


Education and Individuals' Desired and Actual Fertility: Evidence from West Germany

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Background

- Measures of completed cohort fertility indicate that the average number of children per woman has fallen below replacement level in most developed societies (e.g., Frejka and Calot 2001)
- Consistent with the fall in actual fertility, average desired family size has also declined (Lutz 1996, Bongaarts 2001) and recent evidence on the personal ideal number of children suggests that desired fertility may now be below replacement level in the German-speaking parts of Europe (Goldstein et al. 2003)
- One development that has received particular attention among population researchers trying to explain the decline in fertility is the rise in educational attainment, especially among women
- However, the majority of women, even those with upper secondary or post-secondary education, continue to desire to have a family with two or more children (Heiland, Prskawetz and Sanderson 2007a)



Related Literature

Determinants of Preferences

- Freedman et al. (Germany, 1959)
- Monnier (France, 1987)
- Calhoun and De Beer (Netherlands, 1991)
- Löhr (West Germany, 1991)
- Engelhardt (Austria, 2004)
- Philipov et al. (Bulgaria, Hungary, 2004)
- Heiland, Prskawetz and Sanderson (West Germany, 2007a, 2007b)
- Testa and Grilli (EU-15, 2005)
- Schoen et al. (1997), Miller and Pasta (Married couples from San Francisco, 1995), Hirsch et al. (US teens, 1981), among many others: all US

Gap between Desired and Actual Fertility

- based on fertility intentions/expectations:
 - Schoen et al. (1999), Joyce et al. (2002), Quesnel-Vallee and Morgan (2003): all US
 - Symeonidou (Greece, 2000)
 - Menniti (Italy, 2001)
 - Noack and Østby (Norway, 2002)
- based on desired/ideal family size:
 - Coombs (1979), Freedman et al. (1980), Hendershot and Placek (1981), Thornton et al. (1984), Thomson et al. (1990), Thomson (1997): all US
 - Löhr (1991), Heiland and Prskawetz (2004): West Germany
 - Adsera (Spain, 2005)
 - Van Peer (FFS Europe, 2002)



Missing the Target: Hypotheses

- Resources:
 - higher opportunity costs of childbearing are greater among the more educated (Becker and Lewis 1973)
 - greater availability of tangible (material) and intangible resources among more educated individuals due to their greater earnings power in the labor market (Becker 1960)
 - greater efficiency in producing the desired child and family outcomes (Michael 1973, Schultz 1963)

- Timing and Partnership:
 - differences in the ability to find a matching partner (Becker 1973, Lewis and Oppenheimer 2000, Blossfeld and Timm 2003, Schwartz and Mare 2005)
 - extended participation in schooling slows the transition to adulthood (e.g., Blossfeld and Huinink 1991)

- Differences in expectations and social pressure across educational groups



Study Sample and Measures

- Wave of Familiensurvey, German Youth Institute (DJI)
 - First Interview in 1988: 6,999 German citizens of ages 18 to 55 residing in West Germany
 - Follow-up Interview 1994/95: 4,997 of 1988 respondents re-interviewed
- Measure of Total Desired Number of Children
 - “If it was entirely up to you, how many children would you like to have or would like to have had?”
- Explanatory Factors
 - Individual background characteristics: gender, education, religion, attitudinal measures (scales for materialistic and traditional views)
 - Family background: number of siblings
 - Life course events: labor force status, marital and relationship status and history, health status



Sample Descriptives

Variable Name	Survey: 1988		1994/95	
	Women (18-55)	Men (18-55)	Women (18-35)	Women (18-61)
<u>Desired Fertility</u>				
Total desired	2.21	2.03	2.14	2.21
None desired	0.05	0.07	0.06	0.05
One Desired	0.11	0.12	0.10	0.10
Two Desired	0.53	0.59	0.56	0.54
Three Desired	0.21	0.17	0.20	0.20
Four+ Desired	0.10	0.06	0.08	0.11
<u>Education</u>				
No High School	0.02	0.02	0.02	0.01
High School	0.22	0.09	0.18	0.17
HS+Training	0.57	0.61	0.56	0.58
College Preparatory HS	0.05	0.07	0.09	0.05
CP+Training	0.06	0.07	0.09	0.09
College graduate	0.08	0.15	0.07	0.10
Sample Size	5058	4056	2474	3558



Results I: Women age 36+

Category	College (N=305)			HS/HS+Training (N=2613)		
	Desired # of Children:			Desired # of Children:		
	Three+	Two	None/One	Three+	Two	None/One
Fertility Realized	2.08 †††	1.38 †††	0.61 †††	2.46	1.71	1.02
Desired>Realized(%)	75.4 †††	48.5 †††	11.8 ††	56.3	33.6	4.6
Childless	10.7 †††	18.2 †††	51.0 †††	4.1	9.7	26.8
One Child	13.9	30.3	39.2 ††	13.8	23.9	54.4
Two Children	37.7	47.7 †	7.8	32.4	55.3	11.0
Three+ Children	37.7 ††	3.8 †††	2.0	49.7	11.1	7.8
N (% of Education)	122 (40.0 ††)	132 (43.3 †††)	51 (16.7)	862 (33.0)	1341 (51.3)	410 (15.7)



Results II: Women age 36+ with 2 or more siblings

Category	College (N=305)			HS/HS+Training (N=2613)		
	Desired # of Children:			Desired # of Children:		
	Three+	Two	None/One	Three+	Two	None/One
Childless	12.2 †††	16.4	34.8 †	4.3	9.9	18.8**
One Child	14.9	31.1	47.8	13.1	23.3	57.7
Two Children	29.7	47.5	13.0	30.8	54.6	13.0
Three+ Children	43.2	4.9 †	4.3	51.8	12.2	10.6
N (% of Desired)	74 (60.7)	61 (46.2††)	23 (45.1)	556 (64.5)	771 (57.5)	208 (50.7)



Results III: Women age 36+ and employed

Category	College (N=305)			HS/HS+Training (N=2613)		
	Desired # of Children:			Desired # of Children:		
	Three+	Two	None/One	Three+	Two	None/One
Childless	14.5 ††	19.4 †	50.0 ††	6.4*	13.0**	33.6*
One Child	15.8	33.3	40.9	18.3**	26.1	51.9
Two Children	42.1	45.1	6.8	32.6***	51.6***	8.8
Three+ Children	27.6 ††	2.2 ††	2.3	42.7**	9.3	5.7
N (% of Desired)	76 (62.3†††)	93 (70.5†††)	44 (86.3†††)	377 (43.7)	700 (52.2)	262 (63.9)



Results IV: Women age 36+ and single

Category	College (N=305)			HS/HS+Training (N=2613)		
	Desired # of Children:			Desired # of Children:		
	Three+	Two	None/One	Three+	Two	None/One
Childless	66.7***	71.4***	70.0	53.3***	84.0***	83.8***
One Child	11.1	23.8	30.0	6.7	16.0	13.5***
Two Children	22.2	4.8***	0.0	26.7	0.0***	2.7
Three+ Children	0.0**	0.0	0.0	13.3***	0.0*	0.0*
N (% of Desired)	9 (7.3†††)	21 (15.9†††)	10 (19.6††)	15 (1.7)	25 (1.9)	37 (9.0)



Summary

- Consistent with previous findings from West Germany and other Western European countries (e.g., Björklund 2006), we document that college educated women have fewer children on average than women with a basic high school degree
- Even though the majority of college educated women who desire a large family do not attain it, many of these women meet or come close to their desired number by foregoing or postponing their career
- College-educated women who are employed are significantly more likely to remain childless
- College educated women face a significantly greater risk of being never-married in their late thirties
- We did not find support for other potential explanations for the differences in the extent to which women's fertility desires are met across educational groups including separation, divorce, unemployment, and women's health



Discussion I

- The fact that college educated women who want a large family and a career miss their goal by a wider margin may be due to their
 - (i) stronger preference for work/career
 - (ii) a greater delay in family formation due additional time spent in school or
 - (iii) difficulties finding a suitable partner

- Hours-worked and attitudinal data from the same survey suggest that college educated women who are employed work about the same hours on average and are significantly less concerned with their earnings, promotion prospects, or whether the work is respected than working women with a basic high school degree
→ casts doubts at explanation (i)

- The delay in childbearing among the more-educated is well-documented (see Kreyenfeld 2001, Blossfeld and Huinink 1991, Blossfeld and Jaenichen 1992 for West Germany) and also holds in our sample. Given that the German college students are among the oldest students in Europe at graduation the risk of not starting a family and ending up with no or fewer children than desired increases as marriage and first birth are delayed until the late twenties and thereafter (see also Kreyenfeld 2001, Huinink 1995)



Discussion II

- Analysis of attitudinal data by education from the same survey shows that college educated women are less likely to hold traditional gender role views than less educated women. The former women, in turn, may seek a partner who is willing to contribute equally to household chores, thereby narrowing the set of marriageable men
- While data limitations prevent us from investigating partners' desired family size, we note that college educated West German men are, on average, less likely to desire three or more children than women. Moreover, disagreement between spouses has been found to result in fewer births (Thomson et al. 1990, Thomson 1997).
- Consistent with the idea that college educated West German women may be struggling more to find a partner that matches their idea of family compared to other women, attitudinal data from the same survey suggest that college educated women are more likely to view children as a factor that destabilizes the partnership than women with basic education

Desired and Actual Fertility of West German Women, Cohorts 1933-1977

