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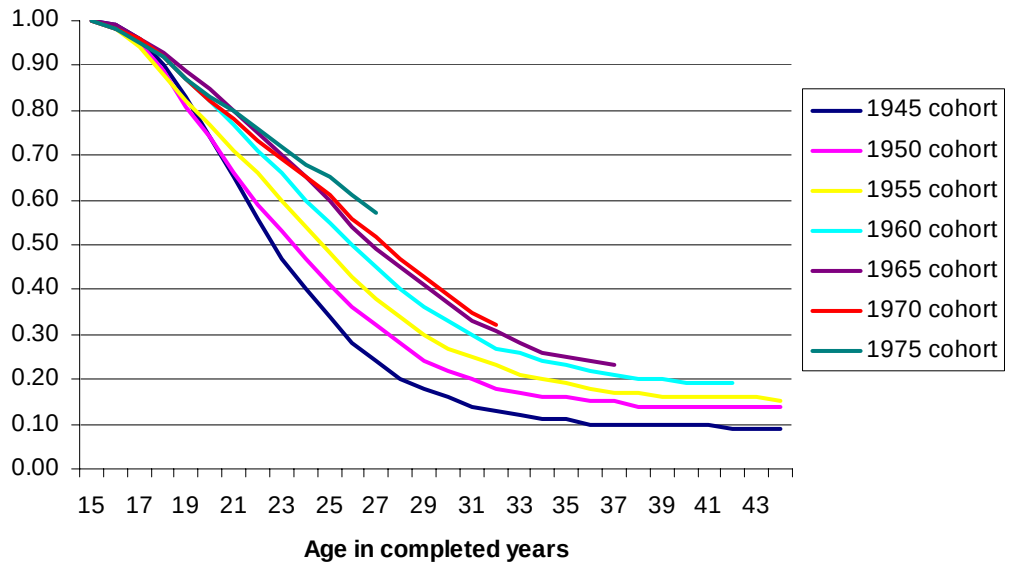
1. Background

More women in England and Wales are reaching the end of their reproductive careers without having had a live birth. The figure rose from one in ten women born in 1945 to around one in five women born in 1960 (Figure 1). Whilst there appears to be some slowing between the 1965 and 1970 cohorts, the postponement and possibly the ultimate rejection of motherhood has once again increased among the 1975 cohort.

Figure 1: Proportion of women who are childless by age, selected birth cohorts, England and Wales



Source: ONS Birth Statistics, 2002, Table 10.3

As shown in Table 1, the increase in childlessness has been the driving force behind the decline in average completed family size in England and Wales, at least up until the 1960 birth cohort. The number of women ending up with three or four biological children has been the same (19% and 10% respectively) for the 1950, 1955 and 1960 cohorts, with a small decrease in the number of two-child families. In contrast to other European countries, the one child family has not yet become significantly more common in England and Wales.

Table 1: Achieved family size at age 40 for selected birth cohorts,
England and Wales (percentage distribution)

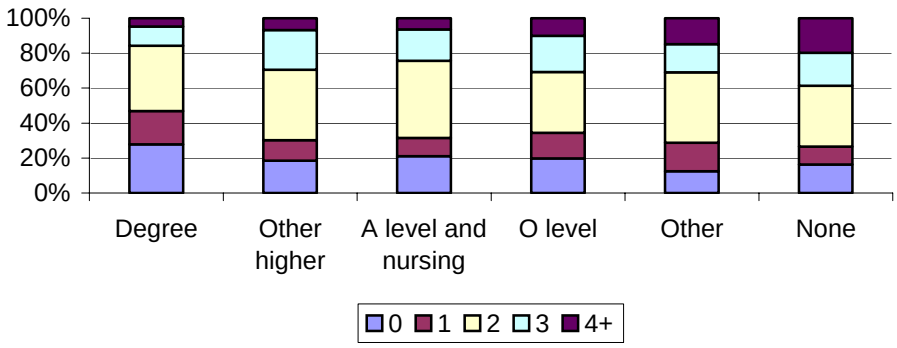
Birth Cohort	0	1	2	3	4+	Average family size
1945	10	14	43	21	12	2.18
1950	14	13	44	19	10	2.05
1955	16	12	41	19	10	2.00
1960	19	12	39	19	10	1.95

Source: ONS Birth Statistics, 2002, Table 10.5

The 2002-based national population projections assume that the percentage of women remaining childless will increase a little further, to about 22% of those born in 1990 and later, accompanied by a small increase in the number of one child families (Smallwood, 2003). However, among some sub-groups - particularly those with degree level qualifications - the growth could be substantially higher. Focusing on women in their early forties at the time of the 2000 and 2001 General Household Surveys (cohorts born towards the end of the 1950s), Figure 2 shows that 28% of those with degree level qualifications remained childless, compared to around 20% of those with intermediate qualifications and 16% of women with no qualifications. Women with degree qualifications were also more likely to have just one child, bringing the total who ended up with none or one to almost half. In contrast, women with no educational qualifications are significantly less likely to have just one child, and more likely to have four or more children; indeed twenty per cent of women with no educational qualifications ended up with four or more children.

As noted by Rendall and Smallwood (2003) the relationship between educational qualifications and fertility in England and Wales is the outcome of two counter pressures, balancing a tendency to postpone the start of childbearing against an acceleration in subsequent childbearing from the point of entry into motherhood. Currently the postponement effect dominates the subsequent acceleration, so that more highly educated women tend to end up with smaller family sizes. Deferring childbearing leaves less time for subsequent births - referred to in the demographic literature as the tempo-quantum interaction; impaired fecundity associated with biological ageing means that women may not explicitly choose not to have a child but may end up childless anyway.

Figure 2: Percentage distribution of completed family size by highest educational qualification. Women aged 40-44, Britain.



Source: author's analysis of General Household Survey data 2000-01 and 2001-02.

A key question is whether the observed higher percentages of childless among more educated women are the result of planning (either early on in life, or later in their careers), or from perpetual postponement -that is to say, always maintaining either a positive or ambivalent intention to have a child but delaying to some date in the future and ultimately reaching the end of their reproductive years childless (Veevers, 1973). In the current context of postponement of the start of childbearing, and the presence of competing activities such as the demands of a career, it has become difficult to distinguish between voluntary and involuntary childlessness (Houseknecht, 1987; McAllister and Clarke, 1998). For example, childbearing may be desired but no suitable partner may be available; or the opportunity costs associated with childbearing may be too great. Nevertheless, what it clear is that women need to be aware of the consequences of the "choices" they make regarding the postponement of fertility, and have a realistic idea of the likelihood that they will end up with their desired number of children.

2. Aims of the research

In this paper we use prospective data from a panel study to analyse individuals' fertility intentions and subsequent demographic behaviour. We move beyond existing research in Britain in a number of ways. First, we include men as well as women in our analyses to find out if men in low fertility countries such as Britain have lower intended family sizes than women. If this were true then it might explain why desired family sizes from survey data relying on women's reports alone (e.g. those from the General Household Survey (GHS); Smallwood and Jefferies, 2003) tend to overestimate future childbearing at the aggregate level.

Secondly, because the BHPS is a household survey, both members of a couple are interviewed. We are thus able to identify the extent to which partners have conflicting preferences for future fertility. Voas (2003) argues that the way in which such disagreements are resolved can have a dampening effect on subsequent fertility – if, for example, childbearing only takes place when both partners desire an additional child. He suggests "Modern societies typically attach greater importance to individual autonomy than to childbearing; social forces tend to support someone wishing to avoid having a child, and generally the partner's consent is expected before any attempt at conception" (Voas, 2003). Furthermore, Voas proposes that inertia may be an additional mechanism through which the status quo (the use of contraception by a couple) will tend to prevail until there is agreement as to whether an additional child should be tried for.

Thirdly, the BHPS survey repeats the questions on fertility intentions after an interval of six years. It is thus possible to examine, at the individual level, the extent to which intended family size is revised over time. We test whether the tendency, observed for aggregate data (Smallwood and Jeffereies, 2003), for intended family size to be reduced among older women, holds at the individual level. Fourthly, panel data from the BHPS allow us to examine, again at the individual level, the relationships between intentions and subsequent fertility. We focus in this paper on childless women in their thirties, and examine the characteristics of those who report that they do and do not intend having any children. Finally, we investigate the extent to which older childless women go on to have a birth at older ages and examine whether the individual's own characteristics (such as level of education, earnings, gender role attitude), the presence of a partner and the partner's reported fertility intention are related to "successful postponement".

In summary our research questions are as follows:

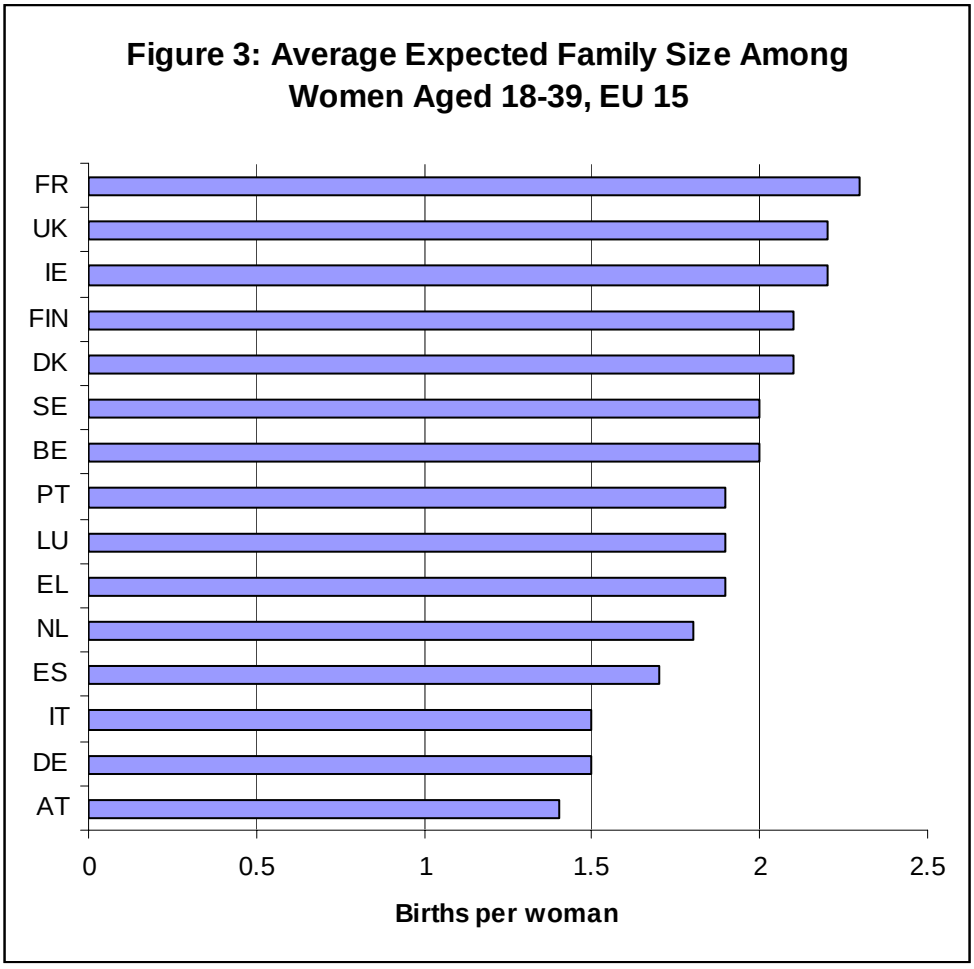
1. How do fertility intentions differ by age, parity and gender?
2. Do couples report conflicting intentions?
3. How persistent are women's fertility intentions over time?
4. How many women achieve their fertility intentions?
5. What are the characteristics of older childless women who intend to have a birth?
6. What are the characteristics of older childless women who go on to have a birth?

Before describing the BHPS and presenting our results, the next section puts forward a few words relating to the problems inherent in analysing and interpreting fertility intentions data.

3. Issues surrounding the analysis and interpretation of fertility intentions data

Measures of intended or expected family size are usually based on survey questions which ask respondents whether they think they will have (additional) children. This type of question is somewhat different to questions which ask respondents to identify either their "ideal" or "desired" family size. The actual wording of such questions can make a large difference to the answers obtained. Clearly, a woman may desire an additional child, but due to constraints, e.g. of time or financial resources, may not intend to have another. Common to all of these fertility questions, however, is the assumption that individuals are able to make, and report in a generalist social survey, rational choices about if and when they would like to have children. A considerable literature has debated whether this is likely to be the case. Criticisms include the inability of individuals (and couples) to make assumptions about their future ability to reproduce, the significant number of births that are reported to be unplanned, the lack of ability to foresee future socio-economic conditions, and the possibility that responses merely reflect existing social norms, for instance concerning ideal family size. Westoff and Ryder (1977), using data from the US, found considerable mis-match at both the individual and aggregate level between intentions and subsequent fertility, arguing that "respondents failed to anticipate the extent to which the times would be unpropitious for childbearing". Monnier (1989) found a similar tendency for women to over-estimate their future fertility in French data from the 1970s. He concluded that there is considerable uncertainty in intentions.

The persistence through time of anticipated family sizes at or above replacement level, in the context of period fertility rates well below replacement level, has also thrown into question the usefulness of this type of survey data. Recent data from the 2002 Eurobarometer Surveys (Figure 3) suggest that expected family size has now fallen to well below replacement level for younger cohorts in Austria, Germany and Italy. However, the UK is one of four EU15 countries - France, UK, Ireland and Finland - which continue to have an intended family size above two births per women (Fahey and Spéder, 2004) . At the same time, other research takes a more positive view on the usefulness of fertility intentions data. Using prospective data from the US National Survey of Families and Households, Schoen et al. (1999) find that fertility intentions are important independent predictors of subsequent fertility behaviour and argue that intentions are not merely transient phenomena mediating the effects of other life course variables.



Source: 2002 Eurobarometer Survey, Fahey and Spéder, 2004

4. The Data

The data used come from the British Household Panel Study (BHPS) which has surveyed around 5000 households annually since 1991. In the second wave, in 1992, and again in the eighth wave, in 1998, adults of childbearing age were asked: "Do you think you will have any (more) children?". Possible answers were "Yes", "Self, partner pregnant", "No", "Don't know". If the respondent responded "Yes", they were then asked "How many (more) children do you think you will have?" Respondents were invited to give a number, or report "don't know".

We follow the usual practice of using biological parity as an indicator of parenthood status. Whilst being relatively straightforward to calculate, this approach suffers from the fact that it ignores children for whom the respondent is the mother- or father-figure but not the biological parent. Given the increase in partnership dissolution and repartnering, many individuals,

particularly men, are co-resident with children who they are not the natural parent of, yet these children are likely to be of consequence in the decision whether or not to have another child (Jefferies et al., 2001; Stewart, 2002). Whilst it would be theoretically possible to identify step-children, the sample size of BHPS makes it infeasible to carry out a separate analysis for this group. Indeed, whilst over 5000 households were included in the BHPS, sample sizes within gender, age and parity groups are relatively small.

An individual's achieved number of live births (parity) in 1992 is calculated using data from retrospective fertility histories collected in the second wave. Men in particular may under-report the number of previous children they have fathered, especially those with whom they are not co-resident (Rendall et al. 1999). Subsequent fertility is indicated from the arrival of a natural child of the respondent into the household. Detailed information on the relationship of this new arrival to each household member is available from the household grid. Our measure of fertility thus assumes that children are co-resident with their parent. Since this is unlikely to be the case for a significant minority of children of male respondents, we only attempt to analyse the subsequent fertility of female panel members.

Analyses of fertility intentions reported at wave 2 are based on the total sample of males and females who responded at wave 2, irrespective of whether they responded to other waves. For these analyses (Tables 1a-c, Table 2 and Figures 4 and 5), we therefore use wave 2 cross-sectional weights to account for unequal sample selection and non-response. The responses are thus representative of the national population in 1992. Note that the sample sizes in all Tables refer to the unweighted sample. For the longitudinal analyses we are interested in changes in individuals' intentions over time, and the relationship between intentions and behaviour at the individual level. We focus on women who took part in all of the first eight waves of BHPS. Since we are interested here in within-individual change, we use unweighted data.

5. Results

5.1 How do fertility intentions differ by age, parity and gender?

Tables 1a to 1c show the percentage of the population intending to have a further birth according to gender, age and parity. Since men's reproductive lifespans are not limited to the same extent as women's, we include men up until age 49. Where the respondent (or their

partner) is currently pregnant, the pregnancy does not count towards current parity but is included as an intended birth. Row percentages refer to those who gave a definite answer to the question of how many more children they think they will have. The final column contains the number who either responded that they did not know whether they intended to have a(nother) birth, or that they did intend to have a birth, but did not know how many further children they think they will have. (Note that the latter group is very small compared to the former.) A significant minority of men and women are uncertain about their fertility intentions - ranging from just 2% of women in their late thirties with at least two children (Table 1c), to 37% of childless men in their late thirties (Table 1a). The finding that the childless women are more uncertain about their intentions is consistent with research based on the GHS (Smallwood and Jefferies, 2003). These data suggest that the same is true for childless men, and that differences in the level of uncertainty according to gender are small; if anything, men tend to report more uncertainty than women.

Table 1a: Distribution of number of further children intended by childless respondents, by gender and current age.

Age in 1992	0	1	2	3+	Sample giving an intention	Sample reporting "don't know"
Women						
18-24	6.7	4.3	61.4	27.6	326	51
25-29	17.0	9.9	57.3	15.9	173	37
30-34	37.5	14.4	35.0	13.2	93	37
35-39	81.3	7.6	9.7	1.4	57	21
Men						
18-24	6.2	5.8	66.9	21.1	320	109
25-29	11.8	5.8	60.2	22.1	166	69
30-34	27.0	8.5	55.2	9.4	118	55
35-39	59.1	11.3	24.8	4.8	68	40
40-44	84.2	3.4	12.4	0	54	11
45-49	97.6	0	2.4	0	45	10

Of childless men and women in the youngest age group, the majority (over 60%) intend to have two children; fewer than 7% intend to remain childless; and between 4% and 6% intend to have only one child. Among older childless men and women the proportion intending to

have children is much lower. Nevertheless one in five childless women in their late thirties intends to have a child, with one in ten intending to have at least two. A quarter of childless men in their early forties intend to have children, with one in eight intending to have two.

Table 1b shows the corresponding data for respondents who currently have one child. The percentage who intend to have no further children increases rapidly with age from one quarter of women aged 18-24 to three quarters of women aged 35-39. The trend for men is similar. Teenage parents and those in their early twenties were the most likely to intend to have an additional three or more children, giving a completed family size of at least four. Those who were aged in their late twenties were the most likely to plan a single further birth, which would result in a two-child "norm". Women who had achieved only one child by their late thirties are much less likely to intend to have an additional child, but given the relatively small sample size (n=50) caution should be taken in generalising from this.

Table 1b: Distribution of number of further children intended by respondents with one child, by gender and current age.

Age in 1992	0	1	2	3+	Number giving an intention (100%)	Number reporting "don't know"
Women						
18-24	23.6	34.7	25.6	16.2	54	6
25-29	27.4	43.6	13.9	15.1	86	14
30-34	38.9	41.7	14.2	5.3	76	14
35-39	77.3	18.5	3.5	0.7	50	9
Men						
18-24	32.7	20.6	31.4	15.3	23	5
25-29	24.9	42.1	22.1	10.9	60	14
30-34	37.1	36.5	15.7	10.6	78	9
35-39	53.7	33.2	4.0	9.2	39	8
40-44	94.5	3.6	1.9	0	43	10
45-49	96.8	0	0	3.2	57	6

The number of men and women in the youngest age group who already have at least two children is rather small, but the data shown in Table 1c suggest that it is these individuals who are more likely to intend further births. It is striking that 95% of both men and women in their

late thirties said they did not think they would have an additional birth. The latter may reflect a strong social norm that two children represent "a complete family".

Table 1c: Distribution of number of further children intended by respondents with two or more children, by gender and current age.

Age in 1992	0	1	2	3+	Number giving an intention (100%)	Number reporting "don't know"
Women						
18-24	63.7	20.9	7.5	7.8	48	3
25-29	76.4	18.3	4.6	0.6	141	29
30-34	86.1	9.6	2.0	2.3	251	27
35-39	95.4	3.1	0.1	1.4	267	6
Men						
18-24	46.7	21.3	28.8	3.2	10	4
25-29	67.3	25.5	5.3	1.9	67	15
30-34	79.3	9.9	6.7	4.1	157	20
35-39	95.8	2.4	1.4	0.4	210	24
40-44	98.6	1.5	0	0	235	14
45-49	98.3	0.9	0.3	0.6	253	5

Total intended family size is calculated as achieved fertility plus the number of future intended births. As has been found for women using data from the GHS (Smallwood and Jefferies, 2003), all age groups continue to report an average completed family size of just over two births, with this uniformity hiding larger differences in intended parity distribution (Table 2). There is no evidence of a substantial difference between men and women either in the overall average intended family size, or in the pattern of intended family size distribution by age. Older men and women are significantly more likely to intend to remain childless. 13% of the 35-39 year olds expect to remain childless compared to 5% of those aged 18-24. Older men and women are also more likely to intend to have just one child, whilst younger men and women are more likely to aspire to two children exactly. The low percentages intending to remain childless or to have just a single child are striking and in contrast to recent estimates for other European countries, notably Germany and Austria where over 30% of those aged 20-34 years report that they intend to either remain childless or have just one child (Goldstein et al., 2003).

A significant minority of both men and women, across all age groups, intend to have a third or higher order birth. The percentage ranges from 24% of men aged 18-24, to 37% of women in their early thirties. At first sight these intentions seem unrealistic, given that period fertility rates are well below replacement level – but in fact if we refer to recent estimates of achieved true birth order based on General Household Survey data from the early 1990s (Smallwood and Jefferies, 2003), 28% of women in their late thirties had already achieved 3 or more births.

Table 2: Distribution of total intended family size distribution and average family size by gender and current age.

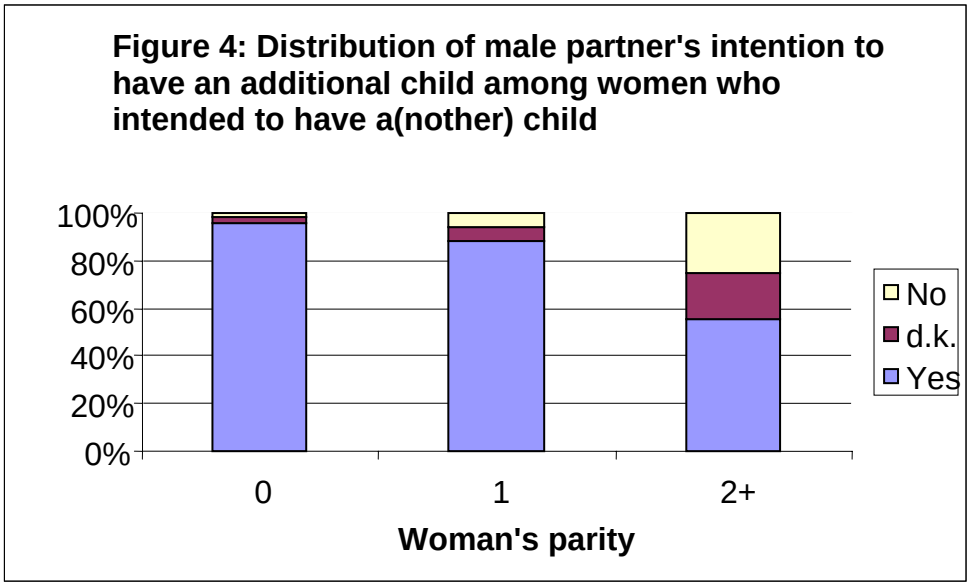
Age in 1992	0	1	2	3	4+	Average intended family size	Number giving an intention (100%)
Women							
18-24	5.1	6.4	56.3	20.2	12.0	2.29	428
25-29	7.9	10.1	51.1	22.2	8.6	2.15	400
30-34	8.6	10.3	43.7	24.7	12.7	2.28	420
35-39	13.1	11.2	45.7	19.1	10.9	2.07	374
Men							
18-24	5.7	7.4	63.3	17.9	5.7	2.18	353
25-29	6.8	8.6	53.1	23.3	8.1	2.19	293
30-34	9.2	11.0	47.4	22.3	10.1	2.17	353
35-39	13.0	9.5	49.7	17.5	10.4	2.05	317
40-44	14.6	13.4	42.3	18.8	10.9	2.01	332
45-49	11.4	15.6	45.7	16.0	11.4	2.08	355

In summary, women's aggregate fertility intentions derived from the BHPS are similar to those found by Smallwood and Jefferies (2003). Moreover, we suggest that men express similar levels of uncertainty to women and that their fertility intentions develop with age and parity in a similar way to women's; there is little evidence, at the aggregate level at least, that men intend to have fewer births than women. This does not preclude the possibility, within couples, of individuals disagreeing about their intended fertility – a question to which we now turn.

5.2 Do couples report conflicting intentions?

In order to examine conflicting intentions between male and female partners, we select couples where the woman was aged 18-39 in 1992. Of our original sample of 1876 women aged 18-39, 1229 reported having a partner at wave b. 118 of these partners did not provide a full interview at wave 2, so our sub-sample of couples for whom we have both partners' intentions is 1111. Our conclusions regarding the consistency of partners' intentions are based on fully responding couples and may, therefore, be biased towards homogeneity of response. Furthermore, as Voas argues, consistency in the expressed intentions of partners within survey data may hide initial differences in preferences since "one would generally expect differences to be resolved (whether by negotiation or domination), and many partners will subsequently adopt the agreed position as their own" (Voas, 2003). We must be aware too that both partners may be present at the survey interview, with the result that the reporting of intentions is not independent. In the BHPS survey the interviewer is asked to note who was present during this section of the interview, so we know that for four in ten cases the woman's partner was present when she answered the questions on fertility intentions.

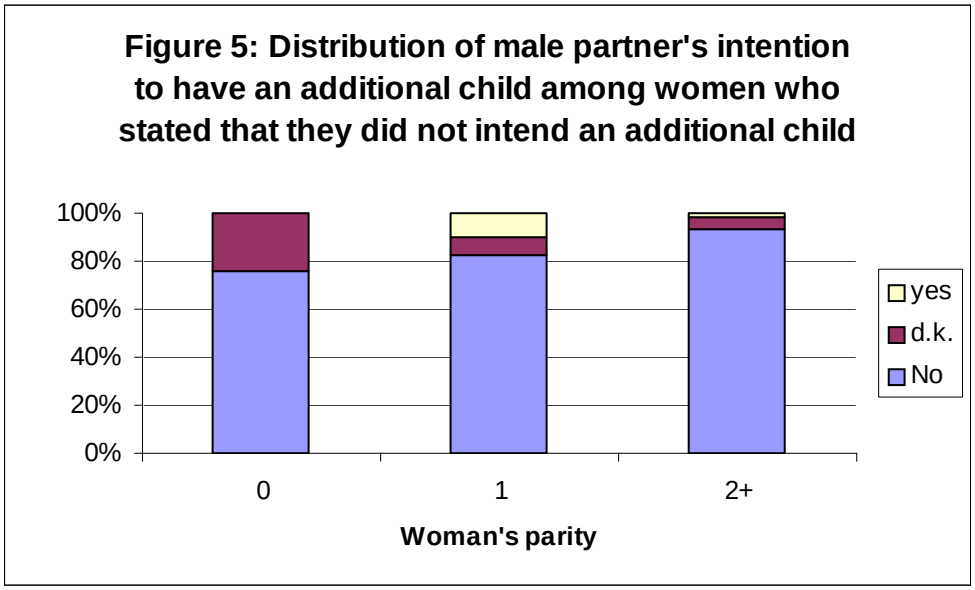
Figure 4 shows for women of different parity who intended to have a(nother) child, the percentage of male partners who also intended to have a(nother) child, the percentage who did not know, and the percentage who did not intend to have an additional child. The three bars correspond to childless women, those with one child, and those with two or more children. Women's positive fertility intentions are generally shared by their male partner. However, the percentage of men also reporting that they intend to have a birth declines with the number of children already born. Among childless women who want at least one child, 95% of men also report a positive fertility intention. Yet among women who have two children but expect another child, only 56% of male partners express the same intention. If, as Voas (2003) suggests, lower preferences dominate, these additional births may not occur.



Agreement with partner's intention is also high for women not intending (additional) children (Figure 5). In this case however, the percentage of men who agree with their partner is highest for women who already have two children (93%), and lowest for childless women (76%). In fact, in cases where a childless woman did not intend to have a further child no men in our sample said that they thought they would have a(nother) child, but 24% were unsure. Disagreement here refers to men being more uncertain. Replication of these remarkable levels of agreement on larger samples would be desirable before making additional inferences but the findings are certainly very striking.

For all parities, agreement is slightly lower among couples where the male partner was not present at the woman's interview. The general patterns shown in Figures 4 and 5 are the same, however, and differences in the overall level of agreement are not statistically significant.

In the last section of the paper we carry out a multivariate analysis to see if partner's fertility intentions add any power to models predicting whether childless women subsequently have a birth. We first exploit the fact that the BHPS repeated the fertility intention questions six years later to examine the persistence of individual women's intended family size over time.



5.3 How persistent are women's fertility intentions over time?

We now turn to the persistence of respondents' fertility intentions between waves 2 (1992) and 8 (1998), taking account of their intermediate fertility experiences. Since we need to know about children born subsequent to 1992, we can only undertake this analysis for women for who took part in all of the waves between 2 and 8 inclusive. 26% of the women reporting in 1992 did not continuously take part in each sweep up to 8. Comparison of intended family size distributions of this sub-sample with the original sample present at wave 2 suggests that those followed up slightly over-represent more educated women, older women, and under-represent those with initial intentions to have three or more births.

Table 3: Individual consistency in total intended family size reported in 1992 and 1998

Age in 1992	Smaller intended family size in 1998	Same intended family size in 1998	Larger intended family size in 1998	Sample giving an intention in both 1992 and 1998
18-24	30.3	51.2	18.5	254
25-29	23.0	59.5	17.5	252
30-34	13.3	76.5	10.3	302
35-39	5.5	92.4	2.2	275

The figures shown in Table 3 suggest that after six years there are significant alterations of intended family size, especially among the youngest women. Whilst it is not always the case then that intended family size is reduced over time, there does seem to be a tendency for women to revise their intention downwards rather than to increase it. Half of the women aged 18-24 at the start had the same intended family size six years later, almost a third had reduced their intended family size, and one fifth had increased it. Older women were more likely to remain constant in their intended family size, but any change was more likely to be downward. Monnier (1989, p. 253) argues that this systematic over-estimation of future fertility results from respondents reporting a possibility of future fertility rather than "expressing a well thought out strategy".

5.4 How many women achieve their fertility intentions?

At the aggregate level unintended and unachieved births may cancel each other out, so that fertility intentions might match achieved fertility. Data from BHPS allow us to examine gross "error" at the individual level. Table 4 shows the percentage of women who had a birth within six years according to their original intention.

Table 4: Percentage of women having a birth within six years according to age and intention to have a (further) birth in 1992.

Age in 1992	Not intending to have (further) birth	Intending to have (further) birth	Don't know
18-24	33.3%	36.3%	45.8%
25-29	21.1%	63.5%	45.8%
30-34	9.8%	58.5%	30.2%
35-39	2.3%	56.0%	11.5%

Note: Sample excludes women pregnant in 1992

In total, 50% of women who intended a (further) birth actually had one. 11% of those who originally intended not to have a birth did so. There are significant differences according to age. Clearly the younger women have a number of childbearing years left to them and so the fact that only just over a third of those who were intending to have a birth did so within six years should not necessarily be interpreted as a non-fulfilment of their intention. For the oldest age group, approaching the end of their reproductive years, almost half (44%) did not have the child they originally intended. Unintended fertility was quite rare among the oldest women,

only 2% having such a birth. However, somewhat surprisingly, a third of the youngest women, and one fifth of those in their late twenties who did not intend to have a child, did so within six years. We might hypothesize that for young adults, many life course events can occur within six years. In particular, women not currently in a partnership may be reluctant to report intentions to have children, but once they enter into a partnership childbearing becomes much more of a reality. The impact of time-varying covariates such as partnership formation on women's intentions and behaviour could be analysed using BHPS data, but in practice the sample size of women aged 18-24 who originally intended to be childless is too small (50 women) to obtain useful results.

When we break down Table 4 by parity the numbers become rather small, but suggest that women with one child are the most likely to fulfil an intention to have a further birth – 84% of such women aged 25-29 and 77% of those aged 30-34 doing so. However, slightly less than half of childless women aged 30-34 and 35-39 who intended to have a child succeeded within six years. For many of these women the increase in sub- and in-fecundity associated with age means that time will be running out. We focus in the next section on these older childless women, and examine which factors are related to the intention to begin a family at older ages (i.e. to be a postponer), and the characteristics of older women who do go on to have a child.

5.5 What are the characteristics of older childless women who intend to have a birth?

The BHPS provides an opportunity to investigate the characteristics of older women who do and do not intend to remain childless. We take the sample of childless women in their thirties present at wave 2 (n=199) and perform a multinomial regression analysis of the probability that they either intend to have a further birth, don't know, or do not intend to have a further birth. Age is entered in continuous form as a control variable. Since lack of a partner is an important constraint facing childless women (Bongaarts, 1998; Hewlitt, 2003) we include a binary variable indicating whether the woman was in a co-residential partnership (including both marriage and cohabitation). Given the postponement effect of higher education on childbearing (Smallwood and Rendell, 2003), we expect that the percentage intending to have a birth at older ages will be higher for more educated women. We compare women with higher qualifications, O level & above, with the reference group who have below O' level or no educational qualifications. In order to identify the group of professional women with the greatest potential economic opportunity cost resulting from foregone earnings associated with

leaving the paid labour force to care for children, we identify those who have net earnings in the highest quartile. Finally, research in the US suggests that voluntarily childless women are more likely to hold egalitarian attitudes towards women's roles and the importance of women's work (Houseknecht, 1987). We therefore include a measure of gender role attitude (derived from the sum of the response to six attitude statements asked in wave 1 - see Appendix 1 for details). As discussed in more detail in Berrington (2002) gender role attitudes are more egalitarian among younger women, and among more educated women. Once these factors are controlled we hypothesize that those with the most egalitarian attitudes will be less likely to intend to have a future birth.

Table 5 contains the parameter estimates from the multinomial logistic regression model with their statistical significance. (See Agresti, 2002, p.267, for description of method.) The three levels of the dependent variable indicate whether the woman "intends to have a birth", "does not know whether she will have a birth", and "does not intend to have a birth". The reference group for the dependent variable is "does not intend to have a birth". Therefore the parameter estimates in column one refer to the log odds ratio of "intending to have a birth" relative to "not intending to have a birth" for that category of the covariate relative to the baseline category of the covariate. More positive parameter estimates in column one refer to an increased likelihood of intending to have a birth. Similarly, more positive parameter estimates in column 2 are associated with increased likelihood of being uncertain, as opposed to not intending to have a birth. To facilitate interpretation, we calculate predicted probabilities of being in each of the response categories of the dependent variable for selected populations (see Agresti, 2002, p. 271, for method) and display them in Figures 6 and 7.

Table 5: Parameter estimates from multinomial logistic regression of fertility intentions of childless women aged 30-39. Baseline of dependent variable is "does not intend to have a child"

Variable	"intends to have a child" β	(s.e.)	"does not know" β	(s.e.)
Intercept	14.21	(2.81)	7.27	(2.40)
Age in years	-0.48 ***	(0.07)	-0.23**	(0.07)
Has a partner				
Yes	0.14	(0.42)	-0.19	(0.38)
No	0		0	
Highest educational qualf.				
Higher level	1.50**	(0.76)	0.33	(0.57)
O' level & above	2.12***	(0.74)	0.34	(0.55)
Below O' level & none	0		0	
Earnings				
Highest quartile	0.87*	(0.52)	0.66	(0.50)
Rest	0		0	
Gender role attitude				
Egalitarian	-1.12*	(0.61)	-0.31	(0.54)
Traditional	0			

Sample = 199 childless women aged 30-39 at wave 2.
* p<0.10 ** p<0.05 *** p<0.01

Consistent with the earlier cross-tabulations, age is seen to be strongly related to the probability that women intend to start a family. However, contrary to expectations, whether or not the woman has a partner is not significantly associated with intention. Educational level is strongly associated with fertility intention. Figure 6 shows the predicted probabilities of a woman aged 35 being in each of the response categories, according to highest level of education. The remaining covariates are set so that they represent women with a partner, who have average earnings and are more traditional in their gender role attitude. Women with intermediate level qualifications are the most likely to report that they think they will start a family (30% did so), compared to 19% of women with higher qualifications and just 6% of women with below O' level and equivalent qualifications. Among those who remain childless at older ages, we find a positive relationship between high earning status and the anticipation of starting a family. For

highly educated women in the top earnings quartile, the probability of intending to start a family increases from 19% to 30%. Lastly, we find that gender role attitude has an independent effect on fertility intention. Once age and education are held constant, women with more egalitarian attitudes are significantly ($p<0.10$) less likely to intend to start a family. Figure 7 shows the predicted probabilities according to gender role attitude for 35 year old, degree educated women with average earnings. Whilst 19% of degree educated women with traditional attitudes think they will start a family, only 8% of those with the most egalitarian attitudes did so.

Figure 6: Predicted fertility intention among women aged 35, according to highest level of education.

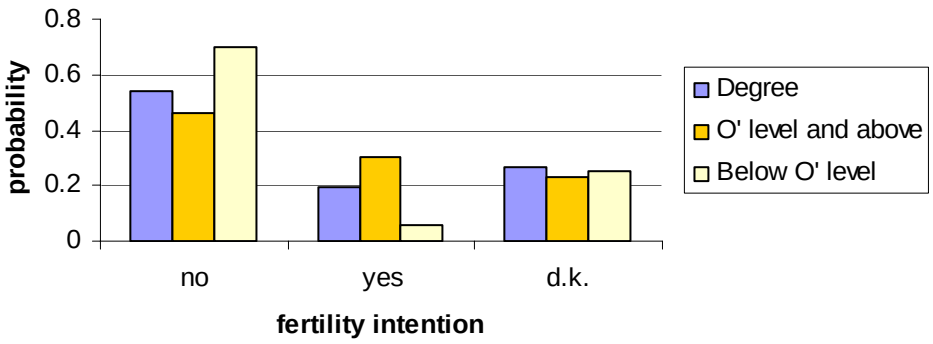
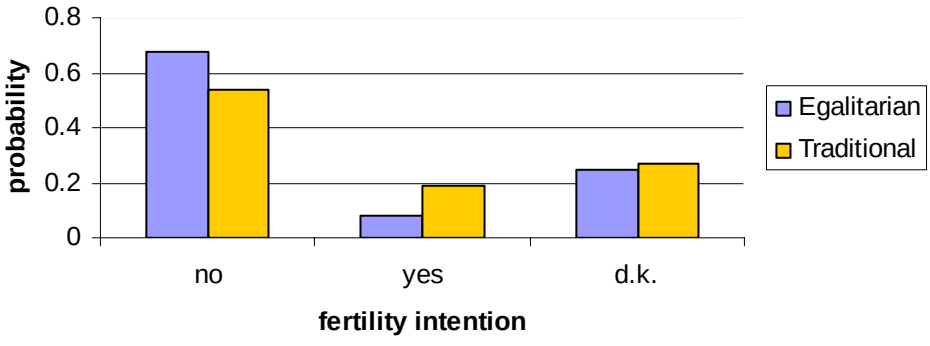


Figure 7: Predicted fertility intention for degree educated women aged 35 according to gender role attitude



In summary, data from the BHPS suggest that women who have postponed starting a family into their thirties but who continue to expect to start a family are characterised by higher levels of education and higher earnings. Fertility intentions of older childless women do not seem to be affected by whether they are currently in a partnership, but, given their level of education, women who have more egalitarian attitudes on the importance of women's work are less likely to intend to start a family.

5.6 What are the characteristics of older childless women who go on to have a birth?

Next we investigate the characteristics of women who successfully start a family whilst in their thirties, identifying the predictive effect of the woman's own fertility intentions, and those of her partner (where present). Table 6 shows the coefficients from a binary logistic regression (see Agresti, 2002 for method) of whether the woman had a birth within six years, for childless women aged 30-39 in 1992. We run three separate models. The first model contains covariates describing the woman's demographic and socio-economic characteristics as discussed in section 5.5. The second model includes an additional variable describing the woman's original intention in 1992. The reference category is "did not intend to have a child". If the parameter estimate associated with intending to have a child is significantly different from the reference category given the other socio-demographic characteristics of the woman, this provides evidence of an independent effect for intentions (Schoen, et al. 1999). The final model uses a composite variable to identify the effect on subsequent fertility of having a partner with similarly positive intentions to have a child (the reference category); a partner who does not have similarly positive intentions; having a partner but not intending to have a child (recall that in almost all of these cases the woman's partner also did not intend to have a child); and having no partner at all. Comparison of the parameter estimates for the first two categories provides an indication of the additional impact of the male partner's intention (Thompson, 1997).

Table 6: Coefficients from logistic regression of whether childless women aged 30-39 had a birth in subsequent six years.

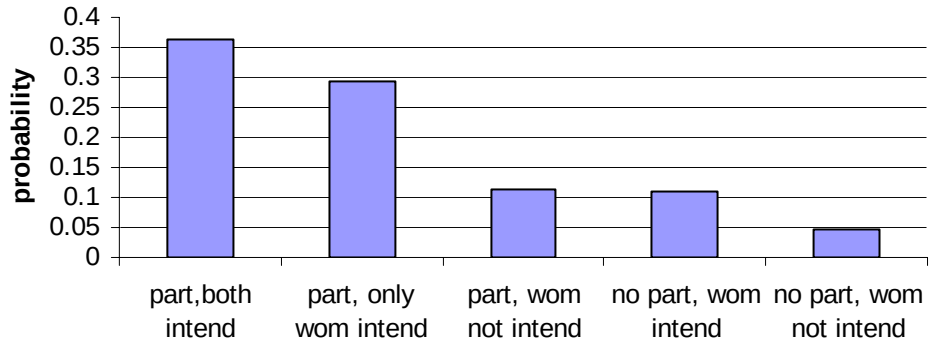
Variable	Model 1 B	(s.e.)	Model 2 β	(s.e.)	Model 3 β	(s.e.)
Intercept	7.83	(2.98)	3.11	(3.33)	7.82	(3.14)
Age in years	-0.31***	(0.09)	-0.20**	(0.10)	-0.24**	(0.10)
Had a partner in 1992						
Yes	1.18**	(0.50)	1.27**	(0.52)		
No	0		0			
Highest educational qualf.						
Higher level	0.33	(0.70)	-0.07	(0.75)	0.02	(0.74)
O' level & above	0.14	(0.69)	-0.36	(0.75)	-0.30	(0.74)
Below O' level & none	0		0		0	
Earnings						
Highest quartile	0.90*	(0.49)	0.93*	(0.53)	0.93*	(0.52)
Rest	0		0			
Gender role attitude						
Egalitarian	0.66	(0.57)	1.11*	(0.62)	0.95	(0.59)
Traditional						
Woman's fertility intention						
Yes			2.00***	(0.62)		
Did not know			1.11*	(0.65)		
No			0			
Joint fertility intention						
Partner, both intend					0	
Partner, woman intend, man not intend					-0.32	(1.11)
Partner, woman not intend					-1.51***	(0.52)
No partner, woman intends					-1.53**	(0.72)
No partner, woman not intend					-2.47***	(0.78)

Sample = 151 childless women aged 30-39 at wave 2 who remained continuously in the survey until wave 8 1998. * $p<0.10$ ** $p<0.05$ *** $p<0.01$.

Age is a key factor predicting whether childless women in their thirties will go on to have a birth, in all three models. Whilst being in the upper earning quartile is positively associated with starting a family at older ages, no difference in the actual observed fertility is found according to educational level. Despite the fact that having a partner was not associated with the intention to have a birth, the odds of having a birth are found to be three times higher for women with a partner (odds ratio = $\exp^{(1.18)} = 3.25$). Model 2 shows that fertility intentions have an independent effect on actual fertility, with the odds of a birth being ($\exp^{(2.00)}=7.22$) seven times higher for those who said that thought they would start a family. Notice that once

the woman's fertility intention is accounted for in Model 2, the parameter estimate for gender role attitude becomes more positive – that is to say, egalitarian women are less likely to intend to have a child, but among those who do intend to have a child, they are more likely to do so ($p<0.10$). Finally, in Model 3 we estimate the combined effect of having a partner and this partner's intentions. (Figure 8 shows the predicted probabilities based on a degree educated woman aged 35 who has average earnings and more traditional gender role attitudes). Women in a couple where their partner also intends to have a child are the most likely to achieve a birth (36%). The chances of having a birth may be slightly lower for couples where the woman does, but the man does not, intend to have a child (29%) - but the difference is not statistically significant. Women without a partner, especially those who do not intend to have a birth, are significantly less likely to start a family (4%).

Figure 8: Probability of a birth within six years among women aged 35 according to her own and her partner's fertility intention,



6. **Conclusion**

At the aggregate level, data from the BHPS provide similar results regarding age specific patterns of women's fertility intentions as are obtained from the General Household Survey. Data for men from the BHPS suggest that aggregate men's fertility intentions are remarkably consistent with women's, in terms both of patterns by age and current parity, and intended completed family size. No evidence is found to suggest that men in Britain intend to have smaller families. Prospective longitudinal data from the BHPS suggest that women tend to overestimate their future fertility, and that this is particularly the case for childless women. Not all the "error" is in terms of lack of births, however. A considerable minority of younger

women did not intend to have a birth, but ended up having one anyway. We have shown that as women age, they do tend to revise their fertility intentions downwards. These findings lend support to arguments which question the usefulness of fertility intentions as predictors of actual fertility and for use in population projections. At the same time, the multivariate analyses suggest that, despite many women over-estimating their future fertility, fertility intentions among older childless women have the greatest power in predicting who will actually go on to have a birth. This may be interpreted as meaning that intentions have an independent value and should not be dismissed. Fertility intentions over the life course are likely to be modified by individuals' fertility experience and changing socio-economic and demographic circumstances. Whilst in theory the BHPS provides prospective longitudinal information on such changes - for example, on partnership formation and dissolution, employment status and health - the sample sizes are not large enough within particular age and parity groups to warrant the inclusion of these additional time-varying characteristics into an analysis.

Of particular interest are the significant number of women who have postponed childbearing into their thirties and who continue to intend to start a family. Data from the BHPS suggest that only around half will manage to do so in the subsequent six years. Further research is required to investigate the extent to which those who did not achieve a birth (the perpetual postponers) were unable to for biological reasons as opposed to social or economic constraints. Whilst educational differences are small, women in the top earnings quartile who have postponed childbearing into their thirties are more likely to have a child at older ages. Analyses of the BHPS suggest that a lack of a partner is a key variable affecting the chance of starting a family at older ages, supporting the qualitative evidence of popularist writers such as Hewlett (2002).

Having a partner with conflicting fertility intentions will affect the likelihood of a future birth. Comparison of matched partners' intentions has demonstrated considerable consistency in the responses. The desire to present a unified front to an interviewer, especially when both partners may be present at the interview, does not mean that there are no underlying differences of intention in both the number and timing of births. BHPS data suggest that conflicting responses are likely when the woman already has two or more children and intends to have a further birth. In such cases almost half of the men were either uncertain or did not intend to have other child; if couples tend only to go for an additional birth when both parties are in agreement, then it is possible that such differences of intention will result in lower observed fertility than intended family size estimates would suggest. For childless women in their thirties who

intended to have a birth, we found only weak support for the hypothesis that having a male partner with a conflicting intention reduced the probability of actually achieving the birth. What is clear is that, statistically speaking, a childless woman's intention is more important in predicting future fertility than her partner's.

7. References

Agresti, A. (2002) *Categorical Data Analysis: Second Edition.* New Jersey: Wiley & Sons.

Berrington, A. (2002) Exploring reciprocal relationships between family attitudes and entry into parenthood: Evidence from the British Household Panel Study. In R Lesthaeghe (ed) *Meaning and Choice: Value orientations and life course transitions.* The Hague: NIDI-CBGS.

Bongaarts, J. (1998) Fertility and reproductive preferences in post-transitional societies. Population Council Working Paper No. 114.

Fahey, T. and Spéder, Z. (2004) *Fertility and family issues in an enlarged Europe.* European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.

Hewlett, S. A. (2002) *Creating a Life: Professional Women and the Quest for Children*. New York: Talk Miramax.

Houseknecht, S. K. (1987)Voluntary Childlessness. Pp 369-395 in Sussman, M.B. and Steinmetz, S.K. (eds.) *Handbook of Marriage and the Family*. New York: Plenum Press.

Jefferies, J., Berrington, A. and Diamond, I. (2000) Childbearing following marital dissolution in Britain. *European Journal of Population*, 16, 193-210.

McAllister, F. and Clarke, L. (1998) *Choosing childlessness. Family & Parenthood, Policy & Practice*. Family Policy Studies Centre: London.

Monnier, A. Fertility intentions and actual behaviour: a longitudinal study: 1974, 1976, 1979. *Population: An English Selection*, 44, 237-259.

Rendall, M. S., Clarke, L., Peters, H.S., Ranjit, N. and Verropoulou, G. (1999) Incomplete reporting of men's fertility in the United States and Great Britain: a research note. *Demography*, 36, 135-44.

Rendall, M.S. and Smallwood, S. (2003) Higher qualifications, first birth timing, and further childbearing in England and Wales. *Population Trends*, 111, 19-26.

Schoen, R., Astone, N.M., Kim, Y.J., and Nathanson, C.A. (1999). Do fertility intentions affect fertility behavior? *Journal of Marriage and the Family*, 61, 790-799.

Smallwood, S. (2003) Fertility assumptions for the 2002-based national population projections. *Population Trends*, 114, 8-18.

Smallwood, S. and Jefferies, J. (2003) Family building intentions in England and Wales: trends, outcomes and interpretations. *Population Trends*, 112, 15-28.

Stuart, S. D. (2002) The effect of step-children on childbearing intentions and births. *Demography*, 39, 181-197.

Thomson, E. (1997) Couple childbearing desires, intentions and births. *Demography*, 34, 343-354.

Veevers, J. F. (1973) Voluntarily childless wives: an exploratory study. *Sociology and Social Research*, 57, 356-366.

Voas, D. (2003) Conflicting preferences: A reason fertility tends to be too high or too low. *Population and Development Review*, 29 627-646.

Westoff, C. F. and Ryder, N.B. (1977) The predictive validity of reproductive intentions. *Demography*, 14, 431-453.

Appendix 1

Box 1: British Household Panel Survey questions used to construct gender role attitude score.

1) Pre-school child suffers if mother works
2) Family suffers if woman works full time
3) Woman and family happier if she works
4) Husband and wife should both contribute
5) Full time job makes women independent
6) Husband should earn, wife stay at home

Responses were given on a 5-point Likert Scale, strongly agree (1 point) to strongly disagree (5 points). The scoring for questions 3, 4 and 5 was inverted so as to make consistent with the rest. The gender role score is the sum of the individual scores and thus has a minimum of 6 and maximum of 30. Among the 199 childless women aged 30-39 the mean was 17.98 with a standard error of 0.19. We use a cut off of score of 20 or more to indicate egalitarian attitude. This corresponds to 13% of women.