How real are reproductive goals? Uncertainty and the construction of fertility preferences

Extended abstract

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Do people have well-defined reproductive goals? If so, are they clear from early in life or do they develop with age and time? Are such goals fixed or changeable? Are women and couples aiming at an ever shifting target, or is there, perhaps, no target at all?

These questions are prompted by our finding that in Britain in recent years substantial proportions of women of reproductive age are uncertain about their fertility intentions. On a minimal estimate, around two fifths of women at ages under 35 were unsure whether they would have a (further) birth, a figure that changed little between 1991 and 2007 (Ní Bhrolcháin et al. 2010; Ní Bhrolcháin and Beaujouan 2011). That so many should be unsure about their prospective fertility appears at first glance surprising, since uncertainty is absent from theoretical accounts of reproductive decisions. It has long been recognised that women and couples may be uncertain in their fertility intentions. For example, the 1955 Growth of American Families questionnaire included some questions on uncertain birth expectations.[1] But uncertainty was not reported explicitly in the early American fertility surveys, being present only implicitly in tabulations of maximum, minimum and most likely expected births, derived from answers expressed in terms of ranges. One could also see uncertainty as implicit in early statements such as that the normative family size among American women was two to four children (Freedman et al. 1965; Freedman et al. 1980). However, it was not until Morgan's (1981; 1982) pioneering work that the issue received serious demographic attention in its own right. Morgan established that uncertain fertility intentions were not simply a form of nonresponse but were meaningful in themselves. He proposed further that an appreciation of uncertainty is essential for a proper understanding both of reproductive decisions at the individual level and of aggregate fertility trends. While many demographic surveys have since recognised the need to record respondents' level of certainty about their fertility expectations, Morgan's broader themes have been addressed by only a few demographic authors (Schaeffer and Thomson 1992; Johnson-Hanks 2005).

Our paper builds on Morgan's classic insights. We show that a relatively high prevalence of uncertainty is a robust finding, and suggest that uncertainty may be even more common than is indicated by standard questions. We then argue that uncertainty is a rational response to the developing life course, and provide evidence in support of this view. Finally, we propose a new theory of reproductive intentions and preferences that differs distinctively from existing theoretical approaches, can explain the prevalence of uncertainty, and has more general implications for ideas about reproductive decision- making.

The legacy of several decades of analysis and debate has left its mark on current ideas about reproductive intentions, and so we start with a brief historical background. Throughout, we use the terms 'fertility intentions' and 'fertility expectations' interchangeably: while the concepts differ in principle, individual survey responses to these questions are close to identical (Ryder and Westoff 1971; Morgan 2001).

Historical background

Section here summarising concepts and findings in the area since 1950s

[1] The GAF-I question on whether a woman/couple expected to have a/another child was precoded "definitely yes", "probably yes", "uncertain", "probably no", "definitely no." The study also asked respondents how sure they felt about their expectations and their reasons for being uncertain.

Uncertainty in developed countries

Uncertainty being a somewhat neglected issue, its relatively high prevalence suggests that it may offer a route to a better understanding of the reproductive life course, if the phenomenon can be shown to reflect something real. In the present section, we examine the frequency of uncertain fertility intentions, both in Britain and in other developed countries. We look briefly also at some measurement issues that impact on the estimates.

Recent levels and trends in Britain[2,3]

Figure 1 shows the proportion of women, by age and time period, giving an uncertain response ("probably yes", "probably not", "don't know" or no answer)[4] to a question on whether they think they will have any (more) children, asked annually in the British General Household Survey, 1979-2007, though a change in answer options occurred in 1991, and so data from 1991 onwards only are shown in Figure 1.[5] Two features are noteworthy in this graph. First, the overall level of uncertainty is fairly substantial. Just over 30% of women of all ages are uncertain whether they will have a (further) birth, and the proportion is close to 40% among women in each age group under 35. Second, we see also from Figure 1 that there was little change between 1991 and 2005/7 in the level of uncertainty, though a slight upward trend among women 35+. The high prevalence of uncertainty is, thus, not confined to a few years' data but is consistent over a 17-year period.

Note that the question here is regarded as more reliable than questions on the number of intended or expected births (Casterline and El-Zeini 2007). It asks only whether women expect to have a (further) birth ever. It is not complex. There is no request to express an imaginary ideal, or to choose the preferred family size in a hypothetical revised life. The question is concrete, simple and realistic. Nevertheless, a substantial minority are unsure

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[2] The CPC GHS time series datafile was constructed in collaboration with Dr Ann Berrington and with the assistance of Mark Lyons-Amos. We thank the Demographic Analysis Branch and the General Lifestyle Survey Branch of the Office for National Statistics for their help in clarifying various data issues. The data series are weighted throughout by a set of weights constructed on a consistent basis for annual GHS rounds from 1979 to 2007. The weights used here are the set pertaining to individuals who were eligible for the Family Information section of the GHS questionnaire and who had valid fertility histories.

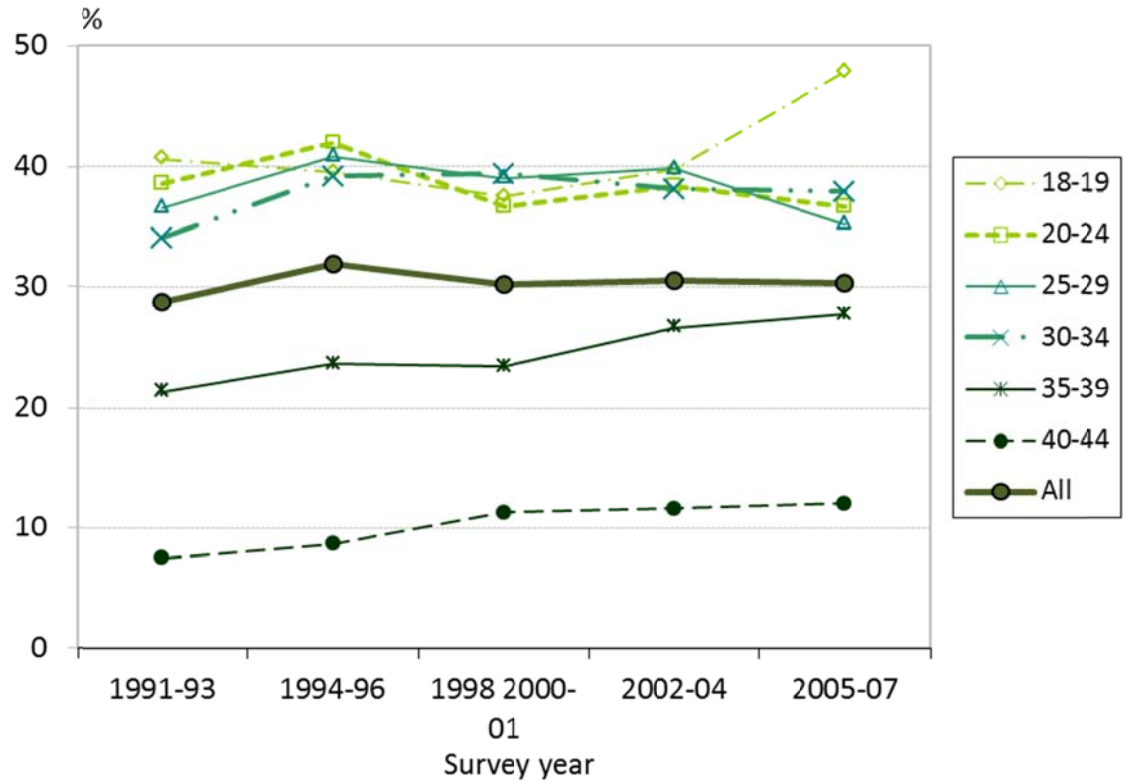
[3] The data series are weighted throughout by a set of weights constructed on a consistent basis for annual GHS rounds from 1979 to 2007. The weights used here are the set pertaining to individuals eligible for the Family Information section of the GHS questionnaire, who had valid fertility histories. For further details, see Ní Bhrolcháin and Beaujouan (2011).

[4] A very small fraction of those classified uncertain gave no answer to the question.

[5] The birth expectations question is: "Do you think that you will have any (more) children (at all) (after the one you are expecting)?" The wording remained almost the same from 1979-2007 (with a minor change in 1995 and 1996; see Smallwood and Jefferies 2003); the words "at all" were omitted from 1998 on. From 1979-1990 precoded answer categories were "yes", "no" and "don't know". From 1991 onwards, a showcard was used, with answer options "yes", "probably yes", "probably not", and "no". Those initially answering "don't know" are probed further and recoded "probably yes" or "probably not" where possible. "Don't know" and no answer are a small group, just 1%-2% overall, and 2%-8% of those classified here as uncertain.

about their expectations. It is striking that the frequency of uncertain responses to a straightforward question should be so high.[6]

Figure 1 Proportion with uncertain fertility intentions by age and period. Women aged 18-44. GB, GHS 1991-2005/7



Altering the definition gives an even higher prevalence of uncertainty. The intentions question used here occurs in a wide range of demographic surveys, in this or closely similar form. It is nevertheless a pragmatic measure, chosen *ad hoc*, and with little or no validation. It has not been designed to measure uncertainty *per se*, and just as intentions are not dichotomous (Morgan 1981) so too certainty is unlikely to be a binary state. We therefore explore two further definitions of uncertainty by adding to the uncertain group defined above those answering "yes" to the intentions question who expect a birth in either (a) 5+ years' time or (b) 3+ years' time.[7]

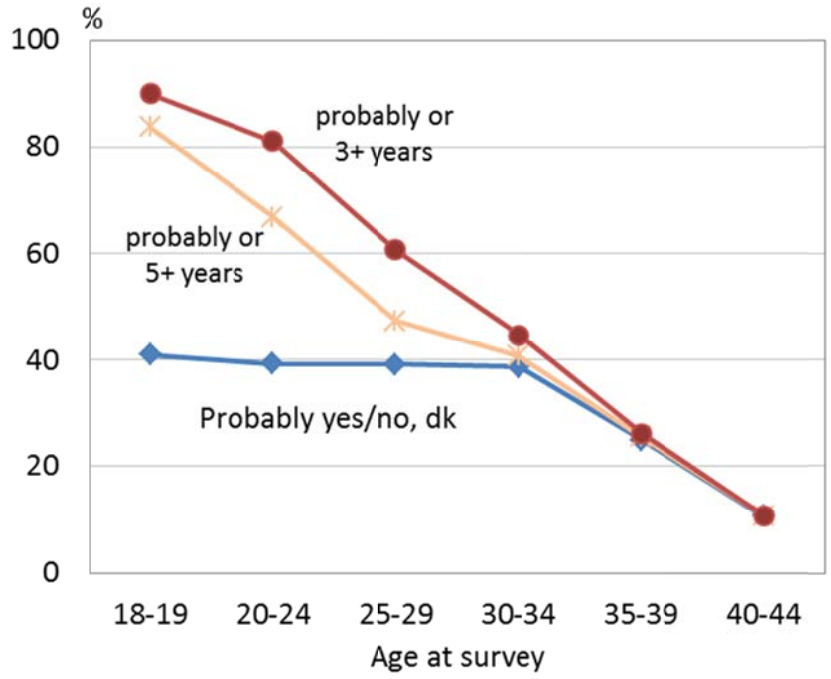
On these expanded definitions, the estimated prevalence of uncertainty among younger women rises dramatically (Figure 2). At ages under 25, prevalence increases from an original 40% to 71% when expected delays of 5+ years are included, and to 83% with the inclusion of 3+ years. The upward shift for women under 35 is smaller but still substantial. On the most inclusive definition (with 3+ years to next birth), 63% of those under 35, and 31% of women

[6] By contrast, it not surprising that people should give uncertain responses to the contingent valuation questions asked in attempts to value public goods, or the imaginary choices imposed in decision-making experiments (Payne et al. 1992; Diamond and Hausman 1994).

[7] Expected birth timing was obtained via a question on the expected age at (next) birth. The expected delay to birth was obtained as the difference between the expected age and (integer) age at survey.

under 45, and are unsure about their future childbearing; comparable figures for childless women are 79% and 72%, respectively. Like the original seen in Figure 1, uncertainty on the extended definition also changes little through calendar time

Figure 2 Proportion with uncertain fertility intentions according to three definitions by age. Women aged 18-44. GB, GHS 1991-2005/7.



To count as uncertain those expecting a wait of 3+ years to their first/next birth is arbitrary and may need some justification. Long-ish time horizons must involve some uncertainty, and three years is the limit of the time horizon for expectations in a number of surveys with a follow-up component, such as the UN ECE Gender and Generations Programme. Additional evidence from the GHS supports the of 3+ years criterion as reflecting uncertainty. The distribution of the expected age at next birth given by women expecting a birth in 3+ years' time displays substantial heaping, and the longer the expected delay, the more heaped the distribution. The feature is less pronounced, though still present, among those expecting a birth in 1-2 years' time.[8] The evidence of digit preference indicates that the question on birth timing is being answered in an approximate way and implies that there is a good deal of uncertainty surrounding the stated expectation.[9]

Thus, on a minimal definition, we have 40% of women under 25 uncertain, and on the broadest definition 83%, with figures of 39% and 63%, respectively, at ages under 35. If uncertainty in intentions is as common as this, significant questions arise about the nature and

[8] In the GHS 1991-2005/7, Whipple indices for the distribution of age at next birth are between 115 and 140 when the time to next birth is 1 to 2 years, and for 3+ years between 157 and 231, depending on the age range chosen. The heaping observed is partly due to interviewer instructions which specify that e.g. an answer in the early 20s should be coded 22, in the mid-20s 25, and so on. However, such answers are approximate, and so reflect uncertainty as much as would direct reports of 22, 25, 28, 30 and so on.

[9] Substantial uncertainty about the timing of first birth is reported by Rindfuss et al (Rindfuss et al. 1988: 195-6), with 29% of childless women and 43% of childless men in their early to mid-twenties answering "don't know" to a question on when they expected to have their first child.

interpretation of fertility intentions, and about fertility decisions *per se*. In the next section, we therefore examine whether these results are particular to British conditions, and how far comparable levels of uncertainty are found in other developed countries.

Later sections will show both that the prevalence of uncertain fertility intentions has recently been as high in several other developed countries as in the UK, and higher in some; and that the absence of explicit uncertain categories in the precodes of survey questions results in an underestimate in the level of uncertainty. Arguments and evidence will be presented that, uncertainty is real, as Morgan (1981) has suggested, rather than a form of non-response, and also that it is reasonable to be uncertain about prospective childbearing. Finally, we develop a new theoretical approach to fertility intentions. We draw on recent research in psychology and economics and interpret fertility intentions and preferences in the framework of constructed preferences (Lichtenstein and Slovic 2006).

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