2014). To test whether religious denomination impacts the results (especially regarding marriage and divorce rates), I add the population share without any religious affiliation in 2011 as an additional control variable for each county.[42] As indicated in Panel A in Table B.8, the results still remain unchanged in this robustness test.

While the share of the population in eastern Germany without any religious affiliation is considerably high today, this was different before the division of Germany. Even in the early years

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[42] Annual data on religious denomination at the county level is only available to a limited extent. Generally, only the number of members of the Roman Catholic or Evangelical Church is shown separately in official statistics. The population share without religious denomination often only appears in combination with other religious affiliations such as the Orthodox Church or Islam under the heading "Other".

of the GDR period in 1950, the proportion of the population without a religious affiliation was only about 6.8 % (Statistical Yearbook of the German Democratic Republic, 1955). Therefore, one concern might be that confession itself is affected by West German TV exposure and that controlling for the current proportion of inhabitants without a religious affiliation causes a bad control problem. Even though there is no empirical evidence for this, I use historical data on religious affiliation in another robustness test. This information comes from the May 17, 1939 census and varies at the smaller administrative district level (*kleinere Verwaltungsbezirke*) of the German Reich, which I subsequently matched to the GDR counties.[43] In Panel B in Table B.8, I add the population share without denominational affiliation in 1939 as a control variable, while I include the percentage of the inhabitants with Protestant or Catholic denominations in Panel C. By doing so, none of my previous results change.

Additional birth outcomes

In the analysis regarding birth rates, I have so far focused only on the crude birth rate. The reason is that the list of potential outcomes in the dataset is limited to the extent that not a lot of county-level data is available in the first few years after reunification. However, restricting the investigation period to the years from 1995 to 2017 allows me to study the effect of West German TV exposure on further outcomes. To begin with, I can now differentiate between the births of mothers in two different age groups, namely mothers aged 15 to 20 years old and mothers aged over 40 years old. The first variable, *Birth rate (older)*, is defined as the number of births by mothers aged 40 years or older per 1,000 women aged 40 to 45. In contrast, the second variable, *Birth rate (younger)*, indicates the number of births by mothers aged 15 to 20 per 1,000 women aged 15 to 20. Table B.2 provides summary statistics.

Table B.9 around here.

Table B.9 presents the regression results for both variables for the period from 1995 to 2017. Similar to the estimations for the crude birth rate shown in Table 3, I also find a negative and significant effect of former TV exposure on the birth rate of women older than 40. In contrast, I do not observe any significant relationship between the treatment and the birth rate of younger women. These results are consistent with the findings reported in Table A.8. There might be two explanations for this finding. First, the estimates could suggest that there is no intergenerational transmission of the TV effect. Most women aged 15 to 20 were born after reunification when individuals in treatment and control regions had access to the same television programming. The second explanation concerns the mechanism through which West German TV affects preferences. If role models contained in TV programs are the relevant mechanism, I

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[43]The data can be found in Statistisches Reichsamt (1941).

would expect that only intended pregnancies are affected by West German TV exposure. However, pregnancies among women younger than 20 tend to be rather unintentional in Germany.[44]

Finally, by restricting the observation period, I can also analyze the total fertility rate, which displays a population's ability to reproduce on its own. It indicates the average number of children a hypothetical woman would give birth to in the course of her reproductive period if she were subject to the fertility rates measured in the reporting period and if she were not subject to mortality. Specifically, the total fertility rate is calculated by the sum of age-specific fertility rates as defined over seven five-year intervals from 15 to 19 to 45 to 49 (OECD, 2019). At a total fertility rate of 2.1, a population remains stable in the long term if migration and mortality rates are constant. As displayed in column (3) in Table B.9, the estimates suggest a lower total fertility rate among the counties of the treatment group, although this effect is only significant at a 10 % level.

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[44] Helfferich et al. (2016) analyze 4,794 reported pregnancies among 4,002 women in Germany and document that only 20.4 % of pregnancies in women under the age of 20 were intended at the time. The comparative value in the group of women over 35 is 72.3 %.
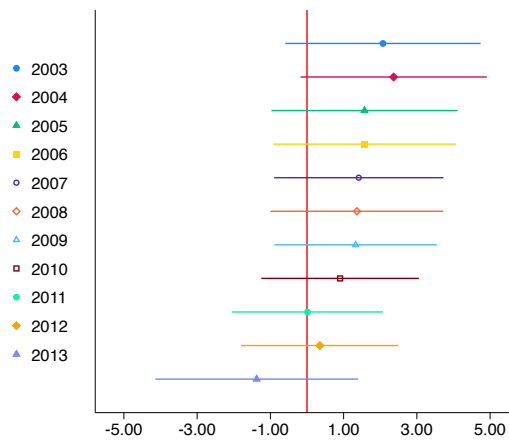
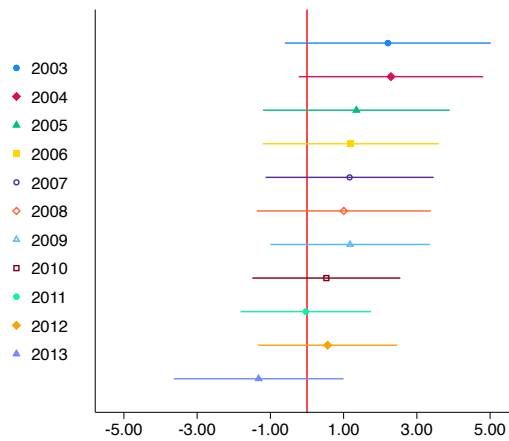Figure B.1: County-level data: Covariate balance in 2017
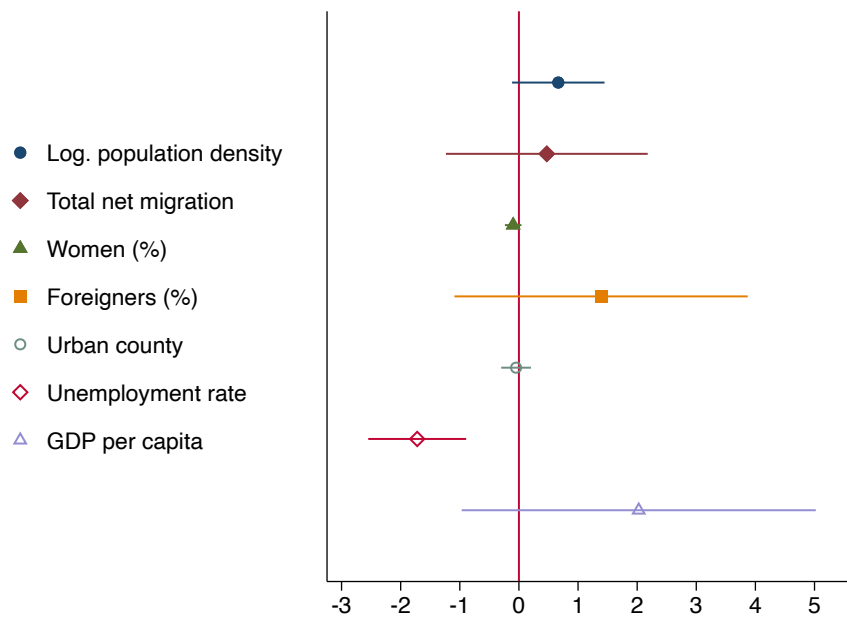
Notes: Balance in the values of the covariates in 2017. The figure presents the estimated coefficients from bivariate regressions in which the treatment indicator is used as independent variable. The confidence intervals shown are set at the 95 % level of statistical significance.

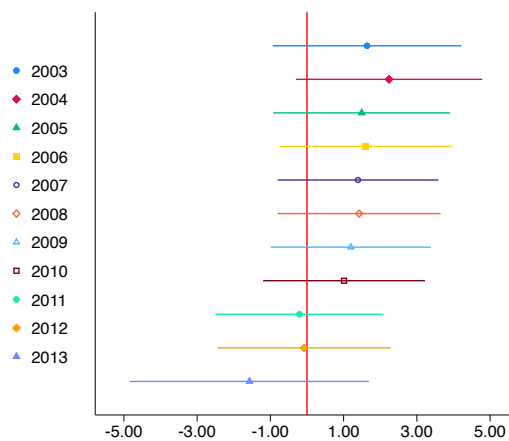# Figure B.2: County-level data: Differences in internal migration

(a) Internal migration balance

(b) Internal migration balance (female)

(c) Internal migration balance (male)

Notes: Figure (a) shows the difference in the internal migration balance between the regions with and without West German TV reception. Figures (b) and (c) show the differences in the internal migration balance for females and males separately. The internal migration balance is defined by the difference between immigration and emigration per 1000 inhabitants. The figure presents the estimated coefficients from bivariate regressions in which the treatment indicator is used as independent variable. The confidence intervals shown are set at the 95 % level of statistical significance.

Table B.1: County-level data: List and definition of variables

Variable	Description
Dependent variables	
Birth rate	The variable measures the total number of live births per 1,000 inhabitants.
Birth rate (older)	The variable measures the total number of live births of women aged over 40 per 1,000 women aged 40 to 45.
Birth rate (younger)	The variable measures the total number of live births of women aged 15 to 20 per 1,000 women aged 15 to 20.
Divorce rate	The variable measures the share of divorces per 1,000 inhabitants at a minimum age of 18.
Divorce-to-marriage ratio	This ratio compares the number of divorces to the number of marriages.
Fertility rate	The variable measures the total fertility rate, which is a measure of the reproductive capacity of a population from within itself. It indicates how many children a woman of a fictitious birth cohort would give birth to in the course of her life.
Marriage rate	The variable measures the share of marriages per 1,000 inhabitants at a minimum age of 18.
Explanatory variables	
Average age	The variable measures the average age of the population in years. This variable is only available from 1995 onward.
Catholics in 1939 (%)	The variable measures the percentage of inhabitants with a Catholic denomination in 1939.
Disposable income per capita	The variable measures the average amount of money in € 1,000 that people have available for consumption and saving after income taxes have been accounted for. This variable is only available from 1995 onward.
Distance to the West German border (log.)	The variable measures the linear distance between the administrative center of each GDR county and its closest point on the West German border. This variable is calculated with the geographic information system ArcGIS. Own calculation.
Foreigners (%)	The variable denotes the percentage of the population that were foreigners.
GDP per capita	The variable measures the GDP in € 1,000 per inhabitants.
Population density (log.)	Population density measures the population per km^2 living in a certain region.
Population without religious affiliation in 1939 (%)	The variable measures the percentage of inhabitants without religious affiliation in 1939.
Population without religious affiliation in 2011 (%)	The variable measures the percentage of inhabitants without religious affiliation in 2011.
Protestants in 1939 (%)	The variable measures the percentage of inhabitants with a Protestant denomination in 1939.
School-leavers with higher education entrance qualification (%)	The variable measures the percentage of school-leavers that graduated with a university entrance certificate. This variable is only available from 1995 onward.
Total net migration	The variable measures the share of total net migration per 1.000 inhabitants.
TV-dummy	This dummy variable equals one if the West German television signal strength was at least -86.5 dBm.
Unemployment rate total	The unemployment rate is the percentage of the labor force that was jobless.
Urban county	This dummy variable equals one if the respective county is an urban district (*kreisfreie Stadt*) and zero if it is a rural district (*Landkreis*).
Women (%)	The variable measures the share of women.

Notes: This table includes a description for each variable used in the analysis of the county-level data set.

Table B.2: County-level data: Descriptive statistics

	mean	sd	min	max	N	T
Dependent variables						
Marriage rate	4.32	1.43	0.47	19.71	6076	28
Divorce rate	1.82	0.65	0.11	15.21	6076	28
Divorce-to-marriage ratio	0.44	0.16	0.04	3.68	6076	28
Birth rate	8.54	1.67	4.96	20.00	6076	28
Birth rate of Mothers aged 40+	4.48	2.60	0.00	20.08	4991	23
Birth rate of Mothers aged 15–20	12.78	4.59	1.89	35.23	4991	23
Fertility rate	1.35	0.24	0.72	1.98	4991	23
Explanatory variables						
TV-dummy	0.88	0.32	0.00	1.00	6076	28
Log. population density	4.94	0.93	3.35	8.31	6076	28
Total net migration	-2.00	9.28	-43.42	64.89	6076	28
Women (%)	51.05	0.71	46.58	53.91	6076	28
Foreigners (%)	2.03	1.40	0.12	17.65	6076	28
Urban county	0.12	0.32	0.00	1.00	6076	28
Unemployment rate (%)	14.17	4.46	3.60	25.43	6076	28
GDP per capita	18.06	6.24	6.57	40.90	6076	28
Log. distance to the West German border	4.16	1.01	0.00	5.50	6076	28
Average age	43.97	2.88	36.76	50.21	4991	23
Disposable income per capita	15.19	2.52	9.78	22.72	4991	23
School-leavers with higher education entrance qualification (%)	29.42	7.83	14.86	65.23	4991	23

Notes: This table shows descriptive statistics (means, standard deviation, minimum, and maximum over time). N refers to the number of observations. T indicates for how many years the information on a variable is available. 28 (23) corresponds to the period from 1990-2017 (1995-2017).

Table B.3: County-level data: Variation of the TV-signal threshold

Panel A: Marriage and divorce rate

	Marriage rate			Divorce rate		
	-85.0 dBm	-82.5 dBm	-80.0 dBm	-85.0 dBm	-82.5 dBm	-80.0 dBm
	(1)	(2)	(3)	(4)	(5)	(6)
TV-dummy	-0.600^{*}	-0.522^{*}	-0.703^{**}	0.084^{*}	0.083^{*}	0.080^{**}
	(0.295)	(0.261)	(0.224)	(0.038)	(0.033)	(0.028)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Between R^2	0.044	0.037	0.078	0.164	0.165	0.170
Observations	6076	6076	6076	6076	6076	6076

Panel B: Divorce-to-marriage ratio and birth rate

	Divorce-to-marriage ratio			Birth rate		
	-85.0 dBm	-82.5 dBm	-80.0 dBm	-85.0 dBm	-82.5 dBm	-80.0 dBm
	(7)	(8)	(9)	(10)	(11)	(12)
TV-dummy	0.048^{***}	0.044^{***}	0.058^{***}	-0.348^{**}	-0.267^{*}	-0.232^{*}
	(0.012)	(0.011)	(0.011)	(0.113)	(0.114)	(0.103)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Between R^2	0.362	0.361	0.412	0.365	0.356	0.356
Observations	6076	6076	6076	6076	6076	6076

Notes: The time period studied is 1990 – 2017. Random effects models. Each panel refers to one dependent variable. In each panel, I replicate the main findings based on different TV signal thresholds. I distinguish between the signal strengths of -85.0 dBm, -82.5 dBm, and -80.0 dBm. Additional controls: Log. population density, total net migration, share of women, share of foreigners, unemployment rate, GDP per capita, year dummies, and a dummy differentiating between urban and rural counties. Standard errors clustered at county level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B.4: County-level data: Further control variables

	Marriage rate	Divorce rate	Divorce-to-marriage ratio	Birth rate
	(1)	(2)	(3)	(4)
TV-dummy	−0.918**	0.068*	0.052***	−0.216**
	(0.385)	(0.042)	(0.014)	(0.088)
Log. population density	−0.406***	0.059*	0.062***	0.116
	(0.107)	(0.035)	(0.011)	(0.093)
Total net migration	−0.006	−0.005***	−0.001	0.003
	(0.004)	(0.002)	(0.000)	(0.003)
Women (%)	0.738***	−0.015	−0.034***	0.463***
	(0.108)	(0.037)	(0.013)	(0.094)
Foreigners (%)	0.064	−0.007	−0.005	0.019
	(0.043)	(0.012)	(0.004)	(0.030)
Urban county	−0.132	0.239***	0.053**	−0.011
	(0.296)	(0.073)	(0.024)	(0.133)
GDP per capita	−0.039***	0.008**	0.003**	0.023***
	(0.013)	(0.003)	(0.001)	(0.006)
Unemployment rate (%)	0.035***	−0.014**	−0.007***	−0.000
	(0.012)	(0.005)	(0.002)	(0.007)
Average age	0.060	0.024*	0.007*	−0.527***
	(0.039)	(0.014)	(0.004)	(0.034)
Disposable income per capita	0.227***	0.010	−0.017**	0.068
	(0.061)	(0.022)	(0.007)	(0.047)
School-leavers with higher	0.018***	−0.003*	−0.001***	−0.004*
education entrance qualification (%)	(0.004)	(0.002)	(0.000)	(0.002)
Year	Yes	Yes	Yes	Yes
Between R^2	0.036	0.169	0.363	0.754
Observations	4991	4991	4991	4991

Notes: The time period studied is 1995 – 2017. Random effects models. Standard errors clustered at county level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B.5: County-level data: Distance to the West German border

Panel A: Including the border distance to West Germany

	Marriage rate	Divorce rate	Divorce-to-marriage ratio	Birth rate
	(1)	(2)	(3)	(4)
TV-dummy	−0.550*	0.094**	0.049***	−0.460***
	(0.315)	(0.039)	(0.014)	(0.112)
Log. distance to the West German border	0.059	−0.000	−0.001	−0.138**
	(0.060)	(0.020)	(0.004)	(0.056)
Controls	Yes	Yes	Yes	Yes
Between R^2	0.044	0.167	0.363	0.398
Observations	6076	6076	6076	6076

Panel B: Placebo test

	Marriage rate	Divorce rate	Divorce-to-marriage ratio	Birth rate
	(5)	(6)	(7)	(8)
Log. distance to the West German border	0.082	−0.000	−0.003	−0.121*
	(0.060)	(0.020)	(0.004)	(0.057)
Controls	Yes	Yes	Yes	Yes
Between R^2	0.005	0.185	0.354	0.360
Observations	5376	5376	5376	5376

Notes: The time period studied is 1990 – 2017. Random effects models. I expand the set of control variables to include the log. distance between each county and West Germany. In Panel B, I restrict the sample to the counties in the treatment region and repeat the estimates from Panel A. Additional controls: Log. population density, total net migration, share of women, share of foreigners, unemployment rate, GDP per capita, year dummies, and a dummy differentiating between urban and rural counties. Standard errors clustered at county level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B.6: County-level data: Varying of the sample

Panel A: Exclusion of counties bordering the inner German border

	Marriage rate	Divorce rate	Divorce-to-marriage ratio	Birth rate
	(1)	(2)	(3)	(4)
TV-dummy	−0.726**	0.082**	0.051***	−0.458***
	(0.318)	(0.039)	(0.013)	(0.109)
Controls	Yes	Yes	Yes	Yes
Between R^2	0.021	0.194	0.401	0.425
Observations	5348	5348	5348	5348

Panel C: Exclusion of counties bordering the inner German border or Berlin

	Marriage rate	Divorce rate	Divorce-to-marriage ratio	Birth rate
	(9)	(10)	(11)	(12)
TV-dummy	−0.759**	0.072*	0.050***	−0.425***
	(0.322)	(0.039)	(0.013)	(0.108)
Controls	Yes	Yes	Yes	Yes
Between R^2	0.038	0.192	0.427	0.360
Observations	5068	5068	5068	5068

Notes: The time period studied is 1990 − 2017. Random effects models. In Panel A, I exclude the 26 counties that are located directly on the inner German border. Panel B further omits Berlin and the nine counties that share a border with Berlin. Additional controls: Log. population density, total net migration, share of women, share of foreigners, unemployment rate, GDP per capita, year dummies, and a dummy differentiating between urban and rural counties. Standard errors clustered at county level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B.7: County-level data: Geographic regression discontinuity design

Panel A: Marriage and divorce rate

	Marriage rate			Divorce rate		
	100 km (1)	75 km (2)	50 km (3)	100 km (4)	75 km (5)	50 km (6)
TV-dummy	−0.633**	−0.523*	−0.491	0.061*	0.063*	0.049
	(0.307)	(0.307)	(0.318)	(0.036)	(0.038)	(0.037)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Between R^2	0.027	0.034	0.038	0.198	0.245	0.273
Observations	3864	3248	2436	3864	3248	2436

Panel B: Divorce-to-marriage ratio and birth rate

	Divorce-to-marriage ratio			Birth rate		
	100 km (7)	75 km (8)	50 km (9)	100 km (10)	75 km (11)	50 km (12)
TV-dummy	0.043***	0.035***	0.032**	−0.405***	−0.429***	−0.414***
	(0.013)	(0.013)	(0.013)	(0.102)	(0.108)	(0.120)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Between R^2	0.440	0.485	0.535	0.418	0.296	0.298
Observations	3864	3248	2436	3864	3248	2436

Notes: The time period studied is 1990 – 2017. Random effects models. For each dependent variable, I replicate the main findings based on different samples. Additional controls: Log. population density, total net migration, share of women, share of foreigners, unemployment rate, GDP per capita, year dummies, and a dummy differentiating between urban and rural counties. Standard errors clustered at county level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B.8: County-level data: Religious affiliation

Panel A: Adjusting for the population share without religious affiliation in 2011

	Marriage rate	Divorce rate	Divorce-to-marriage ratio	Birth rate
	(1)	(2)	(3)	(4)
TV-dummy	−0.623**	0.083**	0.049***	−0.301***
	(0.296)	(0.035)	(0.013)	(0.114)
Population without religious affiliation in 2011 (%)	0.024***	0.010***	0.001***	−0.026***
	(0.008)	(0.002)	(0.000)	(0.004)
Controls	Yes	Yes	Yes	Yes
Between R^2	0.085	0.272	0.375	0.464
Observations	6076	6076	6076	6076

Panel B: Adjusting for the population share without religious affiliation in 1939

	Marriage rate	Divorce rate	Divorce-to-marriage ratio	Birth rate
	(5)	(6)	(7)	(8)
TV-dummy	−0.603*	0.094**	0.049***	−0.316***
	(0.310)	(0.039)	(0.013)	(0.113)
Population without religious affiliation in 1939 (%)	−0.015	0.003	0.002	−0.013
	(0.021)	(0.006)	(0.002)	(0.015)
Controls	Yes	Yes	Yes	Yes
Between R^2	0.045	0.163	0.356	0.360
Observations	6076	6076	6076	6076

Panel C: Adjusting for the population share of Protestants and Catholics in 1939

	Marriage rate	Divorce rate	Divorce-to-marriage ratio	Birth rate
	(9)	(10)	(11)	(12)
TV-dummy	−0.600*	0.091**	0.048***	−0.296**
	(0.310)	(0.038)	(0.013)	(0.115)
Protestants in 1939 (%)	0.015	−0.002	−0.002	0.005
	(0.021)	(0.006)	(0.002)	(0.014)
Catholics in 1939 (%)	0.016	−0.005	−0.003	0.031**
	(0.020)	(0.006)	(0.002)	(0.014)
Controls	Yes	Yes	Yes	Yes
Between R^2	0.044	0.176	0.364	0.448
Observations	6076	6076	6076	6076

Notes: The time period studied is 1990 – 2017. Random effects models. The dependent variable in columns (1) to (4) is the crude marriage rate, crude divorce rate, divorce-to-marriage ratio, and the crude birth rate, respectively. In Panel A (B), I add a variable that indicates the share of the population without any religious affiliation in 2011 (1939). In Panel C, I include two variables indicating the share of Protestants and Catholics among the population, respectively. Additional controls: Log. population density, total net migration, share of women, share of foreigners, unemployment rate, GDP per capita, year dummies, and a dummy differentiating between urban and rural counties. Standard errors clustered at county level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B.9: County-level data: Birth and fertility rates

	Birth rate (older)	Birth rate (younger)	Fertility rate
	(1)	(2)	(3)
TV-dummy	-0.626^{***}	0.434	-0.025^{*}
	(0.091)	(0.347)	(0.014)
Controls	Yes	Yes	Yes
Between R^2	0.573	0.226	0.238
Observations	4991	4991	4991

Notes: The time period studied is $1995-2017$. Random effects models. The dependent variable in columns (1) to (3) is the birth rate of women aged 40 or older, the birth rate of women younger than 20, and the total fertility rate, respectively. Additional controls: Log. population density, total net migration, share of women, share of foreigners, unemployment rate, GDP per capita, year dummies, and a dummy differentiating between urban and rural counties. Standard errors clustered at county level and shown in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

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