

# **Millennium Cohort Study**

## **Women's Experiences of Successful Infertility Treatment: Technical Report on Response**

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**Centre for Longitudinal Studies**

Bedford Group for Lifecourse & Statistical Studies

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## 1. Introduction

The Millennium Cohort Study Fertility Survey was a postal follow-up survey of a sub sample of natural mothers who reported having received fertility treatment in the first sweep of the Millennium Cohort Study (MCS). The MCS is a nationally representative UK longitudinal study of 18,819 infants within 18,553 families born in the UK in 2000-01. The sample over-represents areas of high child poverty, areas with high proportions of ethnic minority residents and the Celtic countries of the UK. For more details Shepherd et al (2003) contains information on the history and content of the MCS1 and Plewis et al (2004) has more details on the survey design and non response for the MCS1.

The parents of the cohort member were interviewed for the first time when the cohort members were about 9 months old. Within this interview natural mothers were asked if they had received fertility treatment and if so what type of treatment they had received. Once it was established that fertility treatment had been received for the pregnancy of the cohort member the eligible mothers were asked if they were willing to take part in a further questionnaire about their experiences of fertility treatment. A short self completion postal survey was sent to the mothers who indicated that they would be willing to take part. The questionnaires were posted in May 2003 to those in Great Britain and June 2003 to those in Northern Ireland. After 1 reminder, the questionnaires were sent to be punched in early October 2003. The data from this survey will be held on the assisted fertility survey database. For more information on the rationale for the MCS fertility survey see (Davidson and Quigley 2006).

Given that this was a postal questionnaire a lower response rate was to be expected than from face to face contacts. (See Fairclough (1977), Goyer (1985) and Krysan et al (1994) for some comparisons between postal surveys and face to face interviews in terms of response rates). However as the participants had been asked if they wanted to take part we may expect this would improve the response rate. To try to encourage the participations to respond, they were also given the option of asking for a telephone interview instead of completing the questionnaire by hand. 10 of the 450 questionnaires posted requested a telephone interview. However despite this the overall response rate to the fertility survey was 49.4%-52.0% among those available for analysis depending on the definition of non response. This compares poorly to the pilot study of 100 women conducted in the Oxfordshire region in 2001 which generated a response rate 74% after one reminder and is even less than 59% of the questionnaires received without a reminder. (Davidson et al 2002).

This paper proceeds as follows. Section two considers the overall response rate. Section three considers the item response rate and section four the possible determinants of overall response. Section five concludes.

## 2. The overall response rate

During the first sweep of the MCS (MCS1) a set of four questions were used to ascertain whether the cohort member had been conceived through medical fertility treatment, and if so whether the natural mother was prepared to take part in an additional survey in the form of a questionnaire concerning their experiences. Of the 18553 families, 18505 natural mothers were interviewed in MCS1 of which 481 natural mothers were asked if they wanted to take part in the fertility survey based on their responses to the fertility questions. In fact only 474 natural mothers were eligible.<sup>1</sup> This represents 2.56% unweighted (3.04% weighted) of the natural mothers in the MCS who had assisted fertility treatment for the cohort child. Of these 474 eligible natural mothers, 24 declined to take part in a further study considering fertility treatment. Therefore 450 questionnaires were sent out to those who actually conceived due to fertility treatment. For further information about those who received fertility treatment and how they compare to the main sample see Kurinczuk et al (2005).

Of these 474 eligible cases table 1 shows the distribution of the response outcomes. At the time of writing all the telephone interviews had been undertaken and counted as productive. These mailing outcomes are split into those treated as productive or not in the analysis below. Therefore of the 474 possible and eligible natural mothers, a response rate of 49.4% was achieved for the fertility survey (by the time the data set used in this analysis was assembled). In fact a respondent could have refused at two points in the data collection process. In the original MCS1 questionnaire those who reported having undertaken fertility treatment were asked if they could be contacted for an additional survey on their experiences of this treatment. Of the 44 recorded in table 1 as refusals, 24 of these women actually refused to be contacted for the fertility survey and were therefore not actually posted a questionnaire. The remaining 20 refusals were from those women who received the postal questionnaire and then refused to complete it. If we consider only the 450 natural mothers actually posted the questionnaire then the response rate is marginally higher at 52.0%. The next section will consider the response to individual questions on the fertility survey.

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<sup>1</sup> This is because 7 natural mothers recorded having had fertility treatment but when sent the questionnaire declared that they did not actually conceive the cohort member due to the treatment. These 7 questionnaires are not included in the 450 quoted above and are excluded from the response rates as they were ineligible for the study.

### **3. Item response rate**

Table 2 considers the response rate of the 234 responders to individual questions on the fertility survey. Reassuringly those who actually respond to the fertility survey appear to respond as completely as possible. This can be seen in the first section of table 2 which considers questions asked of all the respondents. With the exception of q2mon (which asks which month fertility treatment was first sought and may be difficult for some responders with a long spell of treatment to recall) the questions universally asked returned a response rate of over 95%.

The remaining information on text variables and routed questions is less interpretable given that the response depends on the previous answers. However this table does appear to suggest that once a respondent has decided to respond the likelihood is a fairly complete response. Therefore section four shall focus on the correlates of the decision to respond at all to the questionnaire.

#### 4. Analysis of the overall response rate

This section considers the possible correlates of non response to the MCS fertility survey and attempts a rather crude model with these correlates. The correlates were taken from the MCS1 where a whole host of questions regarding the family were asked.

Table 3 lists the variables used and present the correlation of each variable chosen and whether the response was productive or not. The fourth column presents the p value. Using  $p < 0.05$  as the significance level table 3 shows that the following variables were individually significant: mother's employment status, working whilst pregnant, speaking only English at home<sup>2</sup>, being married, ethnicity<sup>3</sup>, housing tenure, area type and education. However mother's age at birth, household size, country, breast feed cohort member, currently pregnant, longstanding illness, current smoker, current drinker, happiness in relationship, life satisfaction, total number of births both live and still birth, the number of months between birth and fertility survey and ovulation induction 1 or 2<sup>4</sup> were found to be individually insignificant.

In summary those in paid employment, those who worked whilst pregnant, those who speak only English at home, those who are married, those who were white, those were owner occupiers, those in advantaged areas and those who hold qualifications as measured by the NVQ levels were all more likely to respond to the MCS fertility survey. These variables which were found to be significantly related to a productive outcome were combined in a logistic regression in an attempt to model response for the fertility survey.

Table 4 presents the best fitting model for response to the fertility survey built up from the variables found to be individually significantly correlated with response in table 3. Only four groups of variables remain in this logistic regression. The other variables were dropped as they were found to be insignificant in their contribution to the overall model using the Wald test. The results in table four find that those who are employed at the time of the survey are less likely to respond, Asians are less likely to respond to the fertility questionnaire relative to all other ethnic minority groups,<sup>5</sup> those with first/higher

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<sup>2</sup> All of the 10 telephone interviews were undertaken in English by white respondents. This may indicate a language barrier possibly existed in the completing a postal questionnaire or taking up the offer of a telephone survey.

<sup>3</sup> The 3% response for all Asians. Looking within the Asian group there is very little and no significant difference between Indians, Pakistanis, Bangladeshi and Other Asians.

<sup>4</sup> These variables were included as it those who had had ovulation induction had less questions to answer on the questionnaire than those who had other fertility treatments.

<sup>5</sup> Including speaking English at home does not have a significant impact on the overall fit of the model or on the pattern of the education and ethnicity variables.

degrees are more likely to respond relative to those with other levels of education and those living in areas with high proportions of ethnic minority residents are less likely to respond than those in other areas.

## 5. Conclusions

The overall response rate to the MCS fertility survey is found to be 49.4%-52.0% (before the late addition of two cases). Table 5 presents the response rates and the associated confidence intervals for the pilot undertaken in the Oxfordshire region and the MCS fertility survey. As we can see the response rates are significantly different at 5%. Therefore one question remains, why the response rate to the Oxfordshire pilot was one and a half times greater than the MCS Fertility Survey.

Firstly, there was a longer time between the treatment and the survey for the MCS fertility survey than the Oxfordshire pilot. The distribution of time in months between birth and the fertility survey for the MCS mothers is found in table 3 which shows that MCS mothers waited between 1 year 4 months and 2 years 8 months, with a median of 2 years 1 month, before being sent the postal fertility survey. As a consequence those in the MCS fertility survey may not have felt as attached to the process as those in the Oxfordshire pilot given a larger time delay between the treatment and the survey.<sup>6</sup> However no significant relationship was found between response and time from birth to postal survey.

Secondly, the pilot study drew its sample from women's records at one clinic while the MCS used those women reporting having received fertility treatment in the first sweep of the MCS which has had mothers spread across the whole of the UK. It is possible that the women in the pilot may have a better response as the women may have identified personally with the Oxford unit and the team there, who they saw as doing the research, rather than a more impersonal body. They may also have felt that they wanted to do something in return for their successful treatment. Therefore these very different sampling frames may help to explain the differences in the response rates observed.

Overall clearly the pilot survey was undertaken in a very different setting and even though both were undertaken as postal surveys, the resultant response rates were substantially different. However item non response rates appears to suggest that once the women decides to respond to the MCS fertility postal questionnaire that in the main she answers as completely as possible.

Those in employment, Asian woman and those living in areas with high proportions of ethnic minority residents who have undergone successful fertility treatment are found to be less likely to respond whilst those with a first degree or higher are found to be most

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<sup>6</sup> It may be that there is a larger recall bias associated with the MCS Fertility Survey than the Oxfordshire Pilot given the large time gap between treatment and the survey itself.

likely to respond. These factors which are found to be associated with non-response on the MCS fertility survey are, as we may expect, given the complexity of the questionnaire. In addition they are also factors which determine non response in the MCS as a whole. Therefore analysis of this MCS postal questionnaire on fertility treatment should take into account potential biases due to non response.

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Table 1: The Distribution of Response Outcomes for the Fertility Survey

MAILING OUTCOME	FREQUENCY	%
<b>Productive</b>	<b>234</b>	<b>49.4</b>
<i>Completed Postal Questionnaire</i>	224	47.3
<i>Requested/Undertook Telephone Interview</i>	10	2.1
<b>Unproductive</b>	<b>240</b>	<b>50.6</b>
<i>Not Respond to Questionnaire</i>	196	41.3
<i>Refusal</i>	44	9.3
<b>Total</b>	<b>474</b>	<b>100</b>

*Notes:* Those sent a questionnaire and subsequently reporting that they did not actually conceive due to the treatment were excluded from the sample. Those recorded as not responding to the questionnaire include 7 who only returned a consent form and not a questionnaire and therefore providing no data, 1 who had move homes and therefore did not receive the questionnaire, 1 who returned a blank questionnaire, 2 who claimed to have returned the questionnaire already and 1 who said they were unable to complete the questionnaire at this moment in time. There is no additional information on the remaining 184 who did not respond to the questionnaire. The remaining 184 may have moved home as evidence from MCS2 suggests many of the families moved between sweeps 1 and 2. The figures are different from those in (Davidson and Quigley 2006) as the response/non-response was defined slightly differently and includes as productive the two late received questionnaires.

Table 2: Item Response for the Fertility Survey

Panel A: Compulsory Questions

<b>VARIABLE</b>	<b>NUMBER OF RESPONSES</b>	<b>% OF RESPONSES</b>
q1 <i>How long were they trying to get pregnant before first visit to the GP to discuss fertility treatment?</i>	227	97
q2mon <i>When (month) first sought medical help?</i>	198	85
q2yr <i>When (year) first sought medical help?</i>	227	97
q9ynu <i>Were medical tests undertaken to find out problem?</i>	233	100
q13 <i>Did the first treatments lead to the birth of the cohort member?</i>	226	97
q15 <i>Were any fertility drugs provided?</i>	228	98
q17 <i>If had previous use of Fertility treatment?</i>	231	99
q26 <i>If had private care for fertility treatment?</i>	233	100
q28 <i>If had NHS care for fertility treatment?</i>	228	98
q34 <i>Number of visits to go to discuss or receive treatment</i>	228	98
q36 <i>If received treatment at more than one fertility clinic?</i>	233	100
q44 <i>If took time off work to receive fertility treatment?</i>	233	100
q47 <i>If partner took time off work to receive fertility treatment?</i>	221	95
q50 <i>How disruptive was receiving fertility treatment to their life?</i>	230	99

Notes: "Compulsory" refers to those questionnaires that are answered by all where as "Non Compulsory" refers to those questions asked to those who fulfill the routing. "Text" refers to a question involving a writing response rather than ticking a box. "Missing" this data has not been entered onto the SPSS file as the text is too long. These are unweighted percentages.

Panel B: Non Compulsory Questions

<b>VARIABLE</b>	<b>NUMBER OF RESPONSES</b>	<b>% OF RESPONSES</b>
q4_1 <i>GP did not advise treatment</i>	97	42
q4_2 <i>GP prescribed clomid/seraphane tablets</i>	39	17
q4_3 <i>GP discussed change in smoking behaviour</i>	15	6
q4_4 <i>GP discussed change in drinking behaviour</i>	12	5
q4_5 <i>GP discussed weight loss</i>	15	6
q4_6 <i>GP advised some other treatment</i>	60	26
q5 <i>GP referred to a fertility specialist</i>	212	91
q7 <i>How many months between first visit to GP and referral to a fertility specialist?</i>	173	74
q8 <i>Following referral how long until first visit to a fertility clinic?</i>	173	74
q10who <i>Who underwent tests?</i>	170	73
q10gp1 <i>GP prescribed we both had tests</i>	64	27
q10gp2 <i>GP prescribed female partner had tests</i>	147	63
q10gp3 <i>GP prescribed male partner had tests</i>	15	6
q10fc1 <i>Clinic prescribed we both had tests</i>	18	8
q10fc2 <i>Clinic prescribed female partner had tests</i>	8	3
q10fc3 <i>Clinic prescribed male partner had tests</i>	8	3
q11 <i>Did both partners have tests at the same referral?</i>	195	84
q12_1 <i>Cause likely to be a problem with the sperm</i>	37	16
q12_2 <i>Cause likely to be a problem with the fallopian tubes</i>	21	9
q12_3 <i>Cause likely to be a problem with ovulation</i>	94	40
q12_4 <i>Cause likely to be endometriosis</i>	25	11
q12_5 <i>Cause unexplained</i>	54	23
q12_6 <i>Cause other</i>	25	11
q14clom <i>Clomid/seraphane lead to birth of cohort child</i>	127	55
q14ov <i>Ovulation induction lead to birth of cohort child</i>	72	31
q14dia <i>Diathermy to ovaries lead to birth of cohort child</i>	51	22
q14iui <i>Intrauterine insemination of partners' sperm lead to birth of cohort child</i>	63	27
q14di <i>Intrauterine insemination of donor sperm lead to birth of cohort child</i>	51	22
q14gift <i>Gamete intra-fallopian tube transfer lead to birth of cohort child</i>	46	20
q14ivf <i>In-vitro fertilization lead to birth of cohort child</i>	86	37

Panel B cont: Non Compulsory Questions

<b>VARIABLE</b>	<b>NUMBER OF RESPONSES</b>	<b>% OF RESPONSES</b>
q14icsi <i>IVF with intra-cytoplasmic sperm injection lead to birth of cohort child</i>	75	32
q14froz <i>Frozen embryo transfer lead to birth of cohort child</i>	54	23
q14spec <i>Specific treatment for partner lead to birth of cohort child</i>	48	21
q14oth <i>Other treatment lead to birth of cohort child</i>	61	26
q16a <i>Human Menopausal Gonadotrophin drug received</i>	121	52
q16b <i>Follicle Stimulating Hormone drug received</i>	117	50
q16c <i>Recombinant Follicle Stimulating Hormone drug received</i>	117	50
q16d <i>Human Chorionic Gonadotrophin drug received</i>	141	61
q16e <i>Down Regulation Drugs received</i>	121	52
q18 <i>In which year was treatment started?</i>	95	41
q19a <i>Clomid/seraphane received in past</i>	73	31
q19b <i>Ovulation induction received in past</i>	53	23
q19c <i>Diathermy to ovaries received in past</i>	33	14
q19d <i>Intrauterine insemination of partners' sperm received in past</i>	49	21
q19e <i>Intrauterine insemination of donor sperm received in past</i>	36	15
q19f <i>Gamete intra-fallopian tube transfer received in past</i>	33	14
q19g <i>In-vitro fertilization received in past</i>	59	25
q19h <i>IVF with intra-cytoplasmic sperm injection received in past</i>	42	18
q19i <i>Frozen embryo transfer received in past</i>	39	17
q19j <i>Specific treatment for partner received in past</i>	33	14
q19k <i>Other treatment received in past</i>	31	13
q20 <i>Have been prescribed fertility drugs in the past?</i>	106	45
q21a <i>Human menopausal gonadotrophin drug received in past</i>	48	21
q21acyc <i>Human Menopausal Gonadotrophin drug received for how many cycles</i>	16	7
q21b <i>Follicle Stimulating Hormone drug received in past</i>	49	21
q21bcyc <i>Follicle Stimulating Hormone drug received for how many cycles</i>	24	10

Panel B cont: Non Compulsory Questions

<b>VARIABLE</b>	<b>NUMBER OF RESPONSES</b>	<b>% OF RESPONSES</b>
q21c <i>Recombinant Follicle Stimulating Hormone received in past</i>	45	19
q21cyc <i>Recombinant Follicle Stimulating Hormone received for how many cycles</i>	17	7
q21d <i>Human Chorionic Gonadotrophin drug received in past</i>	61	26
q21dcyc <i>Human Chorionic Gonadotrophin drug received for how many cycles</i>	36	15
q21e <i>Down Regulation Drugs received in past</i>	57	24
q21ecyc <i>Down Regulation Drugs received for how many cycles</i>	23	10
q22 <i>Did earlier treatments lead to pregnancies?</i>	101	43
q23 <i>How many babies conceived?</i>	46	20
q24 <i>Did the pregnancy lead to live birth(s)?</i>	47	20
q25 <i>How many births were born?</i>	36	15
q32yes <i>If paid separately estimate of bill for drugs?</i>	116	50
q32no <i>If not paid separately estimate for all care received?</i>	56	24
q33acost <i>Clomid/seraphane cost £</i>	61	26
q33bcost <i>Ovulation induction cost £</i>	15	6
q33ccost <i>Diathermy to ovaries cost £</i>	0	0
q33dcost <i>Intrauterine insemination of partners' sperm cost £</i>	11	5
q33ecost <i>Intrauterine insemination of donor sperm cost £</i>	6	3
q33fcost <i>Gamete intra-fallopian tube transfer cost £</i>	0	0
q33gcost <i>In-vitro fertilization cost £</i>	47	20
q33hcost <i>IVF with intra-cytoplasmic sperm injection cost £</i>	28	12
q33icost <i>Frozen embryo transfer cost £</i>	7	3
q33jcost <i>Andrology test for partner cost £</i>	2	1
q33kcost <i>Treatment for partner cost £</i>	3	1
q35 <i>Number of visits partner has made to GP related to fertility treatment</i>	217	93
q37 <i>How many clinics were attended?</i>	65	28
q40 <i>How many appointments had all together at fertility clinic(s)?</i>	186	80
q41miles <i>Miles traveled in most recent visit to clinic</i>	203	87

Panel B cont: Non Compulsory Questions

<b>VARIABLE</b>	<b>NUMBER OF RESPONSES</b>	<b>% OF RESPONSES</b>
q41part <i>Miles traveled by partner in most recent visit to clinic</i>	170	73
q43 <i>Cost of journey to visit clinic</i>	144	62
q45 <i>Number of days taken off work to receive fertility treatment</i>	158	68
q46 paid <i>if time off was paid leave</i>	98	42
q46unpai <i>If time off was unpaid leave</i>	75	32
q48 <i>Number of days partner took off work to receive fertility treatment</i>	109	47
q49paid <i>If partners' time off was paid leave</i>	55	24
q49unpai <i>If partners' time off was paid leave</i>	56	24

Panel C: Text Questions

VARIABLE	NUMBER OF RESPONSES	% OF RESPONSES
q3 <i>Whom was medical help first sought from?</i>	185	79
q4det <i>Details of other drugs prescribed by GP?</i>	80	34
q6 <i>Name and location of clinic referred to by GP</i>	191	82
q9expl <i>If unsure if had medical tests to find out problem explanation provided</i>	7	3
q10det <i>Details of tests undertaken</i>	7	3
q11det <i>Details of tests undertaken together or not</i>	12	5
q19det <i>Details of other treatments received in the past</i>	10	4
q25det <i>If more than twins how many</i>	5	2
q31 <i>Drugs provided for free by GP or clinic</i>	178	76
q33awho <i>Who paid for clomid/seraphane</i>	138	59
q33bwho <i>Who paid for ovulation induction</i>	49	21
q33cwho <i>Who paid for diathermy to ovaries</i>	6	3
q33dwho <i>Who paid for intrauterine insemination of partners' sperm</i>	29	12
q33ewho <i>Who paid for Intrauterine insemination of donor sperm</i>	7	3
q33fwho <i>Who paid for gamete intra-fallopian tube transfer</i>	0	0
q33gwho <i>Who paid for in-vitro fertilization</i>	51	22
q33hwho <i>Who paid for IVF with intra-cytoplasmic sperm injection</i>	33	14
q33iwho <i>Who paid for frozen embryo</i>	15	6
q33jwho <i>Who paid for andrology test for partner</i>	9	4
q33kwho <i>Who paid for treatment for partner</i>	10	4
q33det <i>Who paid for treatment for partner</i>	39	17
q38 <i>Names of other clinics attended</i>	55	24
q42 <i>How did they travel to the clinic</i>	209	90
q46det <i>Details of time off work</i>	46	20
q27 <i>Details of treatment received privately</i>	missing	missing
q29 <i>Details if any NHS care</i>	missing	missing
q30 <i>List of drugs they paid for</i>	missing	missing
q39 <i>Why attended more than one clinic</i>	missing	missing
q51 <i>How could the experience of fertility treatment have been improved</i>	missing	missing
q52 <i>Advice for policy makers about experience of fertility treatment</i>	missing	missing
comments <i>Further comments</i>	missing	missing
TOTAL	233	100

Table 3: The Correlates of Response to the Fertility Survey

Panel A: Economic Factors

	OBSERVATIONS	% RESPONSE	CHI SQUARED ( $\chi^2$ )	p
<i>Mother's Employed</i>	474		13.06	0.00
Yes	302	56%		
No	172	38%		
<i>Working While Pregnant</i>	474		5.97	0.02
Yes	384	52%		
No	90	38%		

Panel B: Social Factors

	OBSERVATIONS	% RESPONSE	CHI SQUARED ( $\chi^2$ )	p
<i>Mother's Age at Birth</i>	474		5.15	0.53
14-19	1	0%		
20-24	19	37%		
25-29	121	44%		
30-34	183	53%		
35-39	119	51%		
40-44	24	54%		
45+	7	43%		
<i>Household size</i>	474		8.12	0.23
2	16	44%		
3	255	51%		
4	145	54%		
5	39	38%		
6	16	25%		
7	2	50%		
8	1	0%		
<i>Speak only English at home</i>	474		18.29	0.00
Yes	417	53%		
No	57	23%		
<i>Married</i>	474		4.61	0.03
Yes	389	52%		
No	85	39%		
<i>Ethnicity</i>	473		27.93	0.00
White	426	53%		
Other	7	43%		
Asian	30	3%		
Black	10	40%		
<i>Owner Occupied</i>	473		11.78	0.00
Yes	385	53%		
No	88	33%		
<i>Ward Type</i>	474		22.59	0.00
Advantaged	262	55%		
Disadvantaged	178	48%		
Ethnic	34	12%		
<i>Country</i>	474		3.77	0.29
England	303	49%		
Wales	68	49%		
Scotland	62	60%		

Northern Ireland	41	41%		
<i>NVQ Level (0-5)</i>	<i>465</i>		<i>18.65</i>	<i>0.00</i>
None	46	23%		
NVQ 1	22	45%		
NVQ 2	127	50%		
NVQ 3	69	46%		
NVQ 4	162	59%		
NVQ 5	39	49%		

Panel C: Health factors

	OBSERVATIONS	% RESPONSE	CHI SQUARED ( $\chi^2$ )	p
<i>Breast Feed Cohort Member</i>	474		0.45	0.50
Yes	381	50%		
No	93	46%		
<i>Currently Pregnant</i>	474		1.56	0.21
Yes	22	36%		
No	452	50%		
<i>Longstanding Illness</i>	474		1.40	0.24
Yes	127	45%		
No	347	51%		
<i>Current Smoking</i>	473		2.71	0.26
Yes, cigarettes	70	38%		
Yes, roll ups	8	41%		
No	395	51%		
<i>Current Drinker</i>	474		12.77	0.05
Every day	16	38%		
5-6 times per week	18	61%		
3-4 times per week	50	60%		
1-2 times per week	131	54%		
1-2 times per month	89	46%		
Less than once a month	83	53%		
Never	87	36%		
<i>Happiness with Relationship</i>	434		3.58	0.73
Very unhappy 1	11	36%		
2	10	50%		
3	12	67%		
4	25	44%		
5	68	56%		
6	130	48%		
Very happy 7	178	51%		
<i>Life Satisfaction</i>	462		8.69	0.47
Completely dissatisfied 1	1	100%		
2	3	67%		
3	4	25%		
4	6	33%		
5	19	42%		
6	22	59%		

7	58	40%		
8	159	55%		
9	108	52%		
Completely satisfied 10	82	46%		
<i>Number of Previous Births</i>	<i>467</i>		<i>0.65</i>	<i>0.42</i>
0	307	47%		
1+	160	51%		

Panel D: Response Factors

	OBSERVATIONS	% RESPONSE	CHI SQUARED ( $\chi^2$ )	p
<i>Number of Months Between Birth and Fertility Survey</i>	474		17.02	0.38
16	2	100%		
17	13	46%		
18	12	50%		
19	3	67%		
20	30	23%		
21	38	55%		
22	39	49%		
23	40	58%		
24	44	52%		
25	40	55%		
26	35	51%		
27	31	58%		
28	41	49%		
29	38	39%		
30	30	53%		
31	22	36%		
32	16	50%		
<i>Ovulation Induction 1</i>	472		0.08	0.78
Yes	239	50%		
No	233	49%		
<i>Ovulation Induction 2</i>	472		1.72	0.42
Yes - solely	193	48%		
Yes – with other treatments	46	59%		
No	233	49%		

Notes: In all cases each variable from MCS1 is correlated with the variable called productive2. Productive2 is 0 for non response and 1 for a response (that is a completed questionnaire or telephone interview). For an explanation of NVQ levels see <http://www.dfes.gov.uk/nvq/diagram.shtml>. Ovulation Induction was included as it those who had had ovulation induction had less questions to answer on the questionnaire than those who had other fertility treatments. Therefore this is a response variable rather than a health variable. "CM" cohort member

Table 4: The Best Fitting Model for the Response to the Fertility Survey

VARIABLES	ODDS RATIO	95% C.I.	P
Mother's Employed	0.90	[0.80 , 1.00]	0.042
<i>Ethnicity: Reference White</i>			
Other	0.90	[0.18 , 4.57]	0.902
Asian	0.08	[0.01 , 0.67]	0.020
Black	0.94	[0.18 , 4.86]	0.938
<i>NVQ level: Reference None</i>			
A-level or Below (NVQ1-NVQ3)	1.93	[0.88 , 4.26]	0.102
First degree or more (NVQ4-NVQ6)	2.57	[1.13 , 5.84]	0.024
<i>Ward Type: Reference: Advantaged</i>			
Disadvantaged	0.89	[0.58 , 1.33]	0.543
Ethnic	0.21	[0.05 , 0.84]	0.028

*Notes:* The dependent variable is productive2. Productive2 is 0 for non response and 1 for a response (that is a completed questionnaire or telephone interview).

Table 5: Response Rates for the Fertility Surveys

SURVEY	RESPONSE RATE	SAMPLE SIZE	95% CONFIDENCE INTERVAL
Oxfordshire Pilot	74%	100	[65.4 , 82.6]
MCS Fertility Survey – those sent questionnaires	52.0%	450	[47.4 , 56.6]
MCS Fertility Survey – all eligible	49.4%	474	[44.9 , 53.9]