

NatCen

Social Research that works for society

Understanding Society W2

Technical Report

Authors: Richard Boreham

Date: August 2012

Prepared for: Institute for Social and Economic Research, University of Essex

At NatCen Social Research we believe that social research has the power to make life better. By really understanding the complexity of people's lives and what they think about the issues that affect them, we give the public a powerful and influential role in shaping decisions and services that can make a difference to everyone. And as an independent, not for profit organisation we're able to put all our time and energy into delivering social research that works for society.



NatCen Social Research
35 Northampton Square
London EC1V 0AX
T 020 7250 1866
www.natcen.ac.uk

A Company Limited by Guarantee
Registered in England No.4392418.
A Charity registered in England and Wales (1091768) and Scotland (SC038454)

Contents

1	Background	1
2	Survey Design	2
2.1	Understanding Society W1 sample	2
2.2	BHPS W18 sample	2
2.3	Fieldwork months	2
2.4	BHPS CATI sample	3
3	Contact & Co-operation	4
3.1	Between-Wave Mailing	4
3.2	Advance letters	4
3.3	Incentives	5
3.4	Contacting sample members	5
3.5	Address Record Forms (ARFs) and Sample Information Sheet (SIS)	5
3.6	Doorstep documents	6
3.7	Movers and tracing sample members	6
4	Translations	7
4.1	Translated languages	7
4.2	Translating of Survey Materials	7
4.3	Accredited bilingual interviewers and interpreters	8
5	The Interview	9
5.1	CAI questionnaire	9
5.2	Self-completion questionnaires	10
6	Briefings and materials	12
6.1	Briefings	12
6.2	Materials for interviewers	12
7	Response	13
7.1	Household Response	13
7.2	Individual Response	13
7.3	Tables	16
8	Data Preparation	18
8.1	Data keying and scanning	18
8.2	Data coding and editing	18

Tables

Table 5.1	Household Response by Sample Type	16
Table 5.2	Household Response by Country	16
Table 5.3	Adult Individual Response by Sample Type	16
Table 5.4	Adult Individual Response by Sex and Age.....	17
Table 5.5	Adult and Youth Self Completion Response by Sample Type.....	17
Table 5.6	Adult Interview and Self Completion Response by Age.....	17
Table 5.6	Youth Self Completion Response by Sex and Age	17

Figures

Figure 5:1	Adult Individual Response by Sex and Age.....	14
Figure 5:2	Adult Individual and Self Completion Response by Age.....	15
Figure 5:2	Self Completion Response by Sample Type and Age.....	15

1 Background

This report provides an account of the methodology used in Wave 2 of Understanding Society.

Understanding Society is a major household panel study which has been commissioned by the Economic and Social Research Council (ESRC). Taken as a whole, it is the largest study of its kind in the world; interviewing people in a total of 40,000 households across the UK. It is led by the Institute for Social and Economic Research (ISER) at the University of Essex. The survey is known as the UK Household Longitudinal Study (UKHLS) among the academic community.

Understanding Society provides valuable new evidence about people throughout the country, their lives, experiences, behaviours and beliefs, and will enable an unprecedented understanding of diversity within the population. The survey will assist with understanding the long-term effects of social and economic change, as well as policy interventions designed to impact upon the general well-being of the UK population. The data will be used by academic researchers and policy-makers within government departments, feeding into policy debates and influencing the outcome of those debates.

The survey collects data from all household members aged 10 and above on an annual basis. Annual interviewing allows us to track relatively short-term or frequent changes in people's lives, and the factors that are associated with them. As the years of the survey build up we will be able to look at longer-term outcomes for people in the sample.

2 Survey Design

The sample issued for Understanding Society W2 came from two different sources: Understanding Society W1 and British Household Panel Survey (BHPS) W18. Interviewers received a mixture of households from each of these sources, and the fieldwork periods were the same for both sources of sample.

2.1 Understanding Society W1 sample

The W1 Understanding Society sample consisted of a General Population (GP) sample and an Ethnic Minority Boost (EMB) sample which were sampled independently and the EMB sample had a screening phase to identify eligible households. There were around 5 minutes of additional questions asked of the EMB sample, and a subsample of the GP sample (known as the General Population Comparison Sample) also received these questions.

Only productive households (both full and partial) from W1 were issued at W2, and in terms of the practicalities of allocation of sample, no distinction was made between the GP and EMB samples, although response rates were monitored separately.

2.2 BHPS W18 sample

W2 also incorporated the longstanding BHPS sample. As well as all productive households from BHPS W18, some unproductive households were issued at W2. BHPS addresses were incorporated into assignments including Understanding Society addresses based on geographical proximity, such that an interviewer's assignment could contain a mixture of GP, EMB and BHPS cases. The BHPS sample was distributed evenly across year 1 of wave 2.

Response rates for BHPS were monitored separately.

2.3 Fieldwork months

The sample was split into 24 fieldwork months, and each fieldwork month consisted of three periods: first issue; reissue and mop-up. First issue fieldwork always started on the 8th of each month, and was scheduled for 6 weeks. Then there was a 2 week break in fieldwork and the reissue period started two months after first issue fieldwork on the 8th of each month. The reissue period originally lasted 2 weeks, but this was increased to 1 month from AP1, and then the mop-up period for interviewing traced movers lasted a further month. The exceptions to this general rule were DE1 and DE2 samples which started a week early to take account of the Christmas holiday period, and SE1 and SE2 which also started a week early to take account of Ramadan.

The detailed project timetable with all dates is in the Project Instructions.

2.4 BHPS CATI sample

A sample of 425 households from the BHPS survey had previously indicated that they would prefer to be interviewed over the phone rather than having an interviewer visit. This sample was split into 4 subsamples and these were issued to NatCen's Telephone Unit to be interviewing in the same timeframe as the MR1, JE1, SE1 and DE1 CAPI samples.

3 Contact & Co-operation

3.1 Between-Wave Mailing

Between-wave mailings were sent out on a quarterly basis, with the original aim that mailings should be received by respondents approximately six months after they had taken part in the previous wave. Each sample month has a 4 month fieldwork period (including a one month mop-up period for interviewing traced movers), and the timetable is for clean data to be delivered two months after the end of this mop-up period. Thus the first quarter fieldwork is JA1 – MR1, MR1 fieldwork ends July 7th, and clean data was timetabled for delivery mid-September. Allowing time to turn the data round means that the between-wave mailings could only happen mid-October for the January-March sample months. In practice because of W1 data delivery problems the between-wave mailings were actually sent out around the same time as the advance letter for the first year of fieldwork.

The purpose of the mailing was to remind sample members of their involvement in the study, supply them with some findings (in the form of a Participant's Update and via the participants' website) and provide them with the opportunity to update their contact details with ISER. The between-interview mailing letter was signed by Professor Nick Buck of the Institute for Social and Economic Research.

3.2 Advance letters

An advance mailing was sent to all adults in sample households. The advance mailing consisted of an advance letter, a change of address card and freepost return envelope, and an incentive (high street gift voucher[s]). The advance mailing was sent to arrive at the start of each fieldwork period.

There were four versions of advance letters at W2: productive adults from W1; unproductive adults in productive households from W1; rising 16s from W1 and a tailored letter for the BHPS sample explaining their incorporation into Understanding Society.

All advance letters were printed on Understanding Society letterhead, and signed by Professor Nick Buck.

If a respondent had contacted ISER since their last interview notifying of a change of address, the advance mailing to that person was sent to this new address. If this person was found at some different address, however, interviewers were asked to administer a new letter, and a new incentive was issued by the office if the person went on to be interviewed.

A generic version of the advance letter was also produced for interviewers to use on the doorstep. Interviewers were provided with spare copies of this letter to administer to household members who had misplaced their copy or who had not received one.

These letters were also given to new entrants if an interviewer came across them in a household, and for other adults in refreshment households if requested.

3.3 Incentives

Incentives were sent as part of the advance mailing and were unconditional, i.e. the respondent could keep the incentive even if they did not take part.

Adults in the BHPS sample received £10, adults in the Understanding Society sample originally received £5, but this was increased to £10 from FE2 sample onwards. Young people in the BHPS sample received £5 for completing the youth questionnaire – their counterparts in the Understanding Society sample received £3.

Additional incentives needed to be issued during fieldwork to any adults in the core sample who reported not having received their incentive; young people who completed a paper self-completion and interviewed new entrants. If a person qualified for an additional incentive, the interviewer was prompted by the CAPI to complete a 'promissory note', promising to the respondents that we would send them the required incentives within 10 days. The incentives were processed and sent by NatCen using a centralised system.

3.4 Contacting sample members

The first contact was attempted via a personal visit from the interviewer at the issued address and interviewers were not allowed to telephone households to make contact in the first instance. Interviewers were required to be flexible and make appointments where necessary, in order to achieve full interviews with all eligible sample members in a household.

BHPS CATI respondents received an advance letter as per the main sample, but obviously their first contact was by telephone.

3.5 Address Record Forms (ARFs) and Sample Information Sheet (SIS)

To enable interviewers to plan their first contact with the households, interviewers were supplied with an Address Record Form (ARF) for each of the addresses in their allocated sample. Interviewers also received a more detailed sample information sheet (SIS) listing further household and individual level information obtained from previous interview(s).

3.6 Doorstep documents

Interviewers were provided with a number of documents for use on the doorstep. Interviewers were provided with a laminated generic advance letter to show to respondents to aid recall of the mailing. They were also given copies of an information leaflet ('All you need to know about Understanding Society'), to be used as required and in particular for additional people in household who were new to the study. Interviewers were also provided with study branded appointment cards and broken appointment cards (for use when a respondent had missed their appointment).

3.7 Movers and tracing sample members

Those individuals that had moved since their last interview were traced by interviewers in the field. The types of movers could be: a whole household move, where the household has moved together to a new residential address; a split household, where one or more members of the original household have moved to one or more different addresses; and situations where a sample member had moved to an institution (i.e.: nursing/ care home/ hospital) and were eligible for interview.

Interviewers were required to complete a number of tracing activities in order to find a potential follow up address, and were provided with tracing and stable contact letters that they could use to help them obtain a new address from the people they spoke to (e.g. sample members' previous neighbours, new occupiers of their old address, a 'stable contact' person nominated by the respondent as someone who would know where they are if they moved). Any individuals who could not be traced using these methods were returned to ISER for further tracing. Any address updates that were received by ISER during the fieldwork period were communicated to the NatCen Operations department who transferred the information to the appropriate interviewer.

The only tracing that was carried out on the BHPS CATI sample was ringing stable contact numbers and using AFD to find additional telephone numbers for any addresses on the sample.

4 Translations

Translations were dealt with in two ways on Understanding Society: those requiring formal translation, and those that could be dealt with informally. Formal translations required that both the CAPI and survey materials were translated into particular languages, and accredited bi-lingual interviewers or interpreters conducted the interview. Informal translations did not require these stipulations and could be undertaken by a family member, neighbour or close relative.

4.1 Translated languages

There were nine languages where a formal translation process was followed: Arabic, Bengali, Cantonese, Gujarati, Punjabi Gurmukhi, Punjabi Urdu, Somali, Urdu and Welsh.

These languages were chosen having been identified as the most widely spoken by the ethnic minority groups within the sample, and where English may also not be spoken readily by these ethnic groups. For example, Hindi is one of the most widely spoken languages in the UK, but as the majority of Hindi speakers also speak English it was not one of the nine nominated languages.

As there was no requirement to formally translate the CAPI and survey materials into other languages, informal translations were allowed for people who spoke these other languages. These translations were dealt with by family members, neighbours, or close friends who translated the English questions and answers into the required language.

4.2 Translating of Survey Materials

The survey materials that required translation underwent a rigorous checking process. The original translation of the documents was outsourced to a translation agency specialising in multi-language services such as translations, proof reading and type setting. Once translated, the text was checked by checkers working through a separate translation agency who proof read the translation to check for errors or queries. The checkers would log these comments in a central spreadsheet which was passed back to the original agency for review. The translated text was transferred to the survey material templates and formatted before being further proof read by the original translation agency to make sure the sentence construction was correct.

Translations for CAPI were done using a centralised web database specifically developed for NatCen called the Language Management Utility (LMU). Accounts were set up for translators, checkers and administrators for each of the nine languages, which allowed access to different levels of functionality within the LMU. The translation process was controlled by assigning a status to each question that required translation. The different statuses were:

1. Awaiting translation

-
2. Translated – ready for proofreading
 3. Proofread – ready for checking
 4. Checked – comments to review
 5. Translation completed

4.3 Accredited bilingual interviewers and interpreters

For formal translation requests, only NatCen accredited bi-lingual interviewers or interpreters were permitted to conduct the actual interview. Interviewers were put through a robust accreditation process involving a number of tests and were assessed by a panel of independent agency interpreters. Each interviewer was required to complete oral and reading tests, a comprehension test in both English and the language they were being assessed for, followed by a dummy interview where they translated the English text and answers verbatim into the language being assessed and visa versa.

Bilingual NatCen interviewers were trained to manage the CAPI and so were able to conduct the interview themselves without additional support. The NatCen interpreters did not have experience of using a CAPI and so they were accompanied by an English only speaking NatCen interviewer to help manage the technical aspects of the questionnaire. Furthermore, the accompanying interviewer could use their doorstep and interview skills in building rapport, and provide a level of quality assurance. If a NatCen bilingual interviewer or interpreter was not available to cover the appointment, an agency interpreter accompanied the English speaking NatCen interviewer.

5 The Interview

The main survey instrument for W2 was a CAPI/CATI interview and a paper self-completion for adults (aged 16 or over), and a separate paper self-completion for young people aged between 10 and 15.

5.1 CAI questionnaire

The CAPI itself carried questions on a variety of topics including

- Demographics
- Initial Conditions
- Own First Job
- Parental Education
- Educational aspirations
- Young Adults
- Family Background
- Ethnicity & National Identity
- Childhood Language
- Ethnic Identity
- Religion
- General Health
- Nutrition
- Physical Activity
- Smoking History
- Disability
- Caring
- Partnership History
- Fertility History
- Annual Events
- Current Employment
- Employees
- Self-employed
- Physical Work
- Commuting Behaviour
- Job satisfaction
- Work Conditions
- Non-Employed
- Second Jobs
- Retirement Planning
- Voluntary Work
- Charitable Giving
- Childcare
- Unearned Income and State Benefits
- Household Finance

-
- Personal Pensions
 - Savings
 - Domestic Division of Labour
 - Politics
 - Political Engagement
 - General Election
 - Leisure Culture Sport
 - Leisure accessibility
 - Open ended verbatim positive/negative events
 - Contact details
 - Stable contact

5.2 Self-completion questionnaires

There were two types of paper self-completion questionnaires: one for young people aged 10-15, and one for adults. Interviewers were asked to encourage respondents to complete the questionnaires while they were still at the address or to collect the questionnaires when they returned for a second or subsequent visit. This was to ensure that we secured a high response rate for this element of the study. As a last resort, interviewers were able to leave a questionnaire, together with a reply-paid envelope, for respondents to complete at a later time.

Interviewers asked a parent or responsible adult for verbal consent or assent before giving a self-completion questionnaire to a young person. Parents were not permitted to help the young people complete the questionnaire; though if they were anxious about its content they were shown a blank questionnaire so that they could assess the nature of the questions. If the young person needed help with the questionnaire, they were encouraged to ask the interviewer for assistance. Blank envelopes were given to the young people so that they could seal the questionnaires before returning them to the interviewer, preserving confidentiality within the household.

The adult questionnaire contained questions on the following topics:

- SF-12
- Alcohol Consumption
- GHQ
- Identity
- Self-Efficacy
- Life Satisfaction
- Social Support
- Gender Attitudes

The youth questionnaire contained questions on the following topics:

- TV watching
- Social media
- Family interaction
- Friends
- Self-esteem
- Social activities
- Cultural activities
- Satisfaction
- Homework
- Future education/employment plans
- Truancy
- Health
- Height and Weight
- Exercise
- Smoking, drinking and drug use
- Future family plans

BHPS CATI respondents were not sent self-completions.

6 Briefings and materials

This section outlines the content of the interviewer briefings and interviewer materials.

6.1 Briefings

Full-day briefings were carried out by the NatCen research team, with input from the ISER team who provided background to the experimental nature of the study. Each briefing covered:

- Background,
- Sample and fieldwork
- Contact and co-operation
- Sample members and following rules
- ARFs
- Tracing & movers
- The Interview process
- A run through of a dummy CAPI interview
- Keeping in touch

In total, 819 interviewers were briefed and worked on W2.

6.2 Materials for interviewers

Interviewers' materials for this survey are listed below

- Project instructions
- Contact information sheet
- Address Record Forms (ARF) with Sample Information Sheets (SIS)
- Laminated generic advance letter
- Appointment cards to be used on the doorstep
- Broken appointment cards
- Information leaflet
- Doorstep Flyer
- Translation Booklet
- Stable contact letters
- Tracing letters
- Show cards to be used as part of the CAPI interview
- Paper adult and youth self-completion questionnaires
- Voucher receipt forms
- Change of address cards
- Participants Update 1
- Envelopes

7 Response

7.1 Household Response

A total of 38,271 households were issued to interviewers – 26,035 in the General Population sample, 3,959 in the Ethnic Minority Boost sample and 8,277 in the BHPS sample.

1582 additional households were generated in the General Population sample as a result of households splitting from the previous wave, and 424 households were ineligible through death or respondents moving abroad. This left a total of 27,193 eligible households, 21027 (77%) of which were productive (60% fully productive). This was below the target response of 80%, despite re-issuing 4,420 households (16% of the issued sample).

321 additional households were generated in the Ethnic Minority Boost sample through households splitting and 166 households were ineligible. This left a total of 4,114 eligible households, 2,793 (68%) of which were productive (45% fully productive). This was significantly below the target response of 75%, despite re-issuing 1,075 households (25% of the issued sample).

The BHPS sample consisted of both productive and unproductive households from the previous wave and cases to be interviewed by phone. Overall response rates for the last wave productive BHPS sample was 81%. This was an extremely disappointing figure because these were respondents from W18 of BHPS where household response for last wave productive households was 92%. One of the main issues affecting response was the change of survey from BHPS to Understanding Society which acted as a catalyst for people to feel that they had contributed enough and wanted to drop out. Other people had built up a rapport with their interviewer, and once this link had largely disappeared with the change of survey contractor, they did not want to continue taking part. The response rate for BHPS unproductive households from the previous wave was 27%, and for the BHPS CATI sample was 63%.

7.2 Individual Response

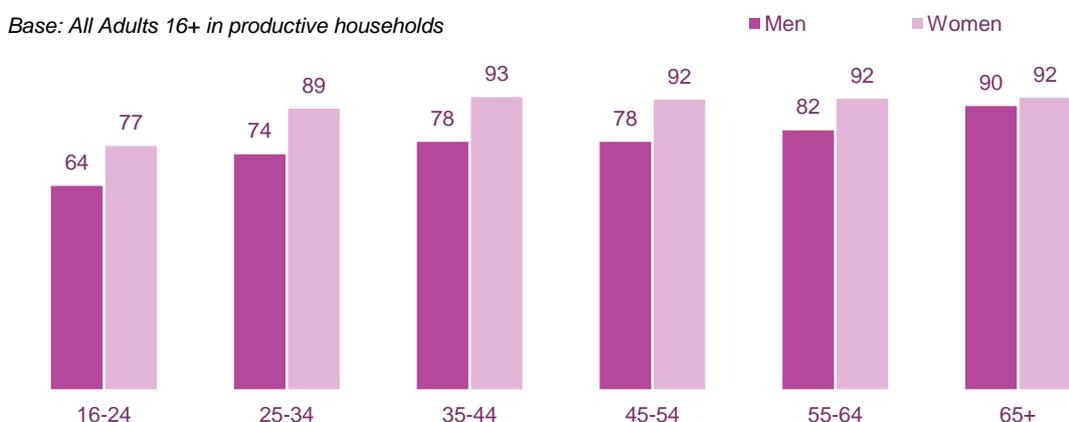
In the General Population sample, 84% of adults aged 16+ in participating households completed an individual interview (less than 0.5% of these were partial interviews). Of those who did not respond in person, information was collected for a further 7% by proxy interview. On average 1.6 adults were interviewed per participating household out of a resident 1.8 adults per household.

As well as having a lower household response rate, the individual response rate in the Ethnic Minority Boost sample was lower than the General Population response (75% compared with 84%). On average interviews were obtained with 1.8 out of the 2.4 adults per household.

The individual response rate was slightly higher in the BHPS sample (88% compared with 85% in the General Population sample), despite the BHPS sample having slightly larger households. On average 1.7 adults were interviewed out of 1.9 in the BHPS sample.

Individual response was lower among the younger age groups (particularly men) in all sample types. Across the whole sample, 64% of 16-24 men completed an individual interview, which rose steadily with age to 90% of men aged 65+. There was less of an age gradient among women – women aged 16-24 had the lowest response rate (77%), but women in all other age groups had response rates around 90%. Overall there was a significant differential in response between men (78%) and women (89%), which if repeated over time will lead to the panel becoming less representative.

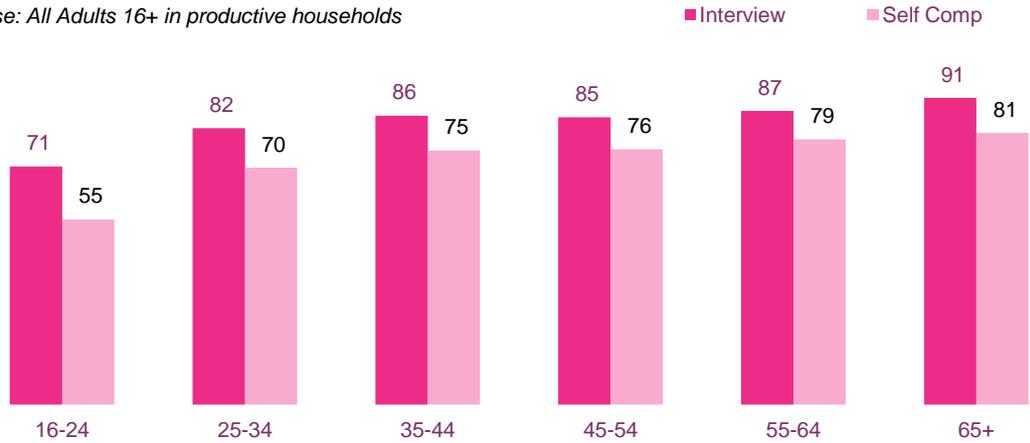
Figure 7:1 Adult Individual Response by Sex and Age



At W2, Adult Self Completions were paper based and the pattern of response by age mirrors that of the overall individual response by age, but on average was 10% lower. This was one of the factors which influenced the decision to move to CASI self-completions from W3 onwards.

Figure 7:2 Adult Individual and Self Completion Response by Age

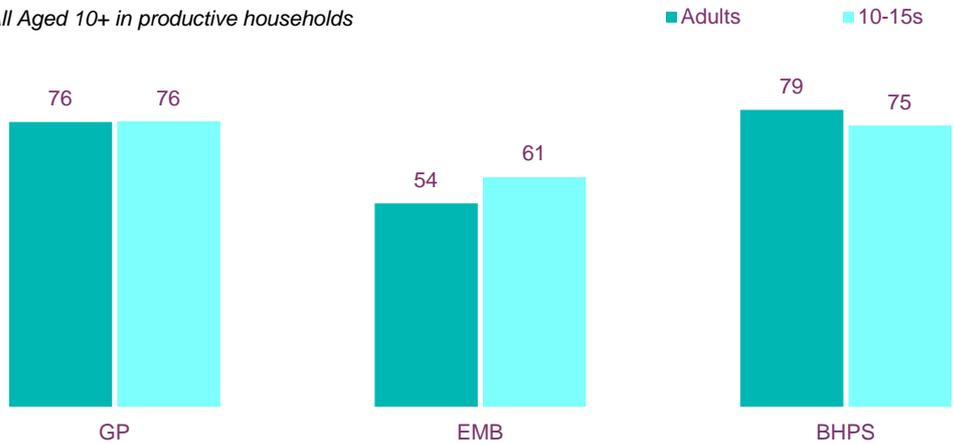
Base: All Adults 16+ in productive households



Information was also collected from 10-15 year olds via paper self-completion. Overall completion rates were similar to adult self-completion rates across all sample types. This is disappointing because the adult self-completion booklet is in addition to taking part in an individual interview lasting on average 32.5 minutes, whereas 10-15 year olds only had to fill in a self-completion designed to take them around 10 minutes. In total 76% of 10-15s in the General Population sample filled in a self-completion compared with 61% in the Ethnic Minority Boost sample and 75% in the BHPS sample.

Figure 7:3 Self Completion Response by Sample Type and Age

Base: All Aged 10+ in productive households



There was very little variation in self-completion rates among 10-15 year olds by age.

7.3 Tables

Table 7.1 Household Response by Sample Type

	GP		EMB		BHPS Productive		BHPS Non-productive		BHPS Telephone	
Issued	26035		3959		7631		221		425	
Additional Hholds	1582	6%	321	8%	690	9%	3	1%	25	6%
Total Hholds	27617		4280		8321		224		450	
Ineligible	424	2%	166	4%	453	5%	39	17%	5	1%
Eligible	27193		4114		7868		185		445	
Productive	21027	77%	2793	68%	6360	81%	50	27%	282	63%
No Contact	728	3%	209	5%	171	2%	7	4%	31	7%
Refusal	3500	13%	595	14%	940	12%	72	39%	103	23%
Other Unproductive	1938	7%	517	13%	397	5%	56	30%	29	7%

Table 7.2 Household Response by Country

<i>Base: Eligible Households</i>	England	Wales	Scotland	N Ireland
Productive	76%	78%	74%	85%
No Contact	3%	3%	3%	1%
Refusal	13%	13%	15%	9%
Other Unproductive	8%	6%	7%	5%
<i>Bases</i>	<i>30306</i>	<i>2969</i>	<i>3895</i>	<i>2639</i>

Table 7.3 Adult Individual Response by Sample Type

<i>Base: All Adults 16+ in productive households</i>	GP	EMB	BHPS
Fully Productive	84%	75%	88%
Proxy	7%	9%	3%
Partial	0%	0%	0%
No Contact	2%	3%	2%
Refusal	6%	8%	5%
Other Unproductive	1%	3%	1%
<i>Bases</i>	<i>40625</i>	<i>6590</i>	<i>13179</i>

Table 7.4 Adult Individual Response by Sex and Age							
<i>Base: All Adults 16+ in productive households</i>							
	16-24	25-34	35-44	45-54	55-64	65+	Total
Men	64%	74%	78%	78%	82%	90%	78%
Women	77%	89%	93%	92%	92%	92%	89%
Total	71%	82%	86%	85%	87%	91%	84%
<i>Bases</i>							
Men	4649	4404	5198	5030	4254	5142	28677
Women	4709	5062	5845	5474	4669	5958	31717
Total	9358	9466	11043	10504	8923	11100	60394

Table 7.5 Adult and Youth Self Completion Response by Sample Type			
<i>Base: All Aged 10+ in productive households</i>			
	GP	EMB	BHPS
Adults	76%	54%	79%
10-15s	76%	61%	75%
<i>Bases</i>			
Adults	39885	6395	12923
10-15s	3490	870	1138

Table 7.6 Adult Interview and Self Completion Response by Age						
<i>Base: All Adults 16+ in productive households</i>						
	16-24	25-34	35-44	45-54	55-64	65+
Interview	71%	82%	86%	85%	87%	91%
Self Comp	55%	70%	75%	76%	79%	81%
<i>Bases</i>						
	9358	9466	11043	10504	8923	11100

Table 7.7 Youth Self Completion Response by Sex and Age						
<i>Base: All 10-15s in productive households</i>						
	11	12	13	14	15	Total
Boys	76%	73%	75%	69%	67%	72%
Girls	71%	77%	76%	79%	74%	75%
Total	73%	75%	76%	74%	71%	74%
<i>Bases</i>						
Boys	572	558	582	553	551	2816
Girls	524	559	517	545	537	2682
Total	1096	1117	1099	1098	1088	5498

8 Data Preparation

8.1 Data keying and scanning

Paper self-completions were scanned in by an external agency.

8.2 Data coding and editing

Most of the data validation of CAPI surveys is carried out in the field. Extensive range and consistency checks were included in the CAPI program in order to prompt interviewers to clarify and query any data discrepancies directly with the respondent in real time. However, all cases were also passed through an in-house edit to identify any further interviewer issues. All self-completion data was passed through an edit to check for any respondent routing and coding errors. Consent forms were also reconciled with the CAPI data during the edit stage.

Four-digit SIC and SOC coding was carried out in the employment and proxy sections of the questionnaire. Each coder's initial batch of work was 'blind coded', i.e. a second coder independently coded respondent's answers to SIC and SOC without seeing how they had initially been coded. Any discrepancies between the initial coder's work and the blind coding by the second coder were resolved by a coding supervisor and feedback was given to correct errors or resolve any misunderstandings.

Each respondent was asked to provide information about a stable contact that could be approached in the event of the individual or household having moved. These addresses, along with any amended or new household addresses, were checked with a software program called Match code, which checks and where necessary corrects postcode for each address.