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NUMBER 1

Growing Up in Ireland

National Longitudinal Study of Children

INFANT COHORT

Report on Pre-piloting, Piloting and Dress Rehearsal Phases
of the Infant Cohort at Wave One (9 months)

December 2013





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REPORT ON PRE-PILOTING, PILOTING AND DRESS REHEARSAL PHASES OF THE INFANT COHORT AT WAVE ONE (9 MONTHS)

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The views expressed in this report are those of the authors and do not necessarily reflect the views of the funders or of either of the two institutions involved in preparing the report.





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- Secondary Caregiver Twin Questionnaire
- Non-Resident Parent Questionnaire
- Non-Resident Parent Information Sheet
- Home-based Carer Questionnaire
- Centre-based Carer Questionnaire
- Carer Information Sheet



About this report

This report describes the piloting process leading up to the main phase of quantitative fieldwork for the Infant Cohort. The first chapter provides background information on the objectives of, and the conceptual framework for, ***Growing Up in Ireland***. Chapter 2 describes the pre-pilot, which used a small convenience sample to make the first assessment of the intended Primary and Secondary Caregiver instruments. Chapter 3 outlines the first pilot, which used a larger, randomly selected, sample and used the full range of instruments. That pilot also saw infant measurements being taken for the first time. The dress rehearsal exercise, which was a second full pilot, is outlined in Chapter 4. Each section ends with a summary of the main changes resulting from that phase of the piloting process. There is also an appendix of accompanying questionnaires organised by section; for convenience these are presented in a separate document.



Chapter 1

INTRODUCTION TO GROWING UP IN IRELAND





1.1 INTRODUCTION

Growing Up in Ireland – the National Longitudinal Study of Children focuses on the factors that contribute to or undermine the well-being of children in 21st century Ireland. The project involves studying two main cohorts of children with a view to improving our understanding of their development across a range of domains over time. The first cohort focuses on nine-year-olds, the second on infants of nine months of age. The study of the older cohort is based on a nationally representative sample of just over 8,500 nine-year-olds, their families and teachers. The study of the younger cohort is based on a nationally representative sample of 11,000 infants and their families. The survey is longitudinal in nature; both cohorts are interviewed at least twice over the course of the project. The older cohort and their parents/guardians are interviewed when the children are nine and 13 years of age. The parents of the Infant Cohort are interviewed when their children are nine months of age and subsequently when they are three years old.

Having an Infant Cohort provides a means of collecting contemporaneous information on diverse aspects of the child's life from early childhood (e.g. feeding, temperament) and seeing how these affect later development (also collected contemporaneously). Being able to draw comparisons across the younger and older cohorts facilitates consideration about how childhood has changed, and continues to change as a function of historical context. For example, it is possible to compare breastfeeding rates as reported historically for the nine-year-olds (born 1997/1998) and currently for the infants (born 2007/2008). In years to come, it may be possible to compare the current nine-year-olds from the Child Cohort with the Infant Cohort at age nine years in terms of, for example, academic achievement or technology use.

The Infant Cohort is made up of the families of 11,000 children. The main data collection for that group took place between September 2008 and March 2009. This report describes the piloting process leading up to the final set of instruments and procedures for the main phase of data collection in the Infant Cohort. In the current chapter, we provide the context for the rest of the document. We begin by describing the background and objectives of the **Growing Up in Ireland** study. We then move on to a brief summary of the conceptual framework underlying the study, and how this is reflected in the design developed through various stages of piloting.

1.2 BACKGROUND AND OBJECTIVES

Growing Up in Ireland provides a very important input to the implementation of *The National Children's Strategy* – a major national plan for children, published in 2000 by the Department of Health and Children. The principal objective of the study is to provide evidence-based research into the well-being of children and childhood. The increased understanding of the determinants and drivers of well-being and its change and transformation over time will be used to assist in policy formation and the design and delivery of services for children and their families, as set out in the National Children's Strategy (2000). **Growing Up in Ireland** is a key element in the strategy, especially in regard to its second goal which notes that:

“Children will be better understood; their lives will benefit from evaluation, research and information on their needs, rights and the effectiveness of services.”



Growing Up in Ireland, the national longitudinal study of children in Ireland launched in 2006, is funded by the Department of Children and Youth Affairs in association with the Department of Social Protection and the Central Statistics Office. Detailed recommendations for the design of a National Longitudinal Children's Study were first presented in a paper titled *Design of the National Children's Strategy – Longitudinal Study of Children* (Collins, 2001). The current study stems from a Request for Tender issued by the Department of Health and Children in December 2004. After an assessment and evaluation process throughout 2005 and early 2006, work on the project by a research consortium led by the Economic and Social Research Institute (ESRI) and Trinity College, Dublin (TCD) began in April 2006.

Growing Up in Ireland is designed to describe and analyse what it means to be a child in Ireland today and to understand the factors associated with children's well-being, including those affecting their physical health and development, social, emotional and behavioural well-being, and educational achievement and intellectual capacity. While children's current well-being is of immense importance, researchers are also cognisant of the future outcomes for children as they develop into young adults. The longitudinal nature of the study allows one to record current data with a view to using them to assist in understanding future outcomes. By gathering comprehensive data on childhood development, the study will provide a statistical basis for policy formation and applied research across all aspects of a child's development – currently and into the future.

The study has nine over-arching objectives:¹

1. To describe the lives of Irish children, to establish what is typical and normal as well as what is atypical and problematic
2. To chart the development of Irish children over time, to examine the progress and well-being of children at critical periods from birth to adulthood
3. To identify the key factors that, independently of others, most help or hinder children's development
4. To establish the effects of early child experiences on later life
5. To map dimensions of variation in children's lives
6. To identify the persistent adverse effects that lead to social disadvantage and exclusion, educational difficulties, ill-health and deprivation
7. To obtain children's views and opinions on their lives
8. To provide a bank of data on the whole child
9. To provide evidence for the creation of effective and responsive policies and services for children and families

The Infant Cohort forms a key part of meeting these objectives. At Wave 1, the data have value not just in the provision of cross-sectional information on infants but also in terms of acting as a baseline for future comparisons and longitudinal analysis.

¹ *Request for Tenders (RFT) for Proposals to Undertake a National Longitudinal Study of Children in the Republic of Ireland*, issued by the National Children's Office of the Department of Health and Children and the Department of Social and Family Affairs, December 2005, p.20.



1.3 CONCEPTUAL FRAMEWORK

1.3.1 SUMMARY OF CONCEPTUAL FRAMEWORK²

The study has adopted a dynamic systems perspective founded on five insights from different disciplines: (i) ecology, (ii) dynamic connectedness, (iii) probabilism, (iv) period effects and (v) the active role or agency of the child in the developmental process. The bioecological model of Urie Bronfenbrenner (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006) is a key tool in operationalising this perspective.

Bronfenbrenner’s bioecological model indicates multiple layers of influence in the development of an individual child. The child develops through interactions with people and other elements in this bioecological context. The layers of influence in Bronfenbrenner’s conceptualisation of the bioecological context extend outward from the individual to other close relationships in the home and childcare (*microsystem*); the relationship between the elements of the microsystem, such as between parents and childcare (*mesosystem*); the institutions and settings that influence the microsystem such as health services (*exosystem*) and, finally, all the actions and interactions which take place under the influence of more global forces such as cultural beliefs and general economic prosperity (*macrosystem*). In infancy, much of the influence of the exosystem and macrosystem is mediated through the microsystem; for example, Child Benefit paid to parents to assist in providing for the child.

Table 1.1: Examples of variables relevant to the bioecological model

Layer	Illustrative characteristics include:
<i>Child</i>	Gender; temperament; physical development; social & psychological development; cognitive development; health; ethnicity
<i>Microsystem</i>	Parental health; parent-child attachment; parenting style; parental lifestyle; parental education; parental stress; size of household; family structure; parent marital relationship; childcare
<i>Mesosystem</i>	Work-life balance; maternity leave policies; parental involvement with community; parental/child involvement with child’s grandparents
<i>Exosystem</i>	Access to healthcare, church and religion; social welfare support; parental occupation; availability of/access to public services
<i>Macrosystem</i>	Citizenship/nationality; socio-historical setting of current study; current economic climate

Table 1.1 gives examples of the sorts of characteristics used in ***Growing Up in Ireland*** that are relevant to each layer of the bioecological model. Some of these characteristics are used solely or primarily as outcome variables (e.g. child’s gender); others are used mainly in the context of child outcomes (e.g. developmental status). depending on the research context, some variables such as child’s health may be used either as outcomes (e.g. effect of smoking in pregnancy) or explanatory variables (e.g. impact on gross motor development).

1.3.2 WORKING WITH THE CONCEPTUAL FRAMEWORK

The study has been designed to record details on the array of factors which have been previously identified or hypothesised as having an influence on the child’s developmental outcomes. For the purposes of ***Growing Up in Ireland***, we defined

² For a detailed discussion of the conceptual framework used in the study, see Greene et al, Background and Conceptual Framework (2010).

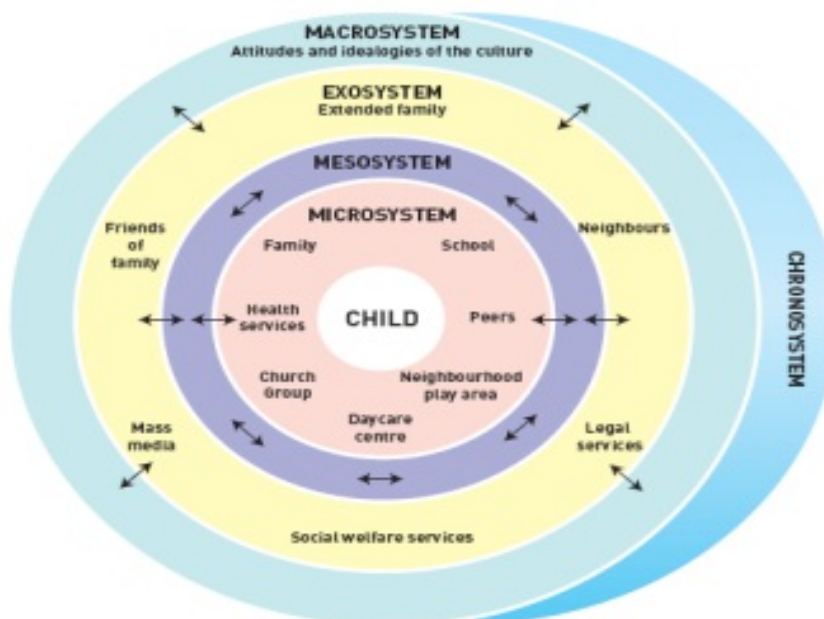


'Child Outcomes' as changes in a child's wellbeing that are a result of some input. There are many forms of input; a few of the more important include parenting, childcare and the health services. Furthermore, the child's own attributes and behaviour will also act as influences on later outcomes. For example, the infant with a positive and easygoing temperament may elicit a very different parenting style to the infant whose temperament is more difficult. This, in turn, will affect subsequent outcomes. As outlined in Greene et al. (2010) the child outcomes being focused on in *Growing Up in Ireland* are:

- Physical health and development
- Social, emotional and behavioural well-being
- Educational achievement and intellectual capacity

Figure 1.1 schematically summarises our overall view of the complex multi-directional and recursive relationships between the child and the actors in the various environments within which he/she operates. In carrying out all pilot phases, we attempted to ensure that the study design could adequately operationalise this schema and capture sufficient data to ensure its implementation.

Figure 1.1: Hypothesised relationships between child characteristics, outcomes and contextual variables in *Growing Up in Ireland*



Source: Adapted from Garbarino (1982)



1.4 STRUCTURE

1.4.1 SUMMARY OF INFORMATION COLLECTED AND THE RESPONDENTS WHO PROVIDED THE INFORMATION

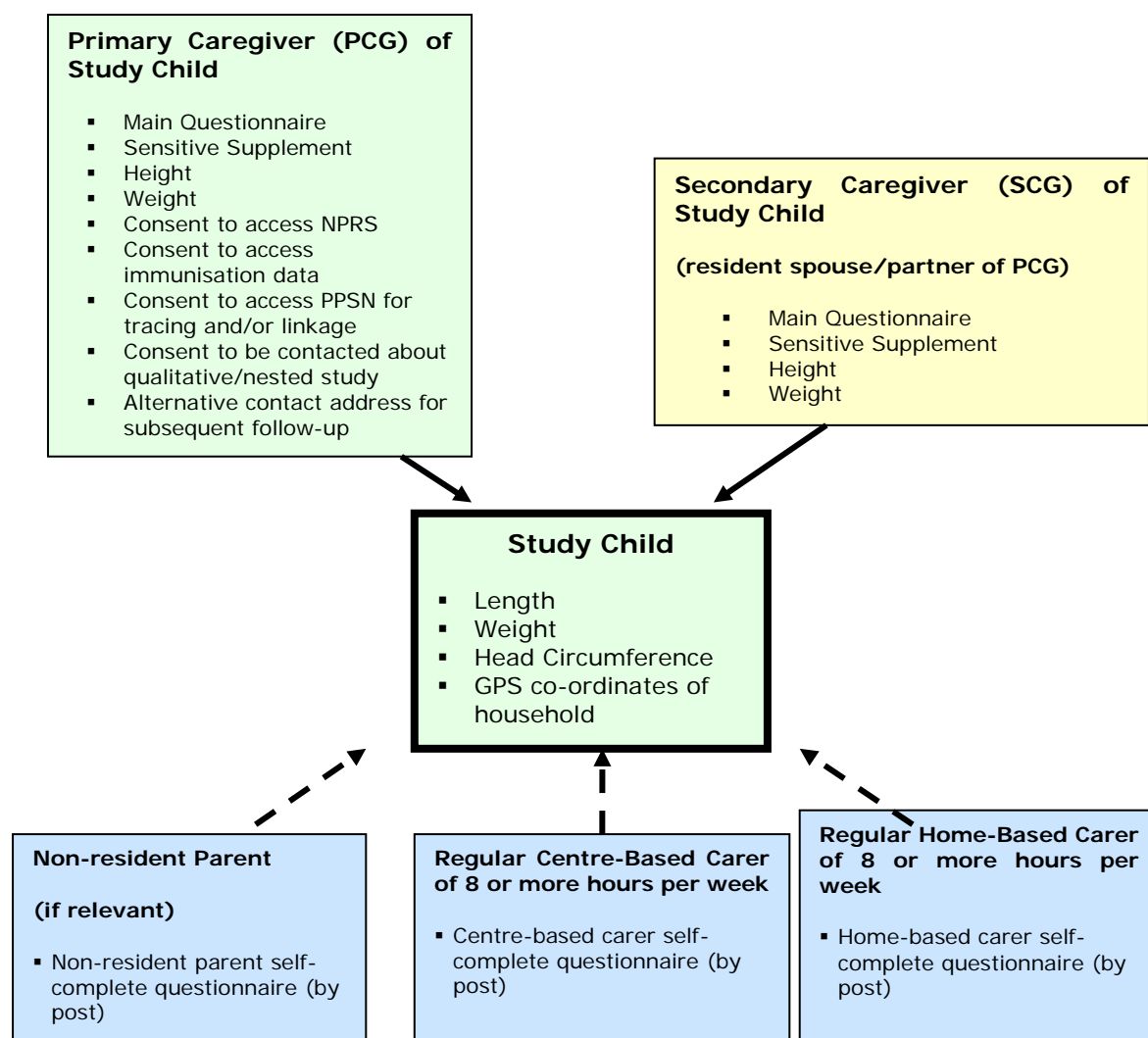
Although their active participation in the first wave of the study is relatively limited, the nine-month infant (the 'Study Child') is central to the study. It was the Study Child who was selected at the initial sampling stage; all other respondents are included only because of their link to the selected infant. Figure 1.2 summarises the respondents in the study and the information collected from them. All information flows from the Study Child as the central focus and all data ultimately relate back to him or her.

The main interview is administered to the child's Primary Caregiver, usually the mother. Each household must have at least an infant and a Primary Caregiver to be a valid household for inclusion in the study. The spouse or partner of the Primary Caregiver who is living in the household is also interviewed. This person is usually, but not necessarily, the biological father of the child. Again, where relevant, contact details for any non-resident parents and/or regular carers are sought from the Primary Caregiver. With the Primary Caregiver's permission, these individuals are sent a postal self-complete questionnaire.



Figure 1.2: Summary of respondents and information collected for the Infant Cohort of *Growing Up in Ireland*

Notes: NPRS – National Perinatal Recording System; PPSN – Personal Public Service Number





Chapter 2

INFANT PRE-PILOT EXERCISE





2.1 OVERVIEW

The purpose of the infant pre-pilot was to get initial feedback on the questions intended for use in the main Primary and Secondary Caregiver questionnaires in the first pilot. A small number of families participated (n=22) but provided very valuable input for the development of protocols and instrumentation. The main findings of the pre-pilot were the need to reduce the overall length of the questionnaire, and the highlighting of some questions that might be more appropriately asked in the self-complete sensitive supplement. The following sections describe in greater detail the pre-pilot procedures, instruments and outcomes.

2.2 OPERATIONAL PROCEDURES.

2.2.1 RESPONDENTS

A convenience/opportunistic sample was used in the pre-pilot. This was made up of respondents who had volunteered in response to either internal emails distributed among staff of the Economic and Social Research Institute (ESRI) or a small advertisement in the internal newsletter of Trinity College, Dublin. A total of 28 parents of infants volunteered, and 22 of these were interviewed as part of the pre-pilot. The others were unavailable throughout the testing period for reasons including vacation, work commitments (and related lack of time for interview) and bereavement. The majority of respondents were in Dublin city or county.

The infants in the pre-pilot ranged in age from seven to 11 months, with a mean age of nine months. The Study Team found that it was not operationally feasible to locate children aged exactly nine months at the time of interview for the pre-pilot work without recourse to the Child Benefit Register or similar such comprehensive sampling frame. The variance of a few months from the target age of the infants who would be the subject of the main study was not relevant to the exercise in hand in the pre-pilot test. In all cases the mother of the child was interviewed, and where relevant, her spouse or partner was also interviewed where he was both available and agreed to take part (n=17).

2.2.2 INTERVIEWERS

Interviews were conducted by eight interviewers who, prior to contacting the respondents, had been briefed on the context and objectives of the project as well as the substantive content of all questionnaires. All interviewers had previously worked on some aspect of the nine-year part of the *Growing Up in Ireland* project – either at sample recruitment or home pilot stages. All had been Garda-vetted and appointed Officers of Statistics by the Central Statistics Office. The pre-pilot instruments were administered on a paper-and-pencil (PAPI) basis and subsequently entered onto the computer system in the ESRI.

2.3 THE INSTRUMENTS

Two main instruments were used: the Primary and Secondary Caregiver questionnaires. Both contained core sections, which were administered by the interviewer. In addition, both included a separable section containing somewhat more sensitive questions (i.e. sensitive supplement). When completing the questionnaire, the interviewer explained to the respondent that this latter section contained some questions that were slightly more sensitive than those in the main section of the instrument, and offered the relevant section to the respondent for self-completion. In many cases the respondent simply chose to have the interviewer administer the sensitive section.



The inclusion of sections and modules was driven by the study objectives and conceptual framework (see Chapter 1) and informed by a review of the literature completed by the Study Team; the ongoing results of the Delphi exercise carried out in respect of this cohort; input from the Panels of Experts, and a survey of previous questionnaires used in longitudinal and other studies of children in this age group. A copy of the instruments used in the pre-pilot is contained in Appendix A.

2.3.1 PRIMARY CAREGIVER QUESTIONNAIRE³

The principal instrument was the Primary Caregiver questionnaire, which was usually administered to the Study Child's mother. This is consistent with the nine-year cohort. The Primary Caregiver questionnaire had 13 sections, as set out below:

A. Introduction and household composition

- Relationship of the respondent to the Study Child
- General household composition and relationships

B. Parenting, child's functioning and relationships

- Parenting styles and efficacy
- Attachment of infant to Primary Caregiver
- Primary Caregiver's attachment to infant
- Stranger anxiety
- Primary Caregiver's knowledge of infant development
- Infant temperament

C. Baby's Development

- Developmental milestones
- Time spent by Primary Caregiver talking to child, and time baby spends with other children

D. Baby's Habits

- Baby's habits – particularly sleeping and crying
- Parental concerns about development

E. Childcare Arrangements

- Current and future childcare
- Impact of difficulties with childcare

F. Siblings and Twins

- Jealousy between siblings
- Similarities between twins

G. Prenatal Care

- Mother's pregnancy history (where Primary Caregiver was child's biological mother)
- Pregnancy planning
- Fertility treatment
- Antenatal care
- Complications during pregnancy
- Substance use during pregnancy

³ Because this questionnaire was completed in almost all cases by the Study Child's mother, it was also referred to as the Mother / Lone Father's questionnaire.



H. Infant's Health and Health Utilisation

- Labour – location, delivery, complications
- Baby's weight and length at birth
- Breastfeeding
- Baby's consumption of other drinks and solid food
- Baby's health at birth and now
- Vaccinations
- Use of, and access to, healthcare services
- Hospitalisation
- Medical insurance cover
- Baby's accidents and injuries

I. Primary Caregiver's Health and Lifestyle

- Current health
- Chronic illness or disability
- Use of, and access to, healthcare services
- Hospitalisation
- Smoking – current and past
- Drinking alcohol
- Current diet and during pregnancy (where Primary Caregiver was child's biological mother)
- Exercise

J. Family Context

- Parenting stress
- Personal support
- Primary Caregiver's depression
- Attitudes to work-life balance
- Work history before and during pregnancy
- Occupational status and conditions
- Use of maternity leave

K. Socio-Demographics

- Deprivation
- Accommodation
- Work status and working hours
- Occupation
- Income
- Receipt of social welfare payments
- General demographics – education, ethnicity, religion, etc

L. Neighbourhood/Community

- Problems in neighbourhood
- Facilities available in local area

M. Interviewer's Comments

- Interviewer's comments on location of house and conduct of interview



2.3.2 SECONDARY CAREGIVER'S QUESTIONNAIRE⁴

This instrument was administered to the Secondary Caregiver who was the spouse or partner of the Primary Caregiver (and usually the Study Child's father). The questionnaire was a substantially reduced version of the Primary Caregiver instrument, focusing exclusively on the factual information and characteristics of the Secondary Caregiver as well as the relationship between him and the Study Child. The pre-pilot Secondary Caregiver's questionnaire had seven sections, as follows:

A. Introduction and relationship

- Relationship to Study Child

B. Parenting

- Parenting styles and efficacy

C. Role of Secondary Caregiver (usually father)

- Perceived role of Secondary Caregiver (usually father) in Study Child's life

D. Secondary Caregiver's health and lifestyle

- Current health
- Chronic illness or disability
- Smoking behaviour – current and past
- Drinking alcohol

E. Family context

- Parenting stress
- Secondary Caregiver's depression

F. Socio-Demographics

- Work status and working hours
- Occupation
- General demographics – education, ethnicity, religion, etc

G. Interviewer's Comments

- Interviewer's comments on location of house and conduct of interview

In addition to the main questionnaire the Primary Caregiver was also asked if (s)he would be willing to provide (a) the address of a friend or family member who would be likely to know where the family was in three years' time if it had moved by the time of the follow-up visit, and (b) a Personal Public Service Number (PPSN), also to assist in tracing the family. The PPSN in Ireland is a unique Social Security number assigned to adults and used in their contact with the Revenue Commissioners and welfare services. For the pre-pilot, respondents were not asked to give their specific information (although some did); they were asked only if they would be *willing* to provide it. One respondent refused to supply an address or a PPSN, and two more refused to provide a PPSN but would supply an address. On the whole, therefore,

⁴ Because this questionnaire was generally completed by the Study Child's father or partner of his/her mother, it was also referred to as the Father / Partner questionnaire.



there appeared to be relatively low resistance to providing either the PPSN or alternative contact details for follow-up.⁵

2.3.3 PRIMARY AND SECONDARY CAREGIVER QUESTIONNAIRES – SENSITIVE SUPPLEMENTS

These questionnaires recorded some slightly more sensitive information from the respondent. We referred to them as the ‘supplementary’ instrument for both respondents. The supplement was offered to the respondent to fill out on a self-completion basis. The interviewer told the respondent that it contained some slightly more sensitive questions. The sensitive supplement was divided into eight sections, as follows:

S2-S6

- details on adoptive Study Children (if relevant)

S7-S11

- details on fostered Study Children (if relevant)

S14-S23

- marital status

S24-32

- nature and quality of marital/partner relationship
- length of time living with spouse/partner
- marital conflict and resolution
- quality of relationship

S33-S34

- other partners or relationships which had a significant influence on the Study Child

S35

- drugs taken during pregnancy (asked of biological mothers only)

S36-S37

- recording whether or not the respondent had ever been in trouble with the Gardaí (police) and whether or not the respondent had ever been to prison

S38-S53

- details, where applicable, on whether or not the respondent was ever married to or lived with the non-resident parent of the Study Child, including length of time since separation and nature of relationship with respondent at time of the Study Child’s conception
- details on non-residency (where applicable) of the Study Child’s other parent; including when the parents had stopped living together; shared parenting arrangements; frequency of contact with the non-resident parent; financial contributions of non-resident parent to the Study Child’s household; quality of relationship between respondent and non-resident parent

⁵ Given that the sampling frame for the Infant Cohort would be the Child Benefit register, we would, in principle, have had the parent’s PPSN from that source. Nonetheless, on the basis of best practice, we used the pre-pilot to assess the proportion of respondents who would be willing to allow us to use it for that purpose.



2.3.4 QUESTIONNAIRE TIMINGS

The start and end times of each section of each questionnaire were recorded by the interviewer. The mean time taken for the main Primary Caregiver questionnaire was 1 hour 19 minutes. The mean time for the main Secondary Caregiver questionnaire was 16 minutes. The sensitive supplementary questionnaires took eight minutes each. This gave a total mean time of 1 hour 52 minutes per household where all four questionnaires were completed. These times were in excess of the planned 90-minute interview time with both respondents.

2.3.5 INTERVIEWERS' COMMENTS

The interviewers reported that most or all respondents found the interview interesting, and they felt that it had been well-received. Most interviewers found the interview, particularly the main Primary Caregiver questionnaire, to be too long. Some interviewers encountered difficulties in arranging an interview with the Secondary Caregiver. A member of the Study Team also conducted some of the interviews to get a first-hand perspective on the process. Interviewers were debriefed individually after the pre-pilot.

2.4 CHANGES FROM PRE-PILOT TO PILOT

Following feedback in the interviewers' debriefing, as well as consideration of the information recorded in the course of the pre-pilot exercise, the instrumentation was revised prior to implementation in the pilot stage. The main changes in the content of the questionnaires are summarised below.

2.4.1 SUMMARY OF CHANGES TO THE PRIMARY CAREGIVER QUESTIONNAIRE AND SUPPLEMENTARY SENSITIVE SECTION

1. *Removed B1*: These four items measured self-reported parenting efficacy. As the Parenting Stress Scale at J1 also measures a similar concept, it was decided that the overlap in constructs was not justified, particularly given the time over-run (see 2.3.4).
2. *Removed B9*: Similar questions as to how the baby reacts to people were asked as part of the Infant Characteristics Questionnaire at B11.
3. *Replaced Section C with alternative development measure*: The Denver Pre-screen as used in the pre-pilot measured only up to nine months and was not capable of capturing the developmental level of more advanced infants in that form. After considering a number of possibilities, this was replaced with an alternative measure in the first pilot (see note, section 2.4.2).
4. *Inserted Questions CX1 to CX4*: Additional questions on the extent to which the Primary Caregiver spent time talking to their baby; the Study Child's interaction with other children, and concerns that the Primary Caregiver had over developmental delays were added to complement the standardised developmental screen.
5. *Removed D16*: Answers to a question about use of a car seat were difficult to categorise because of differences in car use. Some respondents' preference was for some kind of always-never continuum, and some for a frequency such as was asked in this questionnaire. Even within this type of category, however, there was substantial variation from four times a day in the car to four times in the child's entire life.



6. *Moved G1 and G2 to supplementary section:* Questions on pregnancy history may be uncomfortable for the respondent on an administered basis, especially in situations where the pregnancies did not go full-term. The question/answer categories were made more user-friendly after the pre-pilot. An extra question was included on age at first pregnancy.
7. *Moved G5 and G6 to supplementary section:* Questions on fertility treatment were considered to be potentially sensitive and were moved to the self-completion section.
8. *Removed G22:* Advice from the Expert Panel on Health suggested that respondents would be unlikely to be able to give a reliable assessment of how much time they spent passive-smoking while pregnant. Questions on how many members of the household smoked when the Primary Caregiver was pregnant with the Study Child and how many household members currently smoked were retained.
9. *Removed H21:* Question on specific introduction of wheat-based foods was deemed to be less important than question on general solids.
10. *Removed H27:* Question on number of separate health problems overlapped with H28, which listed each separate health problem experienced by the infant.
11. *Removed I2:* Mother's assessment of her own health one year previously was felt likely to be heavily influenced by pregnancy, so was possibly atypical at that stage.
12. *Modified I25 (pilot J24):* The list of foods consumed by mother at time of interview and in pregnancy was reduced from 20 to seven. This question was reported by interviewers to have been found to be particularly tedious (and time-consuming) by respondents.
13. *Moved J7 (CES-D) to supplementary section:* A number of interviewers reported that asking the depression scale aloud could be awkward if the interview was conducted in the presence of another person.
14. *Removed J10:* Some respondents found it difficult to give a specific answer to these questions on attitudes to combining employment and caring for children, suggesting that it depended on the individuals involved. They were replaced with alternative work-life balance questions as were used with the nine-year cohort.
15. *Removed J17, J18:* Questions on whether the mother would return to the same job and job status after maternity leave were deemed to be insufficiently infant-focused.
16. *Removed K17, K18, K19:* Questions on the parent's working on night shift and at weekends were problematic with regard to covering all answer possibilities with a discrete number of categories, and were less infant-focused than other questions.
17. *Replaced S35:* Low incidence/response rate for existing categories of illegal drugs. Replaced with alternative list to include a mix of illegal and prescription drugs.
18. *Added questions on crisis pregnancy to supplementary section:* It was decided to add questions on whether the pregnancy with the Study Child had been a crisis pregnancy and if so what supports had been needed and received.



2.4.2 CHANGES TO THE DEVELOPMENTAL MEASURE

As reported above, 25 questions from the Denver Prescreening Developmental Questionnaire II, covering the period from 0-9 months, were used to collect information on infants' developmental status. External review suggested, however, that it would be preferable to have a developmental measure that could also be used to measure children who were advanced for their age. The Denver Prescreening Developmental Questionnaire II was originally used in the pre-pilot because variants of this measure had been used by some of the British studies, including the Millennium Cohort Study, Growing Up in Scotland, and ALSPAC (Avon Longitudinal Study of Parents and Children). However, further investigation into available developmental measures found that this measure had been the subject of published negative feedback from the ALSPAC team,⁶ and that there had been criticism of its psychometric credentials (Glascoe & Frankenburg, 2002 [letters to the editor of *Pediatrics*]).

For the pilot exercise, the items from the Denver Prescreening Developmental Questionnaire II were replaced with two alternative measures of development on a split-sample basis: the Ages and Stages Questionnaire (ASQ) and the Parents' Evaluation of Developmental Status: Developmental Milestones (PEDS:DM).

2.4.3 CHANGES TO SECONDARY CAREGIVER QUESTIONNAIRE

Changes to the Primary Caregiver's questionnaire were applied to corresponding sections of the Secondary Caregiver questionnaire, where relevant.

2.4.4 SUMMARY OF PRE-PILOT EXERCISE

Overall, the pre-pilot exercise was extremely useful in providing insights on the feasibility of different question types, the implementation of the survey instruments, and the appropriate placement of questions in either the main interview or the self-completion supplement. A particular point that arose from the pre-pilot was the need to select a measure of developmental status that would cover a wider range of ability. Feedback from both participants and interviewers was used in redrafting the instruments for the first full pilot.

⁶ In a letter to the editor of the journal *Developmental Milestones and Child Neurology*, members of ALSPAC said "we found our parentally reported adapted Denver measure to be a poor clinical predictor of infants 'at risk' of developmental delay" (p.647, 2005).



Chapter 3

INFANT PILOT





3.1 OVERVIEW OF INFANT PILOT

The first infant pilot was conducted in a manner more similar to the intended main study than the pre-pilot exercise. A national target sample of 359 households was randomly selected for inclusion in the pilot phase, 209 of which successfully participated in the survey. The Child Benefit Register was used to select the sample.

The pilot test worked well overall and provided a lot of useful feedback on procedures, protocols, instrumentation and measures. A particularly important aspect of the pilot was the incorporation of two split-sample designs. The first was used to test the developmental assessment for use in the dress rehearsal and main study. The PEDS:DM and ASQ were included in this split-sample design. The second split-sample design focused on the use of CASI (Computer-Assisted Self-Interviewing) or self-completed PAPI (Pen and Paper Interview) for administering the sensitive supplements.

There were other new elements in the pilot compared to the pre-pilot, as follows:

- An 'opt-out' form was included with the introductory letter and information sheet, which allowed respondents to indicate their refusal to participate before an interviewer called to the household.
- Infant weight, length and head circumference measurements were recorded, as were adult height and weight.
- Mothers were asked to give their permission to access the hospital records relating to the Study Infant's birth as recorded on the National Perinatal Reporting System (NPRS).

The remainder of this chapter presents a more detailed summary of the design, procedures and outcomes of the first infant pilot.

3.2 THE SAMPLE, RECRUITMENT, RESPONSE RATES AND OPT-OUT

3.2.1 POPULATION FRAME AND SAMPLE

A basic requirement of all random samples is the availability of a comprehensive and up-to-date sampling frame. As per the Study Team's proposal and subsequent National Longitudinal Study of Children in Ireland (NLSCI) document M005/09/0606,⁷ the sample was selected from the Child Benefit Register maintained by the Department of Social and Family Affairs⁸ for administration and payment of Child Benefit.

Child Benefit is paid each month in respect of all children under the age of 16 years.⁹ It is normally paid to the person who is caring for the child – usually the child's mother or stepmother. The benefit may be made by direct payment (to an account in a financial institution) or by a book of payable orders, which are cashed at a post office of the parent/guardian's choice. Everyone claiming Child Benefit must have a PPSN. Child Benefit must be claimed within six months of the child being born, in the six months after the child becomes a member of the family, or within six months of the family coming to reside in Ireland. There is clearly a compelling financial reason for all parents/guardians of children to

⁷ See document M005/09/0606 *Preliminary note on Sampling the 9 month Cohort in the NLSCI*, prepared by the Study Team and forwarded to the Project Team on 9th June 2006.

⁸ Subsequently renamed the Department of Social Protection

⁹ Although not relevant in the context of the Infant Cohort, for completeness we note that it was also paid in respect of a child aged 16, 17 or 18 years of age in full-time education, or attending a FAS Youthreach course, or physically or mentally disabled and dependent on a parent or parents/guardians.



ensure that their child(ren) are registered. Indeed, the Child Benefit Register is possibly unique among administrative databases in this regard.

In preparing for the pilot of the Infant Cohort, the Study Team requested the following details from the Department of Social and Family Affairs¹⁰ for sampling purposes:

Mother's PPSN	Name of mother
Child's PPSN	Address
Record ID number	Gender of child
Family ID number (to account for multiple births)	Date of birth of child
Mother's date of birth	Multiple birth flag
Marital status of mother	Number of children in payment
Nationality of mother	Date of registration on database
Residential status	

This was used as the sampling frame. Children born between 10th April and 9th May 2007 were included for selection as they were nine months of age (in their 10th month) at the time of fieldwork in late January to mid February 2008. This yielded a population of 4,100 eligible children who fell within age scope. A total of 359 of these were selected for inclusion in the pilot exercise. Respondents were drawn from Dublin City and County and an additional 15 counties around Ireland.

Table 3.1: Comparison of marital status and nationality of payee for population and target sample of Pilot One, Infant Cohort – characteristics based on details from Child Benefit Register

Marital status	Population		Nationality	Population	
	Target sample	Per cent		Target sample	Per cent
Common law / Cohabiting	7.2	7.8	Ireland	63.2	58.9
Deserted	0.1	0.0	Britain	3.5	4.9
Divorced	1.0	0.5	Other Western Europe	5.0	4.9
Married	66.4	68.9	Eastern Europe	4.0	4.3
Separated	1.1	0.9	Africa	3.1	3.5
Single	23.7	21.6	Pacific	1.1	1.4
Widowed	0.2	0.3	Middle East	0.2	0.3
Unknown	0.5	0.0	North America	0.6	0.3
Total	100.0	100.0	South America	0.2	0.0
(n)	(4,100)	(359)	Indian Subcontinent	1.3	1.4
			Australia	0.2	0.5
			China	0.6	0.5
			Other	17.0	19.2
			Total	100.0	100.0
			(n)	(4,100)	(359)

Table 3.1 compares the breakdown of the population according to marital status and nationality with those of the target sample of 359 infants. These characteristics are based on those available from the Child Benefit Register. One can see from the table that the

¹⁰ Subsequently renamed the Department of Social Protection.



distributions are, as one would expect, very similar. The differences that exist are entirely attributable to the relatively small target sample size used in the pilot.

3.2.2 INITIAL CONTACT AND RECRUITMENT OF PARTICIPANTS

Selected households were sent an introductory letter, an information sheet and an opt-out form. Target participants were told in the introductory letter that an interviewer would be calling to their household within two weeks to arrange the interview. If they did not wish to participate in the study, they were advised to complete and return the opt-out form within 10 days. The covering letter noted that if the respondent did so the interviewer would not call to their home.¹¹ If a family contacted the Study Team indicating that it did not wish to participate in the study *after* it had been allocated to an interviewer, the interviewer concerned was contacted and instructed not to make a personal visit to the Study Child's home.

3.2.3 RESPONSE RATES

Table 3.2 summarises the overall response rates achieved in the infant pilot. From this one can see that a total of 209 households from the 359 issued successfully participated in the survey. All Primary Caregivers in these households were biological mothers. A total of 111 households refused to participate. Of particular significance in this figure are the 67 households who exercised the opt-out option. This represents almost 19 percent of the total target sample of addresses issued. A further three respondents effectively exercised the opt-out in advance by phoning the Study Team and telling it that they did not wish to participate in the study. Further refusals were made both face-to-face and by phone to the interviewer.¹² The seven respondents classified in the table as "initial contact made but soft refusal" refer to respondents who did not definitively refuse but who kept breaking appointments or otherwise never made themselves available for interview throughout the fieldwork period, despite repeated call-backs by the interviewer.

In terms of non-contacts, 14 target respondents were identified as having moved, with no forwarding address. Many of the additional 16 households classified as "no contact despite repeated call-back" may equally have been cases where the target respondent had moved, but the interviewer was unable to establish this from neighbours or others.

When one focuses on response among valid households (column 4 in the table) one can see that the pilot response rate was 63.7 percent.¹³ On exclusion of ineligible families/non-contacts one can see that those who returned the opt-out forms accounted for over 20 percent of target respondents.

¹¹ A comfortable 12-14 days were allowed to elapse before issuing a household's contact details to the interviewer.

¹² Although the Study Team did not have phone numbers for respondents from the population frame, interviewers attempted to record them on their initial face-to-face contact. The 14 refusals by phone to the interviewers were, by definition, subsequent to a first personal contact and recording of the respondent's phone number.

¹³ One of these respondents noted that they did not wish to be included in the longitudinal pilot sample.



Table 3.2: Response rates achieved in Pilot One, Infant Cohort

Response outcomes	All households		Valid households	
	No.	Per cent	No.	Per cent
Completed	209	58.2	209	63.7
Unavailable within dates	6	1.7	6	1.8
Refused	111	30.9	111	33.8
<i>of which:</i>				
<i>Refused by opt-out</i>	67	18.7	67	20.4
<i>Refused to office by phone</i>	3	0.8	3	0.9
<i>Refused to interviewer, face to face</i>	20	5.6	20	6.1
<i>Refused to interviewer, by phone</i>	14	3.9	14	4.3
<i>Initial contact made but soft refusal</i>	7	1.9	7	2.1
Unable to participate due to language	1	0.3	1	0.3
Other	1	0.3	1	0.3
			328	100.0
No contact, despite call-back	16	4.5		
Moved – no forwarding address	14	3.9		
Could not locate address	1	0.3		
TOTAL	359	100		

Table 3.3 presents response rates according to marital status, as derived from the Child Benefit Register. Of particular note is the substantially higher refusal rates among single (never married) parents – particularly when compared to either common law/cohabiting or married couples. In broad terms, the actual ‘opt-out rate’ is not too dissimilar between these three groups (15.4 percent, 19.8 percent and 15.0 percent for cohabiting, married and single parents respectively). The rate of direct *refusals* to the interviewer, however, varies substantially between the three categories: 3.8 percent, 4.4 percent and 20 percent respectively. The 20 percent refusals among the ‘single’ category is very significant – both in absolute and relative terms. Divorced and separated parents had a high rate of opt-out but as there are only five individuals between these two groups it is difficult to speculate on how representative they are.



Table 3.3: Response rates classified according to marital status (derived from Child Benefit Register)

	Common law/ cohabitating	Divorced	Married	Separated	Single	Widowed	Total
Completed	61.5	50.0	63.2	33.3	43.8	0.0	58.2
Unavailable within dates	0.0	0.0	1.6	0.0	2.5	0.0	1.7
Refused by opt-out	15.4	50.0	19.8	33.3	15.0	0.0	18.7
Refused to office by phone	0.0	0.0	1.2	0.0	0.0	0.0	0.8
Refused to interviewer, face to face	0.0	0.0	3.6	33.3	12.5	0.0	5.6
Refused to interviewer, by phone	3.8	0.0	2.8	0.0	7.5	0.0	3.9
Initial contact made but soft refusal	0.0	0.0	1.2	0.0	3.8	100.0	1.9
Unable to participate due to language difficulties	0.0	0.0	0.4	0.0	0.0	0.0	0.3
Other	3.8	0.0	0.0	0.0	0.0	0.0	0.3
No contact, despite call-back	7.7	0.0	4.0	0.0	5.0	0.0	4.5
Moved no address	7.7	0.0	1.6	0.0	10.0	0.0	3.9
Could not locate address	0.0	0.0	0.4	0.0	0.0	0.0	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(n)	(26)	(2)	(247)	(3)	(80)	(1)	(359)

3.2.4 REASONS GIVEN FOR RETURNING THE OPT-OUT FORM

Respondents who returned the opt-out form were asked to record on an open-ended basis their reasons for deciding not to participate in the study. A total of 23 opt-outs did not state a reason for their non-participation. Of the remaining 44, the most commonly offered definitive reason was related to time constraints (24 cases). This is very much in keeping with national (and international) trends in survey response rates.

3.2.5 AGES OF INFANTS ON INTERVIEW OF FAMILY

The families were selected for inclusion in the sample so that the children would be aged nine months when interviewed (in their 10th month). This allowed a very narrow window for fieldwork to take place. Ninety-one per cent of infants were aged nine months at time of interview. A further 7 per cent (15 children) were only eight months old and 2 per cent (four children) had reached 10 months. For those families interviewed before the child had turned nine months of age, the closest date of interview was one day early and the furthest was 11 days too early. The mean number of days in advance of the infant’s 9th month ‘birthday’ was four days. Of the four interviews carried out too late, two were five days past the last day of the infant’s 10th month; the other two were six days and eight days too late respectively. This means that the mean number of days late for the four children who were aged 10 months was also four days. The families in question said, when approached by the interviewer, that they wanted the interview to be scheduled at the time in question – to accommodate the family. The interviewer had to administer the interview at that time or lose the household.



3.3. FIELD PROCEDURES

3.3.1 TRAINING OF INTERVIEWERS

Interviewer training took place in Dublin. A total of 37 interviewers worked on the pilot phase of the study. All interviewers had worked on the nine-year-old Child Cohort. Despite prior experience on the project, only interviewers who were found in assessment at the end of training to have met an acceptable standard were assigned work on the Infant Cohort. The assessment criteria were:

- (i) interviewing skills
- (ii) understanding of survey procedures
- (iii) laptop usage
- (iv) personal presentation

In addition to Garda vetting and appointment as Officers of Statistics, all interviewers working on the pilot were required to provide a recent employer's reference or, where this was not available, a character reference.

3.3.2 INITIAL CONTACT BY THE INTERVIEWER

The first contact with the household was the introductory letter from the Study Team. If the respondent had not returned the opt-out form, the interviewer made a personal visit to each household to arrange an interview. At that initial visit, interviewers asked to speak to a parent/guardian of the Study Child. The interviewer explained the study to the parent/guardian and asked to conduct the main interview with the person who took most care of the Study Child. The interviewer asked the Primary Caregiver to sign two copies of the consent form; the interviewer and the parent each kept one copy. Only after securing a signed consent form did the interviewer conduct the interview.

If the interviewer was unable to make contact with a parent/guardian on the first visit, he/she left a 'called while you were out' card with his/her contact number. Interviewers were issued with mobile phones specifically for this purpose. Interviewers made repeat visits to the household until the questionnaires were successfully completed or a definitive refusal was obtained.

3.3.3 ADMINISTRATION IN THE HOME

In the household the interviewer sought to interview the Primary Caregiver of the Study Child (usually the mother) and his/her spouse partner (usually, but not necessarily, the father of the Study Child). The main interviews with each adult were administered by the interviewer using a laptop (Computer-Assisted Personal Interviewing – CAPI). As discussed in the previous chapter, two split-sample designs were used in the pilot survey. The first related to the section of the main Primary Caregiver questionnaire, which recorded details on the infant's developmental milestones. The PEDS:DM (Parents' Evaluation of Developmental Status: Developmental Milestones) was administered to half of the respondents while the ASQ (Ages and Stages Questionnaire) was administered to the other half.

The second split-sample design in the infant pilot phase was employed to test the administration of the sensitive supplements completed by both Primary and Secondary Caregivers. Half of those respondents assigned to the interviewer self-completed the section using pen and paper (sealing their completed questionnaire in an envelope and handing it back to the interviewer). The other half self-completed using the laptop (the interviewer turned his/her laptop to the respondent so that s/he could enter the answers directly on the



machine). For respondents using the laptop, the interviewer used a number of practice questions (unrelated to the main interview) as examples to show respondents how to complete the questionnaire before the actual study questions commenced. Assignment to laptop or paper self-completion was decided in advance, based on odd or even household sequence number (similarly to the infant development measure described above) so that each interviewer administered both types of sensitive self-completion supplements. Respondents could, however, request that the sensitive questions be administered to them by the interviewer as with the main questionnaire (if no-one else was present) or to self-complete by paper if they did not want to use the laptop.

3.3.4 INTERVIEWER COMMENTS

Interviewers completed a feedback form on their experience of working on the pilot and were also invited to attend a group debriefing at the session. The most notable observations to emerge from this process were:

- Difficulties in taking the infant's physical measurements when the interviewer was not permitted to have any physical contact with the child. Some interviewers reported that declining to touch the child during the process was greeted with a degree of frustration and/or annoyance by some parents.¹⁴
- Reports from a number of interviewers that they were able, in several cases, to secure an interview with a family even though the family had intended to opt out but had not returned the form prior to the interviewer's personal visit.
- The length of time taken in the household was still excessive, even after the cuts made to the questionnaire following the pre-pilot.
- Very positive feedback in relation to using the CASI format to complete the sensitive supplements.

3.4. INSTRUMENTS USED IN THE PILOT

3.4.1 QUESTIONNAIRES USED IN THE PILOT

A maximum of two questionnaires were administered in the home in the course of the pilot survey – viz. the Primary and Secondary Caregiver questionnaires. Each of these questionnaires contained a sensitive section that was self-completed by respondents using either pen and paper or a laptop. In addition, permission was sought from the respondent to the Primary Caregiver instrument to post a self-completion questionnaire to non-resident parents and/or regular carers¹⁵ of the Study Child, where relevant. A non-singleton questionnaire was also administered in respect of multiple births (principally twins) encountered in the course of the survey. Non-singletons could enter the sample in two ways. Both twins could be selected as sample children in their own right. Alternatively, a non-singleton could be identified opportunistically in the course of interviewing. A copy of all questionnaires used in the course of the pilot is contained in Appendix B.

¹⁴ Ethical approval for the first pilot included a prohibition on any physical contact with the infant, however incidental.

¹⁵ Regular caregiving was defined as eight or more hours per week on a regular basis. This could be provided in a domestic or centre-based context.



3.4.1.1 THE PRIMARY CAREGIVER MAIN QUESTIONNAIRE

The Primary Caregiver Main Questionnaire constituted the main interview and was administered in every participating household. It recorded most of the data about the Study Child, including details of the pregnancy and birth, as well as details about the household such as income and socio-demographic information. The section headings followed the same general layout as that described for the pre-pilot in Chapter 2, namely:

A: Introduction – family relationships and household composition

B: Parenting, Infant’s Functioning and Relationships

C: Development Assessment of Infant

- This section contained a series of questions on the infant’s development. As previously noted, a split-sample design was used to allow us to test the implementation of two alternative developmental scales. The first was the PEDS:DM and the second was the ASQ. The split design was based on the sequence number of each respondent household. Odd numbers were assigned the PEDS:DM and even numbers the ASQ. This approach meant that each interviewer working on the pilot administered each questionnaire module to half of his/her work assignment.

D: Infant’s Habits

E: Childcare Arrangements

F: Siblings and Twins

G: Prenatal Care

H: Infant’s Physical Health and Development

J: Parent’s Health

K: Family Context

L: Socio-Demographics

M: Neighbourhood / Community

3.4.1.2 SECONDARY CAREGIVER’S MAIN QUESTIONNAIRE

The Secondary Caregiver Main Questionnaire was administered to the spouse/partner of the person who completed the Primary Caregiver questionnaire (see Section 3.4.1.1 above), where such a person lived in the household. That person was most frequently, though not necessarily, the biological father of the Study Child. The questions for the Secondary Caregiver were largely confined to his/her own details and his/her relationship with the child and also the Primary Caregiver. The questionnaire contained six sections, as follows:

A: Introduction

B: Parenting and Relationship with Infant

C: Infant’s Development

D: Father/Partner’s Health and Lifestyle

E: Family Context

F: Socio-Demographics



3.4.1.3 SENSITIVE SUPPLEMENTS – PRIMARY AND SECONDARY CAREGIVERS

As described above, respondents completed the more sensitive questions on a self-completion basis (with a split-sample design to test the feasibility of CASI rather than PAPI administration).

The sensitive questionnaires used for both Primary and Secondary Caregivers were almost identical (some questions on pregnancy were asked only of biological mothers). The main sections of the sensitive supplement were:

- Questions for adoptive/foster parents
- Nature and quality of relationship with current spouse/partner, if relevant
- Experience of depression, anxiety or nerves
- Pregnancy history and use of fertility treatments
- Substance use during pregnancy
- Contact with the criminal justice system
- Details of any non-resident parent, including his/her contact with the child and any financial support provided
- For biological mothers only, previous pregnancy history, use of fertility treatment, substance use during pregnancy and currently, crisis pregnancy

The main advantages of CASI include the very timely provision of electronic data for the full record. The data are transmitted from the field along with the main questionnaire and so are available for analysis almost immediately. CASI also has a major advantage in having a much lower incidence of item non-response than do surveys completed in a PAPI self-completion mode. By definition, in PAPI self-completion mode the interviewer is unable to inspect the questionnaire after it has been completed. It is sealed in an envelope and returned to the interviewer who then forwards it to the Study Team. Accordingly, the interviewer cannot control the comprehensiveness of completion or of the routing followed in the same rigorous way in which it can be controlled in CASI mode, with the laptop determining routing, etc on the basis of prior answers.

In assessing the feasibility of CASI, the Study Team focused on the distribution of items in the Dyadic Adjustment Scale (DAS). This set of seven items records details on the quality of partner relationships within the family. A higher score indicates greater relationship satisfaction, with a maximum possible score of 36. The DAS was chosen for illustrative purposes as it was a section of the sensitive questionnaire that most respondents completed. The distributions generated by both modes were broadly similar, although the item non-response on the PAPI mode was higher than on the CASI.

The mean composite score on the DAS was 21.05 when administered in PAPI mode compared with 20.75 when administered in CASI. An independent sample t-test on the data confirmed that the difference was not significant – indicating that the DAS distributions from CASI and PAPI were from the same population and suggesting that mode of implementation did not significantly affect the distributions of the scores. Feedback from interviewers working on the pilot suggested that using the laptop did not pose any problems to respondents.

3.4.1.4 NON-RESIDENT PARENT QUESTIONNAIRE

The purpose of this instrument was to record some details from the non-resident parent of the Study Child (where relevant). The Primary Caregiver (PCG) was asked to provide



contact details on the non-resident parent. The instrument was developed to be administered on a postal self-completion basis. This questionnaire was new to the infant pilot but a similar instrument had been used with the nine-year cohort. It covered the following issues:

- Quantity, frequency and quality of contact and how arrangements were made
- Roles perceived to be most important for a parent in relation to his/her child – also asked of resident fathers
- Involvement in routine caring tasks for the child
- Financial arrangements (maintenance, etc) between non-resident and resident parents
- Nature of relationship with Study Child's mother (usually PCG) when she became pregnant with child, timing of separation and guardianship status
- Current relationship with mother (usually PCG) of Study Child and input to his/her upbringing
- Socio-demographic characteristics of the non-resident parent

The non-resident parent questionnaire was used for non-resident fathers and mothers. Questionnaires were sent out to three non-resident fathers, but none were returned.

3.4.1.5 NON-COHORT CAREGIVER (CHILDMINDER) QUESTIONNAIRES

The *Non-Cohort Caregiver Questionnaires* were developed for completion on a postal basis (in addition to the Primary and Secondary Caregiver questionnaires) by carers of the Study Child who provided at least eight hours of care per week on a regular basis. The respondent to the Primary Caregiver instrument was asked to provide the contact details for the carer in question. There were similar, but separate, instruments for care delivered in a home setting or in a childcare centre such as a crèche. These questionnaires had not been used in the pre-pilot but were similar to those used for the nine-year cohort.

The home and centre carer questionnaires had the following sections in common:

- Length of time and number of days per week for delivery of the care
- Perceived nature of relationship between caregiver and Study Child
- Details on other children being cared for by the non-cohort caregiver
- Details on whether or not the caregiver minded the child when he/she was sick
- Socio-demographic details of caregiver, including qualifications (if any) related to childcare provision

In addition, the home-based carer was asked about his/her relationship to the child (e.g. grandparent) and whether care took place in the child's home or the carer's home. Centre carers were also asked about staffing and facilities at the centre. Carer questionnaires in respect of 54 children were sent out and 38 were returned completed.

3.4.2 SCALED ITEMS

Five scaled instruments were included in the Primary Caregiver main questionnaire, as follows. The two infant developmental measures, used on a split sample basis, were the Ages and Stages Questionnaire (ASQ) and the Parents' Evaluation of Developmental Status: Developmental Milestones (PEDS:DM). The other scaled instruments used were:



- The Infant Characteristics Questionnaire
- The Parental Stress Scale
- The Separation Anxiety sub-scale of the Maternal Separation Anxiety Scale

In addition, the Center for Epidemiological Studies Depression Scale (CES-D 8) was used in the sensitive supplementary questionnaire for both adult participants. The following sections describe these scaled instruments in more detail.

3.4.2.1 MATERNAL SEPARATION ANXIETY SCALE

The sub-scale from this measure contained 21 items scored 1-5 and was asked at B7 on the Primary Caregiver questionnaire. The total score is calculated by summing all items and dividing by three, giving a range from seven to 35. However, in the debriefing of interviewers it was noted that the instrument seemed to be taking a long time to administer (mean time for completion 5.12 mins) and had not always been well received. The Study Team decided to substitute this scale in subsequent phases of fieldwork with an alternative measure with fewer items, in an attempt to reduce total household contact time. It was replaced with the 'quality of attachment' sub-scale from the Maternal Postnatal Attachment Scale (Condon & Corkindale, 1996). The sub-scale has 10 items such as "*I now think of baby as 'very much my own', 'a bit like my own' or 'not yet really my own'.*"

3.4.2.2 INFANT CHARACTERISTICS QUESTIONNAIRE

The Infant Characteristics Questionnaire (Bates et al, 1979) is a 24-item parent report instrument on infant temperament, with responses rated on a seven-point Likert scale. A value of one describes an optimal temperament trait and a value of seven indicates a more difficult temperament trait. It was presented as question B9 on the pilot instrument. The instrument produces scores for each of four sub-scales; these composite scores are obtained by adding the raw scores of items which had discriminating loadings in factor analysis. The four sub-scales were *Fussy/Difficult* (items 1, 5, 6, 13, 22, 24), *Unadaptable* (items 9, 10, 11, 20), *Dull* (items 16 + 23 – 15), and *Unpredictable* (items 2, 3, 4). The means for individual items in our pilot sample were largely consistent with those described for the norming group in the original paper (see Bates et al, 1979) although internal consistency was somewhat lower than expected for the *Dull* factor and it did not emerge clearly in a factor analysis.

3.4.2.3 PARENTAL STRESS SCALE

The Parental Stress Scale (Berry & Jones, 1995) is an 18-item self-report instrument. Respondents were asked to rate statements on a five-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. On the basis of their responses, we can generate a total stress score. In addition, the instrument produces scores for each of four sub-scales: *Parental Rewards* (items 1, 5, 6, 7, 8, 18); *Parental Stressors* (3, 9, 10, 11, 12, 16); *Lack of Control* (Items 14, 15, 16); and *Parental Satisfaction* (Items 13, 17, 18). The scale appeared as question K1 in the Primary Caregiver questionnaire and as E1 in the Secondary Caregiver questionnaire. Overall the scale items showed a good spread of answering, with a minimum and maximum score achieved for all items. Some items showed evidence of clustering towards the positive end of the scale (e.g. K1a, K1b, K1e, K1f, K1g and K1r¹⁶). Such a pattern would not be unexpected, however, given the particular content. The scale

¹⁶ K1a 'I am happy in my role as parent'; K1b 'There is little or nothing I wouldn't do for my child'; K1e 'I feel close to my child'; K1f 'I enjoy spending time with my child'; K1g 'My child is an important source of affection for me'; K1r 'I find my child enjoyable'.



demonstrated adequate internal reliability, and three of the anticipated four factors emerged in an analysis of the pilot data; the *Lack of Control* dimension did not emerge clearly.

3.4.2.4 CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION SCALE

The Center for Epidemiological Studies Depression Scale (CES-D 8 item) (Melchior, Huba, Brown & Reback, 1993) is a short self-report measure, developed as a screening instrument for depression in the general population. Responses were indicated on a four-point scale ranging from 0 (<1 day) to 3 (5–7 days) for a set of eight statements relating to how the respondent has felt or behaved in the week preceding the survey. A composite score was calculated by summing item responses, giving a range for the overall scale of 0-24. Analysis of the pilot data indicated excellent internal consistency, and a single component emerged in a factor analysis.

3.4.3 DEVELOPMENTAL MEASURES

Following consideration of the available parental self-report options in relation to measuring infant development, the Study Team decided to trial two different instruments: the Ages and Stages Questionnaire (ASQ) and the Parental Evaluation of Developmental Status: Developmental Milestones – Assessment Version (PEDS:DM). The main advantages of the ASQ were its psychometric properties (described as “excellent” by the American Academy of Pediatrics in 2001), its use of raw and standard scores across different domains of ability, and its high reputation in the literature and among practitioners. The PEDS:DM had better psychometric properties than the Denver Prescreening Developmental Questionnaire II used in the pre-pilot, but not as good as the ASQ, and being of very recent publication was relatively untested. The main advantage of the PEDS:DM is that the assessment version can capture advanced as well as delayed development: the ‘raw’ scores are actually ‘months’ which add up to give an age equivalent score depending on how many milestones the child has achieved.

Respondents completed either the PEDS:DM or the ASQ on a split-sample basis (based on household sequence number). Both instruments were administered on a CAPI basis so that parents were asked whether the child was able to do a particular activity (e.g. sit up without support, respond to requests such as “come here”, etc). In general, answer categories were ‘yes’, ‘sometimes’ or ‘no/not yet’ (although there was some variation on this for the PEDS:DM). Both the ASQ and PEDS:DM have *fine motor* (use of hands/fingers) and *gross motor* (use of arms/legs) scales. The PEDS:DM has separate scales for *expressive language* (talking) and *receptive language* (understanding), and also separate scales for *self-help* (e.g. drinking from a cup) and *social-emotional skills* (e.g. smiling). The ASQ has a combined *communication* scale and a combined *personal-social* scale, plus an additional *problem-solving* scale (e.g. putting toys in his/her mouth).

3.4.3.1 PEDS:DM

The PEDS:DM covers an age range from birth to 7 years 6 months. For each developmental scale, the interviewer asks all the questions in a given section until he/she gets three negative answers in a row (i.e. the parent indicates that the child has not reached three sequential milestones). If this happens, or all questions in a section have been asked, the interviewer moves on to the first question in the next section. For the purposes of the **Growing Up in Ireland** pilot, the number of questions in each section was capped at the developmental age equivalent of 24 months, typically leaving eight questions in each section, a possible 48 questions in total.



As outlined above, the scores in the PEDS:DM are age equivalents (there are no ‘raw scores’); children are given a number of months’ credit for each milestone that they have achieved and these add up to an age equivalent in each developmental area. Table 3.4 shows summary scores for the 98 children in the pilot for whom the PEDS:DM was completed. The 50th percentile (median score) was nine months for the receptive language and gross motor scales but 15 months for the social-emotional scale, and 12 months for the remaining scales. The 75th percentile was 18 months for the self-help and social-emotional scales, and the ceiling score of 24 months was reached on the former.

Table 3.4: Summary scores for age equivalents (in months) for all scales of the PEDS:DM

	Fine Motor	Self Help	Receptive Language	Expressive Language	Gross Motor	Social Emotional
Mean age in mths	12.1	13.8	9.8	11.8	10.1	15.6
Median age in mths	12	12	9	12	9	15
Minimum age in mths	4	2	2	4	0	4
Maximum age in mths	15	24	18	21	18	21
25 th percentile	9	10	7	9.75	6	12.75
50 th percentile	12	12	9	12	9	15
75 th percentile	15	18	12	13	12	18

3.4.3.2 ASQ

The ASQ (Ages and Stages Questionnaire) is organised as separate questionnaires for the 19 age intervals of 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 27, 30, 33, 36, 42, 48, 54, and 60 months. The questionnaire is designed to indicate whether a child is at the expected developmental level for his/her age in each area or whether further assessment by a clinical practitioner is warranted. Each developmental scale generates a raw score of between 0 and 60; this score is compared to a cut-off score (based on the test authors’ norms). If a child does not reach the cut-off score, he/she may be at risk of delayed development in that particular area.

As the Study Team wished to capture more information about the level of an infant’s development rather than just pass/fail on, for example, the eight-month interval questionnaire, it was decided that four age-intervals would be administered: 6, 8, 10 and 12 months. In this way, if a child had passed the eight-month level, it would be possible to ask if he/she was at the 10-month or even 12-month level. Or should a child fail the eight-month level, to ask if he/she was at the six-month level. As there is overlap of milestones between age-interval questionnaires, 70 questions were required to cover all items from six to 12 months; however, questions were staggered so that everyone started at the eight-month interval and were only asked the six-month questions if they had not been able to do the eight-month items. Similarly, only children who could do some of the 10-month items were asked the 12-month items.

Table 3.5 shows the percentage of children (n=109) exceeding the cut-off score on individual developmental scales (i.e. passing) for the different age intervals. Virtually all children passed in each scale at the six-month level and most also passed the eight-month-



level. Most children also reached the cut-off score for communication at 10 months, but there were lower pass rates on the other scales. The 12-month interval shows even higher fail rates (as expected) although many children still pass.

Table 3.5: Percentage of infants passing each developmental scale on the ASQ, by age interval

Percentage of infants exceeding cut-off point	Communication	Gross Motor	Fine Motor	Problem Solving	Personal Social
6-month level	100	100	100	99	100
8-month level	99	96	97	96	98
10-month level	95	84	83	82	74
12-month level	70	28	75	59	69

The cut-off scores given in the ASQ test manual are based on two standard deviations below the mean for the norming sample; however, it would be possible to generate alternative cut-off points based on the Irish sample collected in the *Growing Up in Ireland* main study. Summary descriptive statistics of the raw scores for the 10-month interval are given in Table 3.6.¹⁷

Table 3.6: Summary scores in all sections for 10-month ASQ

	Communication	Gross Motor	Fine Motor	Problem Solving	Personal Social
Mean	45.1	29.5	47.6	45.2	41.2
Median	45	25	50	50	40
Minimum	10	0	0	0	0
Maximum	60	60	60	60	60
25 th percentile	40	20	40	40	30
50 th percentile	45	25	50	50	40
75 th percentile	55	40	60	57.5	50
<i>Cut-off score</i>	25	17.5	39.0	30.5	30.0
Percentage of infants exceeding cut-off point	95	84	83	82	74

3.4.3.3 POST-PILOT

Feedback from interviewers was positive for both the ASQ and the PEDS:DM, although there was evidence of ceiling effects in both measures. Following careful consideration, the Study Team decided that the ASQ would be preferable for the main study given its more established psychometric credentials and longer use in the field, including (in part) by the National Longitudinal Study of Children and Youth (Canada). The ASQ has the additional advantage of raw scores, which could be used to generate new cut-off points based on Irish norms. There were, however, some concerns that the CAPI administration was quite far removed from the original administration method: a paper booklet that is self-completed by the parent in the home where he/she can try the activities with the child. In particular, it was suggested – given the relatively high scores – that parents might overestimate their child’s ability by assuming a child could do a particular activity when actually they could not.

¹⁷ Further information and scores on the ASQ and PEDS:DM in the first pilot are available by contacting the Study Team at growingup@esri.ie.



To help address these issues, the Study Team asked the pilot participants who had completed the ASQ to answer the questions again but this time on a self-complete paper basis, with the opportunity to try the activities. The interviewer remained in the household while the booklet was completed and brought a supply of props (such as building blocks) for the parent to use. A total of 83 families took part in the follow-up.

Comparison of the descriptive statistics for CAPI and self-completion (see Table 3.7) indicated that, overall, CAPI administration did not lead to higher scores than the self-completion booklet. In terms of individual questions, altogether 2,490 questions were asked in the 10-month interval (30 questions x 83 respondents). Of these, only 8 per cent were given a higher score on the CAPI administration and only 4 per cent involved a change from saying the infant could do the activity ‘yes’ or ‘sometimes’ at CAPI administration to saying that the infant could not do the activity on the self-completion booklet. The Study Team proceeded to the dress rehearsal with the ASQ.

Table 3.7: Comparison of mean, median, minimum and maximum scores for each domain on the ASQ 10-month questionnaire for CAPI and home self-completion, for those respondents who completed both administrations

	Communication		Gross Motor		Fine Motor		Problem Solving		Personal Social	
	CAPI	Self	CAPI	Self	CAPI	Self	CAPI	Self	CAPI	Self
Mean	46.10	49.07	30.68	39.40	47.87	55.98	45.91	47.37	42.44	48.19
Median	50	50	30	40	50	60	50	50	45	50
Min	20	25	0	10	0	35	0	10	10	10
Max	60	60	60	60	60	60	60	60	60	60

3.4.4 QUESTIONNAIRE TIMINGS

The mean time for completing the Primary Caregiver questionnaire was 77.5 minutes, while that for the Secondary Caregiver questionnaire was 15.22 minutes. The mean time for the sensitive supplements was 9.32 minutes and 8.79 minutes for Primary Caregiver and Secondary Caregiver respectively (based on CASI timings only). Based on the mean times for all questionnaires, the mean interview time for a complete two-adult household in which we had full compliance was 110.85 minutes. This time refers only to direct questionnaire administration. The total contact time with the household, including physical measurements, was reported by the interviewers to be in the region of 2¼-2½ hours, which was considerably in excess of the desired contact time of 90 minutes.

3.5. PHYSICAL MEASUREMENTS AND OTHER DOCUMENTATION

3.5.1 INTRODUCTION

In addition to the main instruments discussed in the previous section, the interviewer administered a number of other paper-based consents and documents to the family, as well as recording physical measurements in respect of the Primary Caregiver, Secondary Caregiver and infant. The geo-coordinates of the household were recorded using a GPS device. The paper-based consents concerned:

- A contact address for another person likely to know where the family could be residing at three-year follow-up, to be used in the event of the family changing address between interviews. Some families who had no other family members living



in Ireland said they were unable to provide this information. In such cases some of the families provided details of employers or friends instead.

- Permission to include the household in the selection of participants who might be included in the qualitative study
- Permission to include the household in possible future nested studies
- Provision of Personal Public Service Numbers (PPSNs) of the Primary and Secondary Caregivers (see note at 3.6.1.1)
- Permission to access the records relating to the birth of the Study Infant held as part of the National Perinatal Recording System (NPRS, see note below)

3.5.1.1 NOTE ON NATIONAL PERINATAL RECORDING SYSTEM

Biological mothers were asked for permission to access the records relating to the birth of the Study Infant held as part of the National Perinatal Recording System (NPRS). These records, collected on all births in the Republic of Ireland, include information on gestation age, birthweight, delivery and health of mother and infant at birth. The mother was asked to sign a NPRS Access Form; a duplicate form was given to the respondent for her records. Compliance with the NPRS consent forms was very high at 97 per cent. (See Appendix B for a copy of the consent form.)

3.5.2 PHYSICAL MEASUREMENT

The other data collected as part of the household visit were height and weight of the adult respondents and the length, weight and head circumference of the infant. For the infant measurements, the interviewer instructed the parent/guardian on how to place the infant in the measuring devices and did not actually handle the infant at any stage. The interviewer recorded the measurement readings from the devices.

3.5.2.1 ADULT HEIGHT AND WEIGHT

Adult height was recorded at the end of the interview using the Leicester measuring stick. Mother's height was recorded in respect of 203 of the 209 completed questionnaires, while that of father/partner was recorded in respect of all 183 father/partners who participated in the survey. The mean height for mothers was 163.46cm and for fathers/partners it was 177.01cm. Adult weight was measured using SECA 762 analogue weighing scales. The mean weight for mothers was 66.78kgs and 83.80kgs for father/partners.

3.5.2.2 INFANT WEIGHT, LENGTH AND HEAD CIRCUMFERENCE

The weight, length and head circumference of the infants was recorded. In recording these measurements, the interviewer was instructed at training for the pilot not to have *any* physical contact (even incidental) with the infant. This was based on two considerations: potential injury to the child and child protection issues. This, however, proved operationally difficult and also caused some problems with many of the respondents who felt that it would be reasonable for the interviewer to assist in taking the measurements – particularly the length and head circumference.

Valid measurements were recorded in respect of 208 children in the pilot. Infant weight was measured with SECA 862 digital scales. Infant weight ranged between 4.94kgs and 13.6kgs, with a mean of 9.51kgs. Infant length was measured using a SECA portable measuring mat. Recorded length ranged between 64cm and 85cm, with a mean length of 73.41cms. Infant head circumference was measured using a SECA lasso-style head tape. Measurements for head circumference ranged between 42.40cms and 52.80cms, with a mean circumference of 46.67cms.



3.6. CHANGES FROM PILOT TO DRESS REHEARSAL

This section summarises the main changes to procedures and instruments for the dress rehearsal following the first pilot.

3.6.1 PROCEDURES

3.6.1.1 PERSONAL PUBLIC SERVICE NUMBERS (PPSNs)

In the first pilot, interviewers recorded PPSNs in respect of both the Primary and Secondary Caregivers. On debriefing, interviewers noted that locating this information took up a considerable amount of time in the household. As the PPSN of the Child Benefit recipient (usually the mother) was already available from the Child Benefit Register, the Study Team decided to ask for permission to obtain the PPSN from the Department of Social and Family Affairs¹⁸ instead of asking for the actual number. Respondents were asked to sign a consent form to use their PPSN, first for inter-wave tracing and, secondly, for statistical linkage purposes. Respondents could give permission for one use but not the other if that was their preference. The following wording was proposed for the PPSN consent form in the dress rehearsal:

“1. As you know, we hope to interview you again when your child is 3 years of age. It might assist us in tracing you at that time if we were able to use your Personal Public Service number (PPSN) or that of your child. Your number and your child’s number are available from the Child Benefit Register which we used for selecting the sample used for Growing Up in Ireland. We have not been provided with these by the Department of Social and Family Affairs. Would you be willing to allow us to have access to (a) your number and (b) your child’s number from the Child Benefit Register to assist us in the tracking or tracing of respondents move between our visits?

- | | | |
|-------------------------|--|---|
| (a) Your own number | Yes..... <input type="checkbox"/> ₁ | No..... <input type="checkbox"/> ₂ |
| (b) Your child’s number | Yes..... <input type="checkbox"/> ₁ | No..... <input type="checkbox"/> ₂ |

2. In the future it might be possible to link to databases which would have information which would be of great assistance in the sort of statistical analysis which we carry out as part of this survey. If it were possible to use the PPS number to link to other data sources would you be willing to allow us to do so (a) on your own behalf and (b) on behalf of your child?. **This would be used only for statistical purposes. No government department or similar body would have access to your personal details.**

Would you be willing to allow us to have access to your and your child’s PPS number to assist us in linking to other data sources for statistical purposes?

- | | | |
|-------------------------|--|---|
| (a) Your own number | Yes..... <input type="checkbox"/> ₁ | No..... <input type="checkbox"/> ₂ |
| (b) Your child’s number | Yes..... <input type="checkbox"/> ₁ | No..... <input type="checkbox"/> ₂ ” |

Secondary Caregivers (usually fathers / partners) were asked for consent in a similar manner, except they were still asked to provide the actual number as this may not always be available from the Child Benefit Register.

¹⁸ Subsequently renamed Department of Social Protection.



3.6.1.2 PHYSICAL MEASUREMENTS INCLUDING INCIDENTAL PHYSICAL CONTACT WITH THE INFANT

In the pilot phase, as agreed with the Research Ethics Committee, interviewers were instructed not to have any physical contact with the infant, including during measuring of the infant. This instruction was very restrictive as interviewers were unable to assist parents/guardians in the measurement process. The pilot exercise clearly indicated that taking the infant length and head circumference measurements required two adults. Additionally, some parents/guardians were somewhat unhappy that the interviewer was not in a position to offer assistance due to the prohibition on all physical contact. Following the pilot we secured ethical approval to allow the interviewer, with prior parental/guardian consent, to assist in taking the physical measurements even if this meant having some incidental physical contact with the infant. Interviewers were instructed not to wear rings or other jewellery that might injure a child.

Following interviewer feedback and consultation with members of the Expert Panel on Health, it was decided to trial two types of tape for head measurement. The SECA lasso-style tape would be contrasted with a disposable paper head tape as is commonly used in clinics. This latter tape is similar in design to a tailor's measuring tape but is made of paper.

3.6.1.3 OPT-OUT FACILITY

Our experience in the pilot indicated that issuing the opt-out form with the introductory letter may have resulted in many respondents failing to participate in the study because they did not fully understand its purpose or what participation in the study involved. As noted earlier, many interviewers reported that quite a few respondents who ultimately participated had originally intended to opt out but had forgotten to do so. When the interviewer explained the background, purpose and operation of the study on the doorstep, these families then decided to take part after all. These reports suggested that at least some families were not making a fully informed decision on whether or not to participate in the study. Accordingly, it was decided that an opt-out form would not be included with the introductory letter and information sheet for the dress rehearsal. Instead, both the letter and information sheet would make it clear that participation was voluntary and, if the family did not want to take part after discussing it with the interviewer when he/she called, then they needed only to inform the interviewer at the time of the visit.¹⁹ By revising the opt-out procedure in this manner, the Study Team hoped to enhance the information available to potential respondents and also to improve response rates, which was seen as a major benefit to the study as a whole.

3.6.1.4 OVERSAMPLING OF 'SINGLE' TARGET RESPONDENTS

As noted in our discussion of Table 3.3 earlier in this chapter, the response rate in the first pilot among Child Benefit recipients classified on the Register as 'single' was below that achieved among 'married' recipients. On foot of the differential response rate among target respondents according to marital status classification and to ensure that recruitment of appropriate numbers in these policy-relevant sectors of the population was maintained, it was decided to slightly oversample among relevant sub-groups in the dress rehearsal exercise.

¹⁹ Removing the opt-out form from the initial mailing did not, of course, prevent families from spontaneously contacting the office and informing staff that they did not wish to participate or to have an interviewer call to their home to discuss the study.



3.6.1.5 AGE OF INFANT AT TIME OF SURVEY

In the pilot, approximately 10 per cent of infants in families interviewed were outside the reference age of nine months. The margin was small, with an average of only four days too young or too old. Interviewing outside the strict reference period took place solely to accommodate the families in question who said they would otherwise be unavailable to participate. To address this issue we realised that a buffer period of +/- two weeks would have to be introduced around the nine-month window. On training for the dress rehearsal (and subsequently for the main phase), it was emphasised that all interviews should take place within the strict nine-month window and could only be relaxed in exceptional circumstances and with permission from Head Office.

3.6.2 INSTRUMENTS

3.6.2.1 PRIMARY CAREGIVER QUESTIONNAIRE

The main changes made to the Primary Caregiver questionnaire on the basis of our experience in the first pilot are outlined below. (Please see the main Infant Cohort pilot report²⁰ for a comprehensive list.)

1. *Addition of Qs A6a and A6b:* Questions on number, age and gender of other biological children living outside the household to record better information about birth order and family structure.
2. *Deletion of Q B2 (except for B2c, which was transferred to B1):* Questions on parental anger reactions to the infant were removed as they were received very negatively by a sizeable number of parents. There was also a possibility that social desirability would confound answering.
3. *Replaced the Maternal Separation Scale (B7) with the 'quality of attachment' sub-scale from Condon and Corkindale Maternal Postnatal Attachment Scale:* The first pilot identified some negative reaction to items with perceived value judgments on the Maternal Separation Anxiety sub-scale. The replacement scale covers attachment more broadly than separation anxiety, and some items from this instrument were also used by the Millennium Cohort Study.
4. *Removed PEDS:DM and used ASQ exclusively.*
5. *Deleted CX2:* Question on the time infant spends with other children was deemed to be of uncertain usefulness.
6. *Added new D16:* Questions on age at which infant reached certain developmental milestones were added to assist in the assessment of the ASQ in the dress rehearsal.
7. *Moved G16 to sensitive supplement, with modification:* Questions on taking of painkillers, sleeping tablets and laxatives were combined with those relating to selected illegal substances, and moved to the sensitive supplement.
8. *Moved G18 to G22 to sensitive supplement:* Questions on smoking and drinking during pregnancy were moved to the supplement because mothers may prefer to complete on a self-completion basis information about issues perceived as socially undesirable.
9. *Deleted J12 and J13:* Questions on parent's own access to healthcare were deemed to be insufficiently infant-focused.

²⁰ Report on the First Pilot of the Infant Cohort Quantitative Study, March 2008. Available on request by email: growingup@esri.ie.



10. *Moved J18, J22 and J23 to sensitive supplement:* Respondents might prefer to self-complete these questions on smoking around the baby and binge-drinking, due to social desirability issues.
11. *Deleted J24a and b and J25:* Questions on mother's diet currently and during pregnancy were removed as information from the pilot indicated a weak relationship between diet and classificatory variables such as household social class. In addition, the respondents reported these questions to be extremely difficult, time-consuming and of questionable accuracy (especially trying to recall diet during pregnancy). Question J25 on frequency of parent's exercise was dropped as it was not sufficiently infant- focused.
12. *Deleted K2a and 2b:* Questions on sharing of housework by spouse/partner were dropped as they were not sufficiently infant- focused.
13. *Replacement of K6:* Question on taking advice from grandparents was not sufficiently detailed to provide meaningful information. It was replaced with more detailed questions at K6 about specific types of support received from grandparents such as financial support and babysitting, in order to increase infant focus.
14. *Deleted K7:* K7 was the employment-related separation anxiety sub-scale of the Maternal Separation Scale (formally B7). There was no point in retaining the sub-scale when the main scale had been deleted.
15. *Addition of L7b:* A question on access to garden or common space at the Study Child's home was added as per the nine-year cohort questionnaire.
16. *Deleted L34 to L36:* Questions on just the couple or lone parent income were removed, to save time. Respondents would instead report a figure for total household income only.
17. *Addition of new M1:* A question on "How long have you lived in your local area?" was added to the section on neighbourhood/community as this was felt to be relevant to a sense of belonging to the community.
18. *Extension of old M1/new M2:* More detail on membership of local voluntary groups was sought to indicate the types of groups with which parents were involved, such as church and sports groups, in order to provide more information on community linkage.
19. *Addition to old M3/new M4:* Item on intention to continue living in area was added to indicate the family's degree of settlement in their area.

3.6.2.2 SECONDARY CAREGIVER QUESTIONNAIRE

Corresponding changes were made to common sections/questions in the Secondary Caregiver questionnaire. In addition, the following changes were made to this instrument:

- *Addition of Involvement Scale at new C3:* New question added to ask who performed various parenting tasks for the baby, such as feeding and playing. The scale ranges from 'always respondent' to 'always partner' but also has options for 'someone else does this' and 'no one does this'. The question was added to provide more information on the father's role in the infant's care.
- *Remove old C3, C4:* These questions recorded details on how the infant reacted to being left in someone else's care and being collected from care, but they were felt to duplicate information obtained from the Primary Caregiver questionnaire.

3.6.2.3 OTHER QUESTIONNAIRES

Both of the sensitive supplements were amended to reflect the migration of several of the more sensitive questions from the main Primary and Secondary Caregiver questionnaires, as indicated above. No questions were deleted from the sensitive modules. Twin and triplet



modules of the main questionnaire were also amended to reflect changes in the full-length questionnaires completed by the Primary and Secondary Caregivers (there were three families with twins in the pilot). No changes were made to the non-resident or carer questionnaires. Copies of all questionnaires are contained in Appendix B.



Chapter 4

DRESS REHEARSAL





4.1 OVERVIEW OF INFANT DRESS REHEARSAL

This chapter presents details on the dress rehearsal phase of the project. It was based on a target sample of 373 households randomly selected from the Child Benefit Register. A total of 235 of these were successfully interviewed. This represents a gross response rate of 63.0 per cent; a response rate of 67.7 percent when invalid elements such as 'Moved/no forwarding address' and 'Could not locate address' are excluded. It represents a response of 71 per cent of valid contact addresses. The average direct interview time for the dress rehearsal was 112 minutes. The average full contact time with the household (including introduction, signing of consent forms, physical measurements, etc) was approximately 2 to 2½ hours.

The main features of the dress rehearsal phase, in contrast to earlier phases, were as follows.

- The introduction of a change in the opt-out procedure for respondents. In the dress rehearsal the initial contact with respondents was in the form of an introductory letter and information sheet sent in the post. This was followed by a personal visit a few days later by an interviewer to explain the information sheet in detail and, having fully informed the respondent, to secure his/her consent. As discussed in Section 3.6.1.3, this differed somewhat from the first pilot when an opt-out form was issued with the introductory letter and information sheet.
- The sensitive questionnaires were all self-completed in the dress rehearsal on the laptop by the respondent in Computer-Assisted Self-Interviewing (CASI) mode.
- The exclusive use in the dress rehearsal of the Ages and Stages Questionnaire (ASQ) as the developmental test. This was the preferred choice following our analysis of the pilot test.

4.2. THE SAMPLE

4.2.1 POPULATION FRAME AND SAMPLE

As in the first pilot, the sample for the dress rehearsal was selected from the Child Benefit Register maintained by the Department of Social and Family Affairs²¹ for the administration and payment of Child Benefit. The same details were provided for sampling purposes as had been provided for the pilot (see Section 3.2.1).

Children were selected so as to be nine months of age (in their 10th month) at the time of fieldwork, which was carried out from 12th May to 13th June 2008. This yielded a population of 6,412 eligible children. A total of 373 of these were randomly selected for inclusion in the target sample.

The sample was allocated to 40 interviewers. As the sample was selected randomly on a national basis, some interviewers were allocated a very small number of households. To provide the interviewer with an adequate number of target participants to justify his/her involvement in the study, we added an additional 42 households to increase the work assignments of interviewers who had a particularly low initial allocation. These households were selected on a random basis but constrained to be within reasonable geographical proximity of the interviewer.²²

²¹ Subsequently renamed the Department of Social Protection.

²² For example, interviewer from West Kerry would not participate in training, etc, if allocated only one household.



Prior to sample selection the data were pre-stratified according to marital status, county of residence, nationality and number of children in the Child Benefit claim. A simple systematic selection procedure based on a random start and constant sampling fraction was used.

On the basis of the first pilot, potential respondents (Child Benefit recipients) classified as ‘single’ were oversampled in the dress rehearsal (to the order of 24per cent) to ensure that this category would be adequately represented in absolute terms in the completed sample. If the sample had been selected on a strictly *pro rata* basis with marital status, we would have selected 102 payment recipients with marital status ‘single’. With the oversampling in that group, a total of 126 respondents were actually selected.

A small degree of oversampling of other minority sub-groups also took place among ‘cohabiting’, ‘deserted’, ‘divorced’ and ‘legally separated’ marital status categories, as well as non-national families.

In Table 4.1 we compare the breakdown of the population according to marital status and nationality with those in the target sample of 373 households. The distributions are, as one would expect, very similar. The differences are attributable to the relatively small sample size used in the dress rehearsal – with the exception of the over-sampling among those who were classified as ‘single’.

Table 4.1: Comparison of marital status and nationality of payee for population and target sample of Pilot One, Infant Cohort – characteristics based on details from Child Benefit Register

Marital Status	Population	Target Sample	Nationality	Population	Target Sample
	Per cent			Per cent	
Common law / cohabiting	7.0	6.1	Ireland	60.0	62.4
Deserted	0.2	0.0	Britain	3.6	2.9
Divorced	1.0	1.3	Other Western Europe	6.4	6.1
Married	63.4	57.6	Eastern Europe	4.3	3.2
Separated	1.1	1.3	Africa	3.1	4.2
Single	26.9	33.4	Pacific	1.2	1.1
Widowed	0.1	0.3	Middle East	0.2	0.0
Unknown	0.1	0.0	North America	0.4	0.3
Total	100.0	100.0	South America	0.5	0.8
(n)	(373)		Indian Subcontinent	1.5	1.8
			Australia	0.2	0.0
			China	0.9	1.1
			Other	17.6	16.3
			Total	100.0	100.0
			(n)		(373)

4.2.2 INITIAL CONTACT AND RECRUITMENT OF PARTICIPANTS

Selected households were sent an introductory letter and information sheet. These documents were similar to those used with the pilot test respondents (and those in the nine-year cohort) in terms of outlining the background and objectives of the study.

Target participants were told in the introductory letter that an interviewer would be calling to their household within a few days to discuss and explain the survey and what their participation in it would involve. They were advised, in particular, that participation was voluntary. The interviewer called on the family and went through the information sheet and consent forms. He/she made an appointment to return and complete the survey with the



family at a time convenient to the family. It was explained at the first point of contact that physical measurements would be taken with both the child and adults and that, accordingly, the child would have to be present and awake at some point during the interview process. The consent form was also explained in detail, with the interviewer pointing out that it must be signed before any work could be carried out with the family. A duplicate copy of the consent form was left with the family for their records.

Interviewers were instructed that their first contact with the family had to be in person. Phone numbers were not provided to interviewers and they were instructed not to use the telephone directory but to make the first approach in person. Interviewers were provided with a letter, to leave in a household or postbox, which was similar to the original contact letter but contained their own name and mobile number. The interviewers were instructed to use this letter only after two unsuccessful attempts at personal contact.²³ Interviewers were also provided with “Called while you were out” cards, with their contact details.

4.2.3 RESPONSE RATES

Table 4.2 summarises overall response rates. A total of 373 households randomly selected households were assigned to interviewers.²⁴ A total of 235 households participated successfully in the survey. A further 67 households definitively refused to participate; another 11 were unavailable despite repeated call-backs and attempts by the interviewer to arrange an appointment with the family at a suitable time. Many of these may have been ‘soft refusals’, where respondents never made themselves available for interview within the field period. A further five respondents began the interview but broke off at some point when they realised how intensive it was. A total of seven families were unable to participate due to language difficulties.²⁵ From the lower section of Table 4.2, one can see that 16 families could not be contacted by the interviewer, despite repeated call-backs, while a further 18 had moved, with no forwarding address. In reality, there may be little substantive difference between the 16 ‘non-contacts’ and the 18 that ‘moved with no forwarding address’. The only difference may be that the latter group was identified by the interviewer as having moved, while the former was not. The information on movers may have been supplied to the interviewer by a neighbour, landlord, etc. Finally, eight household addresses appeared to be non-existent, could not be located or were otherwise vacant or demolished. From the table one can see that this breakdown gives a gross response rate of 63.0 per cent (Column A). If one excludes the last two rows in the table (‘moved/no forwarding address’ and ‘could not locate/vacant/demolished’) the response rate increases to 67.7 per cent (Column B). Finally, from Column C one can see that the response rate among valid contacts was 71 per cent.

²³ The interviewer’s name and phone number were not included in the initial contact letter from Head Office as one could find that there was a change of interviewer between issuing of forward letters and work assignment sheets (e.g. if the first interviewer knew the family or became unavailable for work within the short window available for interviewing.)

²⁴ An initial sample of 380 households was selected. Six households were assigned to an interviewer who became ill after training and was unable to work. A seventh household was ‘returned’ by an interviewer who knew the family and did not want to interview them. In the main study, with the briefing of more interviewers, these households would be re-allocated.

²⁵ In the main study, foreign language translations of all instruments are available – French, Latvian, Chinese, Romanian and Polish as well as Irish and English.



Table 4.2: Response rates achieved in dress rehearsal, Infant Cohort

Response outcomes	No of cases	A Gross response	B Response rate	C Valid contacts
Completed	235	63.0%	67.7%	71.0%
Unavailable within dates	11	2.9%	3.2%	3.3%
Refused	67	18.0%	19.35	20.2%
Partially completed – will not complete	5	1.3%	1.4%	1.5%
Unable to participate due to language	7	1.9%	2.0%	2.1%
Other	6	1.6%	1.76%	1.8%
				100.0%
No contact, despite call-back	16	4.3%	4.6%	
Moved, no forwarding address	18	4.8%	100.0%	
Could not locate address / vacant / derelict	8	2.1%		
Total	373	100.0%		

An examination of refusals shows that just over 50 percent of these were direct refusals to the interviewer on a face-to-face basis. A further 36 percent were refusals to the interviewer over the phone. These were respondents who were initially contacted by the interviewer on a face-to-face basis to explain the study and who said that they would consider their participation in the project. On first contact with the interviewer, the respondent took the interviewer’s phone number and then used it to refuse to participate in the study. Finally, 14 percent of refusals contacted the office by phone – usually very shortly after receiving the introductory letter. The main reason given for refusal was lack of time.

Table 4.3 presents response rates according to marital status as derived from the Child Benefit Register. Of particular note from this table are the substantially higher refusal rates among single parents – particularly when compared to either common law/cohabiting or married couples. This reflects the situation identified in the first pilot. For example, the refusal and completion rates for the ‘single’ category are 22.3 and 54.5 per cent respectively. Comparable figures for the married group are 15.8 and 69.2 per cent respectively. The risk of non-contact is also higher for the single category than for married or cohabiting. The lower rate of completion by the single category is consistent with the experience in the first pilot and justifies the over-sampling of this subgroup in the target sample. Completion rates for divorced and separated households in percentage terms are also low, but there were only nine individuals in total between these two categories. All Primary Caregivers were biological mothers.



Table 4.3: Response rates classified according to marital status (derived from Child Benefit Register)

	Common law/ cohabitating	Divorced	Married	Separated	Single	Total
Completed	59.1	40.0	69.2	25.0	54.5	63.0
Unavailable within dates	0.0	0.0	3.2	0.0	3.3	2.9
Refused	18.2	20.0	15.8	0.0	22.3	18.0
Unable to participate due to language difficulties	0.0	40.0	1.8	0.0	0.8	1.9
Partial completion – broken off	4.5	0.0	0.0	0.0	3.3	1.3
Other	4.5	0.0	1.4	25.0	0.8	1.6
No contact, despite call-back	4.5	0.0	2.3	0.0	8.3	4.3
Moved, no address	9.1	0.0	5.0	25.0	3.3	4.8
Could not locate address	0.0	0.0	0.5	0.0	3.4	2.1
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
(n)	(22)	(5)	(221)	(4)	(121)	(373)

4.2.4 STRUCTURE OF COMPLETED SAMPLE

In Table 4.4 we compare the structure of the completed sample with that of the target population. The table is based on the information available from the Child Benefit Register. The figures in the table indicate that the sample completed in the dress rehearsal (despite its relatively small size of 235 cases) closely reflects the structure of the population of Child Benefit payees for the month in question in terms of marital status and nationality. One can see that the oversampling of those classified as ‘single’ seems to have worked well.²⁶ Despite the lower participation of this group, the stratum is represented in the completed sample in line with its representation in the overall population. Similarly, the right-hand side of the table indicates that the completed sample is also representative of the relevant population in terms of broad region of nationality.

4.2.5 AGES OF INFANTS ON INTERVIEW OF FAMILY

As with the pilot test, the families for inclusion in the dress rehearsal were selected so that the children would be aged nine months (in their 10th month) when interviewed. This allowed a very narrow window for fieldwork. Of the 235 infants included in this phase of the study, a total of 18 children were aged eight months on interview, four were aged 10 months and the remaining 213 (90.5 per cent) were aged nine months. The date of interview of the 12 children who were outside the nine-month window was determined by their family.

²⁶ The oversampling in the main study will be accommodated in the reweighting of the dataset prior to analysis.



Table 4.4: Comparison of population and completed dress-rehearsal sample according to marital status and broad region of nationality

Marital status	Pop. (per cent)	Completed DR sample (per cent)	Broad region of nationality	Pop. (per cent)	Completed DR sample (per cent)
Cohabiting	7.0	5.5	Ireland	60.0	63.0
Deserted	0.2	0.0	Britain	3.6	4.3
Divorced	1.0	0.9	Other Western Europe	6.4	6.4
Married	63.4	65.1	Eastern Europe	4.3	3.0
Separated	1.1	0.4	Africa	3.1	5.5
Single	26.9	28.1	Pacific	1.2	0.9
Widowed	0.1	0.0	Middle East	0.2	0.0
Unknown	0.1	0.0	North America	0.4	0.4
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	South America	0.5	0.4
		(235)	Indian Subcontinent	1.5	1.3
			Australia	0.2	0.0
			China	0.9	0.0
			Other	17.6	14.9
			<i>Total</i>	<i>100.0</i>	<i>100.0</i>
					(235)

4.3. FIELD PROCEDURES

4.3.1 TRAINING OF INTERVIEWERS

Interviewer training for the dress rehearsal took place in Dublin. A total of 40 interviewers worked on this phase of the study. Training covered a range of topics and included the following modules:

1. Background and objectives of the study
2. Detailed review of the content of all questionnaires (including a discussion of each question on the questionnaire)
3. Use of CAPI
4. Role play in CAPI
5. Field procedures
6. Infant measurements (length, weight and head circumference)²⁷
7. Child protection guidelines and incident reporting
8. Ethics
9. Interviewing practice, with emphasis on conducting interviews with families
10. Summary of other documentation used in the administration of the survey
11. Adult measurements and GPS

The assessment criteria used after training were:

- (i) Interviewing skills
- (ii) Understanding of survey procedures
- (iii) Laptop use
- (iv) Personal presentation

²⁷ Interviewers practised measurements on life-size dolls.



All interviewers were vetted by the Gardaí and appointed as Officers of Statistics by the Central Statistics Office.

4.3.2 IN THE HOME

In the household the interviewer sought to interview the Primary Caregiver of the child (usually the mother) and, where relevant, his/her spouse partner (usually, but not necessarily, the biological father of the child). The main interviews with each adult were administered by the interviewer using a laptop (CAPI). The more sensitive supplements for both Primary and Secondary Caregiver were contained in a self-completion module. In the dress rehearsal this was filled out by the respondent on the laptop on a CASI basis.

4.4. INSTRUMENTS USED IN THE DRESS REHEARSAL

4.4.1 QUESTIONNAIRES

As in the first pilot, the main questionnaires were administered by the interviewer to the Primary and Secondary Caregivers, with sensitive questions being self-completed on the laptop by the respondent. Additional supplements were completed on paper in respect of twins or triplets. Self-completion questionnaires were sent to non-resident parents and/or regular carers²⁸ of the Study Child, where relevant and where permission was given.

4.4.1.1 PRIMARY CAREGIVER MAIN QUESTIONNAIRE

The general structure was maintained from the pre-pilot and pilot test and was administered on CAPI (see section 3.4.1.1).

4.4.1.2 SECONDARY CAREGIVER MAIN QUESTIONNAIRE

This questionnaire was administered to the spouse/partner of the person who completed the Primary Caregiver questionnaire, where such a person lived in the household. Again, the general structure was maintained from earlier phases (see section 3.4.1.2).

4.4.1.3 SENSITIVE SUPPLEMENTS – PRIMARY AND SECONDARY CAREGIVERS

As described above, respondents self-completed the more sensitive questions on a laptop. The general structure was maintained from the first pilot (see section 3.4.1.3).

4.4.1.4 NON-RESIDENT PARENT AND REGULAR CARER QUESTIONNAIRE

Administration procedures and content of the three postal questionnaires – non-resident parent, home carer and centre carer – did not change from the first full pilot. Contact details for these individuals were collected, where relevant, from the resident parent who completed the Primary Caregiver interview. The questionnaires were then posted centrally from the ESRI. A total of 35 households (14.9 per cent) recorded that there was a non-resident parent. When the interviewer requested contact details, 11 (31 per cent) were provided, 13 (37 per cent) were declined and 11 (31 per cent) were not available. Of the 11 non-resident fathers for whom contact details were provided, only eight were sufficiently detailed for questionnaires to be posted out. None were returned completed.

²⁸ Regular caregiving was defined as eight or more hours per week on a regular basis. This could be provided in a domestic or centre-based context.



A total of 84 households (36 per cent) recorded having a regular carer of eight or more hours per week. Of these 64 (76 per cent) provided contact details to facilitate the posting of a questionnaire; the remainder declined. A total of 62 questionnaires with complete addresses were sent out and 10 were returned completed.

4.4.2 AGES AND STAGES QUESTIONNAIRE (ASQ)

The ASQ was the only developmental measure used in the dress rehearsal. A more systematic test-retest protocol was embedded in the administration of the ASQ for this phase. All participants were asked to take part in a follow-up visit within one week of the initial interview. The sample was split so that half of the participants completed the ASQ on a CAPI basis on both visits; the other half used CAPI on one occasion but self-completed a paper booklet on the other. The different administration modes were counter-balanced for first and second visits (i.e. some people did paper first then CAPI, while the rest did CAPI first then paper).

The general structure of the ASQ was as described for the first pilot. Tables 4.5 and 4.6 present the summary data for each scale (communication, gross motor, etc) for the 10-month age interval for both CAPI and booklet (fuller data are available in the original dress rehearsal report²⁹). In total, four groups of scores are presented:

1. Booklet completed at Time 1
2. Booklet completed at Time 2
3. CAPI completed at Time 1
4. CAPI completed at Time 2

Please note that parallel Time 1 and Time 2 scores in each table do not necessarily refer to the same group of individual children; that is, no respondent completed a booklet at Time 1 and Time 2, whereas some people who completed CAPI at Time 1 also completed CAPI at Time 2, but not all. It can be seen from these tables that, in general, Time 1 scores are similar to Time 2 scores and that CAPI scores are similar to booklet scores.

Table 4.5: Summary scores for 10-month ASQ booklet

	Communi- cation		Gross Motor		Fine Motor		Problem Solving		Personal Social	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
N	53	49	53	49	53	49	53	49	53	49
Mean	41.32	41.53	30.75	24.59	46.51	47.96	43.11	43.06	42.26	41.73
Minimum	15	15	0	0	5	10	10	0	0	10
Maximum	60	60	60	60	60	60	60	60	60	60
25 th percentile	35	30	20	10	40	35	35	35	35	30
50 th percentile	40	40	30	20	50	55	45	45	45	45
75 th percentile	50	50	50	35	60	60	55	50	50	50
Cut-off score	25		17.5		39.0		30.5		30.0	
Percentage of infants exceeding cut-off point	94	90	83	63	80	71	77	82	79	74

²⁹ Report on the dress rehearsal of the infant cohort quantitative survey conducted in May 2008. Growing Up in Ireland. June 2008. Email: growingup@esri.ie.



Table 4.6: Summary scores for 10-month ASQ CAPI

	Communica- tion		Gross Motor		Fine Motor		Problem Solving		Personal Social	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
N	188	157	188	157	188	157	188	157	188	157
Mean	42.90	42.13	27.13	28.22	46.73	49.24	43.59	44.30	41.57	42.26
Minimum	0	0	0	0	0	5	0	0	0	10
Maximum	60	60	60	60	60	60	60	60	60	60
25 th percentile	36.25	35	20	17.5	40	45	35	40	35	35
50 th percentile	40	40	25	25	50	50	50	50	40	40
75 th percentile	50	50	35	40	60	60	58.75	50	50	50
Cut-off score	25		17.5		39.0		30.5		30.0	
Percentage of infants exceeding cut-off point	93	89	76	75	80	87	77	85	77	78

Independent t-tests on domain scores in the 10-month questionnaire comparing CAPI to paper administration found no significant differences at the 5 per cent level at either Time 1 or Time 2. Paired sample t-tests on the same sub-set of domain scores showed no effect of time, with the exception of the fine-motor 10-month domain score, which had a greater mean score at retest (Time 2) than at Time 1 (46.83 v 48.87, $t = 2.204$, $df = 203$, $p < .05$, two-tailed).

CAPI–CAPI test–retest

The following data are based on 110 interviews that were done on CAPI for both visits. Comparisons are based on the 10-month scores. Table 4.7 shows summary scores for the 10-month age interval at test and retest. The correlation of domain scores on the 10-month questionnaires between Time 1 and Time 2 was calculated using Pearson’s r. Four of the five domains showed strong positive correlations (in excess of .70, $p < .001$) as anticipated. The correlation value for the fine-motor domain ($r = .50$), while significant at the 5 per cent level and in the expected direction, was somewhat weaker.

Table 4.7: Comparison of ASQ summary scores for Time 1 and Time 2 where CAPI was used on both occasions

	Communication		Gross Motor		Fine Motor		Problem Solving		Personal Social	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Mean	42.27	42.27	27.59	27.95	47.14	49.05	43.27	43.05	41.09	42.18
Std. Dev.	12.20	13.23	15.35	16.03	13.97	12.35	15.58	15.05	12.16	11.66
Min	0	0	0	0	0	5	0	0	0	10
Max	60	60	60	60	60	60	60	60	60	60
25 th	35	35	20	15	40	40	33.75	35	30	35
50 th	40	40	25	25	50	50	45	50	40	40
75 th	50	55	40	40	60	60	60	50	50	50



Table 4.8: Comparison of pass/fail status from Time 1 to Time 2 on CAPI–CAPI

			Time 2	
			Fail %	Pass %
Time 1	Communication	Fail %	8.2	1.8
		Pass %	2.7	87.3
	Gross Motor	Fail %	18.2	5.5
		Pass %	7.3	69.1
	Fine Motor	Fail %	5.5	13.6
		Pass %	8.2	72.7
	Problem Solving	Fail %	14.5	10.0
		Pass %	3.6	71.8
	Personal Social	Fail %	15.5	10.9
		Pass %	5.5	68.2

Table 4.8 compares whether children passed a given domain at Time 1 and if they passed or failed at Time 2. The shaded boxes show the percentage of individuals who maintained the same status from Time 1 to Time 2; unshaded boxes represent individuals who changed status. The majority of individuals passed on both occasions, but the greatest change in status is in the fine-motor domain where 13.6 per cent of children failed at Time 1 but passed at Time 2, and 8.2 per cent passed at Time 1 but failed at Time 2. This pattern is consistent with the somewhat lower correlation values for this domain described earlier.³⁰

Overall, the results of the CAPI versus booklet comparison and the CAPI–CAPI retest were sufficiently satisfactory for the Study Team to recommend proceeding to the main study with the ASQ on a CAPI-administered basis.

4.4.3 QUESTIONNAIRE TIMINGS

The mean time for the Primary Caregiver main questionnaire was 75 minutes (including the time taken to complete the ASQ), and that for the Secondary Caregiver questionnaire was 16 minutes. The mean time for the sensitive supplements of the Primary and Secondary Caregiver was 11 minutes and 10 minutes respectively. Based on the mean times for all questionnaires, the mean *interview* time for a complete two-adult household in which we had full compliance was of the order of 112 minutes. These figures refer to direct questionnaire administration only. They do not include time taken to introduce the survey, to settle the respondents, to explain and sign the consent form, to set up the equipment (weighing scales, measuring sticks, etc), to take the measurements of both adults and child and to disengage from the interview process.

³⁰ Further information on the test/re-test exercise is available from the Study Team by emailing growingup@esri.ie.



4.5. PHYSICAL MEASUREMENTS AND OTHER DOCUMENTATION

4.5.1 CONSENTS AND ASSOCIATED DOCUMENTATION

As in the pilot test, the interviewer administered a number of paper-based consents and documentation to the family as well as recording physical measurements in respect of Primary Caregiver, Secondary Caregiver and infant. The paper-based consents included:

- Permission to include the household in the selection for the 120 households for inclusion in the qualitative study
- Permission to include the household in possible future nested studies
- PPSNs of both the Primary and Secondary Caregiver
- Permission to access the records relating to the birth of the Study Infant held as part of the National Perinatal Recording System (NPRS)

The interviewer also recorded the GPS co-ordinates for the household.

4.5.1.1 FOLLOW-UP TRACING INFORMATION SHEET AND QUALITATIVE NESTED STUDIES

The interviewer recorded details from the family on two alternative contact addresses as well as permission to include the family's name in the set of households to be considered for both the qualitative study and any future nested studies.

4.5.1.2 PERSONAL PUBLIC SERVICE NUMBERS (PPSNs)

In the course of the household interview, the parents/guardians (where two were resident) were asked to each sign a form relating to access to their respective PPSNs. The Primary Caregiver (usually the mother) was asked to sign a form granting permission to the Study Team to gain access to her own PPSN and to that of the infant through the Child Benefit Register. Permission was requested in respect of use for (a) tracing purposes and (b) potential future (and as yet unspecified) data linkage. It was agreed with the Department of Social and Family Affairs³¹ that it would provide the relevant numbers on completion of the survey in respect of caregivers and children for whom the caregiver had signed the consent form. The Secondary Caregiver (where resident) was asked to provide his PPSN to the interviewer and to indicate whether or not it could be used for (a) follow-up and (b) potential future (and as yet unspecified) data linkage. The consent rate for access to PPSNs from the Primary Caregiver (in respect of self and child) was 85 per cent. The figure for Secondary Caregivers, however, was only 57 per cent. Feedback from interviewers suggested that asking for mother, child and father PPSNs was felt to be excessive, having already asked for contact details for two other relatives or friends.

4.5.1.3 NATIONAL PERINATAL RECORDING SYSTEM

Biological mothers were asked for permission to access the records relating to the birth of the Study Infant held as part of the National Perinatal Recording System (NPRS). These records are collected on all births in Ireland and include information on gestational age, birthweight, delivery and health of mother and infant at birth. The mother was asked to sign a NPRS

³¹ Subsequently renamed the Department of Social Protection.



Access Form; a duplicate form was given to the respondent for her records. Compliance with the NPRS consent forms in the dress rehearsal was very high – at 94 per cent of all respondents.

4.5.2 PHYSICAL MEASUREMENTS

The other data collected as part of the household visit were height and weight of the adult(s) and the length, weight and head circumference of the infant. For the infant measurements, the interviewer instructed the parent/guardian on how to measure the infant, with the interviewer assisting as needed. It was the interviewer who read and recorded the measurements from the weighing scales, length mat and head tape.

4.5.2.1 ADULT HEIGHT AND WEIGHT

Adult height was recorded at the end of the interviews using a Leicester measuring stick and a SECA analogue scales. The mean height for mothers was 164.28cm and for fathers/partners it was 175.97cm. The mean weight for mothers was 68.84kgs and 86.33kgs for fathers.

4.5.2.2 INFANT WEIGHT, LENGTH AND HEAD CIRCUMFERENCE

The same equipment was used for measuring infant height and weight as in the first pilot (mat and digital scales respectively). However, the head measurement was taken with both the reusable lasso-style tape and the disposable paper tape. The interviewer used one style of tape at the initial visit and the other when he/she returned to the home to re-administer the developmental measure (see later note). Two different brands of paper disposable tape were allocated to interviewers.

Infant weight ranged between 6.3kgs and 10.10kgs, with a mean of 9.1kgs. Recorded length ranged between 48cm and 80cm, with a mean length of 71.44cms. Interviewers reported that being allowed to assist in the measuring of the infant made the process much easier for the parent. Head circumference ranged between 35.00cms and 59.00cms, with a mean circumference of 45.34cms. On examination of the data, we concluded that there was no statistically significant difference in head measurement between the two styles of head tape, although the interviewers expressed a preference for the lasso-style tape, which they felt was easier to use. Other considerations, however, led to a decision to use the paper head tape.

Interviewers reported generally positive feedback from respondents in relation to both adult and infant measurements.

4.5.3 INTERVIEWER OBSERVATION SHEET

The dress rehearsal included an interviewer observation sheet. The purpose of this was to record the interviewer's perception of the respondent's engagement and understanding of the interview. Although interesting, the information recorded did not directly focus on child outcomes and the extent to which comment might be incorporated into the data preparation was unclear. Accordingly, given the length of the interview process, the Study Team recommended dropping this from the main study.

4.6. RECOMMENDATIONS FROM DRESS REHEARSAL

4.6.1 INTERVIEWER DEBRIEFING

During the dress rehearsal, eight household interviews were shadowed by a member of staff from Head Office (a different interviewer each time). The purpose of this exercise was to



observe the interview and other procedures actually taking place in the home, rather than assess individual interviewers. The shadowing exercise was in addition to a debriefing session for interviewers on their experiences in the dress rehearsal, held in the offices of the ESRI. In preparing for the debriefing each interviewer completed a questionnaire. The main feedback from the interviewers' debriefing was as follows:

- Despite the reduction in the questionnaire length following the pilot phase, total time with the family was still quite long – in the region of 2hr 15mins compared to the target 90 minutes.
- Interviewers noted the relatively strong and negative reaction of respondents when asked to provide two alternative contact addresses for tracing purposes in addition to the PPSNs of mother, father and child.
- The consent for open-ended and ill-defined data linkage in the future using the PPSNs caused some discomfort and distrust among respondents.
- The physical measuring of the infant was still difficult but the relaxation of the constraints on the interviewer having *any* physical contact (including even incidental contact) with the infant considerably assisted the process.
- The interviewers felt that the disposable paper measuring tapes for head circumference were more difficult to use than the reusable lasso-type tapes.
- The CASI administration of the sensitive modules on the laptops did not pose any problems to the respondents.
- Interviewers suggested that we provide them with a toy, rattle or similar to distract the child while his/her physical measurements were being recorded. It was decided to give each child or family³² in the main study a soft ball bearing the project logo with an embedded light rattle as well as a set of three bibs with the project logo.
- As in the pilot debriefing, interviewers noted increasingly serious problems in gaining access to 'gated communities'. A letter with the interviewer's name and mobile number (in addition to 'called while you were out' cards) was provided in the dress rehearsal and was to be provided in the main study. Their effectiveness, however, was felt by interviewers to be, at best, 'moderate'.

In addition to the above general issues, a range of smaller points was raised at the debriefing. The latter were incorporated, as far as feasible, in the redrafted instruments. The principal summary recommendations for changes to procedures and instruments arising from the dress rehearsal were as follows.

4.6.2 PROCEDURES

1. *Maintain revised opt-out facility introduced after the pilot:* the procedure of having interviewers make personal calls to houses before potential respondents made a final

³² It was also decided to provide interviewers with the packs of colouring pencils used in the nine-year cohort study as well as packs of crayons to give to any siblings of the Study Child too young to be given a pack of colouring pencils. The packs of pencils and crayons contain the study logo.



decision to participate facilitated the provision of more information to participants and, accordingly, enhanced the process of informed consent.

2. *Continue over-sampling of single parents from the Child Benefit Register:* the adjustment for the lower participation rates among this sub-group worked well and allows us to ensure that the stratum in question is represented in the final sample in proportion to its representation in the population as a whole. It will be accounted for in reweighting the data prior to analysis.
3. *Introduce a buffer of a few weeks on both sides of the nine-month period:* this is essential to accommodate families in deciding on when the interview should take place and hence assist in maximising response rates.
4. *Apply universal use of CASI to administer sensitive supplements:* in line with our experience in the pilot phase, we found that the administration of the sensitive modules in CASI mode worked very well and did not pose any problems for respondents.
5. *Continue to permit interviewers incidental physical contact with the infant in taking physical measurements:* the change implemented after the pilot was well received by interviewers and respondents alike.
6. *Record only one alternative contact address to facilitate tracing:* recording two contact addresses for tracing purposes along with the PPSNs for the same purpose drew a lot of negative criticism from respondents.
7. *Change requested permission with regard to PPSN:* Permission to access PPSNs will be sought for Primary Caregiver (usually mother) and child only; Secondary Caregivers will no longer be asked to provide a PPSN, following negative reaction in the pilot. Respondents will be able to give permission for their PPSN to be used for tracing but not data linkage if that is their preference³³.
8. *Secure signed consent of grandparent for parents under 16 years of age:* although a very small number of mothers would be expected to be under 16 years at the time the Study Child is nine months old, a separate consent form for the mother's own parent (infant's grandparent) will be provided to interviewers. This will be in addition to consent from the Study Child's mother.
9. *Use CAPI mode for administering the ASQ:* the split-sample design used in the dress rehearsal did not indicate any mode effects of administering the ASQ in CAPI format.
10. *Use paper disposable head-tape for three measurements:* to limit the possibility of cross-infection, the Study Team decided to opt for the disposable paper head-tape rather than the reusable lasso style. Interviewers will take the head circumference measurement three times as per the recommendation of members of the Expert Panel on Health.

³³ Subsequently this was specified as separate permissions to link to the NPRS and the National Immunisation Database



4.6.3 INSTRUMENTS

4.6.3.1 PRIMARY CAREGIVER QUESTIONNAIRE

The main changes recommended for the Primary Caregiver questionnaire are as outlined below:

1. *Removed B1*: Deletion of this question on the parent's affectionate behaviours – except for B1f on 'child's crying getting on nerves' (originally from a different set of questions and which was transferred to B4c of revised draft). Very little variability was observed in relation to these questions.
2. *Removed B5*: Question on baby's maintenance of eye contact was considered more difficult to report than later scale items on attachment, and there was very little variability in answers.
3. *Remove B7b to d*: Questions on age-appropriate development were removed to leave just a question on the age at which child knows right from wrong.
4. *Removed CX2 and reworded CX3*: CX3 was changed to a general question on concerns about the baby's development followed by an open-ended option to specify concerns, in place of a question on specific concerns as well as an open-ended question.
5. *Removed D16*: Question on age when baby reached selected developmental milestones considered surplus in light of using ASQ.
6. *Redraft of E2 (new E3 to E10)*: These questions were added to the questionnaire after the dress rehearsal to allow more investigation of various aspects of childcare arrangements, including details on:
 - a. Relationship to carer (redrafted questions E3 and E4)
 - b. Nature of care facility (redrafted question E5)
 - c. Number of children cared for (redrafted question E7)
 - d. Distance, length of time and time of day baby travels to carer (redrafted questions E8a and E8d)
 - e. Reason for choosing main form of childcare (redrafted question E9a)
 - f. Extent to which choice of childcare was budget-constrained (redrafted questions E9b)
 - g. Expansion on reasons for dissatisfaction (if relevant) with childcare (redrafted questions E10b and E10c)
7. *Removal of F5 to F7*: Questions on how alike twins are in looks, health, character and behaviour were postponed for a later wave.
8. *G1 & G2 reworded and moved to sensitive section as redrafted question S29*: Questions on whether pregnancy with Study Child was intentional were potentially sensitive for participants so were moved to self-completion.
9. *Deleted G6*: Question on detail of shared antenatal care was given lower priority when editing questionnaire.



10. *Added Question H15d*: Question added on reasons why mother did not breastfeed.
11. *Removed H22*: Universal compliance with immunisations at H21 in pre-pilot, first pilot and dress rehearsal meant that question as to why child did not have immunisations was redundant.
12. *Removed H35 & H36*: Questions on number of infant accidents and consequent hospital stays were removed as many more questions (per accident) would be required to cover this particular topic in sufficient detail.
13. *Removed J9 to J11*: Questions on Primary Caregiver's healthcare use were removed as they were not specifically child-focused.
14. *Removed J18*: Question on number of drinks consumed in an average night were considered non-essential in light of other information gathered about alcohol consumption.
15. *Removed K2 & K4*: Questions on degree of support were considered surplus to requirements given that K3 on overall level of support remained.
16. *Redrafted L11x*: Additional question on time spent commuting to and from work, for those whose principal economic status is 'At work outside the home'.
17. *Wording harmonised with Census of Population*: The wording of questions relating to occupation (L12, L20, L21c, L22) and level of education (L34) was amended slightly to harmonise fully with the Census of Population (used for weighting purposes).
18. *Removed M2*: Detailed question on the parent's involvement in community was deleted and a single question on extent to which family perceived itself to be 'settled in and part of this community' was added to M3.

4.6.3.2 SECONDARY CAREGIVER QUESTIONNAIRE

The deletion or amended wording of questions applied to the Primary Caregiver questionnaire were applied to the Secondary Caregiver questionnaire where relevant. In addition the following changes were made:

1. *Substitution of B1a-e*: Questions on affectionate behaviours with infant were replaced with psychometrically validated quality of attachment scale from paternal postnatal attachment scale, taken from the Condon and Corkindale attachment scale (quality of attachment sub-scale). Accordingly, it is consistent with question B6 on the Primary Caregiver questionnaire.
2. *Removed E2*: Question on level of support received by father/partner was considered less essential than other more child-focused items when assigning priority to questions.



4.6.3.3 SENSITIVE SUPPLEMENTS – PRIMARY AND SECONDARY CAREGIVERS

Both of these instruments were amended to incorporate the migration of a few of the more sensitive questions from the main Primary and Secondary Caregiver questionnaires, as indicated above. In addition, a few amendments were proposed for the main study, as follows.

1. *Removed S28a-f, added new question on menarche:* Questions on mother's fertility history, while interesting, were of questionable relevance to the Study Infant's development. Questions on age at first pregnancy and being currently pregnant remained. A question on age of mother's first period was added as this is important in understanding child growth patterns.³⁴
2. *Removed S29-S30, replaced with new S30:* Questions on crisis pregnancy were dropped and replaced with questions on stress during pregnancy, whether or not it was related to the pregnancy itself or to other factors, and the trimester in which it occurred.
3. *Removed S40:* Issue of depression covered by CES-D.
4. *Removed S55 & S56:* These questions on amount of maintenance paid by non-resident parent were not felt to have a sufficiently strong child focus to merit being retained. Also, non-resident parents who completed a questionnaire would supply this information.

4.6.3.4 OTHER QUESTIONNAIRES

In situations where the Study Child was a non-singleton, details were also recorded from both the Primary and Secondary Caregivers about the other twin or triplets. This was done to maintain a longitudinal panel of non-singletons throughout the study. The questionnaires administered to both Primary and Secondary Caregivers in respect of the relevant sibling(s) recorded details only in respect of the child. The non-singleton questionnaires did not repeat the questions specific to the Primary or Secondary Caregiver (e.g. on their health or lifestyle), which were already answered when completing the main PCG or SCQ questionnaire in respect of the Study Child him/herself.

The changes made to the Primary and Secondary Caregiver instruments as described above were reflected in the non-singleton (twin or triplet) questionnaires. No changes were proposed on foot of the dress rehearsal for the non-resident parent questionnaire or either of the carer questionnaires.

³⁴ On advice of member of the Expert Panel on Health.



Chapter 5

CONCLUDING REMARKS





Piloting for the first wave of data collection in the Infant Cohort comprised three phases: pre-pilot, pilot test and dress rehearsal. In each phase the key individual was the infant. Most of the data about the infant were collected from the Primary Caregiver, interviewed in the home. Other respondents included the Secondary Caregiver (spouse/partner of the Primary Caregiver), the non-resident parent, regular home carer or regular centre-based carer (postal self-completion questionnaires).

Respondents in the Infant Cohort were randomly selected from the Child Benefit Register. The interviewer called directly to the home to arrange an interview (after an introductory pack had been mailed to the family). A new procedure in the infant piloting process was the introduction of CASI (Computer-Assisted Self-Interview) for completion of the sensitive supplements. Another new aspect of the infant cohort pilot was the seeking of consent to link up with data collected outside of the *Growing Up in Ireland* survey – namely the National Perinatal Recording System and, subsequently, the National Immunisation Database.

The pre-pilot, pilot test and dress rehearsal were invaluable in developing instruments and procedures for the main phase of the Infant Cohort (at nine months). Important changes in procedures – such as allowing interviewers incidental physical contact with the infant during measurement – were implemented as a result of feedback from the piloting process. The Study Team was also able to use the pilot data and feedback from interviewers to refine the questionnaires, improving the wording of questions that respondents found difficult to understand, adapting answer categories to suit the information being requested, and identifying redundant questions or questions that worked less well than expected. All these refinements helped to improve the value of the main study and make it as smooth-running as possible for researchers and respondents alike.

Further details on the piloting process, from the individual reports dedicated to the pre-pilot, pilot test and dress rehearsal, are available on request (email growingup@esri.ie).



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