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The Development and Implementation of a Coding Scheme to Analyse Interview Dynamics in the British Household Panel Survey

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Non-technical summary

This paper provides a practical background on the development and implementation of a behaviour coding scheme adopted to explore interview dynamics in the framework of dependent interviewing. Survey data provides the evidence base for most research in the social sciences, policy studies and government decision making. Survey data is largely derived from interviews where an interviewer administers a standardised questionnaire to sampled respondents. The quality of the resulting data can rest, in part, on the design of the survey questionnaire on the one hand and how the questionnaire is administered on the other. The interaction between interviewer and respondent, that is the "interview dynamic", also colours the quality of the resulting data. The current study explores how the dynamic between interviewer and respondent can be a source of survey error resulting in a lessening of data quality. We seek to understand the role of this dynamic between interviewer and respondent in the context of "dependent interviewing" (DI). DI is a questionnaire design strategy implemented in studies with a longitudinal or panel design. In DI, information gathered at prior data collection waves is used to phrase questions or route respondents through later survey questionnaires. In order to study the interaction between interviewers and respondents within the context of DI, approximately 150 survey interviews from the British Household Panel Survey Wave 16 pilot were tape-recorded, transcribed and systematically coded. This analytic technique is called "behaviour coding" and it has long been used to identify and correct survey administration errors as well as to identify problems in survey design. Despite this long-standing use, little is written about how to develop procedures for behaviour coding as well as the coding scheme itself. In this paper, we document and discuss the coding strategies and procedures we used as well as coder recruitment and training, reliability assessment, timetables and costs.

The Development and Implementation of a Coding Scheme to Analyse Interview Dynamics in the British Household Panel Survey

Emanuela Sala, S.C. Noah Uhrig and Peter Lynn

Abstract

The study of interviewer-respondent interaction that occurs during an interview can give very useful insights into the cognitive process of answering questions, the social dynamics that develop in an interview context and the way these dynamics ultimately impact data quality. Behaviour coding is a technique used to code such interactions. Despite its long-standing use, little is written about the procedures to be followed while developing a coding scheme. This paper provides a practical background on the development and implementation of the behaviour coding scheme adopted to explore interview dynamics in the framework of dependent interviewing. This schema was used to code approximately 150 previously transcribed interviews of the British Household Panel Study Wave 16 pilot. Coding strategies and procedures, coder recruitment and training reliability assessments as well as timetable and costs are documented and discussed.

Key words:
Behaviour coding, coding scheme, interviewer-respondent interaction, dependent interviewing, BHPS.

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The Impact of Dependent Interviewing on Interview Dynamics. Background

This paper derives from a project funded by the Economic and Social Research Council (ESRC), 'The Impact of Dependent Interviewing on Interview Dynamics: Implications for Longitudinal Survey Design'. This project aims to explore how survey design and implementation features impact interview dynamics and the consequences of this on data quality. Interview dynamics – or, the interactions between respondents and interviewers – are governed in part by the survey instrument itself and can have a significant impact on data quality, most notably on measurement error (Biemer & Lyberg 2003; Ongena 2005). In this project we focus, in particular, on dependent interviewing (DI), a survey interviewing and question design strategy that is becoming more widely used in major UK longitudinal surveys. Dependent interviewing is a standardised questioning method particular to longitudinal surveys that utilises data gathered in previous interviews of a respondent to formulate question text and route respondents through subsequent surveys. This practice can be distinguished from independent interviewing which makes no reference to data previously collected in earlier waves or sweeps (Lynn *et al.* 2006; Mathiowetz and McGonagle 2000). Our project specifically seeks to (i) examine the impact of DI on the response burden and on interviewers in their questionnaire administration role, (ii) understand the impact of DI on interview dynamics and (iii) evaluate any associations between problematic dynamics and interviewer, respondent, question characteristics and data quality. To reach our research goals we analysed 142 interviews of the British Household Panel Study Wave 16 pilot that were fully coded at the utterance level (see Uhrig and Sala, forthcoming). The present paper details the procedures we adopted to code these interviews. After an introduction on interaction analysis and behaviour coding, we discuss the strategies, rules and procedures of coding itself, illustrate the development and implementation of the coding scheme, and document coder recruitment and training. We also give an overview of the time frame and the cost of conducting behaviour coding. Finally, we conclude with a discussion of the lessons learnt from this process.

Interaction analysis and behaviour coding. Studying and coding interviewer-respondent interactions

Most qualitative and quantitative data collection methods used by social researchers are based on interviews. In the course of interviews, e. g. in depth interviews, cognitive interviews or survey face to face/telephone interviews, different forms of social interactions between a minimum of two actors (the respondent and the interviewer) usually occur. Social interactions developing in an interview context – their nature, content and sequence – have been studied for a long time (for a review see, for example, Ongena and Dijkstra 2006), as the analysis of such interactions can give very useful insights into the cognitive process of answering questions, the social dynamics that develop in an interview context and the way these dynamics ultimately impact data quality. As Van der Zouwen puts it:

> "first, the interaction by itself always affects the responses obtained, and the effect may be positive or negative. This also means that the interaction may improve, or hamper, the comparability of the responses obtained. And, second, a detailed analysis of interactions deviating from the one "outlined" by the designer of the instrument may inform the survey researcher about difficulties respondents and interviewers have with the tasks they are supposed to perform" (2002, p. 54)

Respondent-interviewer interactions have been analysed from two different perspectives: the conversational approach and the survey methodology one. These two approaches differ not only in relation to the epistemological background, interviews as conversations versus pure data collection method (Beatty 1995), but also in relation to the analytical methods adopted to study interview dynamics, conversation analysis versus interaction analysis (for a review see Maynard *et al.* 2002). The first approach, based on the analysis of very detailed extracts of interview transcripts, focuses mainly on respondent-interviewer interactions and the way such dynamics develop to produce answers to survey questions (Schaeffer and Maynard 1996). Focusing on interviews as conversations, conversation analysis emphasises speech events and general rules governing talk such as turn taking (Schaeffer 2002) On the contrary, interaction analysis which is usually based on the analysis of some or all previously coded interviewer-respondent verbal exchanges occurring during a question-answer sequence, focuses on the frequency of occurrences of certain

interviewer or respondent behaviour (Fowler and Cannell 1996) or on patterns or sequences of a few succeeding speech acts or entire question answer sequences (Ongena 2005). This paper studies survey interviewer-respondent exchanges from this latter perspective.

Interaction analysis is performed on a coded string of interviewer and respondent exchanges. In order to code such interactions a behaviour coding scheme is developed and adopted. Behaviour coding is a technique of observing, recording and classifying verbal and/or non-verbal actions and is widely used in both the social and natural sciences (Bakeman and Gottman 1997; Reynolds 1980; Sapolsky 2002; Singleton *et al*. 1988). Its ultimate aim is the categorisation of complex social and individual behaviours so that they can be analysed using quantitative techniques such as sequence analysis, amongst other strategies. Behaviour coding has been widely used in survey methodology to evaluate the conduct of survey interviewers (Cannell *et al*. 1975) as well as to judge the performance of questions as evidenced by interviewer and respondent behaviour as questions are administered (Ongena 2005).

Data

Dependent interviewing was introduced for the first time at wave 16 of Britain's longest running annual panel survey, the *British Household Panel Study* (BHPS). Fieldwork for BHPS Wave 16 began in September 2006. To test how DI performs in the field, a pilot was conducted in March 2006 using separate samples in Great Britain (GB) and Northern Ireland. In GB, the issued pilot sample comprised households from the former *European Community Household Panel* sample previously used for the *Improving Survey Measurement of Income and Employment* study in 2003 (see Jäckle *et al.* 2004 who describe this sample in detail). A further pilot was conducted in Northern Ireland using a convenience sample for questionnaire testing purposes, prior data coming from an initial interview in the spring of 2005. The data we analyse

are 142 recorded interviews of the BHPS Wave 16 pilot in GB. We have not examined any of the data from Northern Ireland[1].

In Great Britain, interviewing for the BHPS Wave 16 pilot was conducted in 166 of 222 households issued to field for a general response rate of 74.8 percent. Approximately 12.6 percent of households were non-contacts, largely untraced movers. Since this sample had not been contacted since 2003, this number is not necessarily large. About 9.5 percent of households refused to participate in the pilot. Interviewing was not conducted with the remaining sample, or about 3.2 percent of issued households, for reasons of severe infirmity, institutionalisation or death. Within the 166 interviewed households, approximately 259 individuals responded. Permission for their interview to be tape recorded was obtained from 187 respondents, of these 164 were successfully recorded by interviewers while 23 recordings were blank signalling an interviewer error in managing the recording equipment (see table 5). The successful recordings were sent to an outside agency for transcription. Only 147 of the recorded interviews were successfully transcribed. Failure to obtain transcriptions for all 164 of successfully recorded interviews will be discussed below.

The piloted questionnaire uses 19 DI questions across three domains including current employment, labour market history and sources of unearned income (see Appendix 1 for the list of questions). The questionnaire routes respondents to DI questions if previous data were available for them, otherwise independent questions were asked. The pilot did not employ an experimental design as respondents were not randomly assigned to DI and "no DI" versions. The pilot was designed to operate as a "dress-rehearsal" of the BHPS main-stage rather than as a means for assessing DI question formats, per se. The pilot, however, resulted in a complementary set of qualitative and quantitative data concerning the survey instrument's performance in a setting nearly identical to main-stage fieldwork.

Observation modes and coding strategies

As with any original research, the units of analysis and units of observation must be clearly defined. With a project utilising behaviour coded data, this decision becomes

[1] 70 out of 93 interviews from Northern Ireland were recorded with respondent permission but were not transcribed for use in this project.

one about the behaviours observed to which codes will be assigned (Ongena 2005). Deciding the behaviours to be coded involves choosing whether to perform full or selective coding – that is coding all behaviours or assigning codes only to behaviours of interest and ignoring the rest. The unit of analysis reflects the substantive research question and can range from the individual utterances, a single exchange of utterances between parties, or the entire question-answer sequence. Decisions also need to be taken as to whether to perform live coding, to code from recordings of interviews or to code transcriptions of interviews. The discussion on the mode of data collection, the identification of the unit of coding and decisions regarding the strategies to perform behavioural coding are concurrent (or, sometimes, antecedent) to the development of the coding scheme. We first discuss the different methods to collect/record interviewer and respondent behaviours, focusing, in particular, on our adopted method. We then present the coding strategies that survey researchers normally use and we discuss the ones we implemented.

Methods of collecting and coding interviewer and respondent behaviour

Behavioural coding of interviewer and respondent survey interaction can be performed in four different ways: live (during the course of the interview), coding recorded interviews, using interview transcripts and by computer recording of the interviews (CARI). These four methods present both advantages and disadvantages and, in particular, they differ with respect to the economic costs, the feasibility, the reliability of the coded data and the potentiality for the analysis (for details see (Ongena and Dijkstra 2006, p. 425). Live coding is indeed the cheapest method as well as one of the least intrusive types of behaviour coding but it is also a method that allows only basic coding and basic analysis. Coding transcripts, although one of the most expensive mode, offers the advantage of being reliable and of allowing detailed analysis. As our interest lies in the thorough analysis of interviewer and respondent interaction, we performed behaviour coding of recorded interviews that have been transcripts. Ideally one should perform behaviour coding of digitally recorded interviews (CARI). This strategy offers many advantages over traditional analogue recordings. For example, transcripts are no longer needed, the coding process is quicker and more accurate coded data can be obtained. Indeed coding of digital

recordings allows researchers to take into consideration during the production coding non verbal behaviours (pauses, for example) and other verbal behaviours that are usually not transcribed (intonations, irony etc.) by linking the digital recording directly to codes assigned. These types of behaviours are sometimes crucial to interpreting the meaning of an utterance. Due to financial and technical constraints we were not able to perform CARI behaviour coding.

The BHPS pilot interviews conducted in Great Britain were transcribed in spring 2006[2]. Transcription was not performed in-house but was commissioned from a transcribing agency because of time constraints imposed on spending available funds. Detailed specifications on how to perform the transcription of the tapes were provided, vis., word-for-word transcription, how to indicate speakers, etc.,…. To capture the relevant DI questions, the interviews were transcribed from the beginning of the employment section to the end of the interview even though full interviews were recorded.

Table 1 Accounting the final coded transcripts

Number of survey respondents giving a full interview	258		
Number of respondents giving permission to record interview		187	
-- Number of interviews recorded to cassette			164
-- Number of cassettes blank due to interviewer error			23
Number of cassettes sent to the transcribing agency	164		
Number of cassettes returned from transcription agency		142	
Number of transcripts returned by transcribing agency		147	
-- Number of cases with neither cassette nor transcript returned			1
-- Number of cassettes returned without a transcript			16
-- Number of transcripts returned without a cassette			21
-- Number of matching cassettes and transcripts			126
N of coded transcripts	142		
Transcripts checked against their matching cassette recording		126	
Transcripts created in-house from original recording		16	

Although 164 interviews were successfully recorded and available for transcription, the hired transcription agency returned only 147 transcripts together with 142 tapes (see Table 1). These 142 tapes constitute the uncoded data for our analysis. The agency lost 22 tapes while at the same time failing to provide transcripts for 17 recordings resulting in only 126 matching recordings and transcripts (note that one

[2] The interviews carried out in Northern Ireland have not been transcribed and will not be included in this present project.

tape was lost for which the agency provided no transcript). This loss of data raised our concern about the quality of the transcripts. As a result, we instructed coders to check the quality of 5 transcripts each against their original recordings. This initial check showed that the transcripts were not an accurate and literal transcription of what was actually said during the interview. Coders then checked a further 15 transcripts each to be sure the errors were systematic and widespread. This exercise indicated that, overall, the quality of the transcripts was very poor: words and whole sentences were omitted, text was made up and arbitrarily added while audible text was transcribed as inaudible. Since our intention was to code live utterances from their record as indicated in the transcript, we decided to check all transcripts against their recordings, then edit the missing/inaudible text and delete any "arbitrarily added" material[3]. Furthermore, we transcribed in-house portions of the 16 recorded interviews for which the agency provided no transcript.

In Appendix 2 we show an example of a particularly poor quality transcript. The comparisons between the transcription done by the agency and the in-house edited version show omissions (see, for example, line number 5 and 6 or 32 and 33), inaccurate transcription of answers, and in particular, a tendency to "summarise" answers (compare line number 44 of the agency transcript to line numbers 44-49 of the in-house transcription), and to add text that was not actually said (line number 30). If one were to use such transcripts for research purposes different from ours, one could be led to very misleading results.

The resulting 142 transcripts were imported into Sequence Viewer[4] and coded. Before transcripts could be imported into Sequence Viewer for coding, various aspects of the text needed to be edited and marked. This included: (i) indicating the speaker with text rather than formatting (i.e., interviewer noted as "I:", respondent as "R:" and others as "O:"); (ii) identifying and noting the question by adding the questionnaire question numbers, (iii) identifying question-answer sequences with a marker at the beginning and ending of each sequence (in our case a "@@@"), (iv) deleting any questionnaire questions in which we were not interested. Table 2 shows

[3] In some cases we found that question text was simply copied and pasted from one transcript to others.
[4] Sequence Viewer is available free of charge. It can be downloaded from the following web site http://home.fsw.vu.nl/w.dijkstra/SequenceViewer.html. Sequence Viewer runs on Macintosh.

an example of part of a transcript ready to be imported while an example of a whole transcript ready to be imported is shown in Appendix 3.

Table 2 Transcript modified for importing into Sequence Viewer

S_N	Original transcript	Transcript ready to be imported
1		@@@
2		E5P
3	**The last time we interviewed you, you said your job was a Night Care Assistant in a residential home?**	I: The last time we interviewed you, you said your job was a Night Care Assistant …
4	Yes it still is.	R: (interrupts) Yes it is, yeah
5	**With 50 elderly patients**	I: … in a residential home, for 50 elderly patients ….
6	It's 67 now	R: But it's 67 now
7		I: It is 67 now, ok
8		@@@
9		e6P
10	**You describe the firm that you were working for as a residential care home, is that still right?**	I: You described the firm that you were working for as a residential care home, is that still right?
11	Yes.	R: Yes, yes

Note: Original transcripts have the interviewers'questions in bold.

The process of preparing the transcripts for import into Sequence Viewer was not entirely straightforward. For example, interviewers who departed from the standardised interview made question identification difficult. Consider this short part of interview: "You are working for the education… yes … and you were working for Manchester City's Education Department and you are an employee". In this case the interviewer is actually combining three proactive dependent interviewing questions into a single statement – questions E6P, E6aP and E7P (for the exact question wording, please see Appendix 1). We created a set of files listing for each interviewed respondent the questions with valid data, indicating which questions the respondent would have "answered" during their interview. The transcript could then be compared against this list so that utterances corresponding to the required question could be identified and marked appropriately (see the section below).

The unit of coding

Survey methodologists usually perform behaviour coding at one of four different levels (Ongena and Dijkstra 2006, p. 422). The unit of coding might be represented by the entire interview, the question-answer (Q-A) sequence, the exchange and the individual utterance. When the whole interview is assigned some evaluative code, behaviour coding is performed at the interview level (see, for example, Carton 1999). More often behaviour coding is performed at other levels. The units of coding could be, for instance, the Q-A sequence or the exchange (Morton-Williams 1979). A Q-A sequence begins when the interviewer starts reading a question and finishes when he/she poses the next one while an "exchange" consists of an adjacent pair of a question and an answer. Evaluating Q-A sequences of exchanges means, for example, assessing whether a sequence or exchange is paradigmatic or problematic or verifying whether certain behaviours occur in the course of the interaction. With respect to coding the Q-A sequence, coding at the exchange level offers the advantage of preserving sequential information and therefore of allowing for an analysis of interviewer-respondent interaction.

Behaviour coding could also be performed at the utterance level. An utterance is a meaningful part of speech, technically referred to as a "turn-constructional unit" (Ongena 2005; Sacks, Schegloff, and Jefferson 1974). Researchers studying survey interviewing have drawn on a sociolinguistic theory of conversations that refers to the speech performed by conversational partners as "turns". Each turn in a conversation is comprised of several utterances which a listener parses into meaningful segments according to generally understood rules of syntactic, prosodic and/or pragmatic completeness (Ongena 2005; Sacks, Schegloff and Jefferson 1974). Prosodic completeness can be judged by actually listening to the speech in question and is understood from the sound of the speech including pitch change, pauses, elongating vowels, other sounds etc.,…Syntactic completeness might be judged by identifying syntactically complete sentences in transcribed speech. Not all speech in interviews is syntactically complete, however. Pragmatic completeness of an utterance is judged by means of sequential reasoning. That is, identifying meaningful utterances within a

set of all utterances made by a speaker that are functionally related to one another yet otherwise complete in meaning unto themselves. Segmenting utterances within the speech of either a survey interviewer, respondent or third party consists of judging the completeness of the utterance. Coding then proceeds by applying a description to each utterance made by each speaker. Coding at the utterance level has the advantage of preserving very detailed information on the sequences of interactions but it also has drawbacks, such as high coding costs and difficulties in correctly identifying utterances.

Behaviour coding schemes differ not only in respect to the unit of analysis to code but also in relation to the "amount" of behaviour to be coded. If the researcher's aim is to *explore* the structure of interviewer-respondent interaction, then full coding is usually performed. While performing full coding, all utterances or all possible interviewer and respondent behaviour occurring during an interview are coded according to pre-selected codes. Full behaviour coding is therefore performed exclusively at the utterance level. If researchers have clear research questions regarding certain interviewer-respondent behaviours (for example, evaluating interviewers performance), then selective coding is normally applied. When performing selective coding, only those behaviours relevant to the researcher's aims get coded. Selective coding could be performed at the Q-A sequence, exchange and at the utterance level. The choice of the coding strategy to adopt depends not only on the research questions but also on the time and economic resources available as well as on the type of analysis that researchers wish to carry out (see Ongena 2005, p. 50-51).

Given the aims of our study and the exploratory nature of our work we decided to code all possible verbal behaviours rather than focusing on some pre-selected set (Q-A sequences or exchanges). We performed, therefore, full behaviour coding at the utterance level. As mentioned above, one of the most difficult tasks in performing full behaviour coding at the utterance level is the correct identification and separation of verbal exchanges into meaningful utterances. Table 3 gives an example of how this process is performed. Clearly, meaningfully complete utterances belonging to the "original" question-answer sequence were successively segmented into separate and independent textual units (see the column headed "Q-A Sequence Utterance"). The example in Table 3 at sequence number 3 -- "*Yep. You get a pension from an*

employer" – gets broken down into two utterances. The first utterance, "*Yep.*", reflects the interviewer acknowledging respondent's answer with a verbal but non-specific utterance (this piece of meaningful text, as we shall see in the next section, is coded IP0nAxx). The second utterance, "*You get a pension from an employer*", is an echo back to the respondent of the words describing the category they selected in response to the questionnaire question (this would get the code IP0EAxx). Note that we are distinguishing between the non-specific sound "Yep" and the explicit words "You get a pension from an employer" as being distinct and meaningfully complete utterances. Sequence number 4 "*Yeh, do you want the amounts?*" can be broken down in a similar fashion.

Table 3 Examples of full behavioural coding at the utterance level

SeqNo	Original Q-A sequence	Q-A Sequence Utterance
1	I: Which of those things do you get at the moment?	I: Which of those things do you get at the moment?
2	R: 1	R: 1
3	*I: Yep. You get a pension from an employer*	I: Yep
		I: You get a pension from an employer
4	R: *Yeh, do you want the amounts?*	R: Yeh
		R: do you want the amounts?
5	I: No, not yet	I: No, not yet

Note: SeqNo is the sequence number of the original question-answer sequence.

The Development of the Coding scheme

As pointed out by Bakeman and Gottman (1997. ch. 2), observing and coding behaviour is an arduous task. One has to develop a coding scheme, chose the most appropriate coding strategies and procedures and plan carefully in advance the most efficient allocation of financial and human resources. In the remaining parts of this paper we discuss the strategies adopted to fulfil each of these tasks.

To analyse social interactions in interview contexts many different types of coding schemes have been developed and implemented over time (see Ongena and Dijkstra 2006). The structure of a coding scheme, including the number and types of codes included in the scheme, mainly depend on the researcher's aim and theoretical

approach (Bakeman and Gottman 1997) and on the economic resources and time available to perform the coding. In their exhaustive review of coding schemes Ongena and Dijkstra (2006) have identified four types of coding schemes (i) coding schemes focusing on interviewer behaviour (see, for example, Cannell, Lawson and Hausser 1975; Fowler and Mangione 1990; Belli *et al*. 2004), (ii) coding schemes focusing on survey questions (amongst others, DeMaio *et al.* 1993; Oksenberg, Cannell and Kalton 1991; Schaeffer and Dykema 2004), (iii) coding schemes focusing on the respondent behaviour (for example Cannell *et al.* 1969; Gallagher, Fowler and Roman 2004) and (iv) coding schemes focusing on the interaction between interviewer and respondent (Marquis and Cannell 1969; Dijkstra 1999). This final grouping represents coding schemes that are typically adopted to study interview dynamics in the survey context, as such coding schemes allow one to disentangle the way a set of sequential interviewer and respondent behaviours influence each other. Indeed, a common element of coding schemes focusing on the interaction is the preservation and coding of sequential information on interviewer and respondent behaviours. Preserving and coding such pieces of information constitutes a key aspect of many of these kinds of coding schemes, but the coding of non-problematic behaviour (e.g., commenting and providing justifications for answers) is equally important. Researchers are in fact interested in identifying all possible behaviours that might influence interview dynamics and interactions, not only problematic ones.

Following Bakeman and Gottman's suggestions (Bakeman and Gottman 1997), to develop our coding scheme we started to "observe" the social behaviours in which we were interested. To have an idea of the specific issues involved in the BHPS interviews, in particular regarding the administration of the dependent interviewing questions, we initially read 50 interview transcripts selected at random. We sought to identify problematic behaviours (comments, interviewer rewording of questions, directive probing, elaborations etc.), relevant question and answer sequences and note the boundaries around the utterances comprising them (see Coding Strategies, below). We developed a first version of the coding scheme and prepared a coder manual after several rounds of discussions concerning what to code and how to code it. We then trained coders in the task of coding the transcripts. During their initial work, we realised that not all the material in the transcripts could be accommodated by the codes we initially developed, thus we created and included new codes and new coding

rules where necessary. The code scheme and the coding procedure itself became quite erratic despite our intention to develop a code scheme founded on principles articulated by Dijkstra (1999): completeness, practical feasibility and reliability. By elaborating upon the initial code scheme as and when needed, the procedures and codes themselves became very complicated to administer, incomplete and unreliable. Five months after the start of the project, therefore, we decided to develop a second version of the coding scheme.

Three principles drove the development of a second coding scheme: (i) the coding scheme should describe the nature of the interaction in detail; ii) it should support evaluation of the interviewer-respondent exchange in relation to standardisation and iii) it should support evaluation of the performance of DI questions. Ideally the coding scheme should also provide some information on the sequences in which respondent and interviewer exchanges occur. We wished to evaluate the exchange with respect to standardised interviewing because the measurement of accurate and reliable social phenomena is one of the main challenges faced by social researchers and by survey methodologists in particular. Advocates of standardisation believe that in order to obtain reliable and accurate data one has to standardised the different phases of the survey interview:

> "this not only implies that the wording of the question has to be identical for all respondents, but also that the meaning of the question for the respondents has to be approximately equal to the meaning intended by the designer of the question. And the way interviewers present the questions has to be about equal for every respondent and every interviewer" (van der Zouwen 2002, p. 49).

As put by Fowler and Mangione (1990), standardisation is therefore a requirement for a proper analysis of survey data. A survey interview is constituted by a series of question and answer sequences. Evaluating interviewer-respondent exchanges in relation to standardisation practically means evaluating deviations from what is usually considered as a "paradigmatic sequence" (Schaeffer and Maynard 1996). A paradigmatic sequence occurs when "the interviewer poses the question as scripted and the respondent immediately gives an adequately formatted answer that is assumed to be appropriate" (Ongena 2005, p. 11).

After an extensive review of various coding schemes (Ongena and Dijkstra, 2006), our revised coding scheme adopted the most recent version of Dijkstra's coding scheme as applied by Ongena (2005) with some modifications for our specific project regarding dependent interviewing. Table 4 shows the final version of the coding scheme used. The coding scheme has a multivariate nature with codes that are mutually exhaustive and exclusive, meaning that every utterance (a meaningful part of speech, see paragraph "The unit of coding") is coded according to 7 variables: ACTOR, EXCHANGE, DISTANCE, SPECIFICATION, ADEQUACY, DATE, and INTERRUPTIONS. The variables ACTOR, EXCHANGE and SPECIFICATION describe the nature of the interaction in detail by specifying who is speaking (ACTOR) and the nature of the speech (EXCHANGE and SPECIFICATION). The variables DISTANCE, ADEQUACY and INTERRUPTIONS evaluate the utterance with respect to standardisation while the variable DATE, together with the variable INTERRUPTIONS, give an evaluation of the performance of DI questions in the field.

Table 4 The coding scheme

ACTOR	EXCHANGE	DISTANCE	SPECIFICATION	ADEGUACY	DATE	INTERRUPTIONS
I: Interviewer	Q: Question	0: from script	O: Open question	A: adequate	d: missing date	i: interruption
R: Respondent		1: related to 0	C: Closed Q	M: mismatch	x: not applicable	t: interrupted
O: Other Person		2: related to 1	Y: Yes/no Q	I: invalid		c: combined
		3: irrelevant	S: Statement	S: suggestive		x: not applicable
		F: forward	I: intro / instructions	z: not codeable		
		B: backward	M: meaning of Q			
			0: skipped question			
I: Interviewer	A: Answer	0: from script	O: Open question	A: adequate	x: not applicable	
R: Respondent		1: related to 0	C: Closed Q	M: mismatch		
O: Other Person		2: related to 1	Y: Yes/no Q	I: invalid		
		3: irrelevant	k: don't know	T: qualified		
		F: forward	r: refused	z: not codeable		
		B: backward				
I: Interviewer	P: Perception	0: from script	E: Echo	A: adequate	x: not applicable	i: interruption
R: Respondent		1: related to 0	n: notes other party	M: mismatch		t: interrupted
O: Other Person		2: related to 1				x: not applicable
		3: irrelevant				
		F: forward				
		B: backward				

ACTOR	EXCHANGE	DISTANCE	SPECIFICATION	ADEGUACY	DATE	INTERRUPTIONS
I: Interviewer	R: Request	0: from script	d: duplicate (request repetition)	A: adequate	x: not applicable	i: interruption
R: Respondent		1: related to 0	m: meaning (paraphrase)	M: mismatch		t: interrupted
O: Other Person		2: related to 1	o: other	C: corrected SC error		x: not applicable
		3: irrelevant	A: showcard	0: missing SC reference		
		F: forward				
		B: backward		x: not applicable		
I: Interviewer	C: Comment	0: from script	p: personal	x: not applicable	x: not applicable	i: interruption
R: Respondent		1: related to 0	T: task			t: interrupted
O: Other Person		2: related to 1				x: not applicable
		3: irrelevant				
		F: forward				
		B: backward				
I: Interviewer	D: detour	3: irrelevant	p: personal	x: not applicable	x: not applicable	i: interruption
R: Respondent			T: task			t: interrupted
O: Other Person						x: not applicable
I: Interviewer	U: unintelligable	x: not applicable	x: not applicable	x: not applicable	x: not applicable	x: not applicable
R: Respondent						
O: Other Person						

1) Coding variable ACTOR

Utterances are first coded according to the first coding variable ACTOR. This coding variable identifies the producer of the utterance, the interviewer (I), the respondent (R) and other persons (O). Assigning the code for ACTOR was straightforward in most instances.

2) Coding variable EXCHANGE

The coding variable EXCHANGE indicates the type of information that was communicated between the actors. Actors could ask (survey and non survey) questions (Q), provide answers (A), express perceptions (P), make requests (R), make relevant comments (C) and detour from survey script altogether (D). In some instances the tape recording of the interview was of poor quality so we included a code for unintelligible (u) material.

3) Coding variable DISTANCE

The coding variable DISTANCE evaluates the content of the information exchanged according to its relevance to the questionnaire. The information exchanged was therefore assigned one of 4 values representing how related it is to the question as scripted. DISTANCE would take the value 0 if the actors exchanged utterances directly related to the question in the questionnaire such as asking, repeating or answering the scripted question. DISTANCE was coded 1 when actors elaborated upon or provided motivation for a scripted question or answer to a scripted question. The value 2 was used in instances of providing further elaboration or motivation for elaborations or motivations initially announced.

The following example highlights how these three initial values might be assigned. Suppose the question may require respondents to select from a list of state benefits the ones they receive. The respondent might answer “War Disablement Pension” which would be given a distance of 0 as this directly meets the task required by the scripted question. They may then go on to say, “I was in the war and was injured you know” which would take a value of 1. If the respondent went on to say, “Bloody awful leg injury that was”, distance would be coded 2. We further used a final value of 3 to indicate utterances completely irrelevant with respect to the question scripted in the questionnaire. Note that the coding variable could also take the value “F” and “B”.

These values represented utterances in respect of previous (B) or subsequent (F) questions during the run of the questionnaire.

4) Coding variable SPECIFICATION

The coding variable SPECIFICATION flags further information on the type of question or answer. Questions and answers could be open (O), closed (with a list of response alternative, C) or yes/no (Y). SPECIFICATION could also take values of S, when a question is read (incorrectly) as a statement, I for utterances that were introductions or instructions, M to clarify the meaning of a question and 0 when questions are not read at all. "Don't Know" answers and "Refusals" are coded as 'k' and 'r'. As previously explained, social interactions in a survey context could also include perceptions, requests, comments and detours. Perceptions such as repeating or rephrasing utterances are coded as E while perceptions such as noting other party's behaviours are coded as 'n'. Requests for duplications (e.g., repetitions of answers) were coded as 'd', requests to other actors to clarify the meaning of an exchange were coded as 'm', other requests are coded as 'o' while requests for showing a show card are coded as A. Comments and detours were either defined as personal (p) or task related (T).

Table 5 provides an example of the codes applied to a sequence of utterances utilising these first four code variables[5].

Table 5 Examples of ACTOR, EXCHANGE, DISTANCE and SPECIFICATION

SeqNo	Utterance	Codes	Explanation for the codes
1	I: Which of those things do you get at the moment?	IQ0C	Interviewer poses a closed questionnaire question
2	R: 1	RA0C	Respondent answers to a closed questionnaire question
3	I: Yep	IP0n	Interviewer acknowledges (perceives) the respondent's answer to a questionnaire question
	I: You get a pension from an employer	IP0E	Interviewer echoes wording of the category the respondent selected
4	R: Yeh	RP0n	Respondent acknowledges (perceives) the interviewer.
	R: Do you want the amounts?	RQFY	Respondent poses a yes/no question concerning content forward in the questionnaire
5	I: No, not yet	IAFY	Interviewer answers a forward questionnaire question

5) Coding variable SPECIFICATION

Coding variable ADEQUACY moves the focus of the coding scheme from a description of the *type* of utterance that is being exchanged to an *evaluation* with regard to standardisation (see Beatty 1995). Questions are defined as adequate (A) if they are read exactly as scripted in the questionnaire, as mismatch (M) if read with (minor) changes that do not alter their meaning (when synonyms are used, for example), or as invalid (I) if read with changes that altered the original meaning. A changed meaning was not always easily identified. A simple test for doubtful cases was whether the answer to the question as scripted and the answer to the question as read could be different from one another while at the same time both being true answers. For example, "Are you employed?" and "Did you do any paid work last week?" could both be answered "Yes" and "No" respectively, while both being true. In addition to changed meaning, interviewers might sometimes suggest one or more of the response categories. ADEQUACY was then coded as suggestive (S). When the coding variable DISTANCE is other than 0 (directly related to the current scripted

[5] More examples are also given in appendix 4.

question) or B (related to a previous scripted question), adequacy could not be determined and was therefore coded ‘z’. Adequacy was also determined for other kind of exchanges such as answers, perceptions and request.

6) Coding variable DATE

The last two coding variables, DATE and INTERRUPTION, evaluate utterances with regard to dependent interviewing. Each DI question in the BHPS pilot makes a reference to the date in which the fed forward data were collected. The DI questions in the employment section of the questionnaire, for example, would therefore start with this initial expression “Last time we interviewed you, on 8 March 2005, you said you were …”. An exploratory analysis of the BHPS pilot transcripts has shown that interviewers tend to omit reading this reference date. Omitting the date does not invalidate the question completely, therefore we retained an ADEQUACY code of A if the only difference between the read question and the scripted question was a missing date. When interviewers fail to announce the date in a DI question, the DATE coding variable is coded as ‘d’. When an independent question was asked, coding variable DATE was coded as not applicable (‘x’).

7) Coding variable INTERRUPTIONS

Common in any sort of survey, respondents sometimes interrupt interviewers while they are asking questions although respondent answers could also be interrupted by interviewers. In the BHPS pilot, respondents tended to interrupt by agreeing or disagreeing to the fed forward data. Regardless of ACTOR, any interruption triggered a set of codes to capture the event. To take into account of this aspect we introduced the variable INTERRUPTIONS. The utterance made by the actor who was interrupted was coded ‘t’ while the utterance made by the actor who had interrupted was coded ‘i’. This procedure was followed regardless of the type of EXCHANGE.

The exploratory analysis of the transcripts has also shown that questions, especially DI questions, are sometimes combined and read as one single question. For example, the interviewer might say “You are working for CityClean and you are an employee”. The name of the employer is fed back to respondents in a DI question (See

Appendix 1). The next question feeds to the respondent whether they were previously an employee or self-employed. In this example, not only are the questions combined, they are presented as statements. The code 'c' of the INTERRUPTIONS coding variable was used to indicate questions being combined[6]. Table 3 shows an example of coded behaviour with regard to the last three variables we have just discussed.

Table 6 Examples of code variables ADEQUACY, DATE and INTERRUPTION

SeqNo	Utterance	Codes	Explanation for the codes
1	I: Which of those things do you get at the moment?	IQ0CIdx	Interviewer poses a closed questionnaire question *that is invalid and the reference time of the DI question is missing*
2	R: 1	RA0CAxx	Respondent answers to a closed questionnaire question *adequately*
3	I: Yep.	IP0nAxx	Interviewer acknowledges (perceives) the respondent's answer to a questionnaire question *adequately*.
	I: You get a pension from an employer	IP0EAxx	Interviewer echoes wording of the category the respondent selected *adequately*.
4	R: Yeh	RP0nAxx	Respondent acknowledges (perceives) the interviewer *adequately.*
	R: do you want the amounts?	RQFYAxx	Respondent poses a yes/no question concerning content forward in the questionnaire *adequately*.
5	I: No, not yet	IAFYAxx	Interviewer answers a forward questionnaire question *adequately*

Production coding

"The validity and reliability of the results obtained with the coding scheme depend on the persons who did the coding" (Ongena 2005 p. 56). The coders and the way they are trained play a key role in research that aims to code social behaviours. Researchers debate who should actually perform the coding. Brenner (1982), Loosveldt (1985) and Van der Zouwen and Smit (2004) did the coding themselves,

[6] For a more detailed explanation of the use of the coding variables Actor, Exchange, Distance, Specification and Adequacy see Ongena (2005, pp. 213-219).

Burgess and Patton (1993) and Snijkers (2002) had the coding performed by experienced interviewers while Dijkstra *et al*. (1985) and Belli *et at*. (2004) used undergraduate or graduate students otherwise without any interviewing experience.

We decided to have the coding performed by trained coders because we judged this to be the most expedient and reliable way of completing the coding task. The funding covered the costs of a full time research assistant over the period of six months. Given the (repetitive) nature of the task involved, we preferred to hire several coders to work for a less than full-time but totalling approximately full-time between them. In March 2007 we hired three coders initially on a "casual and when required contract". Two were PhD students from the Health and Human Sciences Department of the University of Essex familiar with survey methodology and with some research experience and the third held a BA in Linguistics. For a short period we also hired an undergraduate student to check and edit several transcripts against their matching cassette tape as well as fourth coder who was a master degree student.

Inter (and intra) coder reliability constitutes a key issue in studies based on the analysis of coded social behaviour. Higher inter coder reliability signals better quality data implying more reliable results. To maximise coding reliability, coders underwent an intensive training period before beginning production coding.

Table 7 contains a time-table outlining the coder training programme and production coding period. In an initial meeting, three months after the beginning of the project, we explained the exact nature and purpose of the project, described the structure of the questionnaire, outlined the coder tasks and the work arrangements. To familiarise coders with tasks required and to check whether the transcripts were accurate, we had each coder listen to 5 recorded interviews. Time constraints faced by the principle investigators as well as coders meant that a two-day training occurred one month after this initial meeting. During the first day of training we focused on two issues: behaviour coding and the coding scheme and the exact detail of how the dependent interviewing portions of the questionnaire operated. We ended the day by coding together a dummy interview on paper. The second day of the training focused on teaching coders to use Sequence Viewer and the Macintosh computers on which Sequence Viewer was installed, as well as how to organise their work. We continued with coding of a dummy transcript. Over the course of the next three weeks we assigned coding exercises and met once each week to discuss the results of these exercises. Through this training period, we finalised a first coding manual which included examples of how to code each of the questions in which we were interested (see Appendix 4)

Table 7 Timetable of Coder Training and Production Coding

Duration	Activity	Content
1 hour	Start up meeting	Aims of the project, structure of the questionnaire, coder tasks, work arrangements
2 consecutive days	Training	
	1st day	Introduction to behaviour coding, detail of how DI works in the current employment, employment history, and finance sections of the BHPS, overview of the initial coding scheme and manual, coding dummy transcript on paper
	2nd day	Practical training on use of Sequence Viewer, coding dummy transcripts on paper, take-home assignment to code three transcripts (identify questions, sequences, utterances and code utterances)
3 days over two months	Follow up on coding	Discussion on coding done at home
4 hours	Training and follow up on coding	Overview of the (second)coding scheme and of the (second) coders' manual
3 and 1/2 months	Production coding and data cleaning	

The quality and careful planning of coder training could be seriously compromised by coder turnover. The demanding and somewhat repetitive nature of the coding tasks could in principle increase the likelihood of turnover. Turnover can impact a project's time-table and management. High turnover also reduces the economic efficiency of the project because investment in coder training would not be translated into much productive coding. High coder turnover can also reduce inter-coder reliability as high standards of inter-coder reliability tend to be obtained through an ongoing training programme to which all the coders take part simultaneously. On-going training can maintain coder enthusiasm for the project as well thereby reducing likely turnover.

To combat the risk of turnover and to support greater inter-coder reliability, we instituted a weekly meeting throughout the duration of production coding. During this meeting, we discussed particularly complicated coding situations and identified solutions. Despite our efforts to minimise coder turnover, one of the coders dropped out at around the time the production coding started. Since she informed us of her decision to leave one month in advance we were able to minimise the inconvenience caused by training a new coder in time to overlap with the initial set of coders.

The quality of the training can be influenced by radical modifications to the coding scheme. As discussed above, our initial multivariate coding scheme proved overly complicated and ultimately unreliable. We learned this through the initial weeks of the coder training period. After noting and reviewing the types of errors coders continued to make using the original coding scheme, we decided to adopt Ongena's (2005) coding scheme for full-coding at the utterance level with some slight modifications germane to our focus on DI. Upon adopting this new scheme, the error rate dropped. This new scheme was adopted about a month after coder training had initially begun.

After two further weeks of practice coding, average exact matches in the number of utterances per sequence and codes assigned to matching utterances were sufficient to begin production coding. We estimated the pace of coding to average about 15 sequences per hour, although the actual length of time to code any given sequence varied significantly.

Assessing coder reliability

We assessed coder reliability at the end of the training period but before the beginning of the production coding. To perform this task, each coder independently unitised and coded the same set of 50 Q-A sequences. The assigned codes were then compared for agreement using Elzinga's method for assessing sequence similarity (Elzinga 2003). Various measures of sequence agreement exist and much debate focuses on which method is most suitable for different purposes (Abbott 1995; Abbott and Hrycak 1990; Bakeman and Gottman 1997; Dijkstra and Taris 1995; Elzinga 2003). Elzinga's approach usefully preserves and compares sequence length and order

without requiring strong assumptions about the significance of dissimilarity between sequences.

Sequences were sorted and matched across coders before we calculated sequence agreement. While an overall agreement measure could be calculated, we focused instead on agreement in unitising and each of the seven code variables. For an overall measure, we calculated agreement on a combination of ACTOR, EXCHANGE, DISTANCE and ADEQUACY as the chief variables of interest. Elzinga's method of calculating agreement provides a summary count of matching 'tuples' between sequences. Considering a single sequence coded by two coders, suppose Coder X's sequence was of length l_x while Coder Y's sequence was of length l_y. Then, L is max(l_x, l_y) and $m_{x,y}(k)$ counts the number of matching k-tuples between the set of codes assigned by Coder X and the set assigned by Coder Y -- $m_{x,x}(k)$ counts the number of matching k-tuples when comparing Coder X's sequence with itself. Elzinga's method then calculates agreement using the formula:

$$S_{s,y} = \sum_{k=1}^{L} \frac{m_{x,y}(k)}{\sqrt{m_{x,x(k)} \cdot m_{x,y}(k)}} / L$$

This formula summarises the matching strings of codes of various sizes ranging from 1 to L. It ranges from 0 for complete dissimilarity between sequences to 1 indicating complete agreement. The agreement measure is the arithmetic average of $S_{x,y}$ across 50 sequences. Table 8 lists the degree of agreement amongst the three coders across each code variable and the set of four main code variables.

Table 8 Agreement measures

	Coder A & Coder B	Coder B & Coder C	Coder A & Coder C
Actor	0.922	0.947	0.942
Exchange	0.747	0.812	0.810
Distance	0.805	0.823	0.865
Specification	0.619	0.649	0.765
Adequacy	0.660	0.640	0.706
Direction	0.914	0.956	0.961
Substance	0.850	0.881	0.932
Actor, Exchange, Distance, & Adequacy	0.554	0.521	0.555

The agreement values for ACTOR, EXCHANGE, DISTANCE, DIRECTION and SUBSTANCE are all very high. While SPECIFICATION AND ADEQUACY are lower, they are still respectable. Given the multidimensional nature of this coding exercise, the agreement measures for the combined codes of ACTOR, EXCHANGE, DISTANCE and ADEQUACY slightly above the 0.50 mark represent agreement between coders that is sufficiently high to be acceptable, particularly considering the high degree of agreement on the code variables separately considered. Furthermore, given that coder reliability was assessed at the beginning of the production coding stage, it is very likely that coder reliability increased as the production coding progressed. Despite their key role in behaviour coding, coder reliability measures are rarely published, and if they are, reliability measures different from the one we adopted are used (Bakeman and Gottman 1997). It may therefore not be useful to make comparisons between the reliability scores we obtained with the ones assessed in other studies.

Project management and timetable

Table 9 provides a review of the main tasks undertaken during the initial coding phase of our project. Some of the tasks in this project should be performed sequentially because they are strongly interdependent. For example, the coder training and production coding should start after the development of the coding scheme. Other tasks can be performed independently. The preparation for the template to code in

Sequence Viewer can be done at the same time as the recruitment of the coders, for example. Overall, the coders required 471 hours to edit and code the 142 transcripts.

With this as our first study of this kind, we initially organised two workshops for the general public at which more experienced researchers in this area explained and discussed practical issues in behavioural coding and methodological issues in the analysis of sequence data. These workshops yielded at least two important outcomes. First, through these workshops we learned the procedures for developing a coding scheme, recruiting coders and completing production coding. The workshops, secondly, provided a forum for early career researchers interested in survey interviewing, data quality, behaviour coding, and the analysis of sequence data to meet and discuss their own research projects – a valuable activity in its own right.

Table 9 Time table

Task	Jan/Feb	March	April	May	June	July	August	September
Workshops on BC & SA	X							
Development of Coding Scheme		X	X		X			
Preparatory Work on SV		X	X					
Coder Recruitment		X						
Coder Training		X	X	X	X			
Cleaning & Editing Transcripts				X				
Production Coding					X	X		X
Cleaning & Preparing Coded Data							X	X
Organisation of a conference session on behaviour coding				X	X	X		

Note: BC: Behavior coding; SA: Sequence analysis; SV: sequence viewer. The project started in January 2007.

Discussion

One of the main issues in behaviour coding research is the quality of coded data. Our study has shown that measurement error can arise during three main stages of the research: (i) in the data collection process, (ii) while transcribing recorded interviews and (iii) by coding them. Although these stages are deeply interrelated, we discuss each in turn for analytical purposes.

Data Collection

Transcribable recordings were obtained for 63.7% of interviewed respondents. This might have an impact on sample representativeness and possibly on the sample bias.

Two issues related to the collection of recorded interviews may have contributed to fewer recorded interviews than we had hoped. First, interviewers conducting the pilot were not provided with a specific scripted request to record interviews. Instead we briefed interviewers on the purpose of recording – i.e., so that we can understand how the dependent interviewing questions operate in field – and interviewers could structure the request to record according to the circumstances of the interview. This resulted in 187 positive requests out of 258 total interviews or approximately 72.5 percent of respondents consenting. Prior consent to record is not always obtained in social research but instead sometimes assumed if an interview is granted. Had we scripted the recording request explicitly, recording all interviews unless the respondent objected, we would undoubtedly have obtained a larger and more robust collection of interviews for analysis. However, preliminary analyses suggest no difference in age, sex, marital status, employment status and prior interview experience between those providing consent for recording and those not providing consent. This suggests that the respondents providing recorded interviews do not differ markedly from the respondents refusing to be recorded.

Of the 187 respondents consenting to have their interviews recorded, about 12.3 percent of resulting cassettes were blank. This indicated error on the part of interviewers in working the recording equipment We used rudimentary hand-held

cassette recorders with external and separately powered microphones. Failure to securely attach the microphone, turn the microphone on, or press the appropriate 'record' button on the cassette recorder could have resulted in a blank cassette. We could have taken greater care to integrate the recording of interviews into the CAPI software which would have been less intrusive and technologically taxing for interviewers (see Cheshire, McGee and Gray 2006 for a discussion of alternative recording strategies). This, however, was not possible given the funding available.

Combining the failure to obtain consent and unsuccessful recordings, we obtained transcribable recordings for only 63.7 percent of interviewed respondents. Nevertheless, as with consents, however, there is no difference between the age, sex, marital status, employment status or prior interview experience in the resulting 164 respondents for whom we obtained recorded interviews and the remaining sample for whom no recorded interviews were obtained.

Transcription

The information on successfully transcribed tapes reported in Table 1 (above) implies that the choice of the transcribing agency could be fatal for the success of the project. In other words, the management of recorded materials and accuracy of transcription relies heavily on trust between the researcher and the agency providing transcription. Although we exercised extreme care in selecting the transcribing agency by obtaining quotes from several agencies all recommended by other survey researchers as well as checking agency references, the transcribing agency we chose performed an extremely poor job. They lost 22 cassette tapes, failed to return transcripts for 17 tapes, and provided transcriptions that were not verbatim accounts of the recorded interviews despite explicit instruction. In addition, several transcripts were miss-identified however all were eventually linked to respondents. Since our project will analyse the verbal interaction between interviewer and respondent with a view towards understanding the dynamic between these parties, we would rely heavily on exact transcription to fully code at the utterance level. As noted above, we decided to check all cassette tapes returned by the agency against their transcripts and to edit them when necessary because of the key role played by the transcripts in our research. We did not anticipate having to check and edit the transcripts provided by the agency

nor did we anticipate needing to fully transcribe 16 interviews. Not only did this add costs to the project, but it also delayed analysis of these data. Based on this we highly recommend in-house transcription if the purpose of the study is to understand precisely how people express themselves and how human interaction proceeds in a survey context. The type of transcription required for this sort of analysis can be highly technical and require careful attention which may not be available in the transcription market.

We investigated whether the loss of cassettes by the agency resulted in any biases in the types of respondents for whom we could obtain coded data. That is, were the 142 respondents for whom we had recorded interviews post-transcription and editing different in anyway from the sample overall? We found that this set of respondents did not differ from full-sample overall on the basis of age, sex, employment status or prior interview status. However, respondents for whom we have completely coded data are significantly more likely to be widowed than the remainder of the interviewed sample.

Coding

Developing a code scheme that reflects the data is an iterative process – reading transcripts, devising codes, applying them, revising codes, reading more transcripts, more revisions, etc… An over-eager researcher might err in progressing towards production coding before the code scheme is sufficiently coherent, complete and reliable. With this our initial behaviour coding project, we believe we progressed towards coder recruitment and production coding before our code scheme was ready. Consequently, several weeks of coder time was used to pre-test the initial scheme and revise it which we could have more efficiently completed before recruiting coders. On the one hand, using coders for code scheme revisions runs the risk of coder turnover as time spent training may not be translated into productive coding. Once we started production coding, one original coder had already dropped out of the project, and a second continued only for about a third of the production coding period. On the other hand, using coders to pre-test the initial code scheme highlighted deficiencies that we, as the scheme's creators, may not have been able to identify. To that end,

using coders to pre-test the code scheme before revisions may have resulted in a better code scheme.

Conclusion

Behaviour coding in the social sciences is a technique of observing and recording both verbal and non-verbal social action. The technique utilises discrete taxonomies to record such action thus making it amenable for systematic analysis. Behaviour coding has been widely used to monitor and evaluate survey interviewing as well as to pre-test questions for several decades. Despite its long-standing use, little is written about the procedures to be followed while developing a coding scheme and completing production coding of behavioural units. In this paper we have described the development and implementation of a behaviour coding scheme to study the dynamics between interviewers and respondents in a survey interview. We have outlined the coding strategies and procedures, coder recruitment and training as well as timetable and costs of conducting the initial phase of our overall project. Through this discussion we have identified several lessons for others about conducting such a project. These include early development of a code scheme, in-house transcription if the transcription required is overly technical or detailed, and critical consideration of how to obtain recorded interviews.

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Appendix 1

Questionnaire sections transcribed for analysis

CURRENT EMPLOYMENT SECTION

RESPONDENTS NEVER INTERVIEWED (KEY CHECK B NE 1)
OR NOT EMPLOYED t-1/t-2 (EMPY=0) OR THOSE WITH NO FED FORWARD DATA (i.e. not interviewed at either t-1 or t-2) FOLLOW ROUTING FOR NO VALID INFORMATION FROM PREVIOUS INTERVIEW i.e. E5, E6, E6a (not NI), E7, E8, E9, E10

E5 **CHECK**
IF VALID OCCUPATIONAL DESCRIPTION
AND
VALID SOC CODE (Y5 = 1) ASK E5P
ELSE GO TO E5

E5P Last time we interviewed you, on <INTDATE>, you said your job was <OCCUP>. Are you still in that same occupation?

Yes	1	**GO TO E6 CHECK**
No.....	2	**ASK E5**
Don't know.....	8	

E5 What was your (main) job last week? Please tell me the exact job title and describe fully the sort of work you do.

OFFICE CODE

IF MORE THAN ONE JOB: MAIN = JOB WITH MOST HOURS
IF EQUAL HOURS: MAIN JOB = HIGHEST PAID

ENTER JOB TITLE: _____

DESCRIBE FULLY WORK DONE:
(IF RELEVANT 'WHAT ARE THE MATERIALS MADE OF?')

_____

_____

IF IN EMPLOYMENT AT PREVIOUS INTERVIEW AND
NO VALID OCCUPATIONAL DESCRIPTION AND
VALID SOC CODE FROM PREVIOUS INTERVIEW
(EMPY = 1 AND Y5 NE 1) ASK E5R
ELSE GO TO E6 CHECK

E5R Can I just check, is that the same occupation that you had last time we interviewed you, on <INTDATE>?

Yes 1
No.....2
Don't know 8

E6 **CHECK**
IF VALID INDUSTRY DESCRIPTION AND
VALID SIC CODE
(Y6 = 1) ASK E6P
ELSE GO TO E6

E6P Last time we interviewed you, on <INTDATE>, you described the firm/organisation you were working for as <INDUS> Is that still an accurate description of the place where you work?

Yes ..... 1 **GO TO E6a CHECK**
No..... 2 **ASK E6**
Don't know 8

E6. What does the firm/organisation you work for actually make or do (at the place where you work)?
DESCRIBE FULLY

OFFICE CODE

_____

_____

IF IN EMPLOYMENT AT PREVIOUS INTERVIEW AND
NO VALID INDUSTRY DESCRIPTION FROM
PREVIOUS INTERVIEW AND VALID SIC CODE
(EMPY=1 AND Y6 NE 1) ASK E6R
ELSE GO TO E6a CHECK

E6R Can I just check, is that the same as what the firm/organisation you worked for last time we interviewed you, on <INTDATE> did?

Yes 1
No.....2
Don't know 8

E6a **CHECK**

NORTHERN IRELAND GO TO E6aRN CHECK
ELSE
IF VALID EMPLOYER/TRADING NAME (Y6a = 1) ASK E6aP
ELSE GO TO E6a

E6aP Last time we interviewed you, on <INTDATE>, you said that you were working for <EMPLOYER>? Are you still working for the same employer or trading name?

Yes ..... 1 **GO TO E7 CHECK**
No..... 2 **ASK E6a**
Don't know 8

E6a. What is the exact name of your employer or the trading name if one is used?
DO NOT USE ABBREVIATIONS

WRITE IN _____

IF IN EMPLOYMENT AT PREVIOUS INTERVIEW AND NO VALID EMPLOYER NAME FROM PREVIOUS INTERVIEW (EMPY=1 AND Y6a NE 1) ASK E6aR
ELSE GO TO E7 CHECK

E6aR Can I just check, is that the same employer or trading name that you were working for last time we interviewed you, on <INTDATE>?

Yes 1
No..... 2 **GO TO E7 CHECK**
Don't know 8

GO TO E7 CHECK

IF NORTHERN IRELAND SAMPLE

E6aRN **CHECK**
IF IN EMPLOYMENT AT PREVIOUS INTERVIEW (EMPY = 1)
ASK E6aRN
ELSE GO TO E7 CHECK

E6aRN Can I just check, are you still working for the same employer or under the same trading name as when we last interviewed you on <INTDATE>?

Yes 1

No.....2
Don't know 8

E7 **CHECK**
IF VALID EMPLOYMENT STATUS PREVIOUS WAVE (Y7 = 1) ASK E7P
ELSE GO TO E7

E7P Last time we interviewed you, on <INTDATE>, you said you were <JBSEMP>. Are you still <JBSEMP>?

Yes, employee.....	1	**GO TO E7a**
CHECK		
Yes, self-employed.....	2	**GO TO E73**
No.....	3	**ASK E7R**
Don't know.....	8	**GO TO E7**

E7R So now you are <AN EMPLOYEE / SELF-EMPLOYED>? {text fill is opposite JBSEMP text from fed forward category}

Yes, employee.....	1	**GO TO E7a**
CHECK		
Yes, self-employed.....	2	**GO TO E73**
No.....	3	**ASK E7**
Don't know	8	

E7. Are you an employee or self-employed?

Employee	1	**ASK E7a**
Self-employed	2	**GO TO E73(page 71)**

ASK EMPLOYEES ONLY

E7a **CHECK**
IF STILL IN SAME OCCUPATION AND WITH SAME EMPLOYER (E5P=1 OR E5R=1) AND (E6aP=1 OR E6aR=1 OR E6aRN=1)
ASK E7a
ELSE GO TO E8

E7a Have you had a promotion or changed grade since <INTDATE>?

Yes	1	**ASK E7b**
No.....	2	**GO TO E7c**
Don't know	8	

E7b Can you tell me the date you were promoted or changed grades?
CODE DON'T KNOW - DAY OR MONTH = 98, YEAR = 9998

Day		Month		Year			

E7bDK ***INTERVEIWER CHECK:***
Is date of promotion at E7b before March 1st 2005?

DATE AT E7b IS: *<u>BEFORE</u> March 1st 2005 .....1*
March 1st 2005 or <u>AFTER</u>.....2

E7c Have you been working in your current job for your current employer continuously since <INTDATE>?

Yes 1
No.....2

E8 **CHECK**
IF VALID MANAGERIAL DUTIES FROM PREVIOUS INTERVIEW (Y8=1) ASK E8P
ELSE GO TO E8

E8P Last time we interviewed you, on <INTDATE>, you said you were <MANAG>. Is that still the case?

Yes	1	**GO TO E9 CHECK**
No.....	2	**ASK E8**
Don't know.....	8	

E8 Do you have any managerial duties or do you supervise any other employees?

Manager.....1
Foreman/supervisor.....2
NOT manager or supervisor.....3

E9 **CHECK**
IF E6AP = 1 OR E6AR = 1 AND VALID SECTOR FROM PREVIOUS INTERVIEW (Y9 = 1) THEN ASK E9P
ELSE GO TO E9

E9P Last time we interviewed you, on <INTDATE>, you said you were working for <SECTOR>. Is that still the case?

Yes	1	**GO TO E10 CHECK**
No	2	**ASK E9**
Don't know	8	

E9. SHOWCARD 33

Which of the types of organisations on this card do you work for (in your main job)?

Private firm/company/plc	01
Civil Service or central government (not armed forces)	02
Local government or town hall (inc local education, fire, police)	03
National Health Service or State Higher Education (inc polytechnics)	04
Nationalised Industry	05
Non-profit making organisation (include charities, co-operatives etc)	06
Armed forces	07
Other (**PLEASE GIVE DETAILS**) _____	08

E10 **CHECK**
IF E6AP = 1 OR E6AR = 1 AND VALID SIZE OF WORK PLACE FROM PREVIOUS INTERVIEW (Y10 = 1) ASK E10P
ELSE GO TO E10

E10P Last time we interviewed you, on <INTDATE>, you said that <SIZE> people were employed at the place were you work. Is that still the case?

Yes	1	**GO TO E11**
No	2	**ASK E10**
Don't know	8	

E10. SHOWCARD 34

How many people are employed at the place where you work?
INCLUDE ALL EMPLOYEES INCLUDING PART-TIME AND SHIFT WORKERS

1 - 2 01
3 - 9 02
10 - 24 03
25 - 49 04
50 - 99 05
100 - 199 06
200 - 499 07
500 - 999 08
1000 or more 09

Don't know but fewer than 25 10
Don't know but 25 or more.....11

****

E30a **CHECK**
IF (NHRPAY>0) & (wNHRPAY>0) GO TO E30b CHECK;
ELSE IF (GHRPAY >0) & (wGHRPAY>0) GO TO E30d CHECK
ELSE GO TO E31

E30b **CHECK**
IF (NHRPAY <0.7 * wNHRPAY), OR IF (SAMEJB = 1 AND (NHRPAY >1.4 * wNHRPAY)), OR IF (SAMEJB=2 AND NHRPAY > 1.6 * wNHRPAY)) ASK E30c
ELSE GO TO E31
i.e. ASK E30c if hourly pay has fallen by more than 30% OR (respondent in same job as in previous year AND hourly pay has increased by more than 40%) OR (respondent in different job AND hourly pay has increased by more than 60%)

N.B. *The term <CONVERTED AMOUNTS> in* ***E30c*** *and* ***E30d*** *refers to pay amounts from previous interview converted to cover pay period stated in current interview*

E30c So your net pay has gone <UP/DOWN> since last time we interviewed you, from <CONVERTED AMOUNT> per <E23PERIOD> for a <wTOTHRS> hour work week (including overtime), to <E22AMT> per <E23PERIOD>, is that correct?

Yes	1	**GO TO E31**
No	2	**ASK E30cv**
Don't Know/Other	8	

E30cv **INTERVIEWER: ASK RESPONDENT FOR AN EXPLANATION AND WRITE IN WITH ANY CORRECTED AMOUNTS/PERIODS**

GO TO E31

E30d **CHECK**
IF (GHRPAY <0.7 * wGHRPAY), OR IF
(SAMEJB=1 AND
(GHRPAY >1.4 * wGHRPAY)), OR IF
(SAMEJB=2 AND
GHRPAY > 1.6 * wGHRPAY)) ASK E30d
ELSE GO TO Error! Reference source not found.

E30d So your gross pay has gone <UP/DOWN> since last time we interviewed you, from <CONVERTED AMOUNT> per <E21PERIOD> for <wTOTHRS> hour work week (including overtime), to <E20AMT> per <E21PERIOD>, is that correct?

Yes	1	**GO TO** Error! Reference source not found.
No	2	**ASK E30dv**
Don't Know/Other	8	

E30dv **INTERVIEWER: ASK RESPONDENT FOR AN EXPLANATION AND WRITE IN WITH ANY CORRECTED AMOUNTS/PERIODS**

EMPLOYMENT HISTORY

J1. **CHECK**

IF FULL-TIME STUDENT/AT SCHOOL (D17 or D29 =7) GO TO J6

IF IN CURRENT EMPLOYMENT (E1=1 or E2=1) AND NO CHANGES TO PREVIOUS WAVE EMPLOYMENT i.e. (E6aP =1 or E6aR=1 or E6aRN = 1) AND (E5P=1 or E5R=1) AND (E7c=1 or E100a=1) GO TO RV1

IF KEY CHECK B NE 1 OR (INT1=0 and INT2=0) AND START DATE OF CURRENT EMPLOYMENT (E57 or E100b) BEFORE MARCH 1st 2005 OR (E58=1 or E100c=1) GO TO RV1

ELSE IF IN CURRENT EMPLOYMENT (E1=1 or E2=1) GO TO J9 CHECK

ELSE IF NOT CURRENTLY EMPLOYED (E1 ne 1 and E2 ne 1) ASK J6

There are no questions J2 to J5

NON EMPLOYED ONLY

J6. **SHOWCARD 43**

Please look at this card and tell me which best describes your current situation?

Unemployed 03
Retired from paid work altogether 04
On maternity leave 05
Looking after family or home 06
Full-time student/ at school 07
Long term sick or disabled 08
On a government training scheme 09
.....
Something else **(PLEASE GIVE DETAILS)** ..... 10 **GO TO J9 CHECK**

IF previous wave non-employment activity not the same as current wave non-employment activity (ACTT1 ne J6 and ACCTT1 valid) GO TO J9 CHECK ELSE ASK J7

J7. On what date did your present spell of being (CODE AT J6) begin?
IF DON'T KNOW DAY OR MONTH ENTER 98 AND CODE YEAR
IF DON'T KNOW YEAR ENTER 9998

	Day	Month	Year
WRITE IN:	☐☐	☐☐	☐☐☐☐

J8. ***INTERVIEWER CHECK***:
Is date at J7 before <INTDATE>/March 1st 2005?

ASK RESPONDENT IF UNCLEAR

DATE IS: Yes, before <INTDATE>/March 1st 2005 ....1 ***GO TO J29*** *(page 94)*
No, <INTDATE>/March 1st 2005 or after ...2 ***J9 CHECK***

J9. **CHECK**
IF previous respondent with valid previous activity
(ACTT1 = 1 to 9) ASK J9a
ELSE GO TO J9b

J9a When we last interviewed you, on <INTDATE>, our records show that you were <ACTT1>. Is that correct?

Yes	1	**GO TO J9 Intro**
No	2	**ASK J9b**
Don't know	8	

J9b **SHOWCARD 44**
Please look at this card and tell me which best describes your situation on {March 1st 2005/ <INTDATE>}?
CODE ONE ONLY

Self employed	01
In paid employment (full or part-time)	02
Unemployed	03
Retired from paid work altogether	04
On maternity leave	05
Looking after family or home	06
Full-time student/ at school	07
Long term sick or disabled	08
On a government training scheme	09
Something else **(PLEASE GIVE DETAILS)**	
_____	10

(Note – use categories below for text fill at J9 Intro)

Job	01
Job	02
Unemployment	03
Retirement	04
Maternity leave	05
Looking after the family or home	06
Being a full-time student/ at school	07
Long term sickness or disability	08
Being on a government training scheme	09
Something else **(PLEASE GIVE DETAILS)**	
_____	10

J9 **INTRO**
READ OUT

I'd like to ask you a few questions now about what you might have been doing since <INTDATE>/March 1st 2005 in the way of paid work, unemployment, or things like time spent retired or looking after your family.

As we need to get as complete a picture as possible I'd like you to tell me about any spells you may have had in or out of paid employment, even if they were just a few days when you were waiting to take up another job. I'd also like you to tell me about any changes that might have happened while you were working like getting promoted or starting a different job with the same employer.

IF J9a =1

I'll start by asking about what you were doing immediately after the {job} **(IF ACTT1 = 1 or 2)**/ period of <ACTT1> which you were doing on <INTDATE>.

GO TO J10

IF J9a>1

I'll start by asking about the {job} **(J9b = 1 or 2)**/ period of <J9b> which you were doing on <INTDATE>/March 1st 2005.

J10. And on what date did you stop doing that {job} / {period of <ACTT1> or <J9b>}?

IF DON'T KNOW DAY OR MONTH ENTER 98 AND CODE YEAR
IF DON'T KNOW YEAR ENTER 9998

	Day	Month	Year
ENTER DATE:	☐☐	☐☐	☐☐☐☐

Not ended, this is current job / status..... 1 **GO TO J29**

HOUSEHOLD FINANCES

INTRODUCTION: One of the most important parts of our research is how people are getting by financially these days. We have found that we need to ask about a number of different types of income because otherwise our results could be misleading. I'd like to remind you that anything you tell me is completely confidential.

F1. I am going to show you four cards listing different types of income and payments. Please look at this card **(SHOWCARD 63)** and tell me if, since March 1st 2005, you have received any of the types of income or payments shown, either just yourself or jointly?

IF YES: Ask 'which ones?' PROBE 'Any others?' UNTIL FINAL 'No'.
RING CODES FOR ALL THAT APPLY. REPEAT FOR EACH CARD IN TURN.
IF RESPONDENT REFUSES CODE 'Refused' AT F2

SHOWCARD 63

N.I. Retirement / State Retirement (Old Age) Pension.....01
A Pension from a previous employer.....02
A Pension from a spouse's previous employer.....03
A Private Pension/Annuity 04
A Widow's or War Widow's Pension.....05
A Widowed mother's allowance.....06
Pension Credit 07
(Introduced from October 2004)

SHOWCARD 64

Severe Disablement Allowance. 16
Industrial Injury or Disablement Allowance 18
Disability Living Allowance/ Care Component.....26
Disability Living Allowance/ Mobility Component 27
Disability Living Allowance/ Components not known.....28
Attendance Allowance 19
Invalid Care Allowance.....21
War Disability Pension.....22
Incapacity Benefit.....25
(Formerly invalidity benefit/NI Sickness benefit)

SHOWCARD 65

Income Support.....32
Job Seeker's Allowance 42
Child Benefit 35
Child Benefit (Lone Parent).....36
Working Tax Credit 37
(Formerly Working Family Tax Credit and Disabled Person's Tax Credit)
Maternity Allowance 38
Housing Benefit/Rent rebate or allowance 39
Council Tax Benefit 40
Any other state benefit 41
Child Tax Credit.....43
(Introduced from April 2004)

SHOWCARD 66

Educational Grant (not Student Loan).....51
Trade Union/Friendly Society Payments 52
Maintenance or Alimony 53
Payments from a family member <u>not</u> living here 54
Rent from Boarders or lodgers (<u>not</u> family members) living here with you 55
Rent from any other property 56
Foster Allowance 57
Sickness or accident insurance 58
Any other regular payment.....59
(PLEASE GIVE DETAILS)

CHECK Pension

IF RESPONDENT IS (MALE AND AGED 65 OR OVER) OR (FEMALE AND AGED 60 OR OVER) AND DID NOT REPORT RECEIPT OF THE STATE RETIREMENT PENSION (F1 NE 1) ASK NFA
ELSE GO TO CHECK Pension Credit

NFA Can I just check, do you currently receive the State Retirement Pension?

Yes, receives pension (inc joint receipt).....	1	**ASK NFB**
No, not receiving (inc deferred pensions).....	2	**GO TO CHECK**
.....		**Disability benefits**

CHECK Pension Credit

IF RESPONDENT RECEIVES ONLY STATE RETIREMENT PENSION (F1 = 1 OR NFA = 1) AND (F1 NE 2,3,4,5,6 or 7) ASK NFB
ELSE GO TO CHECK Disability benefits

NFB Do you currently receive Pension Credit?

Yes, receives pension credit (inc joint receipt).....	1
No, does not receive.....	2
Don't know	8

IF NFA eq 1 or NFB eq 1 GRID(s) COLLECT DETAILS (max 2 grids)

CHECK Disability benefits

IF RESPONDENT IS LONG TERM SICK, DISABLED OR HAS A CHRONIC CONDITION (D17 = 8 OR D29 = 8 OR M1 = 1 OR M3 NE 0) AND (E1 = 2 and E2 = 2) AND (F1 NE 16,18,26,27,28,19,21,22 OR 25) ASK NFC
ELSE GO TO CHECK Income support/JSA

NFC Can I just check, do you currently receive disability benefits of any kind?

Yes.....	1	**ASK NFD**
No	2	**GO TO CHECK**
.....		**Income support/JSA**

NFD **SHOWCARD 64**
Which ones do you receive?
CODE ALL THAT APPLY
GRIDS COLLECT DETAILS FOR EACH CODED AT NFD (max 9 grids)

CHECK Income support/JSA

IF RESPONDENT UNEMPLOYED (D17 = 3 OR D29 = 3) AND (F1 NE 32 OR 42) ASK NFE
ELSE GO TO CHECK Child Benefit

NFE Can I just check, do you currently receive any benefits such as Income Support or Job Seekers Allowance?

CODE ALL THAT APPLY

Yes, Income Support 1
Yes, Job Seekers Allowance 2
No, receive none of these ..... 3 **GO TO CHECK Child benefit**

GRIDS COLLECT DETAILS FOR CODES 1 and 2 AT NFE (max 2 grids)

CHECK Child benefit

IF RESPONDENT IS THE MOTHER OF A CHILD AGED 18 OR UNDER LIVING IN THE HOUSEHOLD AND DID NOT REPORT RECEIVING CHILD BENEFIT
(F1 NE 35) ASK NFF
ELSE GO TO CHECK Housing Benefit

NFF Can I just check, do you currently receive Child Benefit?

Yes, receives child benefit 1
No, not receiving (no children eligible) ..... 2 **GO TO CHECK Housing Benefit**

GRID COLLECT DETAILS FOR CODE 1 AT NFF (max 1 grid)

CHECK Housing benefit

IF RESPONDENT RECEIVES MEANS TESTED BENEFITS AND NO HOUSING BENEFIT (F1 = 7 OR F1 = 25 OR F1 = 32 OR F1 = 42 OR NFB = 1 OR NFD = 25 OR NFE = 1 OR NFE = 2) AND (F1 NE 39)

NFG Can I just check, do you currently receive Housing Benefit?

Yes, receives Housing Benefit 1
No, not receiving Housing Benefit 2

GRID COLLECT DETAILS FOR CODE 1 AT NFG (max 1 grid)

FOR EACH FED FORWARD SOURCE 1 THROUGH SOURCE 12 NOT MENTIONED AT F1
OR (NFA THRU NFG) ASK NFH

NFH Can I just check, according to our records you have in the past received <SOURCE1 -- SOURCE12>. Have you received <SOURCE1 -- SOURCE12> at any time since <INTDATE>?

Yes 1
No 2

Appendix 2

Line number	Agency Transcription	In-house transcription
1	**Last time we interviewed on 4th April 2003, you said your job was a customer advisor … Are you still working in that occupation?**	**Last time we interviewed you on the 14th April 2003, you said your job was a customer advisor for a DIY store.**
2		U-huh.
3		**Are you still working in that occupation?**
4	I am going back to that occupation. At the moment I'm a check-out operator.	I am going back to that occupation.
5		**Are you? But at the moment you're not.**
6		Yeh at the moment um, at the moment I'm a check-out operator.
7	**For?**	**For the same-**
8	Morrison's.	For Morrison's.
9	**[Inaudible]**	**For Morrison's-**
10		U-huh.
11		**-that's what you said isn't it? So that's a no, so I do just have to take that up. Erm so, checkout operator.**
12		U-huh.
13		**[Inaudible]**
14		**Working in a supermarket, on the checkout.**
15		**So it's not a DIY store, so, the, place you're working now, what do they actually make or do?**

		It's a-
16		Supermarket.
17		**-Supermarket.**
18	Last 2 days – tomorrow and Saturday.	
19	**Do you do anything else?**	
20	No.	
21	**And you are still an employee?**	**And you are still an employee?**
22	Yes.	Yes.
23	**[Inaudible]**	
24	Yes.	
25	**[Inaudible]**	
26	No.	
27	**Do you have any managerial duties?**	**Do you have any managerial duties?**
28	No.	No.
29	**[Inaudible]**	
30	Haven't got a clue.	
31	**How many people are employed at the place you work?**	**How many people are employed at the place you work?**
32		Erm.
33		**And, showcard 34**
34	Must be 7 I think.	Number 7 I think.
35		**7.**
36		Yep.

37	**One of the most important parts of our research is how people are getting by financially these days and we've found we need to ask about a number of different types of income because otherwise our results could be misleading. I'd like to remind you that anything you tell me is completely confidential. I am going to show you four cards listing different income and payments.**	**One of the most important parts of our research is how people get by financially these days we've found we need to ask about a number of different types of income because otherwise our results could be misleading. I'd like to remind you that anything you tell me is completely confidential. I am going to show you four cards listing different types of income and payments.**
38	**Showcard 63 – have you received any of those since 1st March 2005? That's about pensions. You are not receiving a pension?**	**The first one is 63, it's that one there.**
39		U-huh.
40		**Erm…they're pensions, so you're not receiving a pension.**
41	No.	No.
42	**Showcard 64 – any of those? These are about disability allowances**	**And 64, are disability allowances, you're not receiving any of those.**
43	No.	No.
44	**Any on Showcard 65? This is other types of payment.**	**65. This is other types of payments, do you receive any of these?**
45	I get child benefit and working tax credit.	Erm, we get child benefit.
46		**Yep.**
47		Or I get child benefit.
48		**Yes.**
49		And working tax credit.
50		**Yep.**

51	**Showcard 66?**	**And on 66, do you receive anything on this?**
52	Maintenance.	Maintenance.
53	**Yes.**	
54	That's the only one I get.	

Note: The in-house transcription was further checked by one of the researchers. Interviewers' utterances are in bold.

Appendix 3

Example of a transcript to be imported

@@@
E5p
I: And last time we interviewed you on 3rd March 2003 you said your job was a prison administrator office worker in a prison. Are you still in that same occupation?

R: I got a promotion. It's a senior administrator now.

I: Pardon?

R: It's now called a Senior Administrator.

I: Right.

R: 'Cause I got a move up.

I: Well you're still in the same..

R: Same kind of job.

I: Hang on a minute. Let me just double check what this … I think really we want to go back and say that, um, you're not a prison administrator now, you are a senior.

@@@
E5
I: So your main job title is senior prison administrator officer, is that right?

R: Yes.

I: Well done. And the kind of work that you do?

R: Administration.

I: And are you in charge of other people in your job?

R: No.

I: So it's in a prison?

R: Yes.

I: A prison office.

R: Yes.

@@@

E6p
I: Last time we interviewed you on 3rd March 2003 you described the organisation you were working for as a prison. Is this still an accurate description of the place where you work?

R: Yes.

@@@
E6ap
I: And last time we interviewed you on 3rd March 2003 you said that you were working for Barlinney Prison. Are you still working for the same employer or trading name?

R: Yes.

@@@
E7p
I: Last time we interviewed you on 3rd March 2003, you said you were an employee. Are you still an employee?

R: Yes.

@@@
E8p
I: Last time we interviewed you on 3rd March 2003 you said you were not a manager or supervisor. Is that still the case?

R: Yes.

@@@
E9p
I: Last time we interviewed you on 3rd March 2003 you said you were working for the civil service or central government. Is that still the case?

R: Yes.

@@@
E10p
I: And the last time we interviewed you on 3rd March 2003 you said that 500 – 999 people were employed at the place where you work. Is that still the case?

R: Yes.

@@@
J9a
I: When we last interviewed you on 3rd March 2003, our records showed that you were employed. Is that correct?

R: Yes.

@@@
JINTRO
I: I'd like to ask you a few questions now about what you might have been doing since 3rd March 2003 in the way of paid work, unemployment or things like time spent retired or looking after your family. As we need to get as complete a picture as possible, I'd like you to tell me about any spells you may have had in or out of paid of employment, even if they were just for a few days while you were waiting to take up another job. I'd also like you to tell me about any changes that might have happened while you were working like getting promoted or starting a different job for the same employer. I'd like to start by asking about what you were doing immediately after the job you were doing on 3rd March 2003?

@@@
J10
I: On what date did you stop doing that job? In other words, you've been promoted, haven't you? So really it's a case of on what date did you stop doing the previous job you were doing?

R: When did I get that job? It was March, wasn't it? Was it March two year ago? I think it was March 2004.

I: So in actual fact it's not ended – it's the current job you are in? You got the senior administrator job in 2004?

R: Yes.

I: Right, so in other words it's the same job you are doing now? Is that right?

R: In 2003 I'd just started that job and then I got promotion in 2004 and that's me doing the same job.

I: You're doing the same job. So it's not ended. That's fine. I've got a little bit that says that and that's the end of that one. There we are, that made that easy. It's just trying to remember back isn't it, the years, you know, what year it is.

@@@
FINTRO
I: Right. One of the most important parts of the research is how people are getting by financially these days. We have found that we need to ask about a number of different types of income because otherwise our results could be misleading. I'd like to remind you that anything you tell me is completely confidential.
@@@
F1
I: I am going to show you four cards, so if you could please look at Card 63 for me. Could you please look at this card and tell me if, since 1st March 2005, you have received any of the types of income or payment shown.

R: None.

@@@
SC64
I: And Card 64, have you received any of the types of income or payments shown on this card since March 1st 2005?

R: None.

@@@
SC65
I: And Card 65, have you received any of the types of income or payments on this since March 1st 2005?

R: No.

@@@
SC66
I: And Card 66, again, have you received any of the types of income or payments shown on this card since March 1st 2005?

R: No.

Appendix 4

Extract from the coders' manual (Question E5)

E5P – Last time we interviewed you, on <INTDATE>, you said your job was <OCCUP>. Are you still in that same occupation? IQ0YAxx – Interviewer poses question from script that's a yes/no question adequately

- "Last time we interviewed you, you said your job was <OCCUP>, Are you still in that same occupation?" – IQ0YAdx (interviewer poses question from script that's yes/no this adequate but for missing off the date.)
- "And you said your job was a firefighter. Are you still in that same occupation?" (leave off "Last time we interviewed you" and "on DATE") IQ0YMdx: mismatch, because there is no reference to the last time they were interviewed at all.
- Last question "Is that right?" – IQ0YIxx (interviewer poses question from script that's yes/no but invalid because it now refers to the accuracy of information given last time rather than being in the same occupation)
- "Are you still in the same job?" – IQ0YMdx (interviewer poses question from script that's yes/no but mismatch because of wording difference but meaning is not changed AND there is no reference to the date of the last interview)
- "So you are a firefighter" – IQ0SSdx (interviewer poses question from script as a statement that's suggestive of the answer, again no mention of date)
- "So you are a firefighter working for the local fire department" – IQ0SSdc (Interviewer poses a question from script as a statement that's suggestive and combined with another question. Again, no mention of last interviewer date at all.)

E5 – What was your (main) job last week? Please tell me the exact job title and describe be fully the sort of work you do. (IQ0OAxx – interviewer poses question from script that's an open ended question adequately).

- "Can you describe fully what you do in your job?" – IQ0OMxx (Int poses q're question from script that's open but mismatch – words are different but 'meaning is unchanged')
- "And what do you do mainly in your job?" – IQ0OMxx (ditto) Mismatch includes failure to read the second sentence of the question.
  Note: The question appears at the top of the screen with two boxes underneath. There are two scripted probes allowed: "What is your job title?" and "Describe fully the work that your do?" or "Describe your work?" That is, the upper box contains the words just above it "ENTER JOB TITLE" and the bottom box contains the words just above "ENTER JOB DESCRIPTION". So if the interviewer asks for the job title, without reading any of the question it's still IQ0OMxx, same for asking for JOB DESCRIPTION separately.
- **PROBES**: Several types of probes could occur. Here are some examples:
  - IR1mAxx – interviewer requests clarification of the meaning of the respondents answer adequately (or suggestively … IR1mSx), note that this is not a scripted probe such as "What is your job title?"

- IR0dAxx (for example) – interviewer requests for repetition of respondents answer ("Can you say that again, please")
- IQ0OAxx – interviewer repeating the open part of the question itself
- IQ0OAxx – repeating a scripted probe: "What is your job title?" for example. This is an open question because there is anything could be the answer. Note that this is the same code as repeating the question.
- IQ1YSxx – suggestive probe, e.g., "So you answer the telephones?" for someone describing their job as a receptionist.

N.B. – Note the use of the DISTANCE code here. If the probe elicits further information or motivation for an answer, use code 1, use code 0 if the probe comes directly from the script itself.

E5R – Can I just check, is that the same occupation that you had last time we interviewed you on <INTDATE>? (IQ0YAxx)

"Is that the same occupation that you had last time we interviewed you?" IQ0YAdx – Interviewer poses question from script that's yes/no as a mismatch – even though they have off words at the beginning and the date, the time reference is implied and the initial words do not drive the meaning of the question. However, use code 'd' for DIRECTION (second from end) to indicate that the date reference was missing.