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Gender Preferences for Children in Europe: Empirical Results from 17 FFS Countries

Karsten Hank

Hans-Peter Kohler

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Karsten Hank[1]

Hans-Peter Kohler[2]

Abstract

Gender preferences may have substantial implications for a couple's fertility behavior. However, there is only limited empirical research investigating this subject in modern Western societies. In this paper, data from the Fertility and Family Surveys are used to compare 17 European countries with respect to their gender preferences for children. Despite substantial regional heterogeneity across Europe, our results show a strong tendency towards a preference for a mixed sex composition (if there is any preference at all). However, we find some unexpected indication for a girl preference in the Czech Republic, Lithuania, and Portugal. Because socioeconomic conditions and family policies in Europe, which are important factors in explaining different fertility levels, are not related to a specific gender of children, we suggest that sociocultural factors should be regarded as important determinants of different gender preferences.

[1] Doctoral Student in the Research Group on Social Dynamics and Fertility at the Max Planck Institute for Demographic Research, Doberaner Str. 114, 18057 Rostock, Germany. *Telephone:* +49-381-2081-163 *Fax:* +49-381-2081-463 *Email:* hank@demogr.mpg.de

[2] Head of the Research Group on Social Dynamics and Fertility at the Max Planck Institute for Demographic Research, Doberaner Str. 114, 18057 Rostock, Germany. *Telephone:* +49-381-2081-123 *Fax:* +49-381-2081-269 *Email:* kohler@demogr.mpg.de; *www:* http://user.demogr.mpg.de/kohler

1 Introduction

Strong gender preferences, combined with infanticide, sex-selective abortions, or sex-selection technologies, may lead to a serious distortion in the natural sex ratio [22]. Such an imbalance between the two sexes could, for example, cause a delay in the age of marriage, or an increase in the number of people who never marry. Furthermore, gender preferences may have substantial implications for a couple's fertility behavior. One might assume that parents who desire one or more children of a certain sex may have larger families than would otherwise be the case. Parents who fail to achieve the desired sex balance (or ratio) by the time they reach the number of children intended, might tend to revise their family size goals upward [9]. This effect, however, is not even consistently observed in traditional societies with pronounced gender preferences [1]. For industrialized countries, some studies show an effect of gender preferences on reproductive behavior (e.g. Marleau and Saucier [18], who analyzed data from Canada), while others have found no impact of gender preferences on ultimate family size (e.g. Ayala and Falk [2], who studied US families).

Wood and Bean [28] argue that the influence of the sex composition of previous children on fertility behavior at each parity should increase with the trend toward smaller family sizes. Therefore, it is especially interesting to investigate gender preferences in the contemporary European low-fertility setting, where the question to have children at all (or, why more than one) is of growing importance.

2 Reasons for gender preferences

The bulk of the literature on gender preferences deals with less developed countries, where mainly the desire for a balanced number of daughters and sons (or at least one child of each sex) and a preference for sons (often together with a balance preference) is observed. For instance, Arnold [1] provides a detailed study of 44 countries with Demographic and Health Surveys in the period from 1986 to 1995.

He finds son preference in a range of different countries, demonstrating that such preferences do not emerge from a single set of historical and cultural experiences. While the Southeast Asian nations do not show any consistent gender preference, the Caribbean is the only region studied by Arnold, where a prevalent preference for daughters has been found. In general, however, he argues that the effect of gender preferences on fertility and family planning is not very strong.

Parents' gender preferences for children are embedded in cultural and religious traditions and community norms, shaping individual attitudes and behavior. Children of a particular sex are often desired in order to provide certain utilities or to minimize financial or psychological costs [28]. In traditional societies, male offspring are presumed to have greater economic net utility than daughters, since they provide assistance in agriculture, as well as a primitive social security system. In some situations, however, daughters are thought to be more reliable in providing old age assistance, particularly emotional support. They are also frequently desired in order to help with household tasks or to care for younger children. Sons, on the other hand, quite often fill sex-specific religious roles and insure kinship continuity in patrilineal societies. There is some evidence that the desire for additional children (if there is any at all) is curtailed once the minimum number of surviving male children is achieved [28]. However, even in societies with pervasive son preference, many families consider it important to have at least one daughter among their children [1].

But why should there be gender preferences in modern societies? When children are no longer a source of economic security, they no longer provide economic net utility, but rather lead to significant time and monetary costs. Arguably children are more valued today for social and psychological reasons. Hoffman and Hoffman [15] developed a detailed theory of the value of children. They list a number of categories, describing potential values that parents' might attribute to their children, such as: expansion of the self, affiliation, accomplishment, social comparison, economic utility. Thus parents may desire a sex mix because of the different benefits that accrue from each sex for each of the categories. Each partner, for example, might prefer to have at least one child of his or her own sex for the purpose of companionship [16]. Further evidence that psychological factors are associated with gender preferences is provided by Bulatao [5], who discusses values and disvalues attached to children across different parities in

the Philippines, Korea, and the United States. His findings suggest a multistage pattern: At low parities, emotional and psychological rationales for having any children at all dominate. At higher parities, balancing the family becomes important. In particular, specific gender preferences are found to be most prominent at the third and fourth child. Finally, parities above five are characterized by potential economic benefits from children.

3 Empirical findings from Western countries

In the past 25 years there has been only limited empirical research on gender preferences in modern Western societies, mainly conducted in North America (see Marleau and Maheu [19] for an overview). In addition, Carr-Hill, Sampier and Sauve [6] investigate sex preferences of Aberdeen families, Gray, Duckworth and Nakajima [10] are interested in the case of Japan, Jacobsen, Møller and Engholm [16] discuss Danish fertility rates in relation to the sexes of preceding children in the family, Schullström [25] studies Swedish cohorts born 1946-1975, and Young [29] analyzes data from Australia.

The methodological approaches used in these studies are quite different. While some researchers ask directly for the respondent's gender preferences [17], others use various indirect statistical measures (a critical review of such methods is, for example, given by Haughton and Haughton [12], and McClelland [20]). Despite this methodological heterogeneity, the results are very similar:

There seems to be a consistent tendency for having at least one child of each sex, which supports the above hypothesis of a preference for a gender mix. However, when people are asked for the preferred sex of their first child, or if they have chosen an unbalanced number of children, there is some indication for a predominance of sons over daughters. Therefore parity matters when gender preferences are analyzed (see Gray [11], Jacobsen, Møller and Engholm [16]).

Is there any possible explanation for the persistence of a slight son preference in some modern societies? Although the 'structural' conditions in which son preference was originated have eroded, the related 'cultural' idea of boys providing higher utility for the family, etc., may have survived. Arnold [1] finds a high persistence of son preference even in the face of rapid modernization in developing countries. Bongaarts [3], on the other hand, presumes that as societies develop, son preference will decline and girls will be treated increasingly more equal.

In the reviewed studies, there are only scarce hints for girl preference. Some indication for a slight girl preference in Denmark is given by Jacobsen, Møller and Engholm [16]. Such a finding might be explained by a new and more positive evaluation of the role of women in society in recent decades. Two other studies, one conducted during the Vietnam war in the United States [23], the other one in Israel [26], suggest that in times of military crisis, there is a slight preference towards daughters as to avoid loosing a son in combat.

Obviously, one needs to take into account regionally and historically specific characteristics of the populations analyzed. Brockmann [4], for example, argues that welfare policies mattered for the development of gender preferences in post-war Germany. As findings by Waller [27] substantiate, it should also be considered that generally the magnitude of the observed influences is rather small, even if they turn out to be statistically significant.

4 Data and method

In this study, standardized data from 17 European countries with Family and Fertility Surveys (FFS) are used to investigate whether parents prefer one sex over the other, or a mixed sex composition of their offspring [Note 1]. The FFS database allows a unique crossnational analysis, applying the same methodology to highly comparable data.

For all countries, our analysis is based on women who are 25-39 years old, currently live in a partnership, and have already two or more children [Note 2]. We have decided to focus on the transition from the second to the third child, as in the one-child family the main decision is probably whether to have a second child or not, with less room for an influence of sex. Furthermore, we assume that having more than two children is beyond the 'standard' of contemporary Western societies and progression to higher parities needs additional explanation, for example a couple's gender preferences [Note 3].

There is no direct question in the FFS asking for the parents' gender preferences. This need not be of harm for the analysis, however. The mere expression of a son preference, for example, is no guarantee that the respondent's fertility behavior will actually change. Also, couples tend to state preferences in accord with the actual sex of their children already born [27]. Therefore, indirect measures of gender preferences may even be more advantageous than direct approaches.

In our analysis, we particularly investigate into 'manifested' gender preferences. We estimate an ordered probit model with the question of whether a couple either has, or desires a third child, being the dependent variable. If the respondent has two children and reports to have no desire for additional children, the dependent variable equals zero. It equals one if the respondent has two children and reports the desire to have more children. Finally, the dependent variable equals two if the respondent either has already more than two children, or has two children and reports a current pregnancy (see [Table 1] for descriptive statistics of the dependent variable).

In the absence of information on completed family size, the ordered dependent variable used here has the advantage of capturing both, the desire to progress to the third child as well as the actual progression to the third child. We are aware of the fact that the intentions for a third child and the actual progression to the third child are conceptually different and subject to different sources of error. First, the occurrence of a third birth may be unintended and therefore uninformative about gender preferences or other reasons affecting the desire to have a third child. Second, intentions for a third child may not have materialized in an actual birth by the time of the survey due to intended birth-spacing, delays in conception, etc. The ordered dependent variable used in our analysis therefore treats fertility intentions as a precursor of future births. Especially for relatively young couples with a recent second birth, we regard the intention to have another child as an important indicator for a third-child preference [24]. Although such an interpretation

may be problematic in situations with a large fraction of unintended births, we feel that the advantages of using the information on fertility intentions outweighs its potential disadvantages. In particular as long as the intention to progress to the third child is positively associated with a higher probability of actually progressing, our ordered dependent variable should be a proper measure of the desire for children. In summary, since unintended births and contraceptive failures are probably uncorrelated with the sex of the first two children, our measure of fertility desires is appropriate even in the case of different contraceptive regimes and different levels of unintended births in the FFS countries used in our study.

We estimate two models, both with the same dependent variable, and the same set of standard explanatory variables. However, in Model 1 a binary sex-composition variable is used. It equals one, if the first two children are of the same sex, zero otherwise. A significantly positive coefficient of this variable indicates a preference for a sex-mix in a country. This model does not provide any information yet, however, whether there is any preference for a specific gender. This is investigated in Model 2, where we insert three dummies for the sex combinations of previous children in the equation. Regarding the sex composition of children already born, we differ between boy-boy, girl-girl and sex mix, where the latter is used as reference category. If none of the sex-combination dummies shows a significant effect on the parents' propensity to have another child, we interpret this as an indicator for no gender preferences. If the first two children are of the same sex, either boys or girls, and both respective dummy variables have a significant positive effect on the dependent variable, we regard this as pointing to a preference for a sex-mix. This means, a couple continues childbearing, hoping for their offspring to be of the opposite sex as compared to the children they already have. If the two children born first are boys (girls, respectively) and this has a significant and positive effect on the dependent variable, we assume a preference for girls (boys, respectively). Eventually, it is tested, whether the coefficients for boy-boy and girl-girl are significantly different from each other. Only then, we will speak of a significant boy-, or girl-preference in a specific country.

We hypothesize that a couple is more likely to curtail its fertility, when the actual sex composition of their two first-born children reflects their gender preferences.

In addition to the variables for the sex combination of the first two children, we include among the independent variables the age of the woman (and its square), the woman's age at first birth, the interval between first and second birth, the religiosity of the woman (where available), whether the woman grew up in an urban region (where available), and the educational level of the woman.

5 Results

The only covariates that turn out to have a significant influence on the dependent variable in all equations are the mother's age at first birth and the interbirth interval, both with the expected negative sign of the regression coefficient. Since we are primarily concerned about the effects of the sex composition, we do not report the estimated coefficients of independent variables other than for the sex-combination variables in both models, which are displayed in [Table 2].

The findings of Model 1 show that in every third analyzed country there is no gender preference at all. These countries are Finland, France, western Germany, Norway, Poland, and Portugal. In the other countries (Austria, Belgium, Czech Republic, eastern Germany, Hungary, Italy, Latvia, Lithuania, Slovenia, Spain, Sweden, and Switzerland), a couple is significantly more likely to progress -or express an intention to progress- to parity three, if their previous two children are of the same sex, than in the case of a mixed sex combination. This points to a preference for a sex-mix. For Belgium and eastern Germany, however, the coefficient of the sex-composition variable is significant on the 10%-level only.

The subsequent analysis (Model 2) produces more detailed results, which basically confirm the findings of our first model. In most cases with a significant sex-composition variable in Model 1, the coefficients for the sex-combination dummies used in Model 2 are either both significant (Austria, Hungary, Italy, Latvia, Slovenia, Spain, and Switzerland), or -if only one turned out to be significant- are not significantly different from each other (Belgium, eastern Germany, and Sweden). All this supports the findings from older studies that (if there is any gender preference at all) couples prefer to have at least one child of each sex.

In contrast to Model 1, however, France turns out have a significant and positive effect on the girl-girl dummy, which would indicate a preference for boys. The coefficients of the sex-composition dummies do not differ significantly, though. Therefore we keep our classification of France as a country with no gender preferences. Also inconsistent with Model 1 is the Portuguese girl preference. Here we even find a significant difference between the coefficients of boy-boy and girl-girl. A highly significant girl preference is also found in the Czech Republic, and in Lithuania. The latter three countries are the only ones with significant differences between the sex-combination dummies (on either the 5%- or 10%-level of significance).

Taking together the results of our two models, we find a geographical pattern of gender preferences, which -contrary to our presuppositions- does not suggest a particular regional grouping [see Figure 1]. A hypothesis along the lines that more traditional societies tend to prefer boys (Southern Europe), while more progressive societies tend to prefer girls or a sex-mix (Northern Europe), cannot be supported by our findings. Although a particular regional pattern with regard to fertility levels can be found in Europe [7], which is influenced by different

socioeconomic conditions and family policies, the pattern of gender preferences we find in our paper is unlikely to be caused by differences in these factors. While socioeconomic conditions and family policies are important determinants of the fertility level, their effect on childbearing is usually gender neutral. A similar argument holds for many other socioeconomic incentives that affect the overall desire for children. Moreover, the socioeconomic incentives discussed in [Section 2], which can lead parents to desire offspring of a particular sex, have diminished in contemporary European societies. We therefore suppose that gender preferences may vary because of differences in cultural and social institutions across European countries.

Unfortunately, the social and cultural institutions that may lead parents to prefer different sex-compositions of their children cannot be analyzed in greater detail with the data available in the FFS. The investigation of these factors, however, deserves future research efforts, and necessitates detailed, possibly qualitative, and country-specific studies.

In addition to the analysis above, we investigated, whether the sex of the first child had any influence on the parent's decision -or intention- to have a second child. It turned out that only in Portugal (on the 5%-level) and in eastern as well as western Germany (on the 10%-level), there is a significant effect of this variable. Consistent with our above findings, girl preference is evident in Portugal. Interestingly, there is again a clear difference between eastern and western Germany: while in western Germany having a boy as first born decreases the parent's desire to progress to parity two, the reverse effect is true for eastern Germany [Note 4].

6 Summary and conclusion

Taking advantage of the availability of highly comparable data for 17 European countries, we analyze gender preferences for children from a crossnational perspective. Despite substantial regional heterogeneity across Europe, our results basically support the findings of older studies dealing with gender preferences in Western societies. There is a strong tendency towards a preference for a mixed sex composition (if there is any preference at all). However, we find some unexpected indication for a girl preference in the Czech Republic, Lithuania, and Portugal, which cannot be explained on the basis of our data.

Results of studies on gender preferences are not always unambiguous. In the Swedish case, for example, findings by Murphy [21] suggest that parents with two daughters are less likely to have a third child than others, while Hoem [13], on the other hand, finds evidence that those Swedish couples who have two daughters are most likely to have a third child. Eventually, our own results point to a preference for a mixed gender composition. For the development of more stable models, substantial improvements with regard to the underlying mechanisms responsible for gender preferences in modern societies have to be made.

Because socioeconomic conditions and family policies that are important factors in explaining different fertility levels, are not related to a specific gender of children, we propose a 'sociocultural' approach to the explanation of different gender preferences. An empirical investigation of this argument needs more detailed, country-specific analyses, which have to be left to future research.

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Notes

1. See [Table 1] for sample sizes, survey year, and a list of countries included in the analysis. In the following, eastern and western Germany will be treated separately. The division of the eastern and western part of Germany in [Figure 1] only refers to the difference in gender preferences. The national boundaries of Germany of course encompass both parts.
2. We do not only consider the biological children of the respondent, but also adopted children, stepchildren, and foster-children. We assume these children to enter the couple's utility function just as biological children do. A couple may even decide to adopt a child of a certain sex, if its own (biological) attempts to reach the preferred sex composition failed. The analyses are therefore based on the concept of 'social' parenthood that includes biological as well as adopted children.
3. Most recently, for example, Hoem et al. [14] controlled for the influence of the sex-combination of the first two children when analyzing third births in Austria.
4. Analyzing the transition from the first to the second child with data from the German Socio-Economic Panel, Brockmann [4] finds that West German women never developed a clear gender preference, while women born in East Germany show a significant girl preference.

Tables

Table 1:
Descriptive statistics

Country	Survey Year	N (Sample)	Percent of respondents belonging to category … A	B	C
Austria	1995-96	1284	61.4	9.2	29.4
Belgium	1991-92	1542	47.3	12.8	39.9
Czech Rep.	1997	737	55.9	7.9	36.2
Finland	1989-90-92	1155	36.8	21.2	42.0
France	1994	970	39.8	13.1	47.1
E-Germany	1992	1358	71.7	3.2	25.0
W-Germany	1992	759	52.0	7.0	41.0
Hungary	1992-93	1813	66.0	5.2	28.8
Italy	1995-96	962	61.6	11.6	26.8
Latvia	1995	853	48.9	11.4	39.7
Lithuania	1994-95	1001	60.2	14.6	25.2
Norway	1988-89	1132	42.3	11.8	45.9
Poland	1991	2119	53.3	5.5	41.2
Portugal	1997	1483	60.4	8.7	30.9
Slovenia	1994-95	1364	55.1	19.2	25.7
Spain	1994-95	1060	48.4	18.2	33.4
Sweden	1992-93	1305	38.9	20.3	40.8
Switzerland	1994-95	1377	44.3	8.7	47.0

Category A: Respondent has two children and reports to have no desire for additional children.
Category B: Respondent has two children and reports the desire for more children.
Category C: Respondent has more than two children, or two children and reports current pregnancy.

Samples consist of women 25-39 years old, currently living in a partnership, and having already two or more children.

Table 2:
Results of ordered probit regressions for 17 European FFS countries
(Coefficients for other covariates are not displayed. Standard errors are in parentheses.)

Country	MODEL 1 Mixed vs. same sex composition	MODEL 2 boy-boy	girl-girl	Test of coefficients (Model 2)
Austria	.183 **	.186 **	.180 **	
	(.072)	(.085)	(.089)	
Belgium	.120 *	.069	.189 **	
	(.064)	(.076)	(.081)	
Czech Republic	.291 ***	.398 ***	.163	*
	(.095)	(.113)	(.121)	
Finland	.016	-.048	.075	
	(.070)	(.086)	(.084)	
France	.126	.025	.218 **	
	(.087)	(.104)	(.107)	
E-Germany	.141 *	.232 **	.052	
	(.077)	(.091)	(.097)	
W-Germany	.049	.136	-.050	
	(.097)	(.115)	(.118)	
Hungary	.166 ***	.185 **	.141 *	
	(062)	(.074)	(.080)	
Italy	.273 ***	.236 **	.317 ***	
	(.084)	(.100)	(.105)	

continued next page

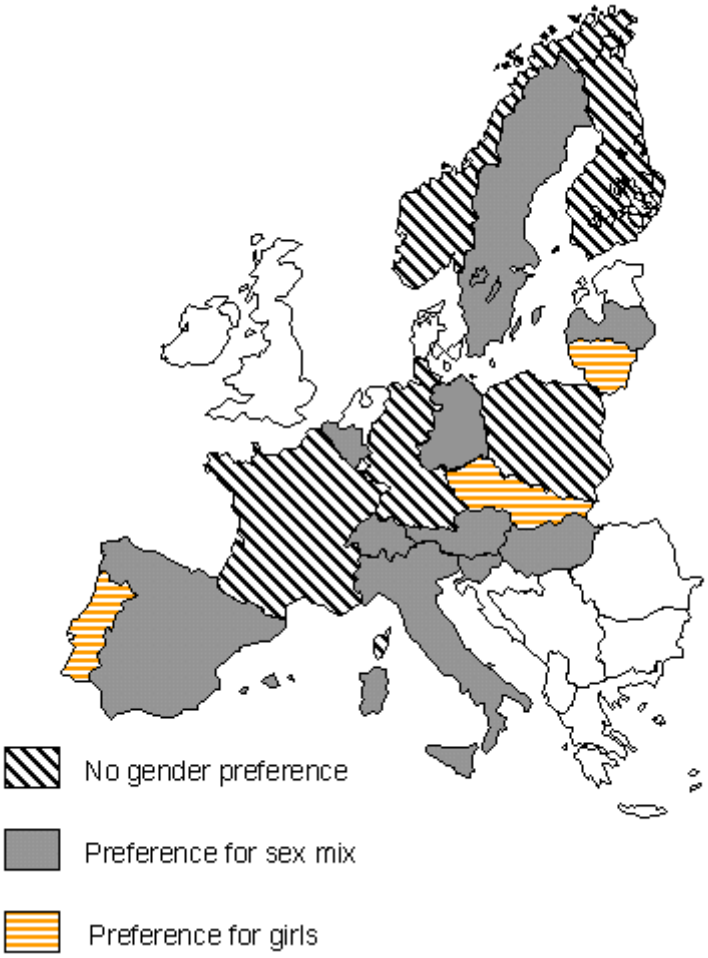
Table 2 (cont'd):
Results of ordered probit regressions for 17 European FFS countries (Coefficients for other covariates are not displayed. Standard errors are in parentheses.)

Country	MODEL 1	MODEL 2		
	Mixed vs. same sex composition	boy-boy	girl-girl	Test of coefficients (Model 2)
Latvia	.238 ***	.225 **	.252 **	
	(.086)	(.104)	(.108)	
Lithuania	.286 ***	.387 ***	.152	**
	(.079)	(.092)	(.102)	
Norway	.065	.141	.010	
	(.076)	(.091)	(.094)	
Poland	.082	.035	.144	
	(.079)	(.092)	(.100)	
Portugal	.093	.162 **	-.004	*
	(.067)	(.080)	(.085)	
Slovenia	.175 ***	.188 **	.161 *	
	(.065)	(.077)	(.083)	
Spain	.194 ***	.172 *	.224 **	
	(.075)	(.088)	(.093)	
Sweden	.165 **	.188 **	.123	
	(.068)	(.081)	(.087)	
Switzerland	.186 ***	.195 **	.189 **	
	(.067)	(.080)	(.084)	

*** p<0.01; ** p<0.05; * p<0.1

Figure

Figure 1:
Gender Preferences for Children in 17 European FFS Countries
(The division of the eastern and western part of Germany only refers to the difference in gender preferences. The national boundaries of Germany of course encompass both parts.)



Changes

31 May 2000: A sentence has been added to the "Acknowledgements": ("*The authors ... is based*").