Fertility and reproductive health

Strand organiser: Dr. Stuart Basten, IIASA

Pronatalism, civil society and low fertility in Greece.

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The pan-European phenomenon of low fertility greatly concerns governments, with the majority stating that their fertility is 'too low' and that policies are needed to either raise or maintain it (UN 2008). Due to their controversial nature, however, most countries in Europe do not have any explicitly pronatalist initiatives in place. While state-sponsored projects to boost fertility are some of the most extensively studied forms of pronatalism (Bock 1991; Kligman 1998), civil society organisations are likely to be the leaders of pronatalist ideological projects in nations with strong liberal traditions (Brown and Ferree 2005). This paper examines the role of civil society in promoting policies that encourage childbearing among some or all members of a civil, ethnic, or national group, by focusing on the case of Greece. The Greek government and public are anxious about what is widely known as the 'demographic problem', the primary component of which is 'lowest-low' fertility (Georgiadis 2006). Numerous schemes are available to assist families with four or more children (polyteknoi), gradually in the process of being extended to those with three children (triteknoi). In this paper I will present findings from a series of in-depth, semi-structured, qualitative interviews with members of various Greek pro-(large)family civil society organisations (conducted in Athens in January 2010), which disclosed their role in directing the country's family policy agenda. These will be examined with reference to civil society groups' agendas and government policies in other European countries, particularly in the UK, and the relevant literature.

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Fertility transitions: Do countries follow a common pathway?

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Fertility decline has long been underway in most countries, at least in certain sub-groups of the population. However, while some developing countries have reached a state of low fertility, others have stalled in their fertility decline. This paper proposes a pathway by which countries transition from high to low fertility, focusing on fertility by wealth and place of residence. Using DHS data from 28 countries that have three or more surveys over a ten year period, total fertility rates are calculated by wealth quintile and place of residence. Wealth quintiles are calculated for urban and rural areas separately to provide a measure that more accurately captures asset wealth in the two areas. It is seen that there are substantial commonalities between countries in transitions over time, with fertility for the urban rich falling first and fastest, while the rural poor are the last to experience any fertility change. The results support the proposed fertility transition pathway and highlight groups in the population that are responsible for stalled fertility decline.

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Men's role in supporting contraceptive switching from the couples perspective R. Mellor, J. Cleland, E. Slaymaker, LSHTM.

Context: In the UK prevalence of switching contraceptive method is high, as is the proportion of women who are ambivalent about their pregnancy. Switching between methods can leave a gap in contraceptive protection and can result in unintended pregnancy; moreover switching from barrier to non-barrier methods eliminates protection from STDs. Aim: This research examines men's role in supporting the switch between contraceptive methods, from the couple perspective.

Methodology: In-depth interviews were conducted with fifteen heterosexual couples, partners interviewed separately (30 interviews total). Couples had switched method in the last year and were theoretically sampled to get a range of ages, length of relationships and methods switched between. Couples were recruited from the waiting rooms of contraceptive clinics in one ethnically and economically diverse London borough.

Results: Men provided varying levels of support to their partners when switching methods. Areas where support could be provided include: researching and discussing method choice, offering and/or using 'male-controlled methods', clinic attendance and following up with their partner after a new method was started. Within couples different perspectives were presented on what support was given and what was appropriate, with some women requiring more or less involvement of their partner. Men's comfort at providing support and what they thought was appropriate influenced their level of involvement.

Conclusion: There are many stages during contraceptive switching when men can be involved (and may be crucial). Men's involvement in contraceptive switching can have a positive influence on a couples comfort with a contraceptive method and the method use.

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Re-examination of recent fertility trends in sub-Saharan Africa

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Stalling fertility decline has been suggested in several sub-Saharan African countries in recent years. Using 61 DHS datasets from 17 sub-Saharan African countries and taking into account the data quality, this paper re-examined recent fertility trends. Sub-national trends by women's education and by residence were also examined for the selected 6 countries. We applied Loess regression to estimate the trends and the uncertainty areas and to examine the fertility differentials over time, using the method developed by Murray et al (2007). The smoothed long-term trends provided compelling evidence of a stall in Kenya's fertility decline. Several other countries were also shown to have stalled fertility declines but some reported stalls were likely overstated in previous studies. This is largely due to a lack of consideration of nature and quality of the data. The pathways of fertility changes at the sub-national level were widely varied across the selected 6 countries. The differences between urban and rural settings had widened in all countries except Kenya and Rwanda. The fertility differentials by educational attainment have also widened in the countries except Rwanda and Tanzania. The percent of fertility decline attributable to compositional change (education and residence) was over 25 percent in Cameroon and Tanzania in the past 20 years.

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How immigrant and UK-born generations have shaped the fertility of ethnic groups in the UK Sylvie Dubuc, University of Oxford

In the UK, large differences in the level of fertility between ethnic groups exist, although an overall convergence in fertility of the various ethnic groups is apparent. Despite this general trend, the pace of fertility convergence differs between ethnic groups, a divergent trend has been observed for the Chinese group. Further, the level and timing of childbearing between groups remain distinct in recent years. This paper presents fertility estimates by ethnic groups in the UK, distinguishing between UK-born and foreign-born women over 1987-2006, in order to test the hypothesis according to which the pace of convergence in fertility observed across ethnic groups in recent years would depend on the ratio of UK-born versus foreign-born women within ethnic groups. Results provide support for this hypothesis but also shows striking differences between ethnic groups and may suggest an important role of socio-economic factors in shaping fertility. The existing theoretical framework available to analyse the fertility of immigrant and minority populations is mobilised to discuss the findings.

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Spatial variations in the effects of socioeconomic conditions to fertility for local authorities in Greece

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Aims: The aim of this study is to identify spatial variations and patterns in the relationships between fertility and its socioeconomic determinants at the local authority level of geography in Greece. Data and methods: The data used in this study come from the 2001 Population Census of Greece. Fertility level is measured by the Child-Woman ratio (CWR). A number of socioeconomic indicators were considered as potential explanatory variables of fertility. Among those, following exploratory analysis, the present paper considers the percentage of married women aged 15-49; the female participation rate; educational attainment; and the proportion of immigrants. All variables refer to the 1033 Local Authorities (Municipalities and Communities) in Greece. The analysis includes the calibration of a global regression model using ordinary least squares (OLS) and a local model using Geographically Weighted Regression (GWR). The OLS model provides empirical evidence for overall relationships between fertility and its determinants. However, OLS assumes that these relationships are stationary over space. On the other hand, GWR allows for the existence of spatial non-stationarity in the parameter estimates of the regression models. The results of the two regression methods in the abovementioned data are compared and discussed. Results: The findings suggest spatially variable effects in the relationships between fertility and its determinants. The results also indicate that there is a need for further exploration in relation to the specific conditions prevailing in each Local authority. Possible local multicollinearity effects as well as the social implication aspects are under investigation.

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Fertility as insurance: Evidence from rural Nepal.

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Introduction: The idea that children might be deliberately used as a form of insurance in certain circumstances is long standing and intuitively appealing given that children certainly do have the potential to provide insurance in certain situations (e.g. old-age or widowhood). The question is

whether the potential need for help motivates couples to have more or less children depending on their level of risk i.e. are children actually borne in order to be an insurance good? Aims: This paper investigates the applicability of the insurance hypothesis outlined above (concentrating on financial assistance) to the rural Nepali setting and tests its likelihood using survey data. Data from the Nepal Living Standards Surveys (the NLSS I in 1996 and the NLSS II in 2003/04) are used.

Results: In order to answer this question multilevel modelling is employed using both community data and panel data. Evidence will be presented that the level of risk and the level of remittances in a community in 1996 affected both the subsequent fertility rate and the level of son preference in that community. In other words those communities with better prospects for receiving remittances from older children in 1996 had higher fertility rates and greater son preference in subsequent years. It is concluded that the insurance motive for childbearing is likely to be a genuine reason that people in rural Nepal choose to have more children and particularly sons.

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Spatial inequalities in modern contraceptive use in Brazil and India: Are the poorest-poor unduly disadvantaged?

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The demand for fertility limitation is very high in Brazil and India – two culturally contrasting countries undergoing rapid unprecedented economic growth and social transformation. Brazil has already had a fertility level below replacement whereas the Indian fertility currently at 2.7 children per woman has declined substantially during the last decade. Modern method use is relatively much higher in Brazil (78.4%) than in India (49%), although the patterns of method mix are similar in both countries. Recent evidence from the Demographic and Health Surveys in Brazil and India show substantial variation in specific method use among different wealth groups. A few critical questions arise in this context. Is the gap between the rich and the poor substantially large in terms of access to modern methods? How do they vary between Brazil and India which have had different intervention strategies to family planning? A proper comparison of the Brazilian and Indian data would yield better insights of designing targeted policies and programmes. Using data from the 2006 Brazilian DHS and the 2005-06 Indian National Family Health Surveys, this paper compares and contrasts the extent of spatial inequalities in access to modern contraception in Brazil and India, with an explicit focus on the deprived and poorest-poor communities. We hypothesize that the poorest-poor are unduly deprived of access to both limiting and spacing methods. Preliminary results show substantial variation in specific method use among different wealth groups within and across geographical regions.

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Determinants of condom use in India

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This study uses the Indian DHS 2006 to identify correlates of condom use which is very low in India (4.8%). A multinomial logistic regression model is used in this study, with the outcome variable coded 1, if condom user, 2 if user of any other modern contraceptive method and 0, otherwise. Final model finds that the number of living children is the most significant predictor of

condom use in India. Use increases when number of living children increases. Apart from this basic predictor, regional differences in use of condoms was observed to be significant in this model. Couples from South India and Bihar had lower odds of use compared to those from Haryana and Punjab (taken as the base category). However, South India had higher odds of use of other modern contraceptive methods compared to the reference state, but Bihar still had lower odds of use of other modern contraceptive methods. The reasons for these regional differences is not clear from this study. Other significant variables in this model are socioeconomic status, age of woman, her education, husband's desire for children, urban-rural residence, religion, knowledge of AIDS and exposure to FP messages on mass media. Model also finds that when the number of living children is controlled, more educated women are more likely to be condom users. Furthering women's education in India is recommended. Future research should investigate the reasons for low condom use in the state of Bihar.

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Fertility patterns of the recent foreign-born population in the UK

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Studies of the relationships between migration and fertility have proposed key hypotheses for migrant fertility patterns, including: disruption (elevation following arrival); socialisation (retain origin patterns); assimilation (adapt to destination patterns); and, selection (migrants differ from non-migrants in their fertility preferences). These hypotheses are used to study the fertility of the foreign-born population in the UK, an area currently under-researched despite its growing importance. In 2008, 24% of live births in England and Wales occurred to foreign-born mothers, with the higher fertility of the foreign-born population contributing to recent rises in UK fertility. However, less is understood of what the continuing contribution of foreign-born fertility will be, with uncertainty over whether higher fertility is due to differences in tempo or quantum (or both). The hypotheses of migrant fertility are used here to address such issues for individuals arriving to the UK from 2001-2008, the period in which: UK fertility began to increase from the low levels of 2001 (TFR 1.63), proportions of births to foreign-born mothers increased and international migration flows changed in composition, following accession of A8 countries to the EU in 2004. Own-children method estimation is used to construct fertility estimates for those aged 15-49 years, using pooled Labour Force Survey data for 2001-2008. Estimates are produced by country of birth for key groups of interest, and are analysed with reference to duration of residence so as to identify fertility occurring before and after arrival, in order to establish which hypotheses offer explanation for observed UK patterns.

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Why fertility levels vary between urban and rural areas: The effect of population composition, selective migrations, housing conditions or contextual factors? *Hill Kulu, University of Liverpool*

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While many studies show persistent urban-rural fertility variation in industrialised countries, the causes of this variation have been little investigated. Using rich longitudinal register data from Finland, we examine the relative contribution of socio-economic characteristics of population, selective migrations, housing conditions and contextual factors to fertility variation across settlements. Our analysis shows that fertility levels are the highest in small towns and rural areas and the lowest in the capital city, as expected. The socio-economic characteristics of women and selective migrations account for only a small portion of fertility variation across settlements,

whereas housing conditions explain a significant portion of urban-rural fertility variation. Significant spatial fertility variation after controlling for housing conditions suggests that there are also contextual effects. We discuss the role of various contextual characteristics in explaining urban-rural fertility variation; these include the direct and indirect costs of raising children, the spread of voluntary childlessness in cities and 'family-oriented' subcultures in rural areas and small towns.

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The impact of antenatal HIV diagnosis on postpartum reproductive behaviour in Northern Tanzania

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BACKGROUND In Mwanza region, Tanzania, 28% of pregnancies are unwanted. Meeting contraceptive needs is a priority, especially in a context of high HIV prevalence, where it will help reduce HIV-positive births. Given that many women are diagnosed with HIV during antenatal care, investigating the impact of HIV diagnosis on postpartum reproductive behaviour will help design contraceptive counselling guidelines for use after antenatal diagnosis.

METHODS A baseline survey of pregnant women was carried out in 15 antenatal clinics in Mwanza region in 2008, to enquire about past reproductive behaviour and future intentions. After the baseline interview, respondents underwent HIV testing and counselling. Fifteen months later, a follow-up survey of 2162 baseline respondents collected data on postpartum reproductive behaviour. In-depth interviews with 25 survey respondents explored feelings around childbearing. RESULTS Unmet need for contraception at follow-up was significantly lower in HIV+ than HIV-women, mainly because HIV+ women tended to practise postpartum abstinence for longer, although their hazards of postpartum contraceptive use (particularly condom use) were also non-significantly higher. HIV+ respondents had half the odds of wanting another child, and a smaller ideal family size, than HIV- respondents. In in-depth interviews, HIV+ women overwhelmingly desired to stop childbearing, mainly due to worries about orphaning. However, the heavy stigma of childlessness emerged as stronger than HIV-related stigma.

CONCLUSIONS The differing reproductive needs of HIV+ and HIV- women call for better integrated contraceptive and HIV services, both antenatally and postpartum. Contraceptive counselling should take into consideration the strong social expectations around childbearing in Tanzania.

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An age-structured model for projecting ART need in generalised HIV epidemics

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Background: An age-structured model was constructed for projecting ART need for persons infected with HIV in a typical generalised epidemic. The model takes as its baseline the population structure, broken down by age, sex and HIV status based on a nationally representative serological survey.

Methods:

The model uses the following inputs:

- a standard UN Population Division life table representation of background mortality for those who are not infected;
- a Weibull representation of age-specific mortality for those infected with HIV based on a hazard analysis of pooled mortality data collected in the ALPHA cohort studies in the pre-ART era;
- the current age-specific HIV prevalence obtained from a national survey;
- the age-specific HIV incidence, derived from ALPHA models fitted to current prevalence. In order to predict the number of AIDS deaths (post-ART) the model needs the following parameters:
- the ART need definition (defined in terms of number of years before the expected death that we aim to start people on ART);
- an effectiveness assumption about ART selection criteria with respect to the defined theoretical need:
- the proportion currently being treated;
- the baseline ART coverage and recruitment from those with unmet need;
- the incidence trend, which may incorporate assumptions about reduced infectivity due to the ART feedback effect.

These parameters are needed to adapt the ALPHA age specific mortality model(s) to estimate the number of deaths of those who don't need treatment and the number of deaths of those who have an unmet need. ART program statistics are then used to estimate the number of deaths of those receiving treatment.

Results: Sensitivity analyses will be presented and selected scenarios applying to Tanzania 2007-2017.

Conclusion: The added value of this model essentially consists of providing an alternative approach bypassing the need to use bio-markers (CD4 counts, viral load) to estimate the number of those who will die if untreated. Estimating such compartmentalized risks is problematic because of small numbers, shifting criteria and uncertainty about when patients achieved a CD4 cut-off level between test dates.

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Inequity of access to contraceptives in Egypt: Trends, policies and procedures

Magued Osman, Cairo University & Egyptian Cabinet Information & Decision Support Centre, Hanan Girgis, Egyptian Cabinet Information & Decision Support Centre

Inequity is an expression for the differentials that have moral aspects with negative impact on the disadvantaged groups. This paper aims to reveal whether the Egyptian population strategies and programs succeeded to remove the inequity in access to family planning and reproductive health services with focus on the contraceptives. It presents the strategies and procedures that targeted removing the inequity and the development in the inequity status in Egypt from 1995 to 2008, and highlights the points that should be taken in consideration in reforming the priorities of the population program to remove these inequities if any. The revision of the successive population programs in Egypt shows a great consideration of removing the inequity among different population groups. Inequity was measured in this paper through an index we called "the level of variation". EDHS 1995, 2000, 2005 and 2008 data were used to study the differentials in access to contraceptives and related aspects. The differentials were studied according to the type of place of residence, region of residence, wealth quintile, age categories and education level. Data show the existence of inequity among different population groups. Strategies and procedures of the population program led to a decrease in the inequity in most of the indicators between 1995 and 2005. Between 2005 and 2008, the inequity of the indicators decreased according to some characteristics and increased according to other characteristics. However, inequity still exists and a

lot of efforts are still needed including evaluation and revision for the plans, programs and procedures.

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Utilization of maternal health care facilities among the urban poor in Accra, Ghana *Kate Jowett, University of Southampton*

Despite 20 years of safe motherhood initiatives in Ghana, maternal mortality remains high, and utilization of healthcare remains low – almost of half of women still give birth outside of a health facility and without a skilled birth attendant (DHS 2008). Previous studies find that utilization rates are lowest amongst rural populations, but urban populations tend to fare better. However, emerging evidence from Kenya suggests that this 'urban advantage' may not be applicable to all residents particularly the very poorest. Women in Nairobi's slums are far less likely to access facility-based care compared to other urban women, with low rates that are comparable to women in rural areas. The percentage of Ghana's population living in urban areas will increase from half (47.8%) to three quarters (75.6%) between 2005 and 2050 – such rapid and large scale urbanisation could lead to a proliferation of semi-permanent and slum settlements. If evidence from Kenya is believed to be generalizable, then we must consider paying greater research attention to Ghana's urban areas in the coming years. This research will examine trends in the utilization of maternal health services amongst the urban poor in Ghana's capital city, Accra. Early analysis of the Ghana Maternal Health Survey (2007) shows evidence of sizeable inequalities between the richest and poorest residents in aspects of antenatal, delivery and postnatal care. A binary logistic regression model will be fitted to the data to assess the strength of wealth as a determinant of service use when all other factors are held constant.

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The recuperation of fertility at older ages in Britain: Evidence from the 1958 British Birth Cohort

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This paper investigates the factors associated with the postponement and recuperation of childbearing in Britain. First, the paper uses aggregate data from vital registration statistics to examine trends in the timing and quantum of fertility among British birth cohorts from 1940 to 1963. Then, the paper investigates, at the individual level, the demographic and socio-economic factors associated with recuperation among one specific birth cohort. Patterns of childbearing in Britain have changed dramatically over the past 50 years, including an increase in the average age at entry into motherhood, increases in childbearing rates at older ages and an increase in childlessness (Kneale and Joshi, 2008; Sigle Rushton, 2008). However, most recent estimates of cohort fertility suggest that the postponement of fertility may have stabalized, with the 1980 birth cohort experiencing higher fertility rates in their late twenties than was the case for those born in 1975 (ONS, 2009). Fertility patterns in Britain are characterised by large educational differences in the timing of entry into childbearing (Rendall and Smallwood, 2003) and the percentage remaining childless (Berrington, 2004). In this paper we investigate these educational differences for women born in Britain in one week of March 1958 who have been followed up since birth within the National Child Development Study (NCDS). The NCDS is unique in that it provides information on the respondent's fertility intentions recorded at ages 23, 33 and 42 with observed fertility through to age 50. At each sweep of the study a wealth of other demographic and socio-economic information (such as partnership and employment status) is available. Hence we can extend previous work

(Berrington, 2004) examining, in a prospective framework, the relationship between fertility intentions and childbearing outcomes between ages 23 and 33, ages 33 and 42 and ages 42 and 46.

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Childlessness: a further look at cohort estimates based on survey time-series data.

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Survey data on fertility are an important source for monitoring trends in many fertility indicators, particularly where vital registration systems are incomplete with respect to past history. In contemporary low fertility societies, survey data have particular significance where vital registration systems do not record information on the true order of birth, this resulting from a number of lacunae in the collection of information on order of birth. Of particular importance, both for policy and for theoretical and explanatory purposes, is the proportion of women who have at least one birth, and its complement, the proportion childless. In the UK, estimates of the proportions childless have been based largely on survey data, the annual General Household Survey in particular, since the registration of births collects information only on the order of birth within marriage, thus omitting non-marital births from the classification of the order of a registered birth. This is a particular shortcoming when 44% of all births currently (according to the latest, 2007, national figures) occur outside marriage. While survey data on fertility in developed countries have generally been considered reliable, recent evidence of intra-cohort increases with rising age in the reported proportions childless (Murphy, Population Studies 2009) has highlighted major difficulties in this respect. The present paper examines this anomalous finding in more depth, and compares estimates based on direct questioning and on the own-child method. The paper looks at alternative explanations, including the association between reported childlessness and characteristics of individuals and their households, together with aspects of interview schedules and procedures.

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Context effects and fertility preferences: the influence of preceding questions on the reporting of desired fertility.

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Demographers have long been interested in fertility preferences, and surveys frequently include questions designed to elicit information on desired number of children. Scepticism has been expressed about their utility. Such fertility preferences regularly fail to predict fertility precisely; they are also often inconsistent across the life course, varying as individuals' age and their circumstances change. The aim of this paper is to reiterate the need for careful interpretation of fertility preference measures. We demonstrate here an additional reason for caution: not only are fertility preferences influenced by the life course, but the context in which these questions are asked also matters. Simply changing the order in which they are asked within a questionnaire can have significant effects on responses. We illustrate this point using an experiment which manipulated question ordering in an online survey. We used childless student participants who answered questions on fertility preferences after a battery of questions which related to either adult mortality, childhood mortality or dental health. We compared these preferences to a control group who answered questions on fertility preferences before those on mortality or dental health. Preceding questions on child mortality significantly reduced the desired number of children for both sexes, compared to the control group. Compared to controls preceding questions on adult mortality increased the desired number of children for men, but not women,. Preceding questions on dental

health had no effect. We conclude that questionnaire design and analysis should take into account potential biases introduced into fertility preference data by context effects.

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Understanding Scottish birth parity: A comparison of estimates from different data sources. Lee Williamson, Elspeth Graham, Paul Boyle, University of St. Andrews

Virtually no studies have been able to directly examine birth parity in Scotland due to the lack of comprehensive data on birth order, yet this information is crucially important in understanding Scottish fertility trends. In Scotland parity data is not readily available since civil registration only records all previous births within marriage and given that in 2007 only 51% of births in Scotland occurred within marriage compared with 90% in 1977 (GROS 2008:64), parity data from civil registration is unlikely to be a true reflection of the fertility behaviour of Scottish women today. Equally, census information on number of resident children in the household may underestimate parity by omitting natural children living elsewhere. In this paper, we report a series of parity profiles for a sample of women in the Scottish Longitudinal Study (SLS) derived from two different data sources: maternity inpatient and day case data (SMR02) and vital events data. By comparing different parity profiles by marital status for the same group of women in the SLS, we consider the relative reliability of parity information from different sources and assess the extent to which using indirect estimates of parity (based on vital registration data) may be misleading. General Register Office for Scotland (GROS). (2008). Scotland's Population 2007: The Registrar General's Annual Review of Demographic Trends. 153rd Edition

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