ARE INDIVIDUALS' FAMILY SIZE PREFERENCES STABLE? EVIDENCE FROM WEST GERMAN PANEL DATA

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March 26, 2007

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Abstract

Using West German panel data constructed from the 1988 and 1994/95 wave of the DJI Familiensurvey, we analyze the stability and determinants of individuals' total desired fertility. We find considerable variation of total desired fertility across respondents and across interviews. In particular, up to 50% of individuals report a different total desired fertility across survey waves. Multivariate analysis confirms the importance of background factors including growing up with both parents, having more siblings, and being Catholic for preference formation. Consistent with the idea that life course experiences provide new information regarding the expected costs and benefits of different family sizes, the influence of background factors on fertility preferences is strong early in life and weakens as subsequent life course experiences including childbirth take effect. Accounting for unobserved heterogeneity, we estimate that an additional child may increase a person's desired family size by 0.14 children. Overall, however, the life course experiences investigated here show little systematic association with individuals' total desired fertility, raising the concern that instruments of desired fertility may be quite noisy and hence of limited use in predicting individual fertility behavior.

Keywords: Fertility Preferences, Total Desired Fertility, Wanted Family Size, West Germany, Panel Data

1 INTRODUCTION

As period fertility has fallen below replacement level in most developed countries and total cohort fertility rates confirm a dramatic decline in fertility (see Frejka and Calot 2001, among others), researchers proposed that changing fertility preferences may be a key factor in this development (Lesthaeghe and Surkyn 1988, Van de Kaa 2001).[1] This renewed interest in fertility preferences is also reflected in the diverse and growing body of empirical work using instruments of fertility preferences from large surveys. One group of studies seeks to document trends in fertility preferences across cohorts and regions. This line of research has provided evidence that the average number of desired children is falling, consistent with declining fertility (Lutz 1996, Bongaarts 2001, Goldstein et al. 2003, among others).[2,3]

Numerous studies use measures of individuals' fertility preferences and intentions to assess their predictive qualities by relating stated fertility to subsequent fertility outcomes (Coombs 1979, Thomson et al. 1990, Morgan and Chen 1992, Schoen et al. 1999, Joyce et al. 2002: all U.S., Symeonidou 2000: Greece, Menniti 2001: Italy, Noack and Østby 2002: Norway, Van Hoorn and Keilman 1997: 11 Western European Countries and US, Van Peer 2002: 9 Western European countries). A related body of work examines the determinants of the gap between fertility outcomes and preferences of individuals (Coombs 1979, Freedman et al. 1980, Hendershot and Placek 1981, Thornton et al. 1984, Thomson et al. 1990, Thomson 1997, Quesnel-Vallée and Morgan 2003: all U.S., Löhr 1991, Heiland and Prskawetz 2004: West Germany, Symeonidou 2000: Greece, Menniti 2001: Italy, Noack and Østby 2002: Norway, Van Peer 2002: 9 Western European countries, Adsera 2005: Spain). Finally, several authors have have analyzed the determinants of individuals' fertility preferences directly. This literature includes articles using data from the low fertility regions of Europe (Philipov et al. 2004: Bulgaria and

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[1] The predictive value of preference data has been debated for at least four decades (see Blake 1966, Westoff and Ryder 1977, Ryder 1980, Westoff 1981, and Long and Wetrogan 1981 for early critiques based on U.S. data and Van Hoorn and Keilman 1997 for a recent survey of this literature).

[2] For West German women, for example, completed cohort fertility has fallen from 2.2 to 1.6 between the 1935 and the 1956 birth cohorts, while the corresponding desired number of children declined from 2.5 to 2.2 (see Heiland et al. 2005, Figure 1). Other studies report on the trends for specific countries or regions (e.g., Toulemon 1996, 2001 for France).

[3] Recent survey data indicate that the personal ideal number of children may have fallen below replacement level in Germany and Austria (see Goldstein et al. 2003).

Hungary, Engelhardt 2004: Austria, Freedman et al. 1959, Löhr 1991, Kreyenfeld 2001, and Heiland et al. 2005: Germany, Monnier 1987: France, Calhoun and De Beer 1991: The Netherlands, Testa and Grilli 2005: EU-15) as well as from the U.S. (Schoen et al. 1997, Miller and Pasta 1995, Hirsch et al. 1981, among many others).

Existing studies using measures of fertility preferences almost exclusively rely on cross-sectional samples, i.e. samples that contain only one measurement of fertility preference per person.[4] If individuals' fertility preferences are fairly stable over the life course and determine fertility behavior, then knowledge of a person's fertility preferences when young provides useful information regarding their expected completed fertility. If, on the other hand, total desired fertility varies over the life course, then a single early measurement of total desired fertility may be of little value to predict fertility. In that case, analyzing the determinants of desired fertility and the characteristics of individuals who are likely to change may help to improve fertility forecasts and our understanding of the causes of individuals' fertility. Given the lack of studies using longitudinal preferences data, however, little is known about the extent to which individuals' preferences are stable and what factors may attenuate their predictive strength.

We investigate the stability of fertility preferences using a measure of individuals' total desired fertility from West German longitudinal survey data collected in 1988 and 1994/95. We find that up to 50% of individuals report a different total desired family size across the two survey waves (6 to 7 years apart) and stability is only slightly higher among older individuals. The results confirm the importance of background factors including growing up with both parents and more siblings and being Catholic for preference formation and stability. As conjectured, these background factors affect preferences and stability early in life and their impact weakens over time as later life course experiences including childbearing take effect. Multivariate analysis of the determinants of total desired fertility suggests that women with children respond more strongly to further childbearing: an additional child increases the

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[4]Notable exceptions are Quesnel-Vallée and Morgan (2003) and Miller and Pasta (1995). Unlike the present article, Quesnel-Vallée and Morgan do not focus on the determinants of fertility preferences but study the gap between birth intentions and subsequent fertility outcomes. Miller and Pasta study the determinants of fertility motivations and preferences in a small sample of married individuals from the San Francisco Bay Area.

total desired family size by about 0.14 children. Overall, however, the variation of total desired fertility within individuals shows little systematic association with the life course factors that we investigate, cautioning researchers to expect measures of total desired fertility to be noisy.

2 CONCEPTUAL BACKGROUND AND EXISTING EVIDENCE

Fertility research conceptualizes childbearing as the outcome of a decision-process that involves (1) biology (age and fecundity), (2) control over contraception (availability, knowledge, cost, social factors), (3) chance (fertility as unintended outcome of sexual activity; contraception and abortion have reduced the number of chance births), and (4) a person's desire or preference for children, i.e. the individual's assessment of the net expected benefits of having a child or a family of a particular size (e.g., Friedman et al. 1994, p.376 and Rindfuss et al. 1988, p.17).

This suggests that fertility preferences are an important dimension of attained fertility, in particular in developed countries where individuals can control their fertility.[5] Several theories regarding the origin and determinants of the values and costs of children have been proposed. They provide important theoretical background for formulating specific hypotheses regarding the determinants and thus stability of preferences and we survey them briefly in the following section.

2.1 Theories of Fertility Desires

Instrumental Value Theories

Economic models of fertility emphasize the instrumental value of children, i.e. the value or costs of the resources spent on children. They assume that each (additional) child yields a benefit ('marginal utility') to the parent and recognize that children require certain resources that could also be used

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[5]We note that attained fertility and wanted fertility could diverge if there are significant social influences that are reflected in attained fertility but not in wanted fertility. As discussed in Bongaarts (1990), actual and wanted fertility can also differ due to biological forces, chance, or competing objectives. Recent evidence from European populations shows that achieved family size falls short of the desired one rather than the other way around (Heiland et al. 2005, Noack and Østby 2002, van Peer 2000, Symeonidou 2000, van Horrn and Keilman 1997).

to obtain pleasures from other sources (Becker 1960, Becker and Lewis 1973, Willis 1973). In these models the individual's total preferred or wanted number of children (the 'demand for children') reflects the individual's willingness to trade the pleasures from the number ('quantity') of children for the pleasures from other sources including the quality (e.g., health and educational attainment) of each child and other consumption activities. Instrumental value theories imply that an individual's preferred number of children should decrease when the (expected) monetary or time opportunity costs of children increase.

The preferred number of children may also change with household income or wealth. In Becker's model this effect is positive if the number of children is not easily substitutable ('Income Hypothesis'). If it is substitutable for the quality of children, then the preferred family size may decline in income since richer parents may increase total expenditures on children by investing more into the quality of each child in the family (e.g., each child's education) rather than by increasing the family size ('Quantity-Quality Hypothesis').[6] Following the income and quantity and quality hypothesis the individual's preferred number of children can change as income or wealth increases.

Non-Instrumental Value Theories

Non-instrumental theories focus on the positive value (direct benefit) of children (see Schoen et al. 1997 and Friedman et al. 1994 for recent surveys). Such direct benefits include): extending one's legacy beyond one's lifetime, avoid an impersonal lifestyle, obtain stimulation and an element of surprise, satisfy one's need to experience one's creativity and to feel competent and accomplished. Children also provide an opportunity to teach and exercise control. Related to Becker's notion of parents enjoying the quality of their offspring, parents may value children's potential for achievement.

The social capital model conceptualizes some aspects of these child values under the notion of social benefits of children ('Social Value Hypothesis'). Schoen et al. (1997, also Astone et al. 1999, Huinink 1995), extending Coleman (1988), argue that the continuing desire for children may be due

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[6]Becker's idea of the fertility quantity-quality tradeoff is akin to a consumer whose income increases deciding to move from a three-bedroom flat into a two-bedroom luxury apartment rather than into a four-bedroom flat.

to resources that become available through greater social ties and social exchange when individuals have a family (e.g., emotional, physical, or financial support from family members, other relatives and friends). Huinink (2001, p.5), a prominent observer of fertility development in Germany, suggests that the social capital provided by children in modern societies is "not serving for skill and material oriented support anymore but psychological and identity sustaining support."

It is clear that the value of children hypotheses predict greater desires for a large family among individuals who perceive greater benefits from children in any of the value dimensions mentioned above. Hoffman and Manis (1979) show in U.S. survey data that individuals associate children with a number of these intrinsic values and argue that they play a role across different demographic groups. Using U.S. data, Schoen et al. (1997, p.349) find "strong support for the hypothesis that persons for whom relationships created by children are important considerations in childbearing decisions are more likely to intend to have a (another) child." We note that given the limited evidence beyond direct measures of such benefits, formulating hypotheses regarding what characteristics of individuals predict higher perceived intrinsic benefits from children is difficult.

Friedman et al. (1994) introduce another motive for wanting children: uncertainty reduction ('Uncertainty Reduction Hypothesis'). They argue that stable careers, marriage, and children have been the three commitments to "reduce uncertainty by embedding actors in recurrent social relations" (p.381). As Friedman et al. (p.384) point out, however, their theory is limited to explaining the decision whether or not to have a family, not necessarily how many children to have.

Other Explanations

Social Norms

Researchers have long recognized the possibility that family size norms play a role in fertility preferences and attainment (Freedman et al. 1959, Blake 1966, Westoff and Potvin 1967, Gustavus and Nam 1970, Caldwell 1982, Preston 1987, Rindfuss et al. 1988, Kohler 2001, among others). Many observers believe that changes in fertility norms have contributed to the fertility decline in the U.S. and

Western Europe (Westhoff 1978, Ryder 1979, Lesthaeghe and Surkyn 1988, Van de Kaa 1987, 2001). The characteristic frequency distribution of family size is taken to be at least in part the result of social norms regarding how many children individuals ought to have. Mechanisms to sanction individuals who deviate from the norm range of family size may be in place (see Rindfuss et al. 1988, p.20, and Gustavus and Nam 1970, p.44). These non-compliance costs can affect desired fertility since they change the expected net benefit associated with different family size alternatives (including not having children at all). The social norm hypothesis suggests that preferences may differ across individuals who are subjected to different norms or who differ with respect to their tolerance to social pressures. Wanted fertility may change over a person's lifetime as the acceptable number (or range) changes or the person's tolerance change. In the first case the desired family size would change in the direction of the fertility norm, whereas if a person grows more tolerant (or there is less pressure to conform to any fertility norm) then stated fertility should reflect other aspects of individuals' benefits and costs of children to a greater extent.

Behavioral Predispositions

Fertility motivations may also have a biological root. Udry (1996) argues that fertility behavior is genetically predispositioned. Kohler et al. (1999) provide evidence from historic Danish twin data that genetic influences explain up to 50% of the variation in attained fertility within cohorts. They conclude that genetic influences in conjunction with (varying) social conditions (including fertility norms) shape fertility motivations and desires. Miller et al. (1999, p.55) conjecture that the "motive forces underlying human childbearing can be said to some extent to be 'hard-wired' into the central nervous system," and show that genetic variation related to the organism's responsiveness to environmental influences regarding reproduction and survival contributes to the explanation of individuals' self-reported childbearing motivations. While the biological predisposition may differ across individuals (and the evidence mentioned seems to support this), it is unlikely to change over a person's life course.

2.2 Existing Evidence

Fertility researchers have long recognized the possibility that individuals' perception of the benefits and costs of children may be shaped through early experiences with family life during parental socialization. Duncan et al. (1965, p.514) conjecture that "[s]ocial interaction in [children's] families of orientation influence them so profoundly and interaction in their families of procreation is so important to them and calls for so many different decisions that they will tend to recreate a familiar setting resembling the one in which they grew up in order to mobilize familiar resources, relationships, and roles". Consistent with the idea that early experiences in the family of origin influence a person's fertility desires, studies have documented effects of parental fertility behavior on fertility preferences (Huestis and Maxwell 1932, Kantner and Potter 1954, Hendershot 1969, McAllister et al. 1974, Stolzenberg and Waite 1977, Hirsch et al. 1981).

Gustavus and Nam (1970) provide evidence that early socialization influences fertility preferences using a measure of ideal family size from a sample of sixth, ninth, and twelfth graders in two Southern counties of the U.S.. In one of the first efforts to analyze the stability of preferences, they discuss the possibility that the influence of background factors may change over time. Specifically, they note that (p.50) "size of family of orientation seems less clearly related to ideals among the twelfth graders than among younger students, and socioeconomic factors seem to be more clearly related to ideals among the older students." The possibility that fertility desires are formed early in life but are subsequently modified by life course events has been investigated in detail in Udry (1983). He considers adjustments to individuals' intended family size by parity and finds evidence in favor of sequential adjustment of fertility plans over the life course.[7]

Among life course events, own childbearing experiences have been found to exert strong influences on fertility motivations and preferences (Miller and Pasta 1995 in a sample from the U.S.).[8] Recent studies on fertility preferences in different populations in Europe have documented influences of various

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[7]This dynamic perspective on preference formation is part of the broader recognition of the importance of life course events for demographic processes (see Modell et al. 1976, Hogan 1978, Elder 1985, Nambodiri 1983, Westoff and Ryder 1977, Westoff 1981).

[8]Early work by Bumpass (1967), however, found little evidence that childbearing has an effect on family size ideals.

life course events on different measures of fertility preferences. Philipov et al. (2004) find that the intention to have a first or second child decreases with the age of a woman in Bulgaria and Hungary. Engelhardt (2004) finds that married and divorced or separated women in Austria desire a larger family size than those who are never married. She also provides some evidence that women who are employed full-time at the time of the interview desire a smaller family than women who spend less time in the labor market. Heiland et al. (2005) provide some evidence that post-secondary schooling has a positive effect on the total number of children wanted by West German men and women.

With the exception of the work by Miller and Pasta, existing studies of fertility preferences rely on cross-sectional data, limiting the researcher's ability to study the stability of a person's fertility preferences which is inadvertently a longitudinal concept. This paper employs individual-level panel data allowing us to analyze the characteristics of respondents with stable preferences over a 6 to 7 year period and to investigate potential causes of preference adjustment. While previous findings support the idea that individuals' experiences (such as childbearing) may have a causal effect on fertility preferences, existing estimates of these effects may suffer from omitted variables bias. This paper provides new estimates of the effect of life course experiences on fertility preferences, allowing for arbitrary correlation between observed life course factors and unobserved individual-specific determinants of fertility in some models as discussed in the next section.

3   HYPOTHESES AND EMPIRICAL STRATEGY

The theoretical discussion provides reasons to expect that the preferred number of children may vary with individuals' experiences and life course events. Following the instrumental value theory of fertility, fertility preferences reflect the expected perceived benefits and costs associated with different family sizes. This suggests that a person's total desired number of children may change as new information that alters the value of different family sizes becomes available. Based on this conceptual understanding we can formulate hypotheses with respect to the role of early and later life course influences and experiences in preference determination.

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We hypothesize that young individuals' fertility preferences are strongly influenced by early influences related to socialization and family background. Over time, as individuals revise their preferences with the arrival of new information, earlier influences become less predictive of the desired number of children and hence less relevant for preference stability. This suggests that the effect of background factors and life course experiences on desired fertility and preference stability may vary by age. These effects may also differ by past experiences. In particular, we conjecture that childbearing and rearing has a lasting impact on a person, resulting in individuals with children responding differently to life course events than respondents without children.

To investigate these hypotheses, we analyze the distribution of individuals' desired family size by age group, past childbearing experience and gender using descriptive as well as multivariate analysis. Specifically, to test for characteristics associated with instability of fertility preferences, we estimate linear probability models of whether individual i's preferences are unstable, i.e. whether the total desired number of children, D, differs across the 1988 and 1994/95 survey wave:

$$Prob(D_{1994/95} \neq D_{1988})_i = Y'_{i,1988}\gamma + \mu_i, \quad i = 1,...,N, \tag{1}$$

where $Y_{i,1988}$ is a vector of individual characteristics from the first survey. To investigate how a set of life course experiences effects fertility preferences, we estimate linear panel models of person i's desired family size at time t, $D_{i,t}$:[9]

$$D_{i,t} = u_i + X'_{i,t}\beta + Z'_i\delta + \varepsilon_{i,t}, \quad i = 1,...,N, \quad t \, \varepsilon \, \{1988, 1994/95\}, \tag{2}$$

where $X_{i,t}$ and Z_i are measures of time-varying and time-invariant explanatory factors with coefficient

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[9]More general models that allow for non-linear effects have been used in a cross-sectional context (see e.g., Philipov et al. 2004 and Heiland et al. 2005) but no strong case against linearity has been made. To investigate if the linearity assumption holds in our samples, we estimated probit models with dependent variables (1) desired number increased from childless or one child, (2) desired number increased from two children, (3) desired number decreased from two children, and (4) desired number decreased from three or more children. The results were qualitatively similar to those from the panel models shown below and we could not reject linearity. The results are available from the authors upon request. Attempts to estimate even more general models that recognize the discrete nature of the dependent variable while allowing for non-linear effects (such as fixed effects poisson models) were unsuccessful.

vectors β and δ, respectively. The data provide two observations per person corresponding to the two survey waves, $t = 1988$ and $t = 1994/95$. Unmeasured individual- and period-specific influences are captured by the error term, $u_i + \varepsilon_{i,t}$.

We examine three groups of potential determinants of preference stability and total desired family size: (1) individual background characteristics such as gender, religion, and attitudinal measures; (2) family background influences such as whether the person grew up with both parents and how many siblings he or she has; (3) subsequent life course events including marriage, divorce/separation, secondary and tertiary schooling, child birth, health, financial conditions, and labor force status.[10] In addition to the hypotheses regarding the overall significance of background and life course influences, we will also test for effects of individual determinants.

We expect Catholics to have a higher total desired family size than individuals with other religious affiliations. To the extent that the influence from the traditional ideal of a large family associated with Catholicism gives way to a smaller desired family size over time, Catholics' preferences may be more unstable (when young). Respondents who grew up with both parents may be more likely to have a favorable view of family life compared to those who were raised by only one parent. As a result, the former individuals may desire more children, on average, but it is unclear whether they differ with respect to preference stability. Similarly, having more siblings is expected to increase desired family size but its effect on stability appears unclear.

Employment, marriage, higher income and more education and training make a larger family more affordable and—to the extent that this effect is unanticipated—may have a positive effect on desired family size. We note that these resource effects are theoretically ambiguous according to the quantity quality model as discussed above. In particular, holding income constant, education may capture time opportunity costs. In that case, more schooling or training may reduce the desired family size. A

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[10]The Familiensurvey does not collect data on spousal family size preferences. While we do not limit our sample to individuals with partners, it would be interesting to control for spousal preferences given evidence that they have an independent effect on fertility preferences and actual fertility (e.g., Bumpass and Westoff 1970, Morgan 1985, Thomson et al. 1990, Thomson 1997, Van Peer 2002, Voas 2003). However, we do not expect this to be a major limitation for those respondents with partners since the instrument of wanted fertility that we use explicitly asks that individuals answer for themselves as discussed below in more detail.

negative income and education effect would also be consistent with the uncertainty reduction hypothesis (Friedman et al. 1994), which predicts that the desire to remain childless should increase as more opportunities to have a stable working career become available. Uncertainty reduction furthermore suggests that the desire to have children should increase as individuals' prospects in the labor market weaken, a situation that may be reflected in a greater chance of becoming unemployed. Income, higher education, and stable employment may also serve as insurance against higher than expected costs of having children and hence be associated with greater preference stability.

The fixed effects (FE) approach allows for arbitrary correlation between the individual-specific component, u_i, and our measures of life course experiences of interest $X_{i,t}$, thereby reducing the chance of faulty inference.[11] If there are person-specific characteristics affecting desired fertility that also influence the observed life course experiences, conventional estimates of the effects of the latter may be biased (see McCallum 1972). For example, some individuals may attach a particularly high value to family life as a result of a childhood experience that is unobserved by the researcher. If these individuals are also more likely to get married compared to the average person, the life course event of getting married may falsely be seen as having a positive effect on the desired number of children.

Another important source of individual-level unobserved heterogeneity that, if unaccounted for, may cause bias is systematic measurement error in the fertility preference instrument. For example, some individuals may have a stigma of revealing in the interview that they prefer a number that deviates from the two-child-norm family (see Livi Bacci 2001). If these individuals are also more likely to experience certain life course events or to be subjected to certain influences (i.e. if the misreporting occurs systematically), then conventional estimates of the effect of these experiences or influences on preference would be biased upwards. If there are individuals who *consistently* over or understate their true preferred family size, then the fixed effect approach can purge the estimates of misreporting bias since it accounts for unobserved person-specific heterogeneity that may be correlated with life course events.

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[11] Wooldridge (2002) provides a detailed discussion of these types of linear panel models.

4 EMPIRICAL ANALYSIS

4.1 Data

The data for this study were taken from the 1988 and the 1994/95 wave of the West German Familiensurvey of the German Youth Institute (DJI Familiensurvey 1988, 1994/95).[12] The first wave gathered data on 10,043 individuals from a random sample of German citizens of age 18 to 55 in 1988 who resided in West German households.[13] Of all first-wave individuals, 4,997 were interviewed again in 1994/95. We construct our samples from this two-period panel. We exclude individuals with any missing values for desired children (308 initial respondents or 6.2%). We also excluded individuals with incomplete information on educational attainment or training (8), health status (14), labor force status (43), actual number of children (1), traditional values (73), Inglehart Scale (121), income (836), and Catholic (2). In total there are 2,127 women and 1,661 men in our samples. Table 1 presents the definitions of the main variables and the corresponding sample means for women by survey wave (W1=1988 vs W2=1994/95), age (age 18-25 in 1988 vs age 26-35 in 1988), and actual fertility (childless in 1988 vs w/ children in 1988).

4.1.1 Measure of Family Size Preference

Fertility preferences measure how individuals' rank different fertility sizes thereby revealing information about their relative assessment of the benefits and costs associated with the different family sizes. As most studies on fertility preferences, we have to rely on a measure of the most preferred number of children.[14] This measure captures "the number of children a woman would choose to have at the time of the survey, based on her assessment of the costs and benefits of childbearing and with complete control over her fertility," (Bongaarts 1990, p.488; see also Easterlin 1978, McCleland 1983).

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[12]Data from the most recent survey round (DJI Familiensurvey 2000) is not used in this study since the question on desired number of children does not compare to the earlier waves.

[13]For details on the sample construction and the comparisons to census data are documented in Bender et al. (1996).

[14]Coombs (1974) introduced a scale of family size preference capturing a person's first, second and third preference over the number of children. Unfortunately, the data do not permit construction of Coombs' scale.

Specifically, our measure is based on the instrument *If it was entirely up to you: How many children in total do you want or would you have wanted?*.[15,16] The answer is coded on a scale from zero to four with the maximum representing four or more children.[17] Given the qualification "if it was entirely up to you", this measure abstracts from the influence of parents, a partner, or society.[18] Of course, individuals may have internalized external views on the acceptable family sizes as a result of (social) interaction and sanctioning (Rindfuss et al. 1988, p.20).

For respondents early in their reproductive life span, the instrument measures the total number of children ultimately wanted ("if it was entirely up to you") as of the time of the interview, i.e. planned completed fertility given actual fertility. For respondents at the end of (or past) their reproductive span it captures the preferred number of children ("if it was entirely up to you") after the person's actual fertility has been completed. This raises the concern that the question becomes more hypothetical as individuals approach their reproductive horizon.[19] To minimize this potential measurement concern, we conduct the analysis separately by age group and childbearing experience as of the initial interview (see Section 3) and focus on individuals early in their reproductive span, the group least likely to respond in hypothetical terms. In addition, the multivariate analysis controls for individuals' age.

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[15]For further detail regarding the construction of the measure see Heiland et al. (2005).

[16]Morgan (1981, 1982) suggests that respondents who answer "don't know" to questions relating to fertility intentions are an important group that should not be discarded. Unfortunately, in the DJI Familiensurvey a distinction between "don't know" and missing for other reasons cannot be made. Hence, we do not include this group in our analysis.

[17]Comparison with a similar measure in the 2001 Eurobarometer for West Germany suggests that this cut-off affects only about 1% of the respondents. The maximum number of children reported there is seven.

[18]Studies vary in their use of instruments to measure fertility preferences but desired, intended, wanted or ideal number of children, which are similar to the one uses here, are most commonly used. Ryder and Westoff (1969) compare responses to questions on desired, intended and expected number of children among American women and find insignificant differences between intended and expected number of children and only slightly higher desired numbers of children. Freedman et al. (1959) find higher desired than expected fertility among West German adults in 1958, but their question on desired fertility is qualified by *if financial and other conditions of life were very good*, which suggests a more hypothetical situation where having children is less costly.

[19]We emphasize that information from older respondents is of interest since it may provide an important contrast to test hypotheses about stability and the determinants of preferred family size. Specifically, individuals may be able to better assess the net benefits of a particular family arrangement later in life, especially if they have children. Hence, we expect their preferred number of children to be more stable.

4.1.2 Sample Descriptives

As shown in Table 1, the majority of respondents want two children. More than 20% of female respondents age 18 to 25 at the first interview desire three children and a sizable fraction wants four or more children. Among young women without children at the time of the first interview, 7% state childlessness as their preferred family size, while 5% want exactly one child. Women with children report higher desired family size than childless women. The descriptives also provide some evidence that the desired family size declines for women who are initially childless while it is approximately constant for women with children. We also find that the desired number of children is greater for women than men (not shown).

About 45% of women age 18 to 25 in 1988 experience a birth in the 6 to 7 year period between the interviews regardless of whether they have children initially or not. On the other hand, 41% of women age 26 to 35 and childless in 1988 have a child in 1994/95, compared to 25% of women in that age group that already had children. As expected, individuals are more likely to be single (less likely to be married, separated or divorced) when they are younger or childless. The average person reports to be in good health and younger respondents tend to be in better health than older ones. Labor force participation increases over the life course at the expense of home production, schooling, and other activities outside the labor force. This is especially true for women who started childbearing early. Consistent with greater labor force participation, schooling, and transition into a stable relationship over time, the descriptives show that household income levels rise with age.

The most common educational attainment is a basic high school degree with job training (about 60%).[20] Some respondents complete post-secondary schooling between waves: Among 18 to 25 year

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[20]We constructed five binary indicators to measure different levels of completed education at the time of the interview: (1) no high school degree, (2) lowest or middle track high school degree ('Volks-/Hauptschule' or 'Realschule'), (3) lowest or middle track high school degree with job training/apprenticeship ('Lehre', 'Berufsfachschule', 'Volontariat', 'Laufbahnprüfung', or equivalent), (4) college preparatory (college track) high school degree ('Fachhochschulreife' or 'Hochschulreife') with or without training, and (5) college degree or higher ('Fachhochschule', 'Universität' or equivalent). The ranking is based on the level of *general* schooling (basic secondary=ISCED2A, upper secondary=ISCED3A, tertiary/college=ISCED5A/5B/6) differentiated by additional vocational or job training programs. The ISCED codes stand for the education attained according to the International Standard Classification of Education. A helpful summary chart of the German education system can be found on the web at http://www.ed.gov/pubs/GermanCaseStudy/chapter1a.html.

old childless women in 1988 the fraction with a college degree is 2% compared to 10% in 1994/95. As expected, women in the same age group who started childbearing earlier are more likely to have completed their education and their educational attainment tends to be lower. On average, men have slightly greater educational attainment than women (e.g., overall 18% of men graduated from college compared to 10% of women; results not shown).

We find that women who have children early are more likely to be Catholic, to live in rural areas, and to agree with the statement that women should work less in the labor market than men. Overall, about 40% of respondents report that they are Catholic and men hold more conservative views on gender roles than women. About one third of the respondents express strong post-materialistic values according to the Inglehart scale compared to 8 to 11% with strong materialistic views (results not shown).[21] More than 80% of the respondents grew up with both parents in the household (as opposed to with one parent only) and the majority of respondents have one or two siblings. Respondents with fewer siblings are also more likely to be childless at the first interview.

4.2 Results

4.2.1 Distribution of Preferred Family Size

Table 2 displays the distribution of women's desired number of children at the second interview conditional on stated fertility as of the initial interview (in the table desired fertility in 1988 varies vertically and horizontally for 1994/95) by age groups and childbearing history (childless vs. with children) at the initial interview. The table also reports results from tests of differences in stability within groups (with the stable two child desire as reference) and in overall stability across groups (with the overall stability among initially childless women in the same age group as reference).

The distribution shows that the majority of women report the same number in the 1994/95 survey

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[21] The Inglehart scale measures a person's post-materialism by how he or she ranks two post-materialistic societal objectives ('giving the people more say in important government decisions' and 'protecting freedom of speech') relative to two materialistic objectives ('maintaining the order of nation' and 'fighting inflation'). A strong priority for post-materialistic goals is expressed by individuals who select the two post-materialistic objectives first ('PPM'). A strong materialistic view is expressed by ranking the two materialistic goals first ('MMP'). Other combinations express different degrees of post-materialism that lie between these extremes.

as in 1988 (see elements in bold on diagonal). Overall stability is lowest (48.9%) for women age 18 to 25 in 1988 who had started a family by then and highest (64.5%) for women age 26 to 35 in 1988 with family. Younger women without a child at the initial interview report stable preferences 57.4% of the time, a level similar to that of older initially childless women. Additional results show that overall stability goes as high as 67% for individuals at the end of (or past) their reproductive life span. The overall stability pattern is similar for men and women. However, men with children at the first interview appear to be more likely to lower their desired family size over time compared to women. (These results are available from the authors upon request).

Table 2 shows that the instability of desired family size among young women who are initially childless is primarily due to reductions in the desired number of children across interviews. The fraction of these women who want three children declines from 21.6% at the time of the first interview to 16.7% six years later while the fraction of women who desire one child rises from 5.4% to 14.7%. Women in the same age group who already had a child (children) at that time desire larger families throughout compared to their counterparts without children and the former are about equally likely to revise up or down. The same holds for women age 26 to 35 with children in 1988; the changes, however, are less pronounced, resulting in greater overall stability of preferences. Stability among women in this age group who did not have children at the first interview is significantly lower (55.7% vs. 64.5%), and these women tend to reduce their total desired fertility between interviews.

Another interesting pattern is the stability of wanted fertility among those reporting *two* as the total desired number of children in the first interview. Those stating two initially report the same number again at the follow-up interview in the majority of cases, i.e. display significantly greater stability than individuals with a different initial desired family size. The differential stability of wanted family size by initial desire may originate either from differential responsiveness or from different experiences between interviews. To systematically analyze the patterns of adjustment in desired fertility, including the greater stability of those reporting two children as desired initially and the tendency for women with children to revise their total desired number of children upwards and for young women without children to adjust them downwards, we now turn to multivariate models of stability and desired fertility.

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4.2.2 Multivariate Evidence

Columns 1 and 2 in Table 3 show estimates from linear probability models of preference instability for women by age groups. These models are useful to identify background characteristics and experiences associated with subsequent change in preferences. The reference woman (omitted categories) is married and lives with the spouse, has a basic high school education and job training, is currently employed, and has strong post-materialistic views (Ingle Type PPM). The estimates provide some evidence that women age 18 to 25 who are Catholic change their desired fertility more frequently than other women. Religious background, however, does not appear to play a role at a later point in life. The results in Table 3 may explain the somewhat greater preference instability among young women with children (relative to women without children; see Table 2), since Catholic women are more likely to start childbearing early (see Table 1). As they are more likely to be concerned with family development at a young age, Catholics may be more responsive to information regarding the costs and benefits of having a larger family. The data support the interpretation that many hold a desire to realize a traditional large family when young and lower their desired fertility subsequently.[22]

Growing up in an intact family and completion of a college preparatory high school degree are other early experiences that appear to affect subsequent stability. Young women who were raised in a two-parent household are 18% less likely to change their desired fertility across the two surveys compared to women who did not grow up in an intact family. Women age 18 to 25 whose highest degree at the time of the first interview was a college preparatory high school degree (including with additional training), are 20% more likely to change their desired family size between surveys. We note that many of these women are attending college between the initial and the follow-up interview (see Table 1). A positive family experience during childhood may result in strongly held desires for a large family and greater ability to cope with the demands of family life. The greater instability associated with the college preparatory high school degree is consistent higher education resulting in higher opportunity costs as

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[22]Gender roles are progressing only slowly in West Germany (e.g., Stöbel-Richter and Brähler 2002) and combining family and career is difficult for women here given these inflexible labor markets, traditional gender roles, and social policies that favor the male breadwinner and female homemaker arrangement (see Kreyenfeld 2002, Brewster and Rindfuss 2000, Chesnais 1996, Gauthier 1996).

well as income, causing some women to revise their expected costs from a larger family downwards and some upwards.

The estimates in column 2 in Table 3 also provide some support that life course experiences become more important for preference stability over time while the influence of family background factors diminishes. Among women age 26 to 35 in 1988, those with greater household income at the first interview display more stable preferences while women who experienced a divorce or separation tend to change their desired family size more frequently. Income may serve as insurance against factors that negatively impact the value of children. Divorce or separation may increase a person's responsiveness to subsequent life course events related to the costs of children.

Returning to our earlier observation that individuals who initially report two children as desired display the highest stability of desired fertility (see Table 2), additional analysis reveals that individuals reporting a desired family size of two at the first interview differ from other respondents with respect to important attributes and experiences. The former are more likely to have grown up in an intact family and less likely to have experienced divorce or separation. As discussed above, the stability analysis shows that these are experiences (or lack thereof in the case of divorce and separation) that are particularly predictive of greater preference stability.

Columns 3 to 10 in Table 3 report the panel estimates of the determinants of total desired number of children among women age 18 to 25 and women age 26 to 35 in 1988 (wave 1) by childbearing experience in 1988.[23,24] These models help identify to what extent individual background factors and experiences directly affect the level of desired fertility. The models fit the data moderately well with coefficients of determination, R^2, ranging from 0.18 to 0.30 for the RE models to 0.43 to 0.59 for the FE models. The better fit of the FE models testifies to the importance of person-specific effects which are included in the (adjusted) R^2 calculations. We also find some statistical support against the RE models

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[23]Due to space limitations, we do not report the estimates for other age groups and men. Also the coefficients for some variables (regional dummies and post-materialistic views) included in the models are not reported here. The additional results are available upon request.

[24]Given evidence of greater stability among those initially reporting two as desired, the preference data may be heteroskedastic as discussed above. To address this issue, we also calculated the robust standard errors for the FE estimates. The results did not change the inference presented here.

in favor of the FE models: Hausman specification tests suggest that the hypothesis that the individual-specific effects (the 'u_is' in Equation (2)) are uncorrelated with the other regressors—as assumed in the RE approach—is rejected in our samples. This supports the concern stated above that there may be important unobserved time-invariant individual-specific determinants of fertility preferences that are correlated with life course experiences, hence could lead to biased estimates of life course influences if ignored.

While the fixed effects (FE models) do not reveal which factors exert persistent influence on individuals, the RE results provide evidence that early influences and background factors such as being Catholic and growing up with both parents are associated with a greater desire to have children among young women who were initially childless. Having a larger number of siblings is associated with a greater total desired family size for all childless women, consistent with the earlier literature (Huestis and Maxwell 1932, Kantner and Potter 1954, Hendershot 1969, McAllister et al. 1974, Stolzenberg and Waite 1977, Hirsch et al. 1981, among others). This relationship may be due to greater knowledge of how to cope with family tasks that individuals raised in larger families have acquired (Duncan et al. 1965). It may also reflect societal fertility norms or family-specific preferences that are transmitted across generations. The absence of these effects among women with children and for older women supports the hypothesis that the effect of background factors and early influences weakens as the childbearing experience and other (more recent) life course influences take effect.

The panel analysis supports the hypothesis that childbearing and rearing affects the total number of children wanted. We find that having children between the first and the second wave increases the total number of children wanted among women with children. The effect is smaller in the FE models which only consider variation over the life course of an individual compared to the RE models but remains significant in the larger sample of women age 26 to 35 with children in 1988 (pooled estimates confirm this result). On average, the number of children wanted increases by 0.14 children based on the within-individual variation for these women. The weaker response to having a(nother) child among initially childless women compared to women who started childbearing earlier is consistent with a downward trend of total desired fertility among initially childless women (see Table 2) while they are at least as

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likely to have a(nother) child between interviews (see Table 1). The negative age effect in the FE model for young childless women suggests that there are time-varying factors not captured by the observed life course experiences that contribute to this downward trend (see column 4 in Table 3).

While the finding of a positive effect of realized births on desired family size confirms earlier results (Miller and Pasta 1995), our analysis reveals important differences by childbearing history: For initially childless women the effect of having a child on the desired family size is smaller (and statistically not different from zero in most models) than for women with childbearing experience. This is consistent with greater increases in the expected benefits of having a large family, on average, among women who start childbearing early. This group is likely to be more homogenous and shares characteristics (being Catholic and growing up in large families; see Table 1) that are associated with realizing greater perceived benefits from having another child on average. In addition, the fact that total desired fertility does not change systematically in response to a birth among initially childless women may be a reflection of greater ability to predict the costs and benefits of childbearing and rearing (the childbearing experience does not provide new information).

The effect of experiencing an unemployment spell on desired family size is estimated to be negative and in pooled samples (not shown) this effect is also statistically significant. A negative effect of unemployment appears contrary to the uncertainty reduction hypothesis (Friedman et al. 1994). The latter would suggest that greater career uncertainty should make childbearing and becoming a stay-at-home mom relatively more attractive (as a way to reduce uncertainty). The negative effect of unemployment may reflect income considerations ('Income Hypothesis'). Greater labor market uncertainty and the resulting income instability should cause larger families to be perceived as relatively less affordable. There is also some evidence (mostly from the RE models) of a positive association between education and total desired fertility. A positive effect is consistent with earlier findings (Heiland et al. 2005) and may reflect a greater ability to afford a large family among the more-educated. Desired family size preferences also appear unrelated to income and relationship status.

While statistical tests indicate that the measures of life course experiences employed in the analysis are jointly significant in most panel models, individually, few of the time-varying variables appear

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systematically related to total desired fertility. For example, the coefficient of the health status variable tends to be estimated to be positive, suggesting that women with poorer self-reported health desire a larger family, but the effect is not statistically significant. While we are aware of one multivariate study (Engelhardt 2004) that finds that never-married women in Austria desire smaller families, transitioning from single to married or from marriage to separation or divorce does not systematically affect the level of total desired fertility among West German women (there is some evidence that divorce and separation leads to lower desired fertility among men). While the absence of relationship effects can be explained by the measure used here that explicitly abstracts from partner influences ("if it was entirely up to you"), overall, the evidence suggests that the individual life course experiences investigated here provide little new information regarding the costs and benefits of different family sizes.

4.2.3 Additional Results

We also estimated the models shown in Table 2 for men by age and initial parity and for respondents past the age of 36 at the initial interview. As for women, we find that men who already have children tend to increase their desired total fertility after having another child. There is evidence that divorce and separation negatively affect the desired family size of men. Interestingly, while being unemployed at the time of the interview may lower desired fertility among women, it increases it for you men. Background factors are equally important in explaining total desired family size for men with similar positive effects of respondent's siblings, being Catholic, and growing up with both parents on desired family size. Lastly, the effect of life course experiences on desired fertility among men and women age 36 and above in 1988 are similar to respondents age 26 to 35. Consistently across age groups, we find that additional children raise the desire to have a larger family.

5   CONCLUSIONS

This paper provides the first longitudinal evidence on the stability of individuals' total desired number of children using representative data from West Germans interviewed in 1988 and 1994/95. We

hypothesized that family background and early experiences as well as subsequent life course events determine the benefits and costs that individuals associate with different family sizes. Differences in individuals' socialization and life course experiences are therefore expected to affect the desired family size and the likelihood that individuals' change their preferred number of children. Consistent with this hypothesis, we find considerable variation in the total desired number of children across respondents and for the same individual across surveys. In particular, we document that respondents' total desired number of children changes in up to 50% of the cases in the 6 to 7 year period between the initial and the follow-up interview. Adjustments of the preferred family size are less common among older individuals but the fraction of respondents with stable family size preferences does not exceed 70% in our samples.

Using multivariate analysis we further investigate the determinants of the number of children wanted and the characteristics of individuals who change their total desired fertility. The results confirm the importance of background factors. Growing up with both parents, having more siblings, and being Catholic are associated with a greater desired family size. There is also some evidence that desired fertility is more likely to change among young Catholics and respondents with higher education, while being raised in an intact family and greater (own) financial resources are associated with greater stability of desired fertility. As conjectured, background factors and early experiences affect preferences and stability early in life and their impact weakens over time as later life course experiences including childbearing take effect. This evidence supports the longstanding hypothesis that early socialization provides a strong influence on fertility motivations and desires (Duncan et al. 1965, among many others).

While early work by Bumpass (1967) found little evidence that childbearing has an effect on family size ideals in the U.S., a more recent study by Miller and Pasta (1995) found a positive association between childbearing and the desired number of children, using a small sample of married individuals from the San Francisco Bay Area. In our samples based on representative data from West Germany, we find a positive effect of childbearing on total desired family size among women who already started childbearing, consistent with the idea that the childbearing experience itself provides new information

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about the costs and benefits associated with having a larger family. Unlike previous studies, our longitudinal research design allows us to estimate models accounting for individual-specific unobserved heterogeneity correlated with desired fertility and actual fertility. While we conclude with Miller and Pasta (1995, p.196) that *"childbearing itself should be included among the factors that tend to attenuate the predictive strength of child-number desires..."*, we note that the true effect of the childbearing experience on a person's total desired fertility is smaller than conventional evidence based on cross-sectional data would suggest.

Overall the life course experiences that we investigate show little systematic association with the observed variation in individuals' total desired family size. While further evidence on the longitudinal properties of fertility preferences using more widely-spaced panels, richer sets of controls for life course events than available in the DJI Familiensurvey, different measures of total desired fertility, and from different regions is needed, the fact that a significant fraction of the person-specific change in desired fertility remains unexplained in our panels models raises the concern that preference data are quite noisy. This may render these instruments problematic in forecasts of individuals' fertility behavior. Specifically, measurement error would make it difficult to obtain precise estimates of the effect of total desired fertility on individuals' completed fertility. In this case, researchers may still find family size preference data useful to track trends in desired fertility and to make predictions about completed fertility across groups.

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Variable	Definition	Women 18-25 in 1988				Women 26-35 in 1988			
		Childless		w/ Children		Childless		w/ Children	
		W1	W2	W1	W2	W1	W2	W1	W2
Outcome									
Desired	total desired number of children	2.11	1.94	2.42	2.43	1.85	1.78	2.29	2.32
None Desired	desired no children	0.07	0.08	0.00	0.00	0.17	0.16	0.00	0.02
One Desired	desired one child	0.05	0.15	0.11	0.14	0.07	0.13	0.12	0.10
Two Desired	desired two children	0.61	0.56	0.49	0.42	0.57	0.53	0.57	0.54
Three Desired	desired three children	0.22	0.17	0.26	0.32	0.13	0.13	0.21	0.21
Four+ Desired	desired four or more children	0.05	0.04	0.14	0.13	0.06	0.05	0.10	0.12
Time-Varying									
Children	total actual number of children	0.00	0.60	1.33	1.91	0.00	0.67	1.72	1.98
Had Child	had child between waves	0.00	0.44	0.00	0.47	0.00	0.41	0.00	0.25
No HS	no high school diploma	0.01	0.00	0.02	0.02	0.00	0.01	0.02	0.01
HS	basic high school diploma	0.14	0.07	0.20	0.16	0.08	0.05	0.18	0.14
HS+Training	basic high school diploma & training	0.55	0.63	0.63	0.67	0.57	0.60	0.63	0.66
CP/CP+Training	college preparatory diploma/CP & training	0.28	0.19	0.12	0.10	0.16	0.11	0.07	0.09
College	graduated from university/technical college	0.02	0.10	0.02	0.05	0.18	0.23	0.09	0.11
Employed	in labor force and employed	0.65	0.68	0.32	0.60	0.79	0.81	0.39	0.63
Unemployed	in labor force and unemployed	0.05	0.04	0.03	0.02	0.04	0.01	0.02	0.01
At Home	not in labor force and at home	0.02	0.17	0.55	0.36	0.07	0.16	0.55	0.34
In School	not in labor force and in school	0.23	0.09	0.05	0.01	0.06	0.01	0.01	0.00
Other	not in labor force (incl. retired)	0.04	0.02	0.06	0.00	0.04	0.01	0.03	0.01
Income	household disposable income (0-2 scale)^d	0.82	1.04	0.83	1.10	0.86	1.26	0.92	1.31
Single	single (never-married)	0.79	0.40	0.07	0.06	0.44	0.28	0.04	0.03
Married	married and living together	0.21	0.56	0.85	0.80	0.49	0.66	0.88	0.85
Divorced or Separated	divorced or married and separated	0.00	0.03	0.08	0.14	0.07	0.06	0.08	0.11
Widowed	widowed	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02
Health Status	health status (0-4; 0=very good, 4=poor)	0.80	0.99	0.92	1.09	0.89	1.04	0.95	1.09
Rural	population density (0-9; 0='>0.5 mill.', 9='< 2,000.')	3.35	3.51	4.26	4.44	3.46	3.84	3.78	3.91
Traditional	agrees with statement that 'women should work less in the labor market than men'	0.04	0.06	0.08	0.06	0.08	0.09	0.10	0.08
Ingle Type^b	post-materialistic views on Inglehart Scale (6 dummies)								
Catholic	religious affiliation is Catholic	0.46	0.42	0.53	0.51	0.41	0.39	0.45	0.45
Time-Invariant									
Both Parents	grew up with both parents	0.90		0.88		0.95		0.91	
Siblings^e	number of siblings (0-3)	1.55		1.94		1.74		1.97	
# Individuals		204		88		167		595	

Notes: ^{a}Information relates to the time of the interview. ^{b}Ranking of two post-materialistic (P) versus two materialistic (M) objectives: first letter expresses highest priority and last letter expresses lowest. ^{c}Highest Education/Training completed. ^{d}'0' if monthly income 0-2,000, '1' if 2,000-4,000, '2' if > 4,000. Categorization based on 1988 Deutschmarks (1 Deutschmark = 0.51129 Euro). 1988 and 1994/95 are made comparable using the CPI (Preisindex für die Lebenshaltung—Alle Privaten Haushalte') for West Germany. ^{e}Excluding step-siblings. Based on complete information.

Table 2: Stability of Desired Family Size in West Germany: Women by Age and Fertility

Women Age 18-25 and Childless in 1988 (Overall Stability = 57.4%)

			# Desired in 1994/95			
Percentage[a]	0	1	2	3	4+	Sum N (%)
0	**53.3**	6.7	33.3	0.0	6.7	15 (7.4)
# Desired 1	18.2	**54.6**	18.2	9.1	0.0	11 (5.4)
in 1988 2	4.8	14.5	**67.7**	10.5	2.4	124 (60.8)
3	2.3	11.4	45.5	**36.4**[†††]	4.6	44 (21.6)
4+	0.0	0.0	30.0	40.0	**0.30**[††]	10 (4.9)
Sum N (%)	17 (8.4)	30 (14.7)	114 (55.9)	34 (16.7)	9 (4.4)	204 (100.0)

Women Age 18-25 with Children in 1988 (Overall Stability = 48.9%)

			# Desired in 1994/95			
Percentage[a]	0	1	2	3	4+	Sum N (%)
0	**0.0**	0.0	0.0	0.0	0.0	0 (0.0)
# Desired 1	0.0	**40.0**	30.0	10.0	20.0	10 (11.4)
in 1988 2	0.0	18.6	**53.5**	23.3	4.7	43 (48.9)
3	0.0	0.0	34.8	**52.2**	13.0	23 (26.1)
4+	0.0	0.0	25.0	41.7	**33.3**	12 (13.6)
Sum N (%)	0 (0.0)	12 (13.6)	37 (42.1)	28 (31.8)	11 (12.5)	88 (100.0)

Women Age 26-35 and Childless in 1988 (Overall Stability = 55.7%)

			# Desired in 1994/95			
Percentage[a]	0	1	2	3	4+	Sum N (%)
0	**50.0**[†]	17.9	25.0	7.1	0.0	28 (16.8)
# Desired 1	9.1	**27.3**[†††]	36.4	18.2	9.1	11 (6.6)
in 1988 2	9.4	11.5	**68.8**	8.3	2.1	96 (57.5)
3	13.6	4.6	50.0	**27.3**[†††]	4.6	22 (13.2)
4+	0.0	10.0	10.0	40.0	**40.0**[†]	10 (6.0)
Sum N (%)	27 (16.2)	21 (12.6)	89 (53.3)	22 (13.2)	8 (4.8)	167 (100.0)

Women Age 26-35 with Children in 1988 (Overall Stability = 64.5%)**

			# Desired in 1994/95			
Percentage[a]	0	1	2	3	4+	Sum N (%)
0	**0.0**	0.0	0.0	0.0	0.0	0 (0.0)
# Desired 1	5.7	**50.0**[†††]	37.1	7.1	0.0	70 (11.8)
in 1988 2	2.0	6.4	**72.8**	13.7	5.3	342 (57.5)
3	0.0	2.4	31.2	**51.2**[†††]	15.2	125 (21.0)
4+	1.7	0.0	17.2	19.0	**62.1**[†]	58 (9.7)
Sum N (%)	11 (1.9)	60 (10.1)	324 (54.5)	127 (21.3)	73 (12.3)	595 (100.0)

Notes: [a]Individuals' Desired Family Size in 1994/95 conditional on their Desired Family Size in 1988. Means test of overall stability against childless women in same age group: *Statistically significant at the .10 level; **at the .05 level (two-tailed test); ***at the .01 level (two-tailed test). Means test against stable two-child desire in same group: [†] Statistically significant at the .10 level; [††]at the .05 level (two-tailed test); [†††]at the .01 level (two-tailed test).

	Prob(Unstable)		Linear Panel Models							
	Women age		Women age 18-25				Women age 26-35			
	18-25	26-35	Childless		w/ Children		Childless		w/ Children	
Variable Name	LPM		RE	FE	RE	FE	RE	FE	RE	FE
Children	0.03	-0.03	0.12	0.06	0.29***	0.17	0.24***	0.02	0.45***	0.14***
	(0.07)	(0.02)	(0.09)	(0.10)	(0.11)	(0.18)	(0.08)	(0.11)	(0.03)	(0.05)
Ref: HS+Training										
No HS	0.20	-0.03	-0.15	0.02	0.26	1.47	-0.72	-0.78	0.05	-0.10
	(0.23)	(0.12)	(0.56)	(0.64)	(0.54)	(0.91)	(0.96)	(1.68)	(0.16)	(0.20)
HS	0.04	0.03	-0.27*	-0.27	0.06	0.19	0.23	0.43	-0.06	-0.21*
	(0.09)	(0.05)	(0.16)	(0.23)	(0.23)	(0.43)	(0.23)	(0.42)	(0.06)	(0.11)
CP/CP+Training	0.20**	-0.01	0.06	-0.21	0.02	0.81	-0.04	-0.24	0.11	-0.04
	(0.09)	(0.06)	(0.14)	(0.31)	(0.27)	(0.67)	(0.18)	(0.40)	(0.09)	(0.15)
College	0.04	0.05	0.03	-0.38	0.51	-0.45	0.25	0.07	0.20**	0.04
	(0.23)	(0.06)	(0.19)	(0.33)	(0.42)	(0.72)	(0.16)	(0.45)	(0.08)	(0.17)
Ref: Employed										
Unemployed	0.10	0.04	-0.28	-0.17	-0.37	-0.75	0.03	-0.07	-0.17	-0.27
	(0.14)	(0.11)	(0.18)	(0.21)	(0.45)	(0.63)	(0.34)	(0.42)	(0.15)	(0.17)
At Home	-0.08	-0.01	0.24	0.22	-0.28*	-0.09	0.34*	0.14	0.07	0.01
	(0.11)	(0.04)	(0.17)	(0.20)	(0.16)	(0.23)	(0.19)	(0.29)	(0.05)	(0.07)
In School	-0.15	-0.07	0.05	0.10	0.34	-0.30	0.32	-0.06	0.41*	0.53*
	(0.10)	(0.13)	(0.13)	(0.16)	(0.42)	(0.57)	(0.29)	(0.40)	(0.24)	(0.30)
Other (incl. retired)	0.05	0.13	0.49*	0.56	0.47	0.48	0.46	-0.02	0.03	0.08
	(0.14)	(0.11)	(0.25)	(0.35)	(0.40)	(0.48)	(0.36)	(0.54)	(0.14)	(0.16)
Income	0.00	-0.11**	0.09	0.02	-0.25	-0.12	-0.19*	-0.17	0.01	0.02
	(0.06)	(0.04)	(0.07)	(0.08)	(0.16)	(0.21)	(0.10)	(0.15)	(0.04)	(0.05)
Ref: Married+Together										
Single	-0.03	0.05	-0.04	-0.02	-0.24	0.19	0.16	0.20	0.03	0.32
	(0.09)	(0.07)	(0.11)	(0.14)	(0.36)	(1.02)	(0.14)	(0.25)	(0.14)	(0.31)
Divorced/Separated	-0.12	0.18**	0.18	0.23	-0.08	0.09	-0.25	0.17	0.02	-0.06
	(0.19)	(0.08)	(0.31)	(0.37)	(0.28)	(0.46)	(0.24)	(0.41)	(0.08)	(0.12)
Widowed		0.10	0.40	-0.02	0.79	0.96			0.21	0.34
		(0.22)	(0.83)	(0.89)	(0.88)	(0.99)			(0.20)	(0.39)
Age	0.02	0.00	0.00	-0.04**	-0.02	-0.02	-0.06***	0.00	-0.01	0.00
	(0.02)	(0.01)	(0.03)	(0.02)	(0.07)	(0.03)	(0.02)	(0.02)	(0.01)	(0.01)
Health Status	0.05	0.02	0.05	0.12*	0.00	0.10	0.02	0.03	-0.01	-0.02
	(0.04)	(0.02)	(0.05)	(0.06)	(0.08)	(0.11)	(0.06)	(0.09)	(0.03)	(0.03)
Rural	0.01	0.00	0.03*	-0.05	0.03	0.02	0.02	-0.02	0.02**	0.01
	(0.01)	(0.01)	(0.02)	(0.03)	(0.03)	(0.06)	(0.02)	(0.04)	(0.01)	(0.02)
Traditional	0.12	0.02	0.27	-0.03	0.04	-0.08	-0.08	0.11	0.06	0.07
	(0.14)	(0.06)	(0.18)	(0.22)	(0.25)	(0.31)	(0.19)	(0.28)	(0.07)	(0.08)
Catholic	0.13*	-0.05	0.24**	0.05	-0.10	-2.12***	0.07	0.14	0.02	0.05
	(0.07)	(0.04)	(0.11)	(0.28)	(0.20)	(0.75)	(0.14)	(0.45)	(0.06)	(0.19)
Both Parents	-0.18*	-0.06	0.36**		-0.02		-0.24		-0.15	
	(0.10)	(0.06)	(0.18)		(0.27)		(0.26)		(0.09)	
Siblings	0.05	0.05	0.10*		0.01		0.19***		0.03	
	(0.08)	(0.06)	(0.06)		(0.10)		(0.06)		(0.03)	
N	292	762	408		176		334		1,190	
R^2 (adjusted for FE)	0.115	0.067	0.179	0.532	0.231	0.431	0.295	0.427	0.288	0.585
Hausman Statistic (p)			54.19 (0.001)		41.51 (0.037)		42.10 (0.042)		93.40 (0.000)	

Notes: LPM=Linear Probability Model. RE=Random Effects. FE=Fixed Effects. Age, fertility, and the determinants in the LPMs are based on the 1988 interview. All models also control for state of residence and post-materialistic views. The RE models also control for missing information on siblings and survey year. Standard errors are given in parentheses (robust for LPM): *Statistically significant at the .10 level; **at the .05 level (two-tailed test); ***at the .01 level (two-tailed test).