

# ***Growing Up in Ireland***

National Longitudinal Study of Children

## **COHORT '08 (Infant Cohort)**

**Design, Instrumentation and Procedures  
for Cohort '08 of Growing Up in Ireland  
at 9 Years Old (Wave 5)**

# Growing Up in Ireland

National Longitudinal Study of Children

## DESIGN, INSTRUMENTATION AND PROCEDURES FOR COHORT '08 OF GROWING UP IN IRELAND AT 9 YEARS OLD (WAVE 5)

Eoin McNamara, Desmond O'Mahony and Aisling Murray

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.



Copyright © Minister for Children and Youth Affairs, 2020

Department of Children and Youth Affairs  
Block 1  
Miesian Plaza  
50-58 Baggot Street Lower  
Dublin 2  
D02 XW14  
Tel: +353 (0)1 647 3000  
E-mail: [contact@dcya.ie](mailto:contact@dcya.ie)  
Web: [www.dcy.gov.ie](http://www.dcy.gov.ie)

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission in writing of the copyright holder.

For rights of translation or reproduction, applications should be made to the Head of Communications, Department of Children and Youth Affairs, Block 1, Miesian Plaza, 50-58 Baggot Street Lower, Dublin 2, D02 XW14, Ireland.



## TABLE OF CONTENTS

List of Figures	7
List of Tables	7
Acknowledgements	8
<b>CHAPTER 1: INTRODUCTION AND CONCEPTUAL FRAMEWORK</b>	<b>9</b>
1.1 Introduction	10
1.2 Background and Objectives	11
1.3 Conceptual Framework	11
1.3.1 The bioecological model	11
1.3.2 From conceptual framework to instrumentation for the 9-year-old	13
1.4 Stakeholder Consultation	14
1.5 Harmonisation with Other Longitudinal Studies	15
1.6 Structure of Report	15
<b>CHAPTER 2: SAMPLE AND RESPONSE RATES</b>	<b>16</b>
2.1 Introduction	17
2.2 Sample Design at Wave 1 (9 months)	17
2.3 Sample Design at Wave 2 (3 years old)	17
2.4 Sample Design at Wave 3 (5 years old)	18
2.5 Sample Design at Wave 4 (7/8 years old, inter-wave postal phase)	20
2.6 Sample Design at Wave 5 (9 years old)	20
2.7 Sample Retention, 9 months to 9 years	21
2.8 Non-Response, Inter-wave Attrition and Sample Weights	22
2.9 Response in the School-level Interview at 9 Years of Age	26
2.10 Conclusion	28
<b>CHAPTER 3: INPUT INTO INSTRUMENTS</b>	<b>29</b>
3.1 Introduction	30
3.2 Scientific Advisory Group	30
3.3 International Advisors	30
3.4 The Child Consultative Process	30
3.5 The Pilot Phase for Cohort '08 at 9 Years	31
3.6 Stakeholder Groups	31
3.7 Research Ethics Committee	31
3.8 Other Longitudinal Studies	31
3.9 Conclusion	32
<b>CHAPTER 4: ETHICAL CONSIDERATIONS</b>	<b>33</b>
4.1 Introduction	34
4.2 Relevant Acts	34
4.2.1 Data Protection Acts 1988, 2003	34
4.2.2 Statistics Act (1993)	34
4.3 Practical Application of Ethical Considerations	35
4.3.1 Informed consent	35
4.3.2 Reporting concerns	35
4.3.3 Interviewers alone with the 9-year-old	35
4.3.4 Confidentiality	35
4.3.5 Avoidance of embarrassment or distress	36
4.4 Conclusion	36



<b>CHAPTER 5: OVERVIEW OF HOUSEHOLD INSTRUMENTS AND PROCEDURES</b>	<b>37</b>
5.1 Introduction	38
5.2 Household-based Fieldwork and Family Participation	38
5.3 CAPI Procedure	39
5.4 CASI Procedure	40
5.5 9-year-old Self-complete using Pencil and Paper	40
5.6 Cognitive Tests	40
5.7 Special Procedures	40
5.7.1 Other languages	41
5.7.2 Twins and triplets	41
5.8 Gifts to Respondents	41
5.9 Conclusion	41
<b>CHAPTER 6: PRIMARY AND SECONDARY CAREGIVER INSTRUMENTS</b>	<b>42</b>
6.1 Introduction	43
6.2 Overall Structure of PCG Main Questionnaire	43
6.2.1 Section A – Household composition	43
6.2.2 Section B – Child’s sleeping pattern and parent-child relationship	44
6.2.3 Section C – Child’s physical health and development	45
6.2.4 Section D – Child’s diet and exercise	50
6.2.5 Section E – Parental health	51
6.2.6 Section F – Child’s play and activities	53
6.2.7 Section G – Screen time and internet use	54
6.2.8 Section H – Child’s emotional health and well-being	54
6.2.9 Section I – Parenting and family context	56
6.2.10 Section J – Child’s education	58
6.2.11 Section K – Peer relationships and bullying	60
6.2.12 Section L – Socio-demographic information	61
6.2.13 Section M – About you	63
6.2.14 Section N – Neighbourhood/Community	64
6.3 Overall Structure and Performance of the SCG Main Questionnaire	65
6.3.1 Section B – SCG’s relationship with the child	66
6.3.2 Section E – Parental health	66
6.3.3 Section F – Child’s play and activity	66
6.3.4 Section L – Socio-demographics	66
6.3.5 Section M – About you	66
6.4 The Primary and Secondary Caregiver Self-Complete Questionnaire	67
6.5 PCG and SCG Height, Weight and BMI	77
6.6 Conclusion	77
<b>CHAPTER 7: 9-YEAR-OLD INSTRUMENTS</b>	<b>78</b>
7.1 9-Year-Old Main Questionnaire	79
7.1.1 Section A	79
7.1.2 Section B	79
7.1.3 Section C	80
7.2 9-Year-Old Self-Complete Questionnaire	81
7.2.1 Core Self-Complete Questionnaire	81
7.2.2 Piers-Harris Self-Concept Scale	82
7.3 9-Year-Old Height, Weight and BMI Status	84
7.4 Time Use Diary	84
7.5 Conclusion	85



<b>CHAPTER 8: COGNITIVE TESTS</b>	<b>86</b>
8.1 Drumcondra Reading Test	87
8.2 Selective Attention and the Map Mission Test	88
8.3 Conclusion	89
<b>CHAPTER 9: SCHOOL AND NON-RESIDENT PARENT INSTRUMENTS</b>	<b>90</b>
9.1 School Instruments – Introduction	91
9.2 School Recruitment and Survey Implementation	91
9.3 Endorsement from Teacher’s Union and Principal’s Representative Body	91
9.4 The Principal’s Questionnaire	92
9.5 The Teacher-on-Self Questionnaire	94
9.6 The Teacher-on-Child Questionnaire	95
9.7 Non-Resident Parent Questionnaire	96
9.8 Conclusion	99
<b>CHAPTER 10: SUMMARY</b>	<b>100</b>
10.1 The Structure of the Report	101
10.2 The Value of the Data at Wave 5	102
10.3 Conclusion	104
<b>REFERENCES</b>	<b>105</b>
<b>APPENDICES</b>	
A1. Child Information Leaflet	
A2. Parent Information Leaflet	
A3-5. Consent Forms	
A6. Information Sheet – Parent Living Elsewhere	
A7. Information Sheets – School	
B1. Child Main Questionnaire	
B2. Child Supplementary Questionnaire	
B3. Time Use Diary	
B4. Primary Caregiver Main Questionnaire	
B5. Primary Caregiver Supplementary Questionnaire	
B6. Secondary Caregiver Main Questionnaire	
B7. Secondary Caregiver Supplementary Questionnaire	
B8. Non-Resident Parent Questionnaire	
B9. Principal’s Questionnaire	
B10. Teacher-on-Self Questionnaire	
B11. Teacher-on-Child Questionnaire	



## LIST OF FIGURES

Figure 1.1:	Bronfenbrenner's ecological perspective on child development	12
Figure 10.1:	Potential predictors measured across all waves of the risk of overweight and obesity at age 9	103

## LIST OF TABLES

Table 1.1	Timeline of data collection for Cohort '08	2
Table 1.2	Examples of <i>Growing Up in Ireland</i> variables in each bio-ecological layer	13
Table 2.1	Outline of sample issued and summary response at Wave 2 (3 years)	18
Table 2.2	Breakdown of the sample assigned at Wave 3 (5 years of age)	19
Table 2.3	Response outcomes at Wave 5 (9 years) by whether family participated in Wave 2 (3 years)	19
Table 2.4	Breakdown of the sample issued at Wave 5 (9 years)	20
Table 2.5	Response at Wave 5 (9 years) by whether family participated at Wave 3 (5 years)	21
Table 2.6	Summary retention of sample, 9 months to 9 years	21
Table 2.7	Pattern of response at each wave from 9 months to 9 years.	22
Table 2.8	Population and completed Wave 5 sample distributions of characteristics of the Study Children and their families	24
Table 2.9	School-level response rates at 9 years of age	28
Table 6.1	Scores of PCG and SCG of 9-year-olds on the positive aspects and conflict sub-scales of the Pianta Child-Parent Relationship Scale (short form)	45
Table 6.2	Scale composition and sample items on the Strengths and Difficulties Questionnaire (SDQ, Goodman, 1997)	56
Table 6.3	Means, standard deviations and alpha values for Primary and Secondary Caregiver of 9-year-olds on the Dyadic Adjustment Scale	69
Table 6.4	Primary and Secondary Caregiver scores on warmth, hostility and consistency sub-scales in the <i>Growing Up in Ireland</i> sample at age 9	70
Table 6.5	Primary and Secondary Caregiver scores on Exposure to Conflict in the <i>Growing Up in Ireland</i> sample at age 9	71
Table 6.6	Means, standard deviations and alpha values for Primary and Secondary Caregiver scores on Parental Stressors Scale	71
Table 6.7	Fast Alcohol Consumption Scores for Primary and Secondary Caregivers showing means, standard deviations alpha values and classification	73
Table 6.8	CES-D Depression scores for Primary and Secondary Caregivers showing means, standard deviations, alpha values and classification	74
Table 6.9	Everyday Discrimination Scale for majority and minority groups, means, standard deviations and alpha values	76
Table 7.1	Means, standard deviations range and alpha values for shortened Piers Harris scale using 9-year Cohort '98 and Cohort '08 data	84



## ACKNOWLEDGEMENTS

This report draws extensively on information from design reports relating to previous waves of *Growing Up in Ireland*. Specifically, the Cohort '98 design reports at age 9 (Murray et al., 2010) and 17/18 years (Murphy et al., 2019), and the Cohort '08 design reports at age 3 (McCrory et al., 2013) and 5 years (Williams et al., 2019) are cited frequently in this report. We are grateful to all of the authors and co-authors responsible for producing these reports.

Special thanks are also due to Dr Amanda Quail (survey and data manager), as well as the *Growing Up in Ireland* fieldwork and database teams, for their extensive work in preparing the questionnaires and data presented in this report. We gratefully acknowledge the contribution of colleagues in the Department of Children and Youth Affairs, and external reviewers, for their comments on earlier drafts of this report.

As always, the Growing Up in Ireland study team are especially thankful to all the participating families, children and schools for their time and commitment to the survey.





# Chapter 1

## Introduction and Conceptual Framework





## 1.1 INTRODUCTION

*Growing Up in Ireland* is the national longitudinal cohort study of children that commenced in 2006. The study has followed two groups of Irish children: Cohort '98 (so-called because most of them were born in 1998; formerly called the 'Child Cohort'); and Cohort '08 (most of whom were born a decade later in 2008; formerly called the 'Infant Cohort'). The primary aim of the study is to provide a strong evidence base to improve the understanding of children's and young people's health and development across a range of domains. This information is used to inform government policy in relation to children, young people and their families.

The study covers a broad range of child outcomes with a view to documenting how well children and young people in Ireland are developing. In so doing, it can facilitate comparison with findings from similar studies of children in other countries, as well as establishing typical patterns for children in Ireland. Being longitudinal in nature, the study also addresses developmental trajectories over time and explores the factors that most affect those trajectories and the life chances of children in Ireland today. By providing comprehensive data on a representative national sample of Irish children, the study informs and contributes to the setting of responsive policies and the design of services for children and their families.

For Cohort '08, 11,134 children were recruited along with their parents and other main caregivers, when the children were 9 months of age. For Cohort '98, 8,568 children and their main caregivers were recruited to the study when the children were 9 years of age.

Data were collected from Cohort '98 when the children were 9, 13, 17/18 and, currently, at 20 years of age. The younger Cohort '08 had rounds of data collection when the children were 9 months old and, subsequently, at 3, 5 and 9 years of age. The Primary Caregivers (usually the mothers) also completed a postal questionnaire at age 7/8 years. This report focuses on the design, instrumentation and procedures developed for the fifth round of data collection with Cohort '08 when the children were 9 years of age. The timing of the data collection with this cohort is shown in Table 1.1.

**Table 1.1** Timeline of data collection for Cohort '08

Wave	Study Child Age	Start	End
1	9 months	Sept 2008	Mar 2009
2	3 years	Dec 2010	June 2011
3	5 years	March 2013	Sept 2013
4	7 years	Feb 2016	July 2016
5	9 years	June 2017	Feb 2018

This report documents the nature and content of the questionnaires and other instrumentation used, along with a general consideration of operational procedures. Much of the information relevant to this report has already been documented in detail elsewhere, therefore cross-referencing will be used throughout to guide the reader to the relevant publication.

This chapter begins with a brief overview of the background and objectives of the study, interpretation of its requirements and how these have been met by the Study Team. A summary of the conceptual framework underlying *Growing Up in Ireland* and how this is reflected in the instrumentation is also provided.



## 1.2 BACKGROUND AND OBJECTIVES

The principal objective of *Growing Up in Ireland* is to provide an evidence base and research into the development and well-being of children and young people, and the determinants that positively and negatively affect different developmental trajectories. This information will continue to contribute to the evidence needed to inform policymaking and the provision of services for children and their families.

*Growing Up in Ireland* was commissioned by the Irish Government. In its first phase, the study was funded by the Department of Health and Children through the Office of the Minister for Children and Youth Affairs (now the Department of Children and Youth Affairs, DCYA), in association with the Department of Social and Family Affairs (now the Department of Employment Affairs and Social Protection) and the Central Statistics Office. The second phase of the study (2015-2019) was funded by the DCYA, with a contribution from The Atlantic Philanthropies. The study is overseen by the DCYA in association with the Central Statistics Office.

*Growing Up in Ireland* has nine specific objectives, which are to:

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

## 1.3 CONCEPTUAL FRAMEWORK

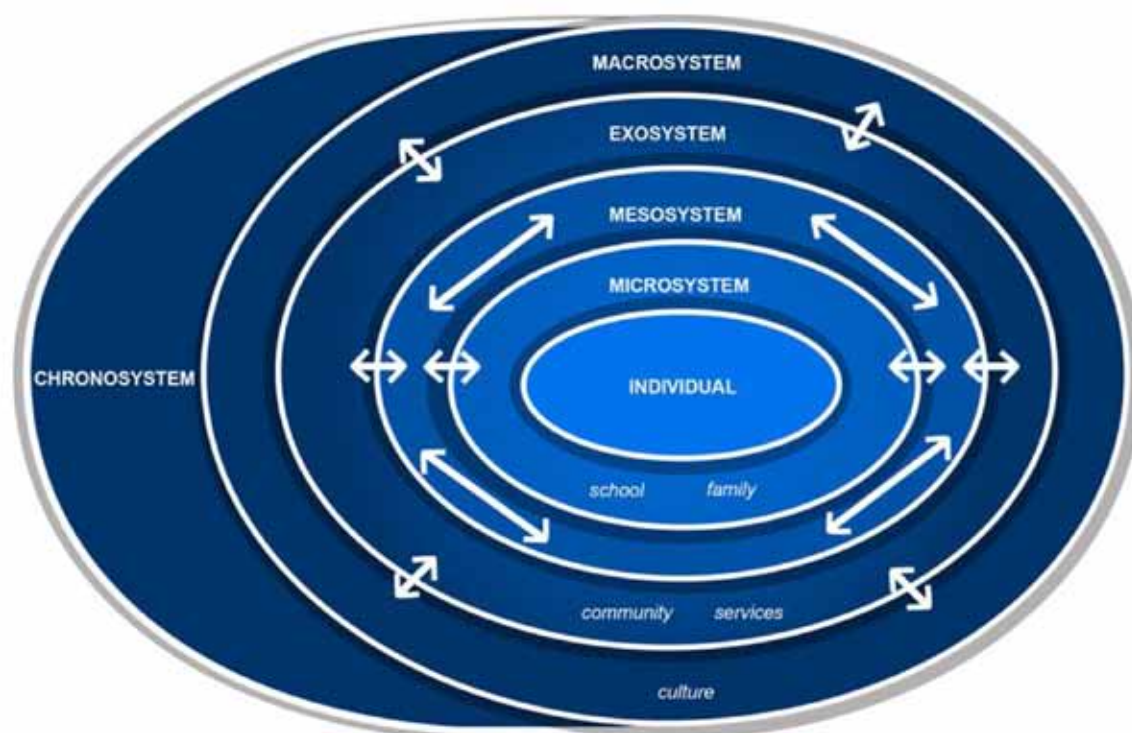
### 1.3.1 THE BIOECOLOGICAL MODEL

The conceptual framework for *Growing Up in Ireland* draws heavily on the bio-ecological model developed by Urie Bronfenbrenner (Bronfenbrenner & Morris, 2006; Figure 1.1). This model and other influences are discussed in detail in an earlier *Growing Up in Ireland* publication (Greene et al., 2010) so will be briefly summarised here.

The bio-ecological model proposes that child development occurs in context. The child is placed at the centre of the model and the child's developmental outcomes are linked to a complex interplay of the biological make-up of the child and the environmental setting in which the child is situated (Smith et al., 2015). Bronfenbrenner proposes that the child's ecology is a multi-layered set of nested and interconnecting environmental systems that influence the child's development but with varying degrees of directness. These systems include the microsystem, mesosystem, exosystem, chronosystem and macrosystem.



**Figure 1.1: Bronfenbrenner's ecological perspective on child development**



Source: Adapted from Garbarino (1982)

The structures and the individuals closest to the child, referred to as the microsystem, exert the most influence on the child. Examples of a microsystem include the home environment with parents and siblings, and also the school environment with teachers and peers. For almost all children, the school forms part of the microsystem by the age of 9 and largely replaces the care settings of the pre-school years, although some may still be taking part in formal after-school care. At around 9 years of age, school and the relationships with teachers and peers bring a range of new interactions, some of which will be positive, others more negative. The nature of children's leisure activities also starts to change from this age, with greater involvement in structured activities (such as sports, extracurricular classes and music clubs) and potentially more say in the choice of friends with whom they interact.

The links between the various microsystems in which the child directly participates is called the mesosystem. Parental involvement in the child's education is an example of a mesosystem and has been shown to play an important role in the child's educational achievement and school involvement (Steinberg et al., 1992).

The exosystem refers to the structures, institutions and settings that are not in direct contact with the child but exert an important influence on their quality of life. For example, access to green spaces for play in the local area could affect a child's physical health, or a shortfall in teaching staff in the primary school sector can affect a child's educational development.

The macrosystem consists of the cultural norms, attitudes and prevailing circumstances that shape the wider society. For example, a major national event such as the recent economic recession could affect an individual child through multiple routes: a reduction in the income available to parents and their ability to purchase goods or services for the child; a disruption to parent-child relationships because of stress in the family; a restriction to resources available in the child's school, or a more negative societal attitude towards children of immigrants.



The national recession could be considered as a part of Bronfenbrenner's concept of the chronosystem or 'time and timing'. The children of Cohort '08 were born just as the recession was starting to take effect; hence their development from infancy into early childhood was inextricably linked with the dramatic change in the economic climate. In contrast, the children of Cohort '98 spent their early childhood in a 'boom', and the recession affected their middle childhood and early adolescence. The recession is an example of the influence of time in terms of 'period effects', but time also matters with regard to 'timing' in critical or sensitive periods of development, or the mistiming of events (relative to what is typical) such as the early death of a parent.

**Table 1.2** Examples of Growing Up in Ireland variables in each bio-ecological layer

Bioecological model level	Factors
Child	Gender, Health, Personality, Self-esteem, Self-efficacy
Microsystem	Family structure, parental health, parent/child relationship, parental education, peer relationships at school
Mesosystem	Links between those in the microsystem: parental work-life balance, parental involvement in education, relationship between close and extended family
Exosystem	Access to healthcare, school type, ethos and size, social welfare, community and neighbours
Macrosystem	Citizenship, nationality, economic climate

### 1.3.2 FROM CONCEPTUAL FRAMEWORK TO INSTRUMENTATION FOR THE 9-YEAR-OLD

The project has been designed to record an array of factors that are influential in the child's development at all stages of their life. As noted by Sanson et al. (2005), "an outcome is an attribute of the child at a particular point in time" (p.5). Outcomes are generally influenced by a range of inputs. Key inputs include social class, parental income, parental education, family type, school characteristics and health status. The child's own attributes also are influential in current and later outcomes; for example, temperament and cognitive ability.

The child outcomes focused on in *Growing Up in Ireland* include:

- Physical health and development
- Social/emotional/behavioural wellbeing
- Cognitive outcomes and scholastic achievement

The child is central to the study. While the parents/guardians are interviewed about the child and the family, the child's voice is central to the study at 9 years of age. For the first time in this cohort, the children were interviewed directly. As in previous waves, information was also gathered directly from the non-resident parent (if applicable).

The broad range of information gathered in the study reflects the acknowledged importance of the immediate and direct and the less direct contexts in the child's life, in line with the bio-ecological model. As the broader context evolves over time, so too does the study instrumentation. For example, this wave of data collection recorded more detailed information on the 9-year-old's online interactions compared to Cohort '98 at age 9 and when this cohort were younger. This report notes where items have been previously used in *Growing Up in Ireland* questionnaires and when they represent a new category of data collection.



Decisions on study design and the instrumentation used for the current wave of data collection were informed by previous waves for this (infant) cohort, but also the corresponding wave of data collection for Cohort '98 at 9 years of age, completed ten years previously (please refer to the corresponding design report, Murray et al., 2010). While cross-cohort consistency was a major influence on the design at this wave, this had to be weighed against within-cohort consistency and in some cases the need to update questions (e.g. technology use and screen-time).

For the older cohort, the study sample was recruited through schools (compared to the Child Benefit Register for the current cohort), while data collection took place both at home (questionnaires) and in the school (child cognitive tests). Conducting all data collection at home for the current cohort involved scaling back the home component somewhat to accommodate all interviews and tests in one sitting.

An example of the use of similar indicators across cohorts is the retention of the Drumcondra Reading Test and Strengths and Difficulties Questionnaire (SDQ) across cohorts. Longitudinal consistency was prioritised over cross-cohort consistency in the retention of the same parenting style indicators. An example of the introduction of new measures included screen-time questions, an adaptation of Piers-Harris, and the introduction of a selective attention map test.

## 1.4 STAKEHOLDER CONSULTATION

As at previous waves of the study, intensive consultation took place with various stakeholder groups, experts and others in the development of the instruments and procedures used at Wave 5 of Cohort '08. These included policy and practitioner stakeholders. The policy input came from the Department of Children & Youth Affairs (DCYA) and the Department of Social Protection (DSP; now the Department of Employment Affairs and Social Protection) – along with the Central Statistics Office (CSO) and the Department of Education & Skills (DES). All stakeholder groups were asked to provide insights into the key policy-relevant issues affecting the development and well-being of children at 9 years of age and how best to collect information to address these issues.

In addition, a panel of experts from the third-level education and research sectors contributed substantial input to instrument development. The research experts formed four thematic panels, each headed by members of the Study Team Management Group. The four main thematic panels were:

- Health & health policy
- Child development and education
- Socio-emotional development
- Methodology & design, Social context

The panels of child research experts were made up of specialists drawn from a wide range of research and related backgrounds, including early-childhood development, educational development, paediatrics, child psychiatry, family studies, gender and the labour-market studies, and health psychology. Further consultation took place with children (in the form of focus groups), international advisors and the Research Ethics Committee.



## 1.5 HARMONISATION WITH OTHER LONGITUDINAL STUDIES

In developing the instrumentation, the Study Team paid close attention to contemporary longitudinal child cohort studies carried out in other countries, both to enable later comparison and to draw on the benefits of including items successfully used in other studies. Where items for *Growing Up in Ireland* were based on questions used in other studies, sources have been indicated in the text.<sup>1</sup> The main studies referred to are the Millennium Cohort Study (MCS) in Britain; the Growing Up in Australia (LSAC) study; the Early Childhood Longitudinal Study (ECLS) in the United States; the Avon Longitudinal Study of Parents and Children based in the Bristol area of Britain, and the Canadian National Longitudinal Study of Children and Youth.

## 1.6 STRUCTURE OF REPORT

The main objectives of this report are to:

- Outline the sample design and explain the procedures for respondent selection with reference to procedures at Waves 1, 2, 3, 4 and 5
- Describe how the instruments were developed, drawing on the previous wave, and including a discussion of the main inputs to the nine-year instrumentation from the Scientific Advisory Group, the focus groups with children, the International Advisors and the Research Ethics Committee
- Discuss the ethical review procedures for the study
- Describe fieldwork procedures
- Provide a detailed breakdown of the main instruments used at all levels of the study, including the broad domains of interest, specific variables of interest, and information on scales used in the study, along with a rationale for the use of each
- Present, in the appendices, the various instruments and related documents used in the study (appendices are grouped separately in an accompanying document)
- Continue to provide information against which change and stability in subsequent instruments and protocols used in the survey may be measured

To this end, the report has nine subsequent chapters:

- Chapter 2 summarises the sample design and sampling.
- Chapter 3 outlines the inputs to the instrumentation from various advisory groups and other stakeholders.
- Chapter 4 examines ethical considerations and the ethical review procedure.
- Chapter 5 presents a broad overview of the various levels of instruments and questionnaires used in the survey aspect of Wave 4 of Cohort '08 at 9 years
- Chapter 6 details the instruments used in the household with the Primary and Secondary Caregivers.
- Chapter 7 summarises the instruments used with the 9-year-old.
- Chapter 8 describes the cognitive tests and selective attention 'map' test administered to the child.
- Chapter 9 discusses the other instruments and measures used in the study, including the questionnaire sent to non-resident parents and the 9-year-old's teacher and principal.
- Chapter 10 provides a summary.

<sup>1</sup> Many items have been adapted by several child cohort studies. In Chapters 6 and 7, the main source of each item is generally cited. The Study Team is aware that in many instances the cohort study quoted may not have been the original developer of the item.



# Chapter 2

## Sample and Response Rates







## 2.1 INTRODUCTION

In order to provide an overview of the sampling procedures used with the cohort at 9 years of age (Wave 5), this chapter begins with a summary outline of the sample designs adopted in the first three face-to-face rounds of the interviews at 9 months, 3 years and 5 years of age, along with the postal phase of the study at 7/8 years of age. It then moves on to discuss sample design in more detail, as well as levels of response and attrition in the current round of the project. The procedures for statistically adjusting (or reweighting) the data to ensure that they are fully representative of the relevant population<sup>2</sup> in this phase of the study are then described.

## 2.2 SAMPLE DESIGN AT WAVE 1 (9 MONTHS)

Full details on the population, sampling frame and sample design for Cohort '08 are given in the report titled 'Sample Design and Response in Wave 1 of the Infant Cohort (at 9 months) of *Growing Up in Ireland*'.<sup>3</sup> This section presents a brief outline of the sampling at Wave 1, to provide the reader with a background to the sampling procedures used.

The Child Benefit Register was used as the sampling frame for the first wave of Cohort '08. Child benefit is a universal monthly social welfare payment to families with children. Children should be registered with the appropriate authorities within six months of birth or becoming part of the family (e.g. through adoption), or of the family coming to reside in Ireland. This administrative database had some extremely attractive characteristics as a sampling frame. It contained a comprehensive up-to-date listing of eligible members of the relevant population; had a wide range of relevant characteristic variables of claimants (mostly mothers), and was already in an electronic form that could be accessed for sampling purposes.<sup>4</sup>

There were just over 70,000 births in Ireland in 2007. The Wave 1 sample for the Cohort '08 study was selected from the 41,185 infants registered on the Child Benefit Register as having been born between 1st December 2007 and 30th June 2008. The target sample was selected over this seven-month period, with a view to carrying out fieldwork for Wave 1 when the children were 9 months of age, between September 2008 and March/April 2009. The sample was selected on a systematic basis, with a random start. Prior to selection, the sample was sorted by marital status of the claimant (usually the mother), county of residence and nationality of the claimant, as well as number of children in the payment or 'claim'. A simple systematic selection procedure based on a random start and constant sampling fraction was used. In total, 11,134 children were recruited onto the first wave of the study. This represented a response rate of 65 per cent of all families approached and 69 per cent of valid contacts made in the course of the fieldwork.

## 2.3 SAMPLE DESIGN AT WAVE 2 (3 YEARS OLD)

The Wave 2 target sample contained the 11,134 3-year-olds (and their families) who participated in the first round of interviewing. No additions were made to the sample since that time,<sup>5</sup> with the only loss being through inter-wave non-response or attrition (including families who had moved away from Ireland between Waves 1 and Wave 2 or children who had deceased since the first round of interviewing). The longitudinal population at Wave 2, therefore, was the population of 3-year-olds (and their families) who had been resident in Ireland at Wave 1 (when they were 9 months old) and who continued to be resident

2 This is the population of children who were living in Ireland at 9 months of age when the sample was recruited into the study and who continued to live in Ireland when they are 9 years old.

3 See <https://www.ucd.ie/t4cms/GUI-SampleDesignResponseInfants.pdf>.

4 Special permission was required to access the Child Benefit Register for sampling purposes and was possible only because the overall study is being conducted under the Statistics Act, 1993, which provides the legal basis of *Growing Up in Ireland*.

5 Additions to membership of the Study Child's household between waves (in the form of new members residing in the household or being born into the household) are, of course, recorded on the household register in the relevant wave.



in Ireland at Wave 2 (at age 3 years). If a family had emigrated from Ireland, they were not included in the calculation of response rates.

Table 2.1 summarises the response from Wave 2 (at 3 years of age). This shows that 9,793 families participated in this round of interviewing, giving a response rate of 91.3 per cent. The refusal rate was 4.6 per cent (498 families).

**Table 2.1 Outline of sample issued and summary response at Wave 2 (3 years)**

Outcome in Wave 2 (3 years)	No. of cases	%
Completed	9,793	91.3
No contact, despite repeated call-backs	280	2.6
Refused	498	4.6
Moved, no forwarding address	61	0.6
Unavailable during fieldwork	41	0.4
Other	52	0.5
<b>TOTAL ABOVE</b>	<b>10,725</b>	<b>100.0</b>
Emigrated (not incl. in Wave 2 sample)	409	-
<b>GRAND TOTAL OF WAVE 1 (9 MONTHS)</b>	<b>11,134</b>	

Sixty-one families were recorded as 'Moved, no forwarding address'. This group was made up of families who were identified as having moved from their address at Wave 2, and for whom the Study Team could not find an alternative or new address. Many of these families may have moved outside the country but were included in the target sample for calculation of response rates as it had not been definitively ascertained that they were no longer resident in Ireland. The same may apply to the 280 families with whom no contact could be made throughout the fieldwork period, despite repeated call-backs. The interviewer could not secure any information on these families, even to determine that they had definitely moved from their address at the time of the Wave 2 interview (at 3 years of age). 'Unavailable during fieldwork' and 'Other' (including addresses that could not be located or were now derelict) were assigned to 41 and 52 families, respectively.

The table also shows that 409 families were definitively identified in the course of fieldwork as having emigrated from Ireland since Wave 1 fieldwork. As these families no longer lived in Ireland, they were not included in the calculation of response rates.

## 2.4 SAMPLE DESIGN AT WAVE 3 (5 YEARS OLD)

The target sample at Wave 3 was made up of the 9,793 children and families who participated in Wave 2. In addition, it included most of those who had participated at Wave 1 but had refused or otherwise did not participate at Wave 2. Families who had moved abroad, moved within Ireland with no forwarding address, or who had said very definitely at Wave 2 that they did not wish to be contacted further about the study were not included in the Wave 3 sample.

On this basis, Table 2.2 summarises the sample assigned at Wave 3, broken down by the response at Wave 2 (when the child was 3 years of age). It shows that all the families (9,793) who had participated at Wave 2 were assigned to field interviewers at Wave 3. In addition, 445 of the 498 refusals at Wave 2 were assigned. This excluded the remaining 53 'hard refusals' from Wave 2 – those who had clearly stated that they did not wish to participate at Wave 2 or subsequent rounds of the study. None of the families who were classified as 'Moved, no forwarding address' were assigned at Wave 3. The 41 families who were classified



as 'Unavailable during fieldwork' at Wave 2 were assigned, along with 27 of the 52 who were assigned to the 'other' category at Wave 2. The total valid sample assigned at Wave 3, therefore, was made up of 10,586 families.

**Table 2.2 Breakdown of the sample assigned at Wave 3 (5 years of age)**

Response in Wave 2 (3 years)	No. of cases in Wave 2	Of which:	
		Assigned in Wave 3 (5-year)	Not Assigned in Wave 3 (5-year)
Completed	9,793	9,793	0
No contact, despite repeated call-backs	280	280	0
Refused	498	445	53
Moved, no forwarding address	61	0	61
Unavailable during fieldwork	41	41	0
Other	52	<30	<30
<b>TOTAL ABOVE</b>	<b>10,725</b>	<b>10,586</b>	<b>139</b>
Emigrated (not incl. in Wave 2 sample)	409	0	409
<b>GRAND TOTAL OF WAVE 1 (9 MONTHS)</b>	<b>11,134</b>		

Table 2.3 summarises the response outcomes at Wave 3 by whether the family had participated in the previous round of interviewing, when the child was 3 years of age. Column A is based on the 9,793 families who had participated at Wave 2 (3 years of age). This shows that 217 families were identified in Wave 3 as having emigrated outside Ireland and so should be excluded from the calculation of response rates. On this basis, the table shows that the response rate among participants in the 3-year survey was 91 per cent (8,712 families).

**Table 2.3 Response outcomes at Wave 3 (5 years) by whether family participated in Wave 2 (3 years)**

Response in Wave 3 (5 years)	Wave 3 (5 years)			
	A Completed in Wave 2 (3 years)		B NOT Completed in Wave 2 (3 years)	
	No.	%	No.	%
Completed	8,712	91.0	289	37.0
No contact despite call-backs	234	2.4	105	13.4
Refused	470	4.9	311	39.8
Moved in Ireland, no address	85	0.9	56	7.2
Other, incl. unavailable during fieldwork	75	0.7	<30	2.6
<b>Total valid sample (n)</b>	<b>9,576</b>	<b>100.0</b>	<b>781</b>	<b>100.0</b>
Emigrated/child deceased (not included in sample)	217	-	<30	-
Not assigned	548			
<b>Grand Total</b>	<b>11,134</b>			



Column B summarizes the response among the families who did not participate in the study at Wave 2 (when the child was 3 years of age). As might be expected, the proportion of families among this group who participated when the child was 5 years of age was much lower, at 37 per cent.

## 2.5 SAMPLE DESIGN AT WAVE 4 (7/8 YEARS OLD, INTER-WAVE POSTAL PHASE)

For the fourth wave of the study, a single postal questionnaire was sent to the home, with an accompanying letter and Information Sheet. The questionnaire was self-completed and returned by post by the child's Primary Caregiver. Up to two reminders were sent by post and a sub-sample were followed up for reminders by telephone.

A total of 5,344 questionnaires were returned, amounting to 48 per cent of the families interviewed at 9 months of age. However, this response rate does not take account of the families who no longer lived in Ireland at the time of the survey, nor those whose letters were returned by the postal service as being unknown at the last address then available to the Study Team.

## 2.6 SAMPLE DESIGN AT WAVE 5 (9 YEARS OLD)

A total of 10,052 children and their families were targeted in Wave 5, when the children were 9 years of age. This sample was made up of the families who had participated in the face-to-face interview in Wave 3 (when the child was 5 years of age), as well as a small proportion of those who had not participated in Wave 3 but had participated in one of the earlier rounds of the study. Accordingly, the sample that was issued at 9 years of age was broken down as outlined in Table 2.4.

**Table 2.4 Breakdown of the sample issued at Wave 5 (9 years)**

Response in Wave 3 (5 years)	No. of cases in Wave 3 (5 years of age)	Of which:	
		Issued in Wave 5 (9 years of age)	Not issued in Wave 5 (9 years of age)
Not issued at 5 years	532	0	532
Completed	9,001	8,970	31*
No contact, despite repeated call-backs	319	318	1
Refused	776	630	146
Moved, no forwarding address	145	1	144
Other, incl. unavailable during fieldwork	110	107	3
<b>TOTAL ABOVE</b>	<b>10,883</b>	<b>10,052</b>	<b>853</b>
Emigrated (not incl. in Wave 3 sample)	251		
<b>GRAND TOTAL OF WAVE 1 (9 MONTHS)</b>	<b>11,134</b>		

\* Note some of those who participated at Wave 3 were happy to participate at that wave but did not want to be included in subsequent waves

Table 2.5 summarises the response at age 9, classified by whether the family had participated in the previous round of interviewing, when the child was 5 years of age. Column A is based on the 9,001 families who participated at age 5. One can see that 150 of the families in question were identified in Wave 5 as having emigrated outside Ireland and so should be excluded from the calculation of response rates. On this basis, the table shows that the response rate among participants in the 5-year survey was 87 per cent (7,770 families). Column B in Table 2.5 summarises the response among the families who did not participate in the study at Wave 3. Response among this group was (as expected) much lower at 32 per cent.



**Table 2.5** Response at Wave 5 (9 years) by whether family participated at Wave 3 (5 years)

Response	Wave 5 (9 years)			
	A Completed at 5 years		B NOT Completed at 5 years	
	No.	%	No.	%
Completed	7,770	87.3	332	32.0
No contact despite call-backs	176	2.0	86	8.3
Refused	606	6.9	470	45.6
Moved in Ireland, no address	188	2.1	111	10.4
Other, incl. unavailable during fieldwork	150	1.7	39	3.8
<b>Total valid sample (n)</b>	<b>8,890</b>	<b>100.0</b>	<b>1,034</b>	<b>100.0</b>
Emigrated/child deceased (not included in sample)	150	-	<30	-
Not issued	1107			
<b>Grand Total at Wave 1</b>	<b>11,134</b>			

## 2.7 SAMPLE RETENTION, 9 MONTHS TO 9 YEARS

As a measure of overall retention in the study over its first ten years, it is instructive to consider the proportion of the initial sample of 11,134 children and families, interviewed when the child was 9 months of age (in 2007/2008), who were successfully interviewed in 2017/18, when the child was 9 years of age.

Table 2.6 summarises the retention of the sample from 9 months to 9 years of age. In common with all longitudinal studies, *Growing Up in Ireland* has experienced attrition at each round of interviewing of around 10–12 per cent, as shown in the foregoing tables. This attrition has been addressed in the longitudinal weights generated for each round of data.

As noted above, a total of 8,032 families and children were interviewed when the child was 9 years of age. Table 2.6 shows that, after subtracting the families identified at any of the three waves after Wave 1 as having emigrated from Ireland (i.e. at ages 3, 5 and 9) and those where the Study Child had deceased since the study began, there was a total 'valid' sample of 10,294 families (Table 2.6). The 8,032 families and children who were interviewed represent 78 per cent of the valid target sample at 9 years of age. When cumulative non-response and attrition over the period are taken into account, this corresponds to a retention rate of 79 per cent after the first decade of the study.

**Table 2.6** Summary retention of sample, 9 months to 9 years

Completed sample at 9 months of age	11,134
<i>Of whom:</i>	
Emigrated/deceased by age 3 years	409
Emigrated/deceased by age 5 years	248
Emigrated/deceased by age 9 years	183
Total valid sample at age 9 years	10,294
Sample interviewed at age 9 years	8,032
Interviewed at 9 years as % of base sample still living in Ireland	78.0%



As a final way of considering patterns of response over the face-to-face waves of the study between 9 months and 9 years of age, Table 2.7 outlines the response histories of families. The table indicates the number and percentages of families who participated ('Yes'/'No') at each subsequent round of interviewing. The figures show that just over 67 per cent of families participated at each round of interviewing. The last four rows combine to give the overall 8,032 families in Table 2.6 who completed the questionnaires when the child was 9 years old.

**Table 2.7** Pattern of response at each wave from 9 months to 9 years.

Participated in face-to-face interview at:				
Wave 2 (3 years)	Wave 3 (5 years)	Wave 5 (9 years)	Number of families	%
No	No	No	982	8.8
No	Yes	No	96	0.9
Yes	No	No	819	7.4
Yes	Yes	No	1205	10.8
No	No	Yes	70	0.6
No	Yes	Yes	193	1.7
Yes	No	Yes	262	2.4
Yes	Yes	Yes	7,507	67.4
		TOTAL	11,134	100.0

## 2.8 NON-RESPONSE, INTER-WAVE ATTRITION AND SAMPLE WEIGHTS

Non-response and inter-wave attrition are unavoidable in longitudinal surveys, regardless of tracking and conversion procedures employed. These become a problem where they are systematically related to family or other characteristics, or child outcomes. Watson and Wooden (2009), for example, noted that attrition may be systematically associated with respondents' sex, age, race/ethnicity, marital status, household composition and size, educational attainment, labour-force status, and family income. They found that, in the Australian HILDA panel survey, on average, attrition is higher among males, younger respondents, minority groups, one-parent and non-marital households, less-educated families, the economically active, and low-income families. It is important to understand the levels and correlates of attrition and non-response to inform reweighting procedures that statistically adjust the data for systematic non-response or attrition, prior to analysis.

To assess the impact of differential non-response and attrition by Wave 5 (age 9), Table 2.8 compares the distribution of child and family characteristics across the target population to those for the completed sample at 9 years old.<sup>6</sup> Column A shows the estimates of the distribution of these characteristics in the target population at age 9: those 9-year-olds resident in Ireland in 2017 who were also resident in Ireland at 9 months old. The distribution of characteristics is estimated based on the original sample from Wave 1, excluding those known to be no longer eligible,<sup>7</sup> applying the weights used to control for Wave 1 non-response (Thornton et al., 2013). Note that children whose families moved to Ireland at some point since they were 9 months old are not part of the target population for this study. Because of this, there are limits

<sup>6</sup> The characteristics shown in the table are those found to be related to non-response and/or attrition.

<sup>7</sup> Study Children would be ineligible where they are known to have emigrated but, in a small number of cases, because of the death of the child.



on the extent to which the sample is representative of all 9-year-olds living in Ireland in 2017.<sup>8</sup>

The characteristics of the children and families shown in Table 2.8 are those as measured at the most recent completed full interview prior to age 9 (most often, the 5-year interview).<sup>9</sup> Some characteristics (such as mother's age at the child's birth, mother's country of birth, child gender, whether ever breastfed, and the child's health at 9 months) are taken from Wave 1.

Column B shows the distribution of these characteristics in the completed sample at age 9, with no weights applied to the data. Column C compares this distribution to the population totals in Column A. The figures in column C show that there is an under-representation of younger mothers and those in less-advantaged circumstances (lower levels of education, income, lower social class, families where the parents are not in employment), one-parent families, renters of social housing (rented from the local authorities or Approved Housing Bodies), in the Dublin region, where the child was never breastfed and where the Primary Caregiver smoked daily. There is also a slight under-representation of mothers born in Ireland (relative to those from outside of Ireland and the UK) and a very small under-representation of boys compared to girls.

Column D shows the distribution characteristics for the completed 9-year sample with the previous sample weights carried forward. These are most often the weights from the 5-year interview but, if the family did not respond in that wave, those from the 9-month (Wave 1) or 3-year (Wave 2) interview have been used. These weights adjust the sample for initial Wave 1 non-response and for inter-wave attrition up to the 5-year interview. Column E shows the difference between this distribution and the population estimates in Column A. This gives an indication of the impact of inter-wave attrition between the 5-year and 9-year waves. In general, the gap between these weighted data and the population is smaller than the gap between the unweighted data and the population: the absolute values of the figures in Column E are smaller than the absolute values of the figures in Column C.<sup>10</sup>

The construction of the analysis weight for the 9-year data consists in carrying forward the earlier weight (which controls for initial non-response and attrition up to the 5-year wave) and adjusting it for attrition between the 5-year and 9-year waves. The Study Team used the GROSS software, as in previous rounds of *Growing Up in Ireland*.<sup>11</sup> This has been used extensively by the Economic and Social Research Institute (ESRI) since 1996. GROSS uses a minimum information-loss algorithm to fit a sample distribution of characteristics (as shown in Column D) to population 'control totals' (as shown in Column A). An iterative procedure is used, allowing marginals of characteristics that are associated with one another to be fitted simultaneously.

The sample weights for the 9-year phase of Cohort '08 were constructed by taking the weight from the previous wave as the initial weight, then calculating an adjustment factor for the carried-forward weight for each case so that the population distribution in Column A is replicated for the sample.

8 Data on 8 and 9-year-olds from Census 2016 ([www.cso.ie](http://www.cso.ie), Table E7058) suggest that there would be about 69,800 9-year-olds in Ireland in 2017, of which about 64,400 were born in Ireland. Taking 'being born outside Ireland' as a rough proxy for having moved here since they were 9 months old suggests that about 7.8 per cent of 9-year-olds in Ireland in 2017 would not be represented by the target population of 9-year-olds in Cohort '08.

9 The postal wave of data collection at age 7/8 is not drawn on here because it collected information on fewer child and family characteristics and had a lower response rate.

10 Although Study Child health/longstanding condition (Wave 1) does not differ from the population distribution, it was included in the set of variables used to weight the data in order to ensure that its distribution was not distorted when adjustments to the weights were made for related characteristics such as Study Child gender and parental smoking.

11 See, for example, Gomulka, J., 1992. "Grossing-Up Revisited", in R. Hancock and H. Sutherland (Eds.), *Microsimulation Models for Public Policy Analysis: New Frontiers*, STICERD, Occasional Paper 17, LSE. Gomulka, J., 1994. "Grossing Up: A Note on Calculating Household Weights from Family Composition Totals". University of Cambridge, Department of Economics, Microsimulation Unit Research Note MU/RN/4, March 1994.





**Table 2.8** Population and completed Wave 5 sample distributions of characteristics of the Study Children and their families

		Target Population A. %	Unweighted		Weight carried forward		Age 9 weight	
			B. %	C = B-A	D. %	E =(D-A)	F. %	G (F-A)
Mother's age at child's birth	Under 25	16%	11%	-5%	13%	-3%	16%	0%
	25-29	23%	22%	-1%	22%	-1%	23%	0%
	30-34	35%	37%	2%	37%	2%	35%	0%
	35-39	22%	25%	3%	23%	1%	22%	0%
	40+	5%	5%	0%	5%	0%	5%	0%
PCG* education**	Primary	2%	1%	-1%	1%	-1%	2%	0%
	Lower 2nd lev.	11%	6%	-6%	9%	-2%	11%	0%
	Upper Sec./Voc.	36%	30%	-6%	35%	-1%	36%	0%
	Cert./Dip.	22%	23%	2%	23%	1%	22%	0%
	Degree	29%	40%	11%	32%	3%	29%	0%
Family type*	1-parent, 1 child	7%	4%	-3%	5%	-2%	7%	0%
	1-parent, 2+ ch.	9%	7%	-2%	8%	-1%	9%	0%
	2-parent, 1-2 ch.	44%	45%	0%	44%	0%	44%	0%
	2-parent, 3+ ch.	40%	44%	5%	43%	3%	40%	0%
Cohabiting*	PCG Cohabiting	12%	12%	0%	11%	-1%	12%	0%
Income quintile (equivalised)*	Lowest	21%	17%	-4%	19%	-2%	21%	0%
	2nd	20%	18%	-2%	19%	-1%	20%	0%
	Middle	20%	20%	0%	20%	1%	20%	0%
	4th	19%	21%	2%	21%	2%	19%	0%
	Highest	18%	23%	4%	21%	2%	18%	0%
	Missing	2%	1%	-1%	1%	-1%	2%	0%
Social class *	Professional	13%	19%	6%	14%	2%	13%	0%
	Man'g/tech	33%	35%	2%	36%	3%	33%	0%
	Other non-man.	19%	18%	-2%	19%	0%	20%	0%
	Skilled	17%	14%	-2%	16%	-1%	17%	0%
	Semi-skilled	10%	9%	-1%	10%	0%	10%	0%
	Unskilled	2%	1%	-1%	1%	-1%	2%	0%
	Unknown	5%	3%	-2%	3%	-2%	5%	0%
PCG work status*	Work FT	38%	44%	6%	40%	2%	38%	0%
	Work PT	16%	16%	0%	16%	1%	16%	0%
	Not Work	47%	41%	-6%	44%	-3%	47%	0%





		Target Population A. %	Unweighted		Weight carried forward		Age 9 weight	
			B. %	C = B-A	D. %	E =(D-A)	F. %	G (F-A)
SCG work status*	Work	70%	76%	6%	74%	4%	70%	0%
	Not work	14%	13%	-1%	14%	-1%	14%	0%
	Not present	16%	11%	-5%	13%	-3%	16%	0%
Where PCG born	Ireland	81%	79%	-2%	81%	1%	81%	0%
	NI, UK	6%	6%	0%	7%	0%	6%	0%
	Other EU	6%	8%	1%	6%	-1%	6%	0%
	Non-EU	7%	7%	1%	7%	0%	7%	0%
Housing tenure*	Owner	72%	75%	3%	76%	4%	72%	0%
	Social renter	11%	9%	-3%	10%	-2%	11%	0%
	Private renter	15%	15%	0%	12%	-2%	15%	0%
	Other	2%	2%	0%	2%	0%	2%	0%
Region*	Dublin	26%	22%	-3%	25%	0%	26%	0%
	BMW	28%	28%	0%	28%	0%	28%	0%
	Elsewhere	47%	50%	3%	47%	0%	47%	0%
Smoking*	PCG smoke daily	18%	14%	-4%	16%	-2%	18%	0%
Depression*	PCG depressed	11%	9%	-2%	10%	-1%	11%	0%
Study Child Gender	Male	51%	50%	-1%	51%	0%	51%	0%
	Female	49%	50%	1%	49%	0%	49%	0%
Breastfeeding	Ever breastfed	53%	61%	9%	56%	3%	53%	0%
Study Child health at 9 months	Longstanding condit.	24%	25%	0%	25%	0%	25%	0%
	Oth. health problem	9%	9%	0%	8%	0%	9%	0%
	Neither of these	67%	67%	0%	67%	0%	67%	0%

Note: \* PCG = Primary Caregiver. \*\* Measured at age 5 or previous wave in which family participated.



The variables used to adjust for attrition and to generate the 9-year weights are those identified in Tables 2.8:

- Age of Primary Caregiver at birth of the Study Child
- Educational attainment of Primary Caregiver
- Family structure/Primary Caregiver marital status (cohabiting or married)
- Family income quintile
- Family social class
- Work status of Primary and Secondary Caregivers
- Where the Primary Caregiver was born (4 categories)
- Housing tenure (owner, local authority/Approved Housing Body renter, private renter, other)
- Primary Caregiver smoking (smokes daily)
- Primary Caregiver risk of depression (based on Center for Epidemiologic Studies Depression Scale – CESD)
- Study Child gender
- Whether the Study Child was ever breastfed
- Health/longstanding condition of Study Child in Wave 1

As noted above, most of these characteristics were measured at the 5-year interview, apart from those which would not change over time (such as Study Child's gender and Primary Caregiver country of birth). The weights were truncated to avoid giving undue influence on results to individual cases (or a small number of cases) and to avoid excessively large sampling variances.<sup>12</sup> Column F in the table shows the distribution of the child and family characteristics in the completed 9-year sample when these weights are applied. As shown in Column G, the distributions are within one-half of a percentage point for all the characteristics examined.

## 2.9 RESPONSE IN THE SCHOOL-LEVEL INTERVIEW AT 9 YEARS OF AGE

In the first and second waves of data collection with Cohort '08 (when the child was 9 months and 3 years of age), virtually all of the fieldwork took place in the home.<sup>13</sup> At Wave 3 (5 years of age), some fieldwork took place in the child's school, for those who had already started primary school at the time of interview or who were starting school in September 2013.

By Wave 5 of the project almost all study children were attending primary school.<sup>14</sup> Given the importance of the formal educational/school environment for the child's long-term development, the study design involved completion of three types of questionnaires in the Study Child's school:

- The Principal's Questionnaire recorded details on the characteristics of the school principal him/herself and the resources, management, practices and ethos of the school attended by the 9-year-old.
- The Teacher-on-Self Questionnaire recorded details on the 9-year-old's teacher and his/her teaching style and methods.
- The Teacher-on-Pupil Questionnaire recorded details from the 9-year-old's teacher on the 9-year-old, including information on their social and academic integration and performance in the early transition period.

12 The weights were truncated to one-fifth of the mean at the lower end and 5 times the mean at the higher end.

13 A very small amount of fieldwork took place outside the Study Child's home. This involved postal surveys of (a) non-resident parents (for whom contact details had been secured from the resident Primary Caregiver in the course of the home-based interview) and (b) other regular caregivers who provided care to the Study Child for 8 hours or more per week on a regular basis, either inside or outside the child's home, in a centre-based or domestic setting.

14 A very small number were being home-schooled.



In the course of the interview with the Primary Caregiver in the home, s/he was asked to provide contact details of the school being attended by the 9-year-old. The Primary Caregiver was also asked to provide signed consent for the Study Team to approach the child's teacher to request that the teacher complete the Teacher-on-Pupil Questionnaire.<sup>15</sup>

The school-based component when the child was 9 years of age adopted a multi-mode methodology. This was based, in the first instance, on a postal approach to the school. This was followed by an intensive telephone phase and, finally, by personal visit(s) to the school by a survey interviewer.

School-based fieldwork began with a postal phase immediately after the Halloween mid-term break (first week in November 2017). It was decided to wait until early November to ask principals and teachers to complete the questionnaires, to allow the pupils to settle into the new school year and to give teachers the opportunity to get to know the pupils as fully as possible before completing the detailed Teacher-on-Pupil Questionnaire.

An introductory letter explaining the project was sent to the school principal. As well as the letter, the first postal contact with the school included:

1. several information leaflets for the principal and teachers
2. the Principal's Questionnaire
3. several Teacher-on-Self Questionnaires
4. the relevant number of Teacher-on-Pupil Questionnaires (dependent on the number of 9-year-olds identified in the course of home-based fieldwork as attending the school)

The postal approach was followed within 3-4 days by the start of an intensive telephone follow-up phase. In the first instance, this call verified that the material had been received in the post and that the school was willing to participate in this phase of the study. The process and procedures for the school-based phase of the study were explained in full. This included how to assign within-school ID numbers for the children. It was emphasised to the principal that the child's name should not be written on any questionnaires. When it was established in the phone call that the school would participate in the study, the principal was given a school-specific password for a file that was subsequently emailed to the school, containing the names and dates of birth of *Growing Up in Ireland* children attending the school (this included only the names of the children for whom parental consent had been secured to request the Teacher-on-Pupil Questionnaire).

All blank questionnaires (Principal and Teacher Questionnaires) were sent to the principal, who distributed them to relevant teachers for completion. The principal was requested to ask each teacher to complete the Teacher-on-Self and Teacher-on-Pupil Questionnaires, to seal them in an envelope provided by the Study Team and to return the sealed envelopes to the principal for postal return to the Study Team. All completed questionnaires were returned to the Study Team by registered post.

Following the mailing of the questionnaires to the schools, repeated telephone call-backs were made over a period of eight weeks to remind and encourage schools and their teachers to complete and return them. In some instances, some of the questionnaires from a school or teacher were completed and returned to the Study Team, others were not. Part of the follow-up process involved ensuring that the non-completions in a school were not inadvertent oversights, so that a definitive outcome code could be assigned to each type of questionnaire in respect of each 9-year-old. The initial postal and telephone follow-up was conducted centrally from the Study Team's offices.

Following approximately 8-10 weeks of intensive telephone follow-up (during which repeated reminder phone calls were made to the schools), all schools in which there were outstanding questionnaires were assigned to field interviewers, at the end of January 2018. The role of the interviewers was, in the first instance, to continue and increase the frequency of the telephone contact with schools that had not

<sup>15</sup> The content of all three school-based questionnaires is discussed in detail in Chapter 18 below.



returned all relevant questionnaires. In the second instance, their role was to make personal visits to the schools to encourage completion and return of the questionnaires. This interviewer-based phase of the study continued from February to June 2018, at the end of the 2017/18 academic year.

In 2016/17 there were 3,250 primary schools in Ireland (3,115 mainstream schools and 115 special schools). In the course of the home-based interview, 2,321 schools (71 per cent of all primary schools in the country) were identified as having a *Growing Up in Ireland* 9-year-old. In total, 2,201 Principal Questionnaires were completed in the course of school-based fieldwork, representing a school-level (principal) response rate of just under 95 per cent.

In the course of fieldwork, 4,137 teachers were identified as having a *Growing Up in Ireland* 9-year-old in their class. In all, 3,912 Teacher-on-Self Questionnaires were completed, representing a teacher response rate of 95 per cent.

Table 2.9 summarises the response rate for the Teacher-on-Pupil Questionnaires. The table shows that signed parental/guardian consent and usable school contact details were secured in respect of 7,875 of these children (just over 97 per cent). The schools in respect of 180 of these children refused to participate in the study.<sup>16</sup>

The 7,585 completed Teacher-on-Pupil Questionnaires represents 96 per cent of 9-year-olds whose Primary Caregiver had provided signed consent to approach the child's teacher to request completion of the Teacher-on-Child Questionnaire, or just over 94 per cent of all 9-year-olds who participated in this round of interviewing.<sup>17</sup>

**Table 2.9 School-level response rates at 9 years of age**

	Number of 9-year-olds	% of 9-year-olds
Number of children interviewed in the home	8,032	100
Number of Signed Parental/Guardian Consent Forms and usable School Contact details secured from Primary Caregivers	7,875*	96
Number of children where school refused	180	2.2
Number of Teacher-on-Pupil Questionnaires completed	7,585	94

\* The 247 children (8,122-7,875) for whom consent was not given to request completion of the Teacher-on-Self Questionnaire include a small number of children who were being home-schooled.

## 2.10 CONCLUSION

This chapter detailed the response rates and patterns of attrition up to what is now the fifth wave of Cohort '08, but the fourth wave of face-to-face interviewing. While the study has maintained very high wave-on-wave response rates, it was noted that attrition is not entirely random, as would be expected from international experience. This chapter also outlined the process undertaken to provide weights for data users to use in their analyses. The next chapter describes the consultation procedures and other considerations that informed the design of the instrumentation.

<sup>16</sup> The figure of 180 children includes a very small number of cases where the child's teacher refused to complete the Teacher-on-Self Questionnaire in respect of specific children.

<sup>17</sup> The *Growing Up in Ireland* Study Team would like to acknowledge the tremendous support shown by principals, teachers and administrative staff in participating schools. This was a complex and detailed aspect of fieldwork and required a great deal of coordination and time from all relevant staff in the schools involved.



# Chapter 3

## Input into Instruments





### 3.1 INTRODUCTION

This chapter describes the various expert groups and others who provided input into the development of the instruments and procedures used in Wave 5 of the *Growing Up in Ireland* study with Cohort '08. It also describes the process through which that input was gathered and synthesised. These expert groups included the Scientific Advisory Group (SAG), the International Advisors, the Child Consultative Process and the Stakeholder Groups. This chapter also considers other relevant longitudinal studies from which various items have been drawn.

### 3.2 SCIENTIFIC ADVISORY GROUP

The Scientific Advisory Group (SAG) consists of around 50 experts from a range of fields, primarily drawn from many of the third-level and related institutions in Ireland. It was particularly involved in developing the questionnaires. Several consultative meetings were held, organised according to the thematic lines of the study: health and physical development; socio-emotional development and behaviour; educational and cognitive development, and social context, methodology and design.

The SAG was consulted about their views on procedures and protocols, policy relevance, the appropriateness of inclusion of sensitive themes and topics in the surveys, and the content of the questionnaires – both top-level content as well as the micro-level detail of individual scales and questions. By way of an online questionnaire completed by members of the SAG, a hierarchy of the most important issues to investigate according to the main themes was established. For example, it was agreed that the priority health issues were obesity, general health, long-term illness/disability, and exercise, while the priority education issues included bullying, attitudes to school, special educational needs and parent-school interaction.

### 3.3 INTERNATIONAL ADVISORS

Two international advisors provided substantial input into the development of the *Growing Up in Ireland* questionnaires at age 9. They have extensive experience with the Centre for Longitudinal Studies in England and have worked on a number of similar longitudinal studies, including the (British) National Child Development Study (NCDS). Additional input was received from two international advisors who had been instrumental in the design, development and implementation of the Longitudinal Study of Australian Children (LSAC) and the (Canadian) National Longitudinal Study of Children and Youth (NLSCY). The international advisors provided the Study Team with very experienced input at all levels and in respect of all topics and procedures, including the substance of the questions and scales, ethical issues around recording details on sensitive topics, and procedural issues on implementing and administering the questionnaires. Specifically, the international advisors were instrumental in ensuring the Pier-Harris test was shortened, retaining the selective attention test, and ensuring the burden on the respondents was kept to a minimum with a view to ensuring their future retention in the study.

### 3.4 THE CHILD CONSULTATIVE PROCESS

A two-part consultative process was conducted with 9-year-olds in preparation for the pilot and subsequent main phase of the project. The first part of the consultative process related to the main issues included in the questionnaires. The second focused on the best way in which to complete the child Self-Complete Questionnaires.

The first component of the Child Consultative Process consisted of focus groups conducted in four schools. Two of the schools were based in Dublin and the other two in rural areas, and they also differed in terms of size. The consultation with the children aimed to establish the issues of relevance to 9-year-olds in Ireland today from their own perspectives. Specific topics of interest (to the children) raised at these focus groups included free-time activities, sports, pets and reading.



The second part of the Child Consultative Process explored the best ways for children to complete the Child Self-Complete Questionnaires: on paper, on a laptop or on a tablet. This process is discussed in more detail in Section 5.5.

Before engaging with the children, the Child Consultative Process was reviewed by the study's Research Ethics Committee. Signed parental consent and child assent were secured prior to the children's participation.

### 3.5 THE PILOT PHASE FOR COHORT '08 AT 9 YEARS

This fifth wave of the Cohort '08 study was preceded by a pilot phase that included two components. In the first instance, the pilot sample of 9-year-olds and their main caregivers were interviewed in the home face-to-face by a survey interviewer. In the course of that interview, details were recorded on the school currently attended by the 9-year-old. The second component involved follow-up with relevant schools to complete school-based questionnaires with the principal and Study Child's teacher.

Home-based fieldwork for this pilot phase of the project was carried out in autumn/winter 2016. In total, 180 children and their families were included. Full details of the structure and design, along with results and recommendations from the pilot phase, are available in the pilot report for Cohort '08 at 9 years old (Murray et al., in press).

### 3.6 STAKEHOLDER GROUPS

Meetings were also conducted between members of the Study Team and stakeholder groups, with feedback from these meetings incorporated into the development of the instrumentation and design of the project in general. The Study Team worked closely with the funding bodies and associated government departments, including the Department of Children and Youth Affairs, Department of Education and Skills and Department of Health, as well as the Central Statistics Office.

### 3.7 RESEARCH ETHICS COMMITTEE

Ethical approval for this phase of the *Growing Up in Ireland* study was granted by a dedicated Research Ethics Committee set up by the Department of Children and Youth Affairs, with separate review procedures for the pilot and main studies. Reports on the pilot study were submitted to the Ethics Committee. The Research Ethics Committee was very active in its consideration of all the materials and procedures used in *Growing Up in Ireland*, meeting with the Study Team to discuss the project on several occasions. All recommendations stemming from these meetings were acted upon before a final version of all materials and procedures was agreed and implemented.

### 3.8 OTHER LONGITUDINAL STUDIES

The Study Team endeavoured to consult with a range of contemporary longitudinal child cohort studies in developing the instrumentation, both to draw on the benefits of including items they had used in their studies, and to facilitate potential comparison during data analysis. Where items for *Growing Up in Ireland* were based primarily on questions used in other studies, the sources have been referenced in the text. Some of the more significant studies consulted are outlined below.

#### *Growing Up in Australia*

Growing Up in Australia (also referred to as the Longitudinal Study of Australian Children or LSAC) is a longitudinal study of two nationally representative cohorts of 5,000 children each. It is co-ordinated by the Australian Institute of Family Studies in Melbourne. The most recent wave of data collection (Wave 8) took place in 2017 when study participants were 18/19 years old. The website is <http://www.growingupinaustralia.gov.au/index.html>.



### ***National Longitudinal Survey of Children and Youth (NLSCY)***

The National Longitudinal Survey of Children and Youth (NLSCY) was a longitudinal study of Canadian children from birth to early adulthood (25 years). The study aimed to collect information on factors affecting a child's social, emotional and behavioural development and to monitor the impact of these factors over time. The survey was run by Statistics Canada. Data was collected across eight waves and ceased in 2009. The website is <http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=4450>.

### ***Avon Longitudinal Study of Parents and Children (ALSPAC)***

The Avon Longitudinal Study of Parents and Children focuses primarily on health and development. Over 14,000 women were recruited during pregnancy (with an expected delivery date between 1 April 1991 and 31 December 1992), with data subsequently collected on mothers, fathers and children over two decades. Data collection from questionnaires is supplemented with biological samples, DNA samples, access to medical records and direct assessments. ALSPAC is currently ongoing and is run by a dedicated team based at the University of Bristol. The ALSPAC website is <http://www.bristol.ac.uk/alspac/>.

### ***Health Behaviour in School-Aged Children (HBSC)***

HBSC is a cross-national research study conducted in collaboration with the World Health Organization (WHO). The study aims to gain new insight into, and increased understanding of, young people's health and well-being, health behaviours and their social context, with a target age group of 9-18 years. Worldwide, HBSC involves more than 200,000 children from 43 countries. HBSC in Ireland includes 16,000 children and is conducted by researchers at NUI Galway. The main HBSC Ireland website is <http://www.nuigalway.ie/hbsc/>. HBSC began in 1982 and continues to collect data every four years.

### ***Living in Ireland Survey***

The Irish component of the European Community Household Panel (ECHP) is known as the Living in Ireland Survey. It was part of an EU-wide project, co-ordinated by Eurostat, to conduct harmonised longitudinal surveys on the social situation, financial circumstances and living standards of European individuals and households. The Living in Ireland survey was managed by the Economic and Social Research Institute and ran for eight waves, until 2001.

### ***EU-Survey on Income and Living Conditions (EU-SILC)***

Commencing in 2003, the EU-SILC is the successor to the ECHP. It is an ongoing annual, EU-wide survey, conducted in Ireland by the Central Statistics Office, as part of a programme to obtain information on the income and living conditions of different types of households.

## **3.9 CONCLUSION**

This chapter detailed the wide variety of individuals and agencies that contributed to the design of the instrumentation for this wave, both formally and informally. A key feature of this phase of the study was the 'cross-over' with the first wave of the older Cohort '98 who were 9 years old in 2007, as well as being the fifth longitudinal wave of Cohort '08. This meant that the Study Team, when designing the current phase, needed to consider the instrumentation used with the older cohort at this age. The next chapter describes the ethical considerations and procedures for this wave.





# Chapter 4

## Ethical Considerations





## 4.1 INTRODUCTION

It is critically important that due consideration be given to the ethical implications of research, particularly research involving children and young people. Through the consultation processes with experts and children, the Study Team identified several ethical issues in the nine-year phase of *Growing Up in Ireland* and implemented procedures to deal with them, while remaining mindful of its obligations under the relevant Acts in Irish legislation. This chapter summarises the pertinent pieces of legislation and describes the way in which ethical guidelines were put into practice. The primary concern was always the protection of the children in the study. Procedures relating to child protection were informed by the Children First Guidelines (Department of Children and Youth Affairs, 2017). All interviewers, as well as other staff working on *Growing Up in Ireland*, were security-vetted by An Garda Síochána (the Irish police service). A full module on ethics was included in the interviewers' training course.

## 4.2 RELEVANT ACTS

Three Acts are of relevance for this study: the Data Protection Acts of 1988 and 2003 and the Statistics Act of 1993.

### 4.2.1 DATA PROTECTION ACTS 1988, 2003

Data protection concerns the integrity, protection, storage and use of information collected from and about individuals. Under the Data Protection Acts 1988, 2003, the Study Team undertook the following obligations:

1. Fair obtaining and processing: Respondents must be fully aware of the identity of the persons who are collecting the information, the use to which it will be put and the purpose or bodies to which it will be disclosed. (For further discussion, see Section 4.3 on informed consent.)
2. Specifying the purpose: One may not keep information about people unless it is held for a specific, lawful and clearly stated purpose.
3. Further processing of personal information: If one obtains personal information for a particular purpose, one may not use the data for any other purpose and may not divulge the data to a third party, except in ways that are compatible with the specified purpose.
4. Security of personal data: Stringent procedures are implemented in both the ESRI and Trinity College Dublin (TCD) to ensure that security of data is always preserved.
5. Accurate and up to date: One must ensure that the personal information that one keeps is accurate and up to date.
6. Adequate, relevant and not excessive: The data shall be adequate, relevant and not excessive in relation to the purpose or purposes for which they were collected or are processed.
7. Protection of personal data: The data shall not be kept for longer than is necessary for that purpose or purposes. (For further discussion, see Section 4.3.4 on confidentiality.)
8. Right of access to personal data: Any individual about whom one keeps information has a right to see a copy of the data, a description of the purposes for which the data are being held and a description of those to whom the data may be disclosed. (For further information, see Section 4.3.4 on confidentiality.)

### 4.2.2 STATISTICS ACT (1993)

*Growing Up in Ireland* is conducted within the framework of the Statistics Act 1993, the legislation underpinning the work of the Central Statistics Office (CSO). The study has been brought under the scope of the Act in accordance with Section 11, whereby the CSO is permitted to make arrangements with other public authorities for the conduct of statistical inquiries. While the Act facilitates access to certain data sources for the purposes of the study, the most important implication is that it provides a strong legal basis



for the protection against unlawful disclosure of all information collected. Under the Act, all information collected must be treated as strictly confidential and used for statistical purposes only. All persons working on the study are appointed Officers of Statistics. As such they are legally obliged not to disclose, except for the purposes of the study, any matter that comes to their knowledge relating to any person, family, household or undertaking in the course of their statistical work.

Results of the study are published in aggregate form and all necessary steps are taken to ensure that details relating to an identifiable person are not inadvertently divulged.

### **4.3 PRACTICAL APPLICATION OF ETHICAL CONSIDERATIONS**

#### **4.3.1 INFORMED CONSENT**

Detailed information sheets were prepared for all participants (9-year-old, parents/guardians, teachers, principals) in the study (Appendix A). These information sheets gave an overview of the type of information that would be gathered, what would be involved for participants, and the longitudinal nature of the study, as well as details on the researchers and funding bodies. All participants were informed of the voluntary nature of the study and of their right to refuse to answer any questions they did not wish to answer. It was mandatory that signed consent be obtained from the parent/guardian, and signed assent was obtained from the 9-year-old, before any data were collected (Appendix A).<sup>18</sup>

#### **4.3.2 REPORTING CONCERNS**

Interviewers were instructed to report all events or observations that caused them concern during their work to the Study Team, using an Incident Report Form, especially regarding the protection of children or other vulnerable persons. All reported incidents were then considered and acted upon as necessary by the Project Director. Interviewers were provided with an out-of-hours emergency phone number to contact a Project Director if they had serious concerns. The Study Team's Designated Liaison Person collated all incoming reports or incidents that could have a broadly defined child welfare or child protection dimension. These were considered by a standing committee made up of the Designated Liaison Person, the Survey and Data Manager, the Principal Investigator and a Psychologist from the Study Team. This process was carried out within the Children First Guidelines (Department of Children and Youth Affairs, 2017). A decision was made on the action necessary for each potential child welfare or protection issue arising in the course of the study. Where necessary, external consultation was conducted with appropriate advisors, including social workers. If appropriate, a referral was made to relevant welfare services. Such referrals were deemed necessary in fewer than ten cases.

#### **4.3.3 INTERVIEWERS ALONE WITH THE 9-YEAR-OLD**

The interviewer was instructed to not remain alone with any child, including the 9-year-old, while in the respondent's home at any stage of the interview. They were encouraged to inform the Primary Caregiver of this rule prior to beginning the interview. Interviewers could also produce a laminated card explaining the rule in writing. During the child interview, the Primary Caregiver would generally have been completing their own self-complete questionnaire. As well as reducing the total survey time, this reduced any tendency of Primary Caregiver to interrupt or answer for the 9-year-old.

#### **4.3.4 CONFIDENTIALITY**

All interviewers and other staff working on the project were appointed Officers of Statistics by the Central Statistics Office. This imposed a legal obligation to maintain the confidentiality of all information they received in the course of the study. Under the Statistics Act (1993) (see Section 4.2 above), a breach of confidentiality is a criminal offence. At interviewer training, the importance of preserving confidentiality was emphasised. It was also noted that breaches of confidentiality may arise through thoughtless or careless comments made to third parties after an interview has been completed.

<sup>18</sup> Assent is the agreement of someone not able (in law, e.g. a minor) to give legal consent to participate in an activity. Research with children requires the consent of the parent or legal guardian and the assent of the child.



Confidentiality continues to be emphasised after data collection. Access to the non-anonymised dataset is severely restricted and great care was taken to remove any identifying information from the anonymised dataset. No government department or agency, apart from the Central Statistics Office (CSO), has access to identifiable information, and, apart from the ESRI, the CSO is the only agency to hold a copy of the non-anonymised dataset. In addition, the following steps have been taken to ensure the confidentiality of information given as part of *Growing Up in Ireland*:

- Use of numerical codes on all electronic and paper questionnaires
- Use of passwords and usernames on laptops
- 'Strip-down' of laptops to prevent inadvertent connection to a wireless network, and hard-disk encryption of the laptops
- Encryption of all electronic information transferred by interviewers to a dedicated secure server in the ESRI
- Separate mailings of paper questionnaires and Work Assignment Sheets – the latter containing contact information
- The Statistics Act (1993) ensures that the information obtained can only be used for purposes of statistical compilation and analysis.
- Respondents are only able to access the information that they themselves have provided. No individual can see another person's answers, even if that person has recorded details in respect of the individual in question. For example, one parent is not able to access what the other parent has recorded in their interview, nor can they access what a child says in their interview. This particularly important point was explicitly included in the consent form signed by all families prior to their participation in the study.

#### 4.3.5 AVOIDANCE OF EMBARRASSMENT OR DISTRESS

Proactively avoiding the possibility of causing embarrassment or distress is intrinsically linked to the maintenance of confidentiality both within and outside the home. Within the home, sensitive questions concerning the marital/parental relationship, etc were self-completed by the respondents on computer rather than being asked aloud by an interviewer (unless requested). Prompt cards were also widely used in the course of the interview, especially when questions were of a sensitive nature.

Furthermore, it was made clear to respondents at the outset that they could refuse to answer any particular questions or indeed withdraw from the interview altogether if they so wished. Interviewers were prohibited from getting involved in any family issues or giving advice, regardless of any qualifications or experience they had in such matters. Interviewers were, however, provided with a list of helpline numbers for a variety of agencies, which they could pass on to respondents if required.

## 4.4 CONCLUSION

This chapter described the ethical considerations that arise in connection with the *Growing Up in Ireland* study, including the issue of child protection. The safeguarding of the child's welfare is key to all decisions taken by the Study Team, and the team is grateful for the input and guidance of the members of the Research Ethics Committee. A central feature of *Growing Up in Ireland* is that it takes place under the Irish Statistics Act (1990), which provides for a legal obligation for all involved to maintain the confidentiality of respondents, and makes it an offence for the data to be used for anything except research and statistics. The next chapter provides an overview of the instruments and procedures used in the home-based fieldwork for this wave.



# Chapter 5

## Overview of Household Instruments and Procedures





## 5.1 INTRODUCTION

There were two phases to the data collection at 9 years: the main phase and the school-based phase. The main phase involved a home-based interview with the 9-year-old, the Primary Caregiver (PCG) and, where relevant, the Secondary Caregiver (SCG). The school-based phase involved questionnaires sent directly from head office to the 9-year-old's principal and teacher with a view to linking them to individual-level information to allow for analysis of school effects on the 9-year-old. Consent for the teacher to fill out child-specific information was obtained in advance from the Primary Caregiver.

This chapter details the general household-based procedures and instruments used at Wave 5 of the study with Cohort '08. Fieldwork in the home is summarised in section 5.2. Interviewer-administered and self-complete procedures for laptop administration are discussed in sections 5.3 and 5.4. Administration of the child self-complete test using pencil and paper is described in 5.5. Cognitive tests are described in 5.6 and special procedures in section 5.7. The purpose of this chapter is to provide a broad overview of the various levels of instrumentation and their administration, while full details of substantive content are provided in subsequent chapters.

## 5.2 HOUSEHOLD-BASED FIELDWORK AND FAMILY PARTICIPATION

As at previous waves of the study, an introductory letter (Appendix A1-A2) was sent to the family by head office a few days in advance of their first contact with the family. The interviewer was instructed to make the first initial contact to the household in person.

The informants in the home were in all cases the Primary Caregiver (the PCG), the 9-year-old, and, where relevant, the Secondary Caregiver (SCG). The PCG was self-defined by the family as the person who provided most care to the 9-year-old and was most knowledgeable about his/her development. The PCG was usually the mother of the 9-year-old. The SCG was defined as the resident spouse/partner of the PCG. The SCG was most often, but not necessarily, the father of the 9-year-old. Changes in role between the PCG and SCG between waves, or transitions to a new PCG and/or SCG, were anticipated. This had implications for the use of forward feed data, as data provided by one respondent could not be revealed to another respondent.

The main interviews with the PCG, SCG and 9-year-old were administered by the interviewer on a laptop using a Computer-Assisted Personal Interview (CAPI), while more sensitive questions were administered to the respondents in a Computer-Assisted Self Interview (CASI), again on a laptop.

The following is a list of all instruments administered in the home and the main domains therein:

1. \* PCG Main Questionnaire – Household composition, Parental health, 9-year-old's health, Family context, 9-year-old's emotional health and well-being, Socio-demographics, Background characteristics, Household income, Neighbourhood characteristics, Intergenerational characteristics
2. \* PCG Self-Complete Questionnaire – Reasons for change in the household grid, Relationship to 9-year-old, Marital status, Parental efficacy, Alcohol, smoking and drug use, Depression, Contact with gardai/criminal justice system, Information on non-resident parent (if relevant)
3. SCG Main Questionnaire (where SCG is present in the household) – Parent's health, Family context, 9-year-old's emotional health and well-being, Socio-demographics, Background characteristics, Intergenerational characteristics
4. SCG Self-Complete Questionnaire (where SCG is present in the household) – Relationship to 9-year-old, Marital status, Parental efficacy, Alcohol, smoking and drug use, Depression, Contact with gardai/criminal justice system, Information on non-resident parent (if relevant)
5. \* 9-year-old Main Questionnaire – Attitudes to school, internet usage, technological devices used, parental supervision, favourite hobbies, exercise and sport, chores at home, pets
6. \* 9-year-old Self-Complete Questionnaire – Perception of local area, attitudes to school and teacher, bullying, self-perception of weight, relationship with family



7. \* 9-year-old Cognitive Tests – Vocabulary test and selective attention 'map' test
8. \* One-Day Time-Use Diary – Time-use information on what the 9-year-old did for 24 hours on a nominated day
9. Questionnaire Modules for Twins and Triplets – subset of questions used where a twin or triplet was present
10. \* Follow-Up Information – Tracing information should the respondent move home between waves
11. \* Height and Weight – of the 9-year-old, PCG and SCG (where SCG is present in the household)
12. \* Work Assignment Sheet, with details of the household to be contacted
13. Non-Resident Parent Questionnaire (where contact details are available for a non-resident parent) – Details on time spent with the 9-year-old, Financial contributions provided to the 9-year-old/9-year-old's mother/father, Past and current relationship with the 9-year-old's mother/father, Involvement in decisions regarding the 9-year-old, Socio-demographic characteristics

\* These core items were completed for all households.

Item 13 was sent by mail to be self-completed by Non-Resident Parent, where relevant.

Detailed descriptions of all instruments are provided in the following chapters:

- Chapter 6: Parent/guardian questionnaires
- Chapter 7: 9-year-old questionnaires
- Chapter 8: Cognitive tests
- Chapter 9: School and non-resident parent questionnaires

### 5.3 CAPI PROCEDURE

At this wave, two types of laptop were used: the 9-year-old instrument was administered on a Dell Latitude E5270 while instruments for both parents were administered on a HP Probook 455G2. Interviewers administered the main questionnaire to the 9-year-old and to the PCG and SCG using Computer-Assisted Personal Interviewing (CAPI). Questions appeared on the computer screen in sequence for the interviewer to read out, with space for an answer option to be recorded. Answers were principally recorded by entering the number associated with the selected answer option; e.g. 1- Excellent, 2 - Very Good, etc. Questions were programmed using the Blaise software. This program facilitated the routing of questions (e.g. skipping non-applicable questions) and the inclusion of hard and soft cross-variable and range checks to alert interviewers to improbable or impossible answers.

Respondents were given an extensive range of prompt cards with the available answer categories (referred to as a 'read along' for the 9-year-old). These were particularly important for longer lists of answer options or items in a scale, or when questions were of a sensitive nature.

Interviews could be suspended and returned to later according to the requirements of the respondents. For example, if an unexpected visitor called to the house during an interview, the interview could be suspended and completed later. Completed interviews were outputted as ASCII files from Blaise and were encrypted and uploaded to a dedicated server at headquarters by the interviewer. The files in transit did not include any structure or layout map (though the data are structured). The structure of the data was rebuilt when the data reached either the interviewer's laptop or the server at headquarters dedicated to the return of completed questionnaires. This means that, even if an encrypted ASCII file had been intercepted in transport (which is highly unlikely), its content would not have been interpretable. The contents could be interpreted only after it had been decrypted and read into the appropriate application on either the interviewer's laptop/device or on the dedicated *Growing Up in Ireland* server located at the ESRI. As well as encryption of the data in transfer, all the laptops were protected with 256-bit encryption.



## 5.4 CASI PROCEDURE

As at previous waves of the study, both the PCG and SCG self-complete (previously referred to as 'sensitive') questionnaires were completed by the participants on CASI. Beginning with a number of sample questions, the interviewer demonstrated how to answer the different styles of questions and provided the participant with a card detailing how to skip a question with 'don't know' or 'refusal'. The participant then took control of the laptop, read the questions on screen and inputted their own answers, thus maintaining the confidentiality of the data. Once the self-complete questionnaire had been finished, it was 'locked down' and therefore could not be accessed by anyone (including the interviewer) other than the Study Team in Head Office. The interviewer always remained available throughout the survey to give instructions and assistance.

## 5.5 9-YEAR-OLD SELF-COMPLETE USING PENCIL AND PAPER

The 9-year-old's Self-Complete Questionnaire was administered using pencil and paper. The decision to use this mode was preceded by the Child Consultative Process, which included deliberation on the best ways for children to answer the questions on the questionnaire: on paper, on a laptop or on a tablet. Ten years had passed since the 9-year-olds in Cohort '98 had completed their Self-Complete Questionnaires on a paper-and-pencil basis. With advances in computer technology over that time (resulting in more of the fieldwork being implemented via computer), the Study Team felt it was necessary to assess the feasibility of moving from a pencil-and-paper mode to one based on laptops or tablets.

In principle, the benefits of moving from paper-and-pencil to electronic completion for this part of the child interview would include the following: a more efficient turnaround time for accessing the data for checking and other purposes; the elimination of the need for data entry and validation; an easier way to provide an audio assist function, and a potentially more engaging process for the child. However, some possible mode effects were observed in the pilot (see Murray et al., in press, for a fuller discussion).<sup>19</sup> Consequently, with a view to maximising inter-cohort comparability and minimising any issues arising in the interpretation of changes in estimates between Cohort '98 and Cohort '08 at 9 years of age, the Study Team decided it would be prudent to continue administering the self-complete part of the child's interview using pencil and paper.

Prior to completion, the 9-year-old was informed that the Self-Complete Questionnaire was confidential and no-one (including the interviewer and their parents) would see their answers. To this end, they were provided with an envelope and were instructed to place the completed questionnaire into it, seal the envelope themselves, and then return it to the interviewer. The interviewer always remained available throughout the survey to give instructions and assistance.

## 5.6 COGNITIVE TESTS

Two types of cognitive tests were administered to the 9-year-old in the household: the Drumcondra Reading Test and the selective attention 'map' test were self-completed by the 9-year-old. These tests are discussed in more detail in Chapter 8.

## 5.7 SPECIAL PROCEDURES

*Growing Up in Ireland* aims to be as inclusive and as representative as possible. Putting special procedures in place to achieve a high level of inclusion is important to accomplish the study objectives relating to the description of the lives of Irish children and young people, mapping variation in their lives and providing an evidence base for the creation of policies and services.

19 Murray, A., Williams, J., Gallagher, S., Thornton, M., with Watson, D., McNamara, E., Murphy, D. and O'Reilly, C. (in press), *Report on the Pilot for Wave Five of the Cohort '08 Survey (at 9 Years of Age)*. Dublin: Department of Children and Youth Affairs.





Every effort was made to accommodate those requiring special assistance, and this was reviewed on a case-by-case basis. For example, individuals with vision problems completed the main and Self-Complete Questionnaire on a CAPI basis. However, the decision on whether the 9-year-old was to be included in the study and the extent of their involvement ultimately rested with the 9-year-old's parent/guardian.

#### 5.7.1 OTHER LANGUAGES

As standard, all CAPI and CASI questionnaires were conducted in English, with an option to conduct the whole interview in Irish if requested (with questionnaires completed using pencil and paper). Where the respondents could not communicate in English or Irish, information sheets and questionnaires were pre-translated into Lithuanian, Chinese, and Polish. The questionnaires were then self-completed by participants on paper during the interviewer's home visit.

#### 5.7.2 TWINS AND TRIPLETS

In households where there were 9-year-old twins and triplets (including the Study Child), the adult respondents completed a PCG and SCG main interview on CAPI and answered the 9-year-old related questions in respect of one of the twins. They then completed a twin module on CAPI for the second 9-year-old. In the case of triplets, a module was also completed on the third 9-year-old. The latter modules repeated only the child-related questions, this time to be answered in relation to the twin or triplet.

### 5.8 GIFTS TO RESPONDENTS

As a token of appreciation for participation in the study, each 9-year-old was given a small gift of a **Growing Up in Ireland**-branded crayon and notebook gift set. Gifts were mentioned and offered only after the interview had been completed.

### 5.9 CONCLUSION

This chapter outlined the instruments and procedures for this wave of fieldwork as used in the home. A second phase of fieldwork, centred on a postal survey to schools, is described in a later chapter. A key feature of this wave was that it saw the first full interview with the 9-year-old (as opposed to just completing cognitive tests and physical measurements). The next chapter provides more detail on the instrumentation for the parent respondents.



# Chapter 6

## Primary and Secondary Caregiver Instruments





## 6.1 INTRODUCTION

This chapter outlines the topics covered in the Primary and Secondary Caregiver Questionnaires as used in the main phase of the Cohort '08 study at Wave 5 (9 years). The current chapter should be read in conjunction with Appendix B, in which the full text of the questionnaires referenced here can be found. The principal instrument administered in the home was the Primary Caregiver (PCG) Questionnaire. Usually, the PCG was the mother of the 9-year-old. The other parent questionnaires were the Secondary Caregiver (SCG) Main Questionnaire (usually administered to the father of the 9-year-old), and both the PCG and SCG Self-Complete Questionnaires.

In this chapter, each questionnaire section is tabulated to summarise the content and to indicate whether measures and/or topics had been included in the 3-year or 5-year waves of the Cohort '08 survey, or in the 9-year wave of the Cohort '98 survey. The discussion will focus on new questions not used before with either cohort. Extensive detail on questions previously employed can be found in the associated design report.

## 6.2 OVERALL STRUCTURE OF PCG MAIN QUESTIONNAIRE

The Primary Caregiver Main Questionnaire has 11 broad sections:

- Section A: Household composition
- Section B: Child's sleep and relationships
- Section C: Child's physical health and development
- Section D: Child's diet and exercise
- Section E: Parental health
- Section F: Child's play and activities
- Section G: Screen and internet use
- Section H: Child's emotional health and well-being
- Section I: Parenting and family context
- Section J: Child's education
- Section K: Peer relationships and bullying
- Section L: Socio-demographics
- Section M: About you (the PCG)
- Section N: Neighbourhood/Community

### 6.2.1 SECTION A – HOUSEHOLD COMPOSITION

This section gathered key demographic details for all members of the household. This included first name,<sup>20</sup> gender, date of birth, economic status, and relationship to the Primary Caregiver and 9-year-old of each person resident in the household. This section was also used to record those who had joined or left the household since the last interview.

Section A	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
Household Composition	Household composition & family structure (including family changes)	A1 - A8	✓	✓	✓
	Siblings living outside the household	A9	✓	✓	✓

<sup>20</sup> In the interest of maintaining confidentiality, surnames were never recorded on any questionnaires.



These variables are essential to establish family structure and relationship issues that may affect the child (e.g. lone versus dual-parent families, nuclear versus extended families). They are also necessary for creating key derived measures such as family type (one- or two-parent, number of siblings) and equivalised income. These questions were administered in the same way as in all previous follow-up waves of *Growing Up in Ireland*. Extensive information can be found in the design report for Cohort '08 at Wave 2 (McCrory et al., 2013).

## 6.2.2 SECTION B – CHILD'S SLEEPING PATTERN AND PARENT-CHILD RELATIONSHIP

Section B collects information on sleep and discipline as well as a standard scale: the Pianta parent-child relationship.

Section B	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
Child's sleep patterns and relationships	Child's sleeping patterns	B1 – B2	✓	✓	
	Parent-Child relationship (Pianta scale)	B4	✓	✓	✓
	Disciplining the child	B5	✓	✓	✓

### B1 – B2 Sleep

Sleep is essential for growth and optimal functioning, particularly in childhood. Many studies have indicated an association between poor sleep quality in childhood and other problems. One prospective study reported that sleep problems at the age of 4 years predicted anxiety/depression, attention problems, and aggression in mid-adolescence (Gregory & O'Connor, 2002). A Canadian cross-sectional study of 422 children aged 5-10 found that, compared with children sleeping 12-13 hours, those who slept 8-10 hours were at increased risk for obesity (Chaput et al., 2006; see also Fatima et al., 2016). Questions B1-B2 asked about the child's sleeping patterns, what time they usually go to sleep and wake up.

### B4 Pianta Parent-Child Relationship Scale

#### Instrument description

The Pianta parent-child relationship scale is a parent-reported assessment of the quality of the relationship with the child. It was completed by both the PCG and SCG. It measures perceived conflict and closeness in the parent-child relationship. The measure is discussed in detail in McCrory et al. (2013). The Pianta scale has also been used in the Millennium Cohort Study (UK) and the Longitudinal Study of Australian Children, and so will provide comparability in the international sphere. A further detailed exploration of the measure, with the *Growing Up in Ireland* data, is outlined in the Design, Instrumentation and Procedures for the Infant Cohort at Wave 2 (3 Years) report.

Recent research from Iruka et al. (2018) with a sample of 718 parents and 740 children from low-income day-care programmes in the USA found that the Pianta scale displayed the expected two-factor structure, with excellent model fit statistics. The authors found an acceptable alpha value of .74 for both the conflict and closeness sub-scales.

#### Psychometric information

Analysis of the 9-year data for Primary Caregivers yielded acceptable alpha values for the conflict and closeness sub-scales. Similarly, high values were seen for Secondary Caregivers. Means and standard deviations are comparable with previous waves of the study and are displayed below in Table 6.1.



**Table 6.1** Scores of PCG and SCG of 9-year-olds on the positive aspects and conflict sub-scales of the Pianta Child-Parent Relationship Scale (short form)

	Primary Caregiver			Secondary Caregiver		
	Mean (SD)	Achieved Range	Alpha	Mean (SD)	Achieved Range	Alpha
<b>Positive Aspects</b>	33.39 (2.35)	7 -35	.67	32.37 (2.81)	8 -35	.67
<b>Conflict</b>	15.07 (6.08)	8 – 40	.79	14.54 (5.59)	8 - 36	.75

## B5 Disciplining the child

Discipline methods are an important aspect of parenting that can influence child behaviour and development (Grusec & Goodnow, 1994; Grusec et al., 2017). Distinctions have been drawn between inductive techniques (e.g. explaining why a particular act was wrong) and punishment (e.g. smacking or shouting). Inductive techniques have been argued to be more effective at helping the child to internalise moral rules (Kerr et al., 2004). These types of questions would potentially allow analysts to investigate the relationship of harsher discipline practices and later behavioural problems, attachment and peer relationships, and development of internalising or externalising problems.

Question B5 asked how often the respondent employed different tactics to deal with their child misbehaving. These tactics included ignoring, shouting at, bribing or grounding the 9-year-old.

### 6.2.3 SECTION C – CHILD'S PHYSICAL HEALTH AND DEVELOPMENT

Section C focused on the health of the 9-year-old. This included questions on their general health, ongoing chronic illness(es), healthcare use, antibiotic use, nights spent in hospital, nature of any accidents (and nature of most serious accident if relevant), sight/hearing problems, reasons for not getting treatment, concerns about speech, oral health, mobility and supports.



Section C	Construct	Items	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
Child's physical health and development	Current health	C1	✓	✓	✓
	Chronic, longstanding illnesses, conditions, disability, and diagnosis	C2-C7	✓	✓	✓
	Food allergies	C8	✓	✓	
	Current medication for longstanding illness, condition or disability	C9			
	Sight problem requiring correction, diagnosis, nature/duration of problem, and extent to which hampered	C10-C15	✓	✓	✓
	Hearing problem requiring correction, diagnosis, nature/duration of problem, and extent to which hampered	C16-C23	✓	✓	✓
	Mobility and supports	C24-C26			✓
	Wheezing and asthma	C27-C29	✓	✓	
	Healthcare use	C30	✓	✓	✓
	Antibiotic use	C31 – C32	✓	✓	
	Nights spent in hospital	C33	✓	✓	✓
	Accidents	C34 – C40		✓	✓
	Constraints in accessing healthcare	C41 – C43	✓	✓	✓
	Concerns re child's speech development	C44 – C50	✓	✓	✓
	Specific learning difficulty, communication or coordination disorder	C51 – C56			✓
	Oral health/ Dental care	C57 – C62	✓	✓	✓
	Constraints in accessing dental care	C63			✓

## C1 Current health

A general health-related quality of life measure is popular among many national health surveys. It is usually quick to administer and has been found to be a valid and reliable indicator of other objectively obtained measures of health status (Bowling, 2005). Haas (2007) demonstrated the predictive validity of this type of question, acting as a longitudinal indicator of health outcomes later in childhood and even into adulthood. Differences in material circumstances have been found to be particularly important in accounting for differences in self-rated health (Moor et al., 2017).

The measure that was used at all previous waves was used again at Wave 5, asking the respondent 'In general, how would you describe the child's health?' with response options ranging from 'Very healthy' to 'Almost always unwell'.



## **C2 – C7      Chronic illness, conditions or illness**

While prevalence estimates vary substantially depending on how 'chronic illness' is defined (van der Lee et al., 2007), epidemiological studies typically indicate that chronic illness affects between 10 and 20 per cent of children (Northam, 1997; Geist et al., 2003). Childhood chronic illness can impose significant burdens not just on the child, but also on the wider family (Eiser, 1997). Numerous studies have established an association between childhood chronic illness and increased risk for poor psychosocial outcomes (Layte & McCrory, 2013; Gortmaker et al., 1990; Ferro et al., 2013).

Question C2–C7 asked whether the child had any longstanding illness, condition or disability; the nature of this condition, illness or disability (a list of 23 conditions was offered based on previous responses); whether it had been diagnosed by a medical professional; the timing of onset, and the extent to which the child was hampered in their daily activities by the condition. This set of questions has been included since the first round of the study so as to maintain longitudinal consistency in the measure in question.

### **C8      Food allergies**

A question was included on food allergies/intolerance among 9-year-olds to gain insight into their prevalence at this age and to ultimately assess their importance as predictors of later outcomes. Parents were asked about the types of food to which the child had allergies or intolerance (up to three food types).

### **C9      Current medication for longstanding illness**

Parents could list up to five medications taken by the 9-year-old in relation to a longstanding condition listed in question C2. They were also asked to state when the 9-year-old had started taking the medication. This question was not asked at previous waves of the study but was included to provide further insight into the severity and treatment of any current illness or conditions. Information on the name of the medication was subsequently recoded to ATC codes and summary variables based on these were made available on the data set.

## **C10 – C23      Visual and auditory problems**

Sight and hearing problems that manifest early in childhood and are left untreated are associated with impaired reading progress (Williams et al., 2005). Research highlighted by the American Speech-Language-Hearing Association indicates that children with hearing loss who begin intervention earlier have significantly better developmental outcomes than similar children who begin intervention later (Nicholas & Geers, 2006), and most children with hearing loss who receive appropriate services from trained staff are able to progress at age-appropriate rates (Geers et al., 2009).

Questions adapted from the Millennium Cohort Study recorded whether the child currently had, or at any time in the past had had, any sight or hearing problem requiring correction. Further questions explored how long they had this issue, and the extent to which the problem hampered the 9-year-old.

Based on the pilot phase, parents provided feedback that it was too difficult to recall the exact month of, for example, diagnosis of a sight problem (C14). Therefore, the Study Team recommended that only the year of diagnosis be requested unless it was in the current year, when the month would also be asked.

### **C24 – C26      Mobility supports**

Question C24 asked if the 9-year-old required help moving around, while questions C25–C26 asked what form this help took (crutches, wheelchair, etc).

## **C27 – C29      Respiratory illness**

As stated in the design report for Wave 3 of the study (Williams et al., 2019), respiratory illness is the most common illness of early childhood, and Ireland consistently ranks among the highest in the world in terms of asthma prevalence (Masoli et al., 2004; World Health Organisation, 2007). Furthermore, the available evidence indicates that rates of asthma have increased over time in many countries (Asher and Pearce, 2014), particularly among children (Braman, 2006). Data from Wave 3 of Cohort '08 at five years of age in



*Growing Up in Ireland* showed that about 8 per cent of three-year-olds had asthma. Therefore, asking these questions is important for investigating the correlates of such illnesses at an early age, while at the same time possibly providing an opportunity to explore the antecedents of asthma and atopic conditions that may develop in time, and be picked up in future waves of the study.

Parents were asked a set of three questions, adapted from the Avon Longitudinal Study of Children and Parents (ALSPAC), about whether the child had any periods of wheezing/whistling on his/her chest in the past 12 months, the number of episodes/bouts, and whether they had received medication for this condition.

### **C30 Health service use**

As covered in the Wave 3 design report (Williams et al., 2019), the importance of private care and the extent of fee-paying in Irish healthcare have led many to argue that the system is not available to all on the basis of need alone, but rather that personal circumstances determine the availability, extent of and speed of treatment. Information on healthcare use and related questions will allow for an examination of the equity of use (for a given level of need) among children across different social groups (see e.g. Layte & Nolan, 2004). Research based on earlier waves of *Growing Up in Ireland* found that children's use of GP services increased when they became eligible for free GP care (Nolan and Layte, 2017). This is very important in substantive and policy terms; the former regarding immediate and longer-term health outcomes for the children, and the latter regarding issues around equity of access to and use of healthcare services.

Question C30 asked about the use of healthcare services initiated by the mother on behalf of the 9-year-old, including GP and other professional specialists. Two new categories were included in the list of medical care providers. These were an 'out of hours GP service' (C30b) and 'a private walk-in clinic or medical centre e.g. Swiftcare' (C30h).

### **C31 – C32 Antibiotics**

A 2006 systematic review and meta-analysis of 8 studies (total sample size of 27,167 children) found antibiotic exposure during the first 12 months of life to be associated with increased risk of developing asthma in early childhood, and that the effect was dose-related (Marra et al., 2006). Furthermore, antimicrobial resistance is recognised as a significant threat to public health by compromising the ability to treat infections effectively. It is widely acknowledged that antibiotic resistance is partly driven by high rates of antibiotic prescription (Chatterjee et al., 2018).

Findings from Cohort '08 of *Growing Up in Ireland* at 5 years of age indicated that 57 per cent of 5-year-olds had received at least one course of antibiotics in the 12 months preceding the interview. This figure rose to 65 per cent for those with a medical card (full or GP only), compared to 51 per cent for those who did not have a medical card. On average, those with a medical card had had 2.4 courses of antibiotics in that period, while those without a medical card had 2 courses of antibiotics in the preceding 12 months.

As in Waves 2 and 3, question C9a asked whether the 9-year-old had received a course of antibiotics in the past 12 months, while question C9b recorded the number (if any).

### **C33 Hospitalisation**

The number of nights spent in hospital provides an objective measure of a child's health, whereas question C1 is a more subjective parent-report measure. Higher use of secondary health services, particularly the number of nights spent in hospital, acts as an indicator of ill-health. This information could potentially be used to assess the link between use of in-patient care and medical-card coverage, among a variety of other research questions.

A simple one-item question was asked in this respect, recording the number of nights the 9-year-old had spent in hospital since the time of the last interview.





### **C34 – C40      Accidents**

Lower socio-economic status has typically been shown in epidemiological studies to be associated with increased risk of injury (Roberts, 1997; Shai and Lupinacci, 2003; Silversides et al., 2005; Mahoob et al., 2019), and also greater severity of injuries when presenting at hospital (Hippisley-Cox et al., 2002). However, other potential causal factors have been identified for injuries, including area-level effects (Haynes et al., 2003); the child's temperament (Plumert & Schwebel, 1997); maternal mental health (Hope et al, 2019) and a reduction in risk for young children when grandparents are co-resident (Tanskanen & Danielsbacka, 2017).

Questions C34–C40 asked about the occurrence of accidents that required hospital treatment or admission, and the total number of accidents that required hospital treatment or admission (C35). C36 asked about the nature of the most recent of these accidents, to include item such as 'loss of consciousness / knocked out', 'bang on the head', 'broken bone or fracture', 'near drowning', among others. Parents were also asked the age at which the most recent accident had happened, whether the child was hospitalised, and where the accident happened.

### **C41 – C43      Constraints on accessing healthcare**

This is a hugely important issue from a public policy and planning perspective, particularly where socio-economic or geographic factors limit access to healthcare. Although access to health services are not the only (or main) influence on health outcomes, ensuring access to high-quality health services is central to challenging health inequities (Marmot and Allen, 2014). As at Wave 3, access to health services can be explored further at Wave 5 in terms of identifying increasing or worsening health conditions where there have been delays in seeking or obtaining healthcare for the child.

Question C41 asked whether the child had needed medical care in the preceding 12 months, along with perceived barriers to access, while question C42 asked whether the child was on a waiting list for assessment or treatment.

### **C44 – C50      Speech concerns**

The most intensive period of speech and language development is during the first three years. However, speech and language difficulties can often persist into the school years. Prospective studies have shown that speech and language impairments (SLIs) are associated with poorer behavioural, socio-emotional and academic outcomes (Beitchman et al., 1996; Beard, 2018; Cronin et al., 2017).

For the 9-year interview, the adapted question from the Parents Evaluation of Developmental Status (PEDS; Glascoe, 2006) was used to ask whether the respondent had any concerns about how the child talked and made speech sounds. Question C45 explored the nature of speech or communication difficulty, C46 asked if it had been diagnosed, while C49 asked whether the child had received any treatment for their speech or language problem.

### **C51 – C56      Specific learning difficulties**

Gathering information about the prevalence of specific learning difficulties and communication or co-ordination disorders is important in exploring their impact on child development. Aside from the negative effects on educational performance, those with learning difficulties can also be seen as 'different' and may be at particular risk of bullying (Bee & Boyd, 2007). The information gathered provides some indication of the prevalence of learning difficulties among Irish school children. Future longitudinal analysis may also allow for assessment of difficulties associated with the transition to secondary school for those with learning difficulties. These questions supplemented information provided by the teacher on the 9-year-old's limitations and whether he/she received any within-school supports to help overcome these limitations (see Chapter 9.6, questions 8-12).



## C57 – C63 Dental health

Oral health is an essential component of overall health (National Institute of Health, 2000), affecting one's sense of well-being. Dental decay has previously been identified as the single most prevalent chronic disease condition of childhood (Edelstein, 2002). Oral hygiene among children in Ireland has been linked to both socio-economic status and family structure (Clarke et al., 2010).

Parents were asked to rate their child's dental health (C57) and about visits to the dentist (C58-59). Questions C60–C62 ask about fillings and extractions, while question C63 asked if there was a time during the last 12 months when the child really needed to consult a dentist but did not, and whether this was because the family could not afford it, or some other reason.

### 6.2.4 SECTION D – CHILD'S DIET AND EXERCISE

Section D covered the child's diet, parent perception of the child's weight, amount of exercise (both light and hard), and distance to school, means of travel, and time getting there.

Section D	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
Child's diet & exercise	Child's dietary profile – inventory of food intake*	D1	✓	✓	✓
	Eating before going to school	D2		✓	✓
	PCG's perception of child's weight	D3	✓	✓	✓
	Hard and light exercise	D4 – D5			✓
	Distance to school, means of transport, and time spent on travel	D6 – D8			✓

\* The Food Frequency Questionnaire was previously used at 5 years but at all other waves a shorter and less detailed measure has been used.

## D1 – D2 Child's dietary profile

A recent international systematic review indicates that social status is a strong determinant of diet quality (Hinnig et al., 2018) and this has been confirmed for the Irish case by earlier analyses of *Growing Up in Ireland* data (Keane et al, 2016). Differences in diet quality may partially explain the higher obesity risk among lower social class groups. As reported in the Wave 3 design report (Williams et al., 2019), previous studies have reported that dietary intake among young children has implications for academic attainment in later years independent of other covariates (Feinstein et al., 2008). Data from earlier rounds of *Growing Up in Ireland* (GUI Study Team, 2013) have highlighted the prevalence of overweight and obesity (20 per cent) in this cohort at 5 years of age, a health concern closely linked to diet. The addition of detailed data on the nature of dietary intake among children will substantially enhance understanding of such associated issues.

The short inventory used in the 7/8-year postal survey (and previously used with Cohort '98 at age 9) was employed in the main interview to capture basic dietary information for all children (D1). The Study Team developed a 22-item food frequency questionnaire to obtain information relating to the 9-year-old's dietary intake over a 24-hour period. Twelve of the food items were derived from Growing Up in Australia, adapted from the Sallis Amherst Questionnaire (2002). The additional items were added following consultation with the expert health panel set up by the Study Team. This provides a semi-quantitative measure of children's dietary intake along several dimensions (fruit and vegetable, protein, carbohydrates, calcium, and fats and sugars consumption) which are important for assessing the quality of the 9-year-old's diet.



Question D2 asked whether the 9-year-old ate breakfast before school in the morning. A systematic review by Rampersaud et al. (2005) examining the benefits of breakfast consumption found that, for children, eating breakfast was associated with superior nutritional profiles, less risk of overweight, and improved cognitive function related to memory, test grades and school attendance. However, later research drawing on longitudinal data has been less conclusive, noting that the impact of initial weight status and dieting behaviour also needs to be taken into account (Rampersaud, 2009).

### D3 PCG's perception of child's weight

Research has shown that parents' ability to recognise if their child is overweight or obese is often quite poor (e.g. Huang et al., 2007), and there is often poor correspondence between measured weight and parental perceptions of child weight status when the child is overweight or obese (Maynard et al., 2003).

A single question (D3) asked the respondent how they would describe the 9-year-old's weight on a four-point rating scale, ranging from underweight to very overweight. This item was derived from the Growing up in Australia study.

### D4 – D5 Hard and light exercise

This section aimed to assess the frequency with which the 9-year-old engaged in hard and light physical activity. Even in youth, being physically active has been shown to have a protective effect against the onset of type II diabetes and cardiovascular diseases (Lee et al., 2012). It is widely believed that exercise habits established in early childhood can track into adulthood (Starc & Strel, 2010).

While an objective method of activity measurement would be preferable, the size of the cohort and associated costs/resources meant that it was not feasible to employ such a method of measurement here. However, the two questions asked in the interview have previously demonstrated test-retest reliability (Sallis et al., 1993) and validity with maximum oxygen intake and muscular endurance (Godin et al., 1986). These two questions were adapted from the Leisure Time Exercise Questionnaire (Godin & Shepard, 1985; Godin 2011). Question D4 asked how often the 9-year-old partook of hard/vigorous activity for at least 20 minutes in the last 14 days, while D5 asked the same question about light/moderate physical activity.

### D6 – D8 Commute to and from school

The mode, distance and duration of a child's daily commute has potential implications for their current and future health, and healthy habits. Recent data from the CSO estimate that approximately 75 per cent of Irish primary school children use motorised transport (car, or public transport) to get to and from school, while the remaining 25 per cent walk or cycle to school (CSO, 2016).

Question D6 asked how far away the 9-year-old's school was, D7 asked about the means of transport used for getting to and from school, and D8 asked how long each journey took.

## 6.2.5 SECTION E – PARENTAL HEALTH

This section explored parental health, including chronic conditions, exercise and weight perception. It also asked about medical insurance cover for the child and family, and whether the parent was a carer for anyone.

Section E	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
Parental health	PCG current health	E1	✓	✓	✓
	PCG chronic, longstanding conditions	E2 - E5	✓	✓	✓
	Family and child medical cover – none, full cover, or GP only	E6 – E8	✓	✓	✓
	Caring for someone with illness or special needs	E9-E14			
	Physically active	E15	✓	✓	✓



### **E1 – E5      Parental health and chronic illness**

Parental ill-health has implications for the health and well-being of children. A parent's ability to care for their child could be seriously compromised if they are unwell. A number of pathways through which the experience of parental chronic illness can affect child functioning have been proposed; the household may become a more stressful environment for the child (Pedersen & Revenson, 2005), or the illness may lead to disrupted parenting in terms of availability or involvement (Chen & Fish, 2013). Parental illness may disrupt aspects of parenting (e.g. support, reinforcement, discipline) by reducing capacity to provide care, or indirectly through the emotional distress of parents (e.g. depression). However, the extent to which the experience of parental illness affects child outcomes remains an under-researched phenomenon relative to the extensive literature that addresses families' adjustment to child illness (Chen, 2017).

Question E1 was derived from the Short Form 12 Health Survey, which measures generic health concepts and health-related quality of life. The item ranked the parent's general health status on a 5-point rating scale ranging from 'excellent' to 'poor'; there is good evidence that such measures are reliable and valid indicators of clinically assessed health status (Cheak-Zamora et al., 2009; Huo et al., 2018). Questions E2 – E5 were derived from the European Community Household Panel survey (ECHP – also known as the Living in Ireland survey 1994-2001) and explored the nature, duration and impact of the illness/disability on the respondent. These questions were also asked of the Secondary Caregiver, where appropriate.

### **E6 – E8      Health insurance and medical-card coverage**

As discussed in detail in the Wave 3 design report, children are some of the heaviest users of both primary and hospital healthcare services. Determining variations in childhood access to medical care is clearly a major policy issue, especially since there is reason to suspect that a delay in seeking medical care is associated with more illness complications (Newacheck et al., 2002).

Questions E6–E8 recorded information on the family's medical insurance cover, including the provision of private healthcare insurance, as well as asking specifically whether the child was covered by health insurance. These will provide information on access to and use of health services, as well as variation in health status.

### **E9 – E14      Parent as carer**

These questions were asked for the first time at this wave of the study, with a view to identifying parents' supplementary caring responsibilities (beyond their children) and how they might affect the main parenting role or family dynamic.

Questions E9–E14 asked whether the PCG looked after anyone in need of special help and, if so, who that person was, where they cared for them and how often they provided care.

### **E15 – E16      Physical activity**

Exercise habits established in early childhood tend to persist into adulthood (Starc & Strel, 2010). Research has demonstrated that physical exercise serves an important function in preventing the development of lifestyle-related non-communicable disease (including type II diabetes and cardiovascular disease) in later life (Lee et al., 2012). Strong associations between parental and child physical activity patterns have previously been observed (Mitchell et al., 2012). Possible mechanisms for this relationship include the parents serving as role models, sharing of activities by family members, enhancement and support by active parents of their child's participation in physical activity, and genetically transmitted factors that predispose the child to increased levels of physical activity. Informed and motivated parents can become a model for children by promoting a healthy lifestyle in terms of diet and activity from the first years of life.

Question E15 asked the respondent to rate their physical activity: Very/Fairly/Not very/Not at all physically active. A question on perceptions of the respondents' own weight was moved to the self-complete questionnaire.



### 6.2.6 SECTION F – CHILD'S PLAY AND ACTIVITIES

This section asked questions about activities shared with the child, time spent reading for pleasure, and development and maintenance of the child's cultural identity.

Section F	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
<b>Child's play, activities &amp; temperament</b>	Activities done with the child	F1 – F2	✓	✓	
	Time spent reading for pleasure	F3 – F4			✓
	Development and maintenance of child's cultural identity	F5 – F8			

#### F1 – F2 Activities done with the child

In a review of the factors that promote children's learning in the home environment, those that have been identified as important include frequency of parent-child interactions in routine learning activities (e.g. shared reading), the quality of parent-child interactions (e.g. parent's cognitive stimulation and responsiveness), and the provision of age-appropriate learning materials (Rodriguez et al., 2009). Furthermore, playing active games has been shown to be beneficial to other aspects of children's behavioural and social development (e.g. turn-taking in games, motor development through physical play).

'Family time', that is time spent by the child with family, is extremely important for the developing child. Many psychological theories of child development acknowledge this, in terms of the child's current well-being and happiness as well as their longer-term cognitive, socio-emotional and behavioural development – including child-parent attachment, peer relationships and risk of later externalising behaviours. Measures of family cohesion and time spent with the child are important in understanding how family time relates to immediate and subsequent outcomes. This question aimed to record details on activities that the child had undertaken with the parent or any other family member in the past month.

Question F1 asked about the frequency with which anyone at home did 8 separate activities, most of which are broadly related to fostering the home learning environment. These include: (a) plays with the child using toys or games/puzzles, (b) plays computer games, (c) listens to the child read, (d) reads to the child, (e) uses computer with the child in educational ways, (f) plays sport or physical activities, (g) goes on educational visits outside the home, and (h) goes shopping. Question F2 asked about a further 7 activities that the 9-year-old did with another family member: (a) gone to a movie, (b) gone to a sporting event in which the child was not a player, (c) gone to a concert, play, museum, art gallery, community or school event, (d) attended a religious service, church, temple, synagogue or mosque, (e) visited a library, (f) gone swimming, and (g) gone for a walk, cycle or hike.

#### F3 – F4 Reading for pleasure

Leisure-time reading has been shown to be positively associated with tests of verbal ability and reading achievement (Cullinan, 2000; Sullivan and Brown, 2013). Two questions, based on items in the Millennium Cohort Study and the National Survey of Children's Health, were asked about the frequency with which the 9-year-old read for pleasure on a weekday (F3) and a weekend (F4).

#### F5 – F8 Specific cultural activities

For the first time, a set of questions was introduced asking about child activities where the parents have a specific aim to develop or maintain his/her 'cultural or national identity' (F5). Parents were asked to clarify if this referred to Irish or other cultural/national identities, and what exactly the activities entailed (F7–F8).



### 6.2.7 SECTION G – SCREEN TIME AND INTERNET USE

This section collected detailed information on the nature of screen-time, including TV, films, video games and use of the internet. While such information had previously been collected from Cohort '98 at age 9 years, there was a need to update the questions to reflect technological changes in the last decade.

Section G	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
Screen time and internet use	Use of electronic devices; home access; internet access; hours of use	G1 – G2			√
	What 'screen time' is used for	G3			√
	How television/films are accessed	G4			
	Type of internet access in the home	G5			
	Internet supervision/monitoring	G6 – G8			√
	(Child) Online profile (social media etc)	G9			

#### G1 – G9 Screen-time and devices

While current international guidelines recommend that children be restricted to a maximum of two hours of screen time per day, by age 7/8 years almost 30 per cent of the *Growing Up in Ireland* Cohort '08 was exceeding that figure (GUI Study Team, 2017). Excessive screen time is widely accepted as being detrimental to the health and development of children and adolescents. It is associated with increased overweight/obesity, poorer cognitive and socio-emotional development and poorer mental health during adolescence (Domingues-Montanari, 2017).

Questions G1 to G4 ask how much time children spend on screen time during the week and at weekends, what type of screens/devices they use, what they use them for, and the source of the content (TV, recordings, internet, streaming, DVDs). The questions on what the child did while using screen-based media, the source of television content and type of internet access were new questions largely devised by the Study Team. Questions G5 to G8 refer to the type of internet access the home has, the child's ability to access it and whether that access is supervised or monitored.

### 6.2.8 SECTION H – CHILD'S EMOTIONAL HEALTH AND WELL-BEING

This section included the 25-item Strengths and Difficulties Questionnaire and experience of adverse life events since the child was aged 5 years.

Section H	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
Child's emotional health & well-being	Life events	H1	√	√	√
	Strengths and Difficulties Questionnaire (SDQ)	H2	√	√	√

#### H1 Life events

Serious life events experienced by the 9-year-old may have implications for current and future well-being, specifically in terms of their nature and frequency. For example, the experience of parental separation has been associated with increases in behavioural and emotional problems (Cheng et al., 2006; Amato and Anthony, 2014). Research has also shown that the number of adverse life events experienced by a child



tends to be socially driven, with those in lower social classes tending to experience a higher number of negative life events.

This question provides a list of potentially stressful and/or traumatic events, including moving to a new house, experience of parental conflict, mental disorder in immediate family, drug-taking or alcoholism in immediate family, and death of a parent. The respondent also had the opportunity to describe a disturbing event not covered in the list.

## H2 Strengths and Difficulties Questionnaire

### *Instrument description*

The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) is a 25-item measure of both prosocial and problematic behaviour. The SDQ is appropriate for use from the age of 3 years old to adolescence. There are different versions for parents, youth and teachers. ***Growing Up in Ireland*** used both adult forms at this wave, but just the parent report is discussed here. The instrument is described in more detail in McCrory et al. (2013). In ***Growing Up in Ireland***, the parent-report version has been used in the PCG questionnaire at all waves between the ages of 3 and 17/18 years. The presence of the SDQ in the Main Study ensures longitudinal continuity from the first wave of ***Growing Up in Ireland***. It also allows cross-cohort comparisons and enables international comparisons (for example with the ALSPAC and Millennium Cohort Studies in the UK).

A validation study by Stone et al. (2015) explored the stability and reliability of this measure. Using a large Dutch community sample of 2,238 teachers and 1,513 parents, the 5-factor structure was replicated and configural invariance was found to hold across groups. Cronbach's alpha was found to be variable across sub-scales, ranging from .46 to .82 for parents and .53 to .88 for teachers. McDonald's Omega values were found to be in the acceptable ranges for the measure at all sub-scales, ranging from .67 to .90 for parents and .82 to .93 for teachers.

### *Performance in the Main Study*

Table 6.2 provides reliability (alpha) statistics for the Primary Caregiver on the sub-scales of the SDQ. Example questions are provided, as are means, standard deviations and achieved ranges for the sample.

Compared to previous waves of the study, the psychometric properties of the sub-scales are improved overall, with high alpha values across all sub-scales except for the conduct problems sub-scale which displays a still acceptable value of  $\alpha = .57$ .





**Table 6.2** Scale composition and sample items on the Strengths and Difficulties Questionnaire (SDQ, Goodman, 1997)

Scale	Sample Item	Mean (SD)	Achieved Range	Cronbach's alpha
<b>Peer Problems</b>	My child is rather solitary, tends to play alone.	1.14 (1.55)	0-10	.59
<b>Emotional Symptoms</b>	My child has many fears, is easily scared.	2.10 (2.07)	0-10	.69
<b>Hyperactivity/ Inattention</b>	My child is constantly fidgeting or squirming.	3.25 (2.64)	0-10	.80
<b>Conduct Problems</b>	My child often fights with other children or bullies them.	1.18 (1.42)	0-10	.57
<b>Total Difficulties</b>		7.66 (5.68)	0-39	.77
<b>Prosocial*</b>	My child is considerate of other people's feelings.	8.95 (1.51)	0-10	.69

\* The prosocial scale is oriented such that a higher score is related to greater prosocial behaviour.

#### 6.2.9 SECTION I – PARENTING AND FAMILY CONTEXT

This section covered a range of topics relating to the family context such as work-life balance, family activities and religiosity.

SECTION I	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
<b>Parenting and family context</b>	Work-life balance	I1	✓	✓	✓
	Time spent together as a family	I2	✓		✓
	Sibling relationships*	I3 – I4	✓	✓	✓
	Regular contact with grandparents, how many still alive, closeness of relationship with child, other relations	I5 – I9	✓	✓	✓
	Satisfaction with amount of support from family and friends	I10	✓	✓	
	Child's religion and attendance at religious services	I11 – I13			✓
	PCG's religion	I14 – I16	✓	✓	✓
	PCG's religiosity and spirituality	I17			

\* Sibling relationships included in child questionnaire at 9 years (Cohort '98).





## **I1 Work-life balance**

Given both the greater work demands placed on individuals and a larger number of women participating in the labour market, the issue of work-life balance is increasingly of interest to researchers. As discussed in the design report at Wave 3, more recent focus has turned to the bidirectional influence between this and family life, including the division of household and care-giving duties (Galinsky, 1999; Sirgy and Lee, 2018). O'Connell & Russell (2005) found that, even when job characteristics and other factors were controlled, work-family tension was higher among those with young children and among women. It is likely that any discernible impact on child outcomes will have potentially important implications for employment policies.

Question I1 asked the PCG the extent to which they agreed with several statements on the impact of work on family life and in turn, the impact of family life on work. This question has been asked at previous waves of the study and is adapted from LSAC.

## **I2 Time spent together as a family**

As discussed in section 6.2.6, time spent with family is extremely important for the developing child. The structured daily life provided by a parent has a profound influence on their children: regular, predictable routines, and time spent together affect children more positively than when their family life is less organised (Boyce et al., 1983; Kremer Sadlik & Paugh, 2007; Offer, 2013).

These questions asked about time spent doing various activities together as a family such as eating a meal, talking about things together and doing household-based activities together. Question I2 is based on a similar question in the National Longitudinal Survey of Children and Youth.

## **I3 – I4 Sibling relationships**

Sibling relationships are important (Pike et al., 2005). Research points to the fact that sibling ties are best understood in the context of the family unit. Sibling relationships reflect family dynamics, with changes in parent-child relationships associated with similar changes in sibling relationships (Kim et al., 2006).

Where the child has siblings, the parent was asked one question on how the 9-year-old got on with them. The answer categories were Gets on well with his/her siblings, Mixed, Does not get on well with his/her siblings and Does not see them.

## **I5 – I10 Contact with grandparents and other relatives**

Kanaiaupuni et al. (2005) found that extended family networks are associated with better child health outcomes. Even perceptions of available support from the wider family have positive relationships with economic well-being (Henly et al., 2005). An integrated social systems framework developed by Dunst and Trivette (1986), drawing on social network theory, human ecology, help-seeking theory and adaptational theory, emphasises the importance of informal support systems such as parents, relatives and friends for promoting positive functioning and buffering negative reactions. Recent reviews, however, have emphasised the need for more detailed analysis and longitudinal research to discern the context, nature and pattern of grandparent involvement (Sadrudin et al., 2019; Pulgaron, 2016). The broad range of data on context and outcomes collected in *Growing Up in Ireland* makes it ideally suited to explore these issues.

Questions I5 to I10 were a series of questions, derived from Growing Up in Scotland, that were designed to ascertain the degree and extent of grandparental involvement in the 9-year-old's life. Respondents were asked whether the 9-year-old was in regular contact with his/her grandparents (I5), how many grandparents were still alive (I6), and the number of grandparents the 9-year-old had a close or very close relationship with (I8). They were also asked about any contact with extended family (I9) and their level of satisfaction with support provided by these parties (I10).



## I11 – I17 Child and PCG's religion and spirituality

Questions regarding the denomination, religiosity and spirituality of the PCG and the 9-year-old provide information for examining levels of religiosity in contemporary Ireland – which is important demographic information in an increasingly secular society (CSO, 2016). It is also important in terms of understanding differences between children who are instilled with some form of religious upbringing and those who are not.

As discussed in the design report for Cohort '98 at 17 years (Murphy et al., 2019), spirituality is a universal phenomenon, an inherent aspect of human nature that develops during adolescence as the individual begins to search for meaning in their life. Research suggests that spirituality improves one's ability to cope with adverse life events and to have better psychological well-being more generally (Kim & Esquivel, 2011; Boyatzis, 2013).

Questions were adapted from a range of surveys, including the European Values Survey. Questions I11 to I13 asked about the religious denomination and observance (in terms of attendance at ceremonies or places of worship) of the 9-year-old. Questions I14 to I16 asked about the Primary Caregiver's own religion, which would most likely, but not necessarily, be the same as the religion of the 9-year-old. Question I17 asked them about their spirituality.

### 6.2.10 SECTION J – CHILD'S EDUCATION

This section collected information on childcare, involvement in clubs, attendance at parent-teacher meetings, absenteeism, homework, school performance, and aspirations for child.

SECTION J	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
Child's education	Details of child's current school and class	J0		✓	
	Childcare arrangements/time spent/costs	J1 – J5	✓	✓	✓
	Child participation in clubs/organisations, whether paid for	J6			✓
	Attend parent-teacher meeting	J7			✓
	Absenteeism	J8 – J9			✓
	Homework – frequency of, time spent on, and help with	J10 – J12			✓
	Perception of child's performance in school	J13 – J14			✓
	Number of children's books in the home, use of public library	J15 – J16	✓	✓	✓
	Voluntary contributions to school – asked for, paid, amount	J17			
	Future educational aspirations for child	J18			✓
	Child's name down for secondary school, number of applications	J19 – J20			



## **J1 – J5            Childcare**

Increased female participation in the labour market in Ireland has led to more children being placed in non-parental care during the day. At 9 months, almost 40 per cent of this cohort were in regular non-parental childcare; this figure rose to 50 per cent at 3 years of age (McGinnity et al., 2015). There is much debate in the academic literature about the likely implications of different types of childcare for children's outcomes (Stein et al., 2013; Gialamas et al., 2015; Swyden et al., 2017).

The information gathered in this section, coupled with similar information gathered at earlier waves, can be used to investigate short- and long-term effects of different types of childcare on socio-emotional and cognitive development, among other outcomes. The questionnaire contained a series of detailed questions on type of childcare (J1), time spent in childcare (J2-3) and the associated cost (J4).

## **J6                    Extra-curricular activities**

Question J6 asked about the child's organised extra-curricular activities. An additional question asked if this had to be paid for. Questions were based on questions asked in the National Longitudinal Survey of Youth and Children, and very similar to questions asked of Cohort '98 at age 9 years except that the categories of activities were more disaggregated than previously (e.g. 'sports/fitness clubs' was separated into 'team sports' and 'individual sports'). These questions provide some indication of how the 9-year-old spends his/her personal time and can be used to explore many issues; for example, to examine the extent to which children from lower-income families have participation opportunities.

## **J8 – J9            Absenteeism**

These questions collected information on absenteeism. Absenteeism is strongly associated with academic achievement, in terms of lower learning and educational attainment, as well as psychosocial development outcomes (An et al., 2017). Conversely, high levels of school attendance are correlated with increased academic success.

These questions were based on items in the National Longitudinal Survey of Children and Youth, asking the number of days the 9-year-old had been absent from school in the last school year (J8) and the main reasons for this absence (J9).

## **J10 – J12        Homework**

Information on homework could potentially allow for investigation of the links between parental involvement in the 9-year-old's education and actual school performance. Higher parental involvement in child education has been linked to significant effects on school achievement into adolescence (Boonk, Gijssels, Ritzen & Brand-Gruwel, 2018).

These questions enquired about how often the 9-year-old was given homework (J10), how long it took (J11) and the level of parental assistance with homework (J12).

## **J13 – J14        Perception of child's school performance**

These questions asked the PCG how they thought the 9-year-old was faring at school in terms of mathematics (J13) and reading (J14). Possible ratings ranged from poor to excellent. Answers here could potentially be compared to teacher-reported child performance (see section 9.6) or the child's performance in cognitive tests (Chapter 8).

## **J15 – J16        Books, library**

Supports for reading at home (access to books) and locally (access to libraries) are considered strong predictors of children's educational outcomes. The number of children's books in the home is positively associated with children's reading and maths scores, independent of other socio-economic variables (Smyth et al., 2010). Parental education can be an important factor in this regard; analysis of the *Growing Up in Ireland* Cohort '98 at age 9 showed that 76 per cent of children whose mothers had third-level education had access to 30+ books in the home compared with 41 per cent of children whose mothers had a lower secondary education (Williams et al., 2009).



Question J15 asks how many books the child has access to at home, including library books. Question J16 asks whether they use a library. These questions were derived from Growing Up in Australia.

#### **J17 Voluntary contributions to school**

This question enquired whether the school asked for a voluntary contribution, if it was paid, how much was it for and how many children it applied to.

#### **J18 Education aspirations for child**

An association between social class and educational expectations has been observed: parents from professional backgrounds report expecting their children to achieve higher educational qualifications than parents from working-class backgrounds (Schoon, 2010).

Adapted from the National Longitudinal Survey of Children and Youth, this item (J18) asked how far parents expected their child would go in their education/training, with answers ranging from Junior Cert to postgraduate degree.

#### **J19 – J20 Secondary school**

These were new questions at this wave and asked whether the child's name was down for a secondary school (J19) and if so, how many (J20).

### **6.2.11 SECTION K – PEER RELATIONSHIPS AND BULLYING**

This short section focused primarily on parental knowledge of the child being bullied and the reasons for it, while also enquiring about friends.

SECTION K	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
<b>Peer relationships and bullying</b>	Number of, and time spent with peers	K1 – K2			✓
	Knowledge of child being bullied, type and reason for bullying	K3 – K5			✓

#### **K1 – K2 Child's friends**

Emotional, cognitive, academic and social development are all influenced by childhood friendships and peer support (Vitaro et al., 2009). Question K1 asked how often the 9-year-old socialised with friends outside of school, while question K2 asked how many close friends they had.

#### **K3 – K5 Bullying**

Verbal, physical and emotional bullying are all prevalent in childhood. The prevalence of cyberbullying has also increased in recent years, with 20-40 per cent of teenagers experiencing it at some stage (Tokunaga, 2010). Evidence suggests that boys are more likely to become perpetrators and/or victims in physical, verbal and overall direct forms of bullying, whereas girls are more likely to get involved in indirect forms of bullying, including cyberbullying (Tsitsika et al., 2014). Research indicates that the effects of victimisation through bullying include depression, anxiety, suicidal ideation, substance abuse, school avoidance and loneliness, crime and delinquency (Bond et al., 2001; Hutzell & Payne, 2012).

Results from the current study will provide updated insight into the prevalence and nature of bullying among Irish children, as well as helping to clarify whether victims of bullying experience poorer outcomes than their peers. This set of questions asked whether the 9-year-old had been a victim of bullying, what form the bullying took and the reason for it.



### 6.2.12 SECTION L – SOCIO-DEMOGRAPHIC INFORMATION

Section L was an extensive module covering a variety of socio-demographic and contextual information relating to accommodation, work, social welfare receipt, income, deprivation and historic grandparental status.

SECTION L	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
<b>Socio-demographic Information</b>	Nature of accommodation	L1 – L3	✓	✓	✓
	Nature of tenure	L4	✓	✓	✓
	Number of bedrooms	L5	✓	✓	✓
	Suitability of family accommodation	L6 – L7	✓	✓	
	Principal economic status / family social class / nature of occupation & employment / reasons not working	L8 – L33	✓	✓	✓
	Spouse / Partner's occupation	L34 – L35	✓	✓	✓
	Family income	L36 – L42	✓	✓	✓
	Family 'basic' deprivation indicators	L43 – L50	✓	✓	✓
	Change in financial circumstances	L51 – L52			
	Financial status of PCG at age 16	L53			✓
	Were PCG's parents alive when PCG was 16?	L54 – L55			

#### L1 – L7 Accommodation

These questions recorded the tenure status of the home. This has been widely used in ESRI surveys over several decades and been linked to measures of well-being, independent of covariates. Tenure status was also asked at previous waves, allowing for measurement of levels of stability or change for families over time, and what effect these may have on the 9-year-old.

Questions L1–L5 asked about the nature of the accommodation and tenure, for which one new category was added, 'emergency accommodation'. L6–L7 asked about the suitability of the accommodation for the family and reasons why it might not be suitable.

#### L8 – L35 Principal economic status of PCG and SCG

As at all previous waves of the study, the PCG provided information on principal economic status, specifically whether s/he was currently working outside the home (either as an employee, self-employed or farmer). This information was used to create a social-class classification for each household in the study. This information is particularly relevant in terms of issues of parental work-life balance, childcare, time spent with the 9-year-old, and the impact of these on the 9-year-old's outcomes.

As at previous waves, the PCG was asked about his/her usual situation with regard to work (L8), hours worked (L9) and commute time (L10). New questions were included on shift work, overtime and weekend work (L11–L12). They were asked specific details about their role (L13–L18). If they did not currently work, they were asked about their previous occupation (L20–L27) and why they were no longer employed (L32).



Given that the SCG did not always complete his/her own interview, it was necessary to obtain information on their principal economic status from the PCG (L33–L34). Another new question (L35) asked about work history for the PCG in the last four years (i.e. 48 months, since the age 5-years interview approximately).

### **L36 – L42      Family income and social welfare receipt**

Receipt of social welfare payments may be associated with specific life-cycle stages (such as retirement or having children), with income shocks that are temporary (such as unemployment of short duration) or with more enduring disadvantages (such as low levels of education, lone parenthood, and disability; Watson and Maitre, 2013). Longitudinal data on this measure from the *Growing Up in Ireland* Cohort '08 might enable researchers to investigate the direct and indirect effects of transitions in welfare receipt on child outcomes and other aspects of family life. For example, Watson et al. (2014) used *Growing Up in Ireland* data to examine the consequences of poverty and poverty transitions for children's socio-emotional development. Social welfare transitions and changes in welfare dependencies play an important role in this type of analysis on child outcomes.

This set of questions addressed issues related to household income, adapted from the Household Questionnaire of the Living in Ireland survey, the Irish component of the European Household Panel Survey (ECHP). Question L37 recorded information on the main sources of income received by the household (e.g. salaries, welfare benefits, income from farming, etc) while questions L38–40 were designed to ascertain net household income. Question L41 asked whether the household was currently in receipt of any social welfare payments, while L42 asked what proportion of the household's total income came from social welfare payments of any kind.

### **L43 – L55      Deprivation indicators**

As discussed in detail in the Wave 3 design report (Williams et al., 2019), a substantial amount of research on the influence of poverty and deprivation on outcomes across a wide range of research areas has been undertaken (see overview in Maitre et al., 2006; Watson et al., 2014; Duncan, Ludwig & Magnusson, 2007; Holzer, Duncan & Ludwig, 2007, and Duncan et al., 2012). Having longitudinal data on deprivation will afford researchers the opportunity to explore patterns of poverty in terms of how it changes, or remains stable, as well as the characteristics of those who are most likely to remain in poverty over time, or experience recurrent poverty spells. Recent work by Watson and associates (2014) used data from the first two waves of both Cohorts '98 and '08 in *Growing Up in Ireland* to investigate the consequences of poverty and (perhaps more importantly) poverty transitions for children's socio-emotional development. Some research also suggests that the subjective experience of economic disadvantage has a greater influence on parenting and child outcomes than the objective experience of being poor (Conger & Donnellan, 2007; Mistry et al., 2004).

The Basic Deprivation scale (L43–L50) is one of the core indicators used in the Irish national poverty monitoring system, based on the Survey of Income and Living Conditions (SILC).<sup>21</sup> The Basic Deprivation scale was originally made up of 11 items (although 9 items were used here) relating to poverty in areas such as food, clothing, furniture, debt and minimal participation in social life. The index can be used on its own as a measure of non-monetary deprivation. It has also been widely combined with thresholds of relative income poverty to provide a measure of 'consistent' poverty status and changes therein over time.

The scale has been developed through ESRI research stemming back to 1987 (Callan et al., 1993; Layte, et al., 2001). Item loadings on the basic deprivation dimension ranged from 0.55 (going without heating) to 0.71 (being able to afford new clothes; Whelan et al., 2007). Convergent validity has also been reported as excellent, with the scale exhibiting high correlations with others in this area including the ECHP 8-item Basic Deprivation index.

21 Carried out and prepared by the Central Statistics Office (CSO) in Ireland.



While previous questionnaires had asked about the effect of the recession, for this wave of the study the question was reworded slightly to allow respondents to indicate whether they were now better off or worse off since the 5-year interview (L51).

### 6.2.13 SECTION M – ABOUT YOU

This section collected data on parent's education, child's first language, parent's reading and numeracy, religion, citizenship and ethnicity. Many of the items in this section were asked of new respondents only.

SECTION M	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
About you (the respondent)	PCG education	M1 – M4	✓	✓	✓
	Child's first language and main language used in the home	M5 – M6	✓	✓	✓
	PCG's competence in English	M7 – M9	✓	✓	✓
	PCG's numeracy	M10	✓	✓	✓
	PCG citizenship and country of birth	M11 – M15	✓	✓	✓
	Child's citizenship	M16 – M17			✓
	PCG's ethnicity	M18	✓	✓	✓

#### M1 – M4 PCG education

The Wave 3 design report described how parental education level is an important explanatory variable in the analysis of socio-economic variation in children's outcomes (Davis-Kean, 2005), and has been widely used as a categorical variable in previous *Growing Up in Ireland* reports. For example, higher levels of parental education are positively associated with school readiness (Seefeldt et al., 1999), with parental expectations of how far the child will go in school (Williams et al., 2009), and with academic attainment (Sirin, 2005). In addition to these effects on child achievement, parental education may also influence child outcomes through indirect pathways such as its effects on parenting beliefs and behaviours (Davis-Kean, 2005).

Question M1 was taken from the Irish Census of Population, with parental education disaggregated into a 12-level discrete variable representing gradations in primary, secondary and third-level education. Questions M2–M4 asked what year the PCG had completed this qualification, the actual name of the qualification, and whether they had completed upper secondary education before they gained the qualification. The information provided will also allow examination of the theory that increases in maternal education occurring after the birth of the child can affect the child's academic outcomes (Magnuson, 2007).

#### M5 – M6 Child and household's first language

Question M5 asked if the child's first language was English, Irish or another (specified) language. If the language in the home differs from that used in the school, this may have an impact on the child's learning. Question M6 asked what language was usually spoken at home.

#### M7 – M10 PCG's competence in reading and numeracy

Parental literacy and the home reading environment can affect child outcomes. Studies on the relationship between story-book exposure and children's language skills indicate that parent-child reading interactions are positively associated with children's language skills, including the acquisition of word knowledge, vocabulary, and the rules of written syntax (Duursma et al., 2008; Demir-Lira et al., 2019).





This set of questions, adapted from the Millennium Cohort Study, was only asked of those who had indicated at previous waves that they had literacy or numeracy problems. M7 asked whether the respondent could read aloud to a child from a children's book written in their native language, while M8 asked whether they could read aloud from a story book written in English. M9 asked whether the respondent could comprehend and complete forms in English. M10 asked whether respondents could usually tell if they had the correct change in shops from a five or ten-euro note.

### **M11 – M18 Citizenship and ethnicity**

Basic demographic information regarding citizenship, nationality and ethnicity of the Primary Caregiver was obtained from respondents, as it has been found to have a bearing on many aspects of child outcomes. Information about ethnicity is also used as an input to the reweighting of the data, with updated figures derived directly from the most recent Irish Census of Population.

In questions M11–M18, information was recorded on citizenship, country of birth, ethnicity and length of residency in Ireland for both the respondent and the 9-year-old.

### **6.2.14 SECTION N – NEIGHBOURHOOD/COMMUNITY**

Questions in this section included perception of the local area, family in the area, time spent living in the area, and perception of neighbourliness.

SECTION N	Construct	Questions	Included at age 3	Included at age 5	Included at age 9 (Cohort '98)
<b>Neighbourhood / Community</b>	Length of time living in area	N1	✓	✓	✓
	Community organisations	N2			✓
	Perceived safety and quality of local neighbourhood	N3 – N4	✓	✓	✓
	Local services	N5	✓	✓	✓
	Family living in local area	N6	✓	✓	✓
	Suitability for child rearing	N7			
	Urban/rural situation of house	N8		✓	✓

### **N1 – N2 Length of time living in the area**

Question N1 had been asked at previous waves of the study and is repeated in case the household had moved between waves. Question N2 asked about involvement with voluntary organisations (in school, church, etc). This may give some indication of stability and possible ties to the community.

### **N3 – N7 Safety and quality of local area**

Perceived neighbourhood characteristics of aesthetics and greenery have also been shown to affect well-being and, in turn, mental health (Leslie & Cerin, 2008), and overall impressions of one's local neighbourhood can affect various aspects of family life. There is increasing recognition that the structure of the neighbourhood environment can affect children's health and well-being (Roux, 2007).

Question N3 asked how common several neighbourhood characteristics were: rubbish and litter lying around, homes/gardens in bad condition, vandalism, people drinking or taking drugs in public. Question N4 asked whether the respondent agreed or disagreed with several statements about their local area, including whether it was safe to walk alone in this area after dark, whether there was heavy traffic on the street and whether most people in the neighbourhood could be trusted. Question N5 asked about the availability of key services in the locality (including GP, post office, schools and transport).





## N8 Urban / rural classification of the household

School achievement can be affected by the location (urban versus rural) of a household. Relationships between socio-economic variables (unemployment, medical-card possession, residence in local authority housing, lone parenthood) and school achievement have been found to be weaker in rural than in urban schools (Smyth, 2019).

The PCG was asked to describe the place where the household was situated, with a range of answer options to delineate whether the household was in an urban or rural area (N8). This will allow for comparisons on issues such as school performance, as well as a wide range of other issues.

## 6.3 OVERALL STRUCTURE AND PERFORMANCE OF THE SCG MAIN QUESTIONNAIRE

This section outlines the topics covered in the Secondary Caregiver's Main Questionnaire. It contains a subset of the questions included in the PCG's Main Questionnaire. The questions on the SCG questionnaire are largely those that record information on the SCG him/herself and his/her relationship with the 9-year-old. They do not include factual information on the 9-year-old. Where items have been discussed in detail on the PCG Main Questionnaire, a cross-reference only is noted in this section.

Sections on the SCG Main Questionnaire were relabelled to correspond with the equivalent sections on the PCG Main Questionnaire. For instance, the opening section for the SCG questionnaire started at Section B as the Section A household grid had already been provided by the Primary Caregiver.

SECTION	Construct	Questions	Included at age 3	Included at age 5	Cohort '98 at age 9
B Child's sleep & relationships	Parent-child relationship (Pianta scale)	B4	✓	✓	✓
	Discipline strategies	B5		✓	
D Child's diet and exercise	SCG's perception of child's weight	D3	✓	✓	✓
E Parental health	SCG current health	E1	✓	✓	✓
	SCG chronic, longstanding conditions	E2 - E5	✓	✓	✓
	Caring duties	E9 - B14			
	Self-recorded physical activity	E15	✓	✓	✓
F Child's play & activities	Activities undertaken with the Study Child by the SCG	F1 - F2	✓	✓	
I Parenting and family	Work-life balance and job security	I1	✓	✓	✓
	Doing things together as a family	I2			
	Support from family and friends	I10	✓	✓	✓
	Religious denomination and religious observance	I14 - I15	✓	✓	✓
	Religiosity and spirituality*	I17	✓	✓	✓



SECTION	Construct	Questions	Included at age 3	Included at age 5	Cohort '98 at age 9
L Socio-demographics	Economic status and related circumstances	L8 – L32	✓	✓	✓
	Work activity, or other over last 4 years	L35			
	Perceived change in financial circumstances since last wave	L51			
	Family circumstances when SCG was 16	F53 – F55			
M About you	Level of educational attainment	M1 – M4	✓	✓	✓
	Literacy, numeracy, English proficiency, religion, citizenship, country of birth and ethnicity	M7 – M18	✓	✓	✓
N Neighbourhood/ community	Involvement in local voluntary organisations/participation in ongoing community service	N2	✓	✓	✓

\* Information on spirituality was included only at this wave.

### 6.3.1 SECTION B – SCG'S RELATIONSHIP WITH THE CHILD

Question B4 is the Pianta Scale, looking at the relationship between the parent and 9-year-old, discussed in detail in section 6.2.2.

The set of questions about discipline strategies when the 9-year-old misbehaves is the same as asked of the PCG—discussed in detail in Section 6.2.2.

### 6.3.2 SECTION E – PARENTAL HEALTH

Most of the questions in this section have been used in almost all rounds of the project up to this point and were also asked of the PCG. They are discussed in detail in Section 6.2.5, above.

### 6.3.3 SECTION F – CHILD'S PLAY AND ACTIVITY

These questions recorded details on the amount of time spent in family activities and organised family time. Detailed information on these questions can be found in section 6.2.6, based on the PCG Main Questionnaire.

Section I: Parenting and family context (including religion and spirituality)

Most of these questions were used in previous rounds of the study (although the questions on spirituality are new) and were also asked of the PCG in their Main Questionnaire (refer to section 6.2.9).

### 6.3.4 SECTION L – SOCIO-DEMOGRAPHICS

Most of the questions in this section were asked at previous waves of the study and were also asked of the PCG. For further details, refer to section 6.2.12.

### 6.3.5 SECTION M – ABOUT YOU

These questions were based on those asked of the PCG in their Main Questionnaire. Refer to section 6.2.13.



## 6.4 THE PRIMARY AND SECONDARY CAREGIVER SELF-COMPLETE QUESTIONNAIRE

The Self-Complete Questionnaire (formerly referred to as the Sensitive Questionnaire) recorded some potentially more sensitive information from the respondent and was completed on a computer-assisted self-completion (CASI) basis. The same questionnaire was used for both Primary and Secondary Caregivers. It tapped into the issues shown in the table below. In addition, Primary Caregivers (PCGs) reported the 'reasons for leaving' of people who were no longer living in the household, as previously recorded on the household grid.

Construct	Questions	Included at age 3	Included at age 5	Cohort '98 at age 9
Details on persons who have left family since Wave 1 (PCG only)	S1 - S3	✓	✓	
Relationship to Study Child – biological, adoptive, foster	S4 – S7	✓	✓	✓
Marital status	S8 - S12	✓	✓	✓
Quality of couple relationship (DAS-4 Scale)	S13 – S17	✓	✓	✓
Parenting style (LSAC scale)	S18 - S19	✓	✓	
Co-parenting relationship (CRS scale)	S20			
Parental stress (PSS)	S21	✓	✓	
Parental efficacy	S22	✓	✓	✓
Currently pregnant? Only asked if female	S23	✓	✓	
Current alcohol consumption (FAST scale)	S24 – S30	✓	✓	
Current smoking	S31 - S34	✓	✓	
Current drug taking	S35 - S36	✓	✓	
Depression & anxiety	S37 - S39	✓	✓	✓
Contact with An Garda Síochána / CJS	S40 – S41	✓	✓	✓
Sharing of family chores/ child-rearing tasks	S42	✓	✓	✓
Attitude to corporal punishment	S43			
Perceived discrimination*	S44 – S45			
Perceived employment security	S46			
<i>The following questions were only asked where there was a non-resident parent</i>				
Nature of previous relationship with child's non-resident parent	S47 – S49	✓	✓	✓
Custody arrangements	S50 – S53	✓	✓	✓
Non-resident parent's (NRP) contact with Study Child	S54 – S57	✓	✓	✓
Child's adjustment on moving from one parent to another	S58			
Maintenance arrangements	S59	✓	✓	✓
Involvement of NRP in child rearing	S60 – S64			
Current relationship with NRP	S65	✓	✓	✓
Other children living with NRP	S66 – S67			
Permission to contact a non-resident parent	S68	✓	✓	✓
<i>All caregivers</i>				
Relationship with own parents at 9 years old	S69 – S70			

\* Perceived discrimination was included in the main questionnaire for the pilot.



The Self-Complete Questionnaire was largely unchanged from the third round of the Cohort '08 survey (at 5 years) apart from the inclusion of the new co-parenting scales and questions on how parents had got on with their own parents when they were younger. Extensive details on the questions included in that survey can be found in the Design Report for Wave 3 (Williams et al., 2019).

### **S1 – S3 Household transitions**

This set of questions was designed to capture information relating to transitions into and out of the household since the interview at Wave 3, when the Study Child was 5 years of age. If the respondent indicated on the household grid that a member of the household at Wave 3 was no longer resident at Wave 5 (bearing in mind that Wave 4 consisted solely of a postal questionnaire), questions S1–S3 recorded details on the reasons for and timing of the departure from the household.

### **S4 – S7 Relationship to the 9-year-old**

Questions S4 to S7 recorded details on the caregiver's relationship to the 9-year-old: whether they were the biological parent (S4), adoptive parent (S5) or foster parent (S6). If s/he was a foster parent, details on the nature of the fostering were recorded (S7).<sup>22</sup>

### **S8 – S12 Marital status, quality of partner relationship**

Research has repeatedly highlighted the link between family structure, changes therein and child outcomes. Children from divorced families can face a variety of personal and familial challenges (Amato, 2004; Kleinsorge & Covtitz, 2012), with divorce linked to negative outcomes such as poor self-concept, poor academic achievement and behavioural issues (Amato, 2001; Amato and Anthony, 2014). Where a parent has repartnered, some research shows that educational outcomes for stepchildren and half-siblings are similar to each other, but substantially worse than outcomes for children reared in traditional families (Ginther & Pollak, 2004).

Questions S8–S12 recorded details on the caregiver's marital status, followed by the Dyadic Adjustment Scale (DAS-4), discussed in detail below.

### **S13 – S17 Dyadic Adjustment Scale (DAS-4) instrument description**

The Dyadic Adjustment Scale (DAS-4; Sabourin et al., 2005) is a self-reported measure of the partner relationship. The shorter 4-item DAS provides an assessment of relationship satisfaction based on participants' self-report and is used to assess the state of a marriage/partnership. Compared with the original 32-item version of the DAS, it was found to be effective in predicting couple dissolution. This version has the advantage of being extremely brief and therefore less time-consuming for the respondents. It, or the 7-item version, have been used in previous waves of *Growing Up in Ireland* and so provides a high level of longitudinal continuity in measuring quality of partner relationships.

The measure is self-completed by both the Primary and Secondary Caregivers. It is only asked of parents who reside with a spouse or partner.

### **Psychometric Information**

Sabourin found reliability for the 4-item measure to be higher than .81 at all levels of couple distress. The reliability of the DAS-4 increased up to .92 for non-distressed participants. The standardised alpha for the DAS-4 was .84, and the standardised alphas for the alternative brief versions used in previous studies were .85 for the DAS-7 and .94 for the original DAS-32. Differences among the short versions of the DAS were not found to be substantial; therefore, the four-item version preserved good internal consistency across *Growing Up in Ireland* waves.

Subsequent validation studies have been carried out by South and associates (2009) using 900 dyads from the Minnesota twin study and by Villeneuve et al. (2015) using 900 dyads from a prospective study of older

<sup>22</sup> Data pertaining to questions S5, S6 & S7 have not been included in the archived AMF and RMF data files due to concerns regarding the identifiability of participants.



couples living in Quebec. Both studies found invariance of the factor structure of the DAS across genders, with mean differences on the latent variable reflective of true differences between genders rather than a result of measurement bias. This can be seen as strong evidence for the validity of the DAS scale.

### Performance in the Main Study

Exploration of the DAS scale indicated that it had good internal reliability for both the Primary and Secondary Caregivers. A full range of scores were reported within the possible range of 0 to 21. Descriptive statistics are presented below in Table 6.3.

**Table 6.3 Means, standard deviations and alpha values for Primary and Secondary Caregiver of 9-year-olds on the Dyadic Adjustment Scale**

	Primary Caregiver			Secondary Caregiver		
	Mean (SD)	Achieved Range	Alpha	Mean (SD)	Achieved Range	Alpha
<b>Dyadic adjustment</b>	16.73 (2.85)	0-21	.63	16.65 (2.96)	0-21	.60

### S18 – S19 Parenting style measure (from LSAC)

Parenting styles are also discussed in the Wave 3 design report (Williams et al., 2019). Parenting styles, which set the tone for interactions with the child, are different to parenting practices, which are more goal-directed attempts at socialising a child. Parenting styles characterised by high warmth and high control have been widely associated with positive child outcomes in emotional, social, and behavioural development (e.g. Zubrick et al., 2010). Some research points to harsh and inconsistent parenting as a major risk factor for child behaviour problems, while it is believed that some of the factors that feed into this directly and indirectly include domestic violence, parental drug abuse, maternal depression, family poverty, parents with low education, stressed families and single-parent status (Bloomquist & Schnell, 2002; Flouri & Midourhas, 2017).

Although there tends to be considerable continuity in parents' child-rearing orientations, parents can also modify their behaviours in response to their children's developing abilities and needs over time (Gralinski & Kopp, 1993; Bradley et al., 2017). With the current wave of data, it will be possible to look at whether parenting styles have changed across the child's life from ages 3 to 9 years.

### Description of LSAC Parenting Measure

Questions S18–S19 on parenting style were taken from the Longitudinal Study of Australian Children (LSAC). They yield scores for each of three important parenting dimensions: warmth (6 items), hostility (6 items) and consistency (5 items) that have been shown to mediate child outcomes. As the measure performed well in both the Australian study and in Waves 2 and 3 of Cohort '08 in *Growing Up in Ireland*, it was repeated with Cohort '08 at 9 years old.

A review of the LSAC parenting measures across 4 waves of data was carried out by Zubrick, Lucas, Westrupp and Nicholson (2014). They found that most of the parenting measures exhibited good to acceptable structural equation model fit characteristics of a low Standardised Mean Residual (SRMR < 0.10) (Hu & Bentler, 1999), a high Comparative Fit Index (CFI > 0.95) and/or a high Non-Normed Fit Index (NNFI/TLI > 0.95) (Hu & Bentler, 1998). The main problematic measure was the Secondary Caregiver rating of anger, which did not show a consistent factor structure across waves.

The high consistency of the measures was further underlined by presentation of high Co-efficient H values across the measures (except for Secondary Caregiver anger) at all waves. Reported coefficient H values across 4 waves of the LSAC study for the parenting scales used in *Growing Up in Ireland* range from (.92 – .96) for Warmth, (.85 – .89) for Hostility, and (.80 – .86) for Consistency.



### Performance in the Main Study

Consistent with previous *Growing Up in Ireland* waves, information from the parenting styles questionnaire displayed in Table 6.4 shows that most parents (both Primary and Secondary Caregivers) reported high levels of warmth and consistency and low hostility. The sub-scales also showed good internal consistency across both caregivers.

**Table 6.4** Primary and Secondary Caregiver scores on warmth, hostility and consistency sub-scales in the *Growing Up in Ireland* sample at age 9

	Primary Caregiver			Secondary Caregiver		
	Mean (SD)	Achieved Range	Alpha	Mean (SD)	Achieved Range	Alpha
<b>Warmth</b>	4.54 (0.58)	1-5	.88	4.26 (0.72)	1-5	.88
<b>Hostility</b>	1.84 (0.54)	1-4.5	.68	1.81 (0.52)	1-4.3	.66
<b>Consistency</b>	3.99 (0.65)	1-5	.61	3.87 (0.67)	1-5	.60

### S20 Co-parenting Relationship Scale (CRS)

Co-parenting refers to how two individuals work together in their parenting roles and the support they provide for one another in raising children for whom they share responsibility (Feinberg, 2003; Feinberg, Brown & Kan, 2012). This reflects a triadic relationship system, incorporating the child and both parents (Feinberg, 2003). Some research suggests that co-parenting has a stronger influence on parent-child relationships and child outcomes than inter-parental relationship/marital quality, given its more proximal relationship to parenting (McHale, 2007).

#### Instrument description

The CRS was designed as a comprehensive self-report measure of the quality of co-parenting in a family (Feinberg, Brown & Kan, 2012). It is comprised of 35 items divided into 7 sub-scales. The sub-scales are: Co-parenting Agreement, Co-parenting Closeness, Exposure to Conflict, Co-parenting Support, Co-parenting Undermining, Endorse Partner Parenting, and Division of Labour. Feinberg et al. (2012) validated the CRS with a sample of 169 co-resident heterosexual couples recruited as part of a parenting intervention project. Four waves of data were collected from these dyads across the project between 2004 and 2008, allowing both the cross-sectional and longitudinal stability of the scale to be assessed. Cronbach's alpha values were in the acceptable range across all measures and waves: Agreement .66 - .72, Closeness .81 - .83, Exposure to Conflict .81 - .90, Support .86 - .89, Undermining .80 - .85, Endorse Partner Parenting .61 - .87.

The CRS has conceptual overlap with the LSAC parenting scale (Zubrick et al., 2014), in terms of interactions with the child. To reduce perceived repetition of questions and overall response burden, only the 'Exposure to Conflict' sub-scale of the CRS was included in the 9-year main survey of *Growing Up in Ireland*. This particular sub-scale should also complement the well-established DASS measure of the relationship quality between the (residing) parents – which measures conflict but not the extent to which it is played out in front of the child.

#### Performance in the Main Survey

It can be seen in Table 6.5 that the overall averages for exposure to conflict are very low across most participants. The scale shows good internal consistency, with high alpha values reported by both Primary and Secondary Caregivers.



**Table 6.5** Primary and Secondary Caregiver scores on Exposure to Conflict in the *Growing Up in Ireland* sample at age 9

	Primary Caregiver			Secondary Caregiver		
	Mean (SD)	Achieved Range	Alpha	Mean (SD)	Achieved Range	Alpha
<b>Exposure to conflict</b>	0.63 (0.64)	0-6	.71	0.66 (0.64)	0-6	.73

## S21 – S22 Parental stress and efficacy

Parenting stress can have several negative effects, in terms of parenting attitudes, parenting behaviours, and parental well-being (Crnic, Gaze & Hoffman, 2005). Much research has focused on the determinants of parenting stress, including poverty, social disadvantage, lack of education, and poor child health. However, in the present context, it is the consequences of parenting stress for children's developmental outcomes that is of particular interest. Some studies have shown that parenting stress is associated with a range of adverse child outcomes including insecure attachment and behavioural problems (Crnic & Low, 2002; Neece et al., 2012).

Questions S21 and S22 recorded details on self-efficacy in the parenting role. These measures were used previously at Wave 2 and Wave 3. Due to time pressures in *Growing Up in Ireland*, only the 6-item Parental Stressors sub-scale was used in the Main Study. Further information on this measure is detailed in the Wave 2 design report (McCrory et al., 2013).

### Parental Stress Scale (PSS)

The Parental Stress Scale (PSS) (Berry & Jones, 1995) is an 18-item self-report scale, designed to assess both positive and negative aspects of parenthood. It comprises four sub-scales: Parental Rewards (6 items); Parental Stressors (6 items); Lack of Control (3 items), and Parental Satisfaction (3 items). Items are rated on a 5-point Likert-type scale ranging from 'strongly disagree' to 'strongly agree'. A total stress score is calculated as a composite of the items (ranging from 18-90), with higher scores indicating higher levels of stress.

The PSS has been translated into several languages (Oronoz, Alonso-Arbiol & Balluerka, 2007). Oronoz and associates (2007) worked with 106 pairs of parents of young children in Spain. In their validation, they reported a consistent and stable factor structure across groups for their adaptation of the Parental Stress Scale and reported an acceptable alpha value for the Parental Stressors sub-scale of .76.

### Performance in the Main Study

Internal consistency was high for the Parental Stressors sub-scale (PCG) in the current study. Higher scores indicate more stress. A total stress score was calculated by summing across the 6 items, giving a range of 6 to 30. Overall, the scale items showed a good spread of scores, with minimum and maximum scores achieved for both Primary and Secondary Caregiver. Means, standard deviations and alpha values are displayed in Table 6.6.

**Table 6.6** Means, standard deviations and alpha values for Primary and Secondary Caregiver scores on Parental Stressors Scale

	Primary Caregiver			Secondary Caregiver		
	Mean (SD)	Achieved Range	Alpha	Mean (SD)	Achieved Range	Alpha
<b>Parental Stressors</b>	13.40 (4.47)	6-30	.78	12.95 (4.34)	6-30	.77





Parenting self-efficacy refers to an individual's estimation of their own competence in the parenting role, including both level of knowledge about child-rearing tasks and the degree of confidence in one's ability to perform them (Albanese et al., 2019). Research shows that high parenting efficacy is associated with more responsive caregiving practices, while low efficacy is associated with more dysfunctional types of parenting (Morawska et al., 2009).

A 1-item question (S22) used at Wave 3 was used again at Wave 5. The question asked parents to rate how good they felt they were as a parent on a 5-point scale ranging from not very good at being a parent to a very good parent.

### **S23                      Pregnancy status**

This question was asked of all female respondents.

### **S24 – S30              Fast Alcohol Screening Test (FAST)**

Consumption of alcohol at problematic levels has been found in the most recent Healthy Ireland survey, which noted that a certain proportion of the population consumed quantities considered harmful to their health (Department of Health, 2017). Binge drinking is associated with an increased risk for alcohol-related disorders. Given that heavy drinking usually results in intoxication, this can lead to an array of problematic outcomes including traffic injuries, violence and self-injury.

When the heavy drinker is a parent, these problems become more pertinent because children are unable to protect themselves from the direct or indirect consequences of parental drinking (Klingemann, 2001). While studies tend to document adverse impacts of excessive alcohol consumption on a whole range of child outcomes, mediational models now recognise that the effects on child outcomes result from the disruption that alcohol misuse brings to family cohesion, parenting dynamics, psychosocial processes and inter-personal relationships (Burke et al., 2006). In addition, risk factors for adverse child outcomes tend to aggregate in families where there is alcohol dependency, and this may lead to multiplier effects in terms of their impact on the child. This issue is of particular interest in the Irish context because Ireland has a relatively high per capita intake of alcohol compared to other EU countries.

Questions S24 to S30 recorded details on alcohol use and consumption, including the FAST alcohol screening test for alcohol misuse.

#### ***Instrument description***

The FAST is a short version of the AUDIT questionnaire, a useful and robust screening test for problematic alcohol use. The FAST questionnaire, with just 4 items, screens for hazardous drinking as well as harmful drinking and alcohol dependence. Administration is straightforward and the questionnaire can be self-completed. Average administration time is reported to be less than 20 seconds (Hodgson et al., 2002a). The FAST questionnaire has been used in other waves of *Growing Up in Ireland*.

#### ***Psychometric information***

Cronbach's alpha for the inter-correlation between FAST items was reported to be .77, with one-week test-retest reliability given as .81. A check on specificity and sensitivity (see Altman & Bland, 1994), compared to the original AUDIT using 2,185 patients admitted to an A&E setting, found the sensitivity of the FAST to be 93 per cent, with 88 per cent specificity.

Research by Meneses-Gaya et al. (2010) compared the efficacy of the AUDIT and FAST scales in screening for issues with alcohol against the 'gold standard' of a structured clinical interview for diagnosis (SCID). The sample consisted of a non-clinical test-retest sample of students (N=429), a clinical sample of participants recruited from an alcohol disorder clinic (N=80) and a community sample who were recruited while attending a hospital emergency ward (N=449). Alpha values reported for the FAST were between .82 and .84. The FAST scale had a sensitivity of .86 and specificity of .81. These are similar figures to those found by Altman and Bland (1994). Furthermore, the FAST scale was also shown to function just as well as the AUDIT in classifying hazardous drinkers, with an ability to successfully classify over 50 per cent of hazardous drinkers with a single question.





### Performance in the Main Study

Means, standard deviations and alpha levels of the Fast Alcohol screening tool are displayed in Table 6.7. It can be seen that overall means across the scales are low among those who consume alcohol. The majority of the alpha levels displayed are satisfactory but appear to be lower than expected for the female Primary Caregivers.

**Table 6.7** Fast Alcohol Consumption Scores for Primary and Secondary Caregivers showing means, standard deviations, alpha values and classification

	Primary Caregiver			Secondary Caregiver		
	Mean (SD)	Achieved Range	Alpha	Mean (SD)	Achieved Range	Alpha
<b>FAST scale (male)</b>	1.32 (1.67)	0-11	.65	1.22 (1.38)	0-11	.53
<b>FAST scale (female)</b>	1.10 (1.24)	0-10	.45	1.07 (1.36)	0-11	.69
	% Problematic Drinkers	% Non-problematic Drinkers		% Problematic Drinkers	% Non-problematic Drinkers	
<b>Categorisation</b>	10.0	90.0		14.3	85.7	

There are several possible reasons for this poorer-than-expected reliability in the FAST scale. Primarily, the scale has seen previous use in clinical populations where it has proven very successful in classifying hazardous drinkers (Hodgson, 2002a; Meneses-Gaya et al., 2010). Although the AUDIT has had several successful validations within a general population (Ivis, Adlaf & Rehm, 2000) and specifically among adolescents (Liskola et al., 2018), the FAST scale itself has seen little use outside a clinical context. The technical manual for the FAST scale notes that younger participants and females have not been classified as well by the scale as other demographic groups (Hodgson et al., 2002b).

A further issue here is the fact that the female Primary Caregivers in this sample had all been selected specifically because they were mothers of young children. This sets this sample apart as having a somewhat different pattern of ages and responsibilities when compared to the general population, which would have a wider mix of older and younger women and women who are not mothers. This may have affected the pattern of FAST consumption scores for this group.

### S31 – S36 Smoking and consumption of illicit drugs

There is strong evidence that environmental tobacco smoke (ETS) is deleterious to child health and development, and increases risk for asthma and other related respiratory conditions (Jaakkola & Jaakkola, 2002; Foley, Best, Reid & Berry, 2019). This is reflected in the 2014 Protection of Children's Health Act, which prohibits smoking in cars where children are present (Department of Health, 2014).

Research on the effects of parental drug use on children typically highlights such problem behaviours as antisocial behaviour and conduct or oppositional disorders (Kuppens et al., 2019), as well as negative impacts on the quality of parenting provided for the child (Dawe et al., 2007).

Questions S31 to S34 recorded details on smoking (including a new question on 'vaping'), while S35 to S36 recorded information on taking illicit drugs. All of these questions were used in previous rounds of the study. The vaping question had been used for the first time with Cohort '98 at 17/18 years. A new question was added at this round (S32b) on the use of so-called 'legal highs' or 'head shop drugs'.



### S37 – S39 Parental anxiety and depression (CES-D)

Although evidence for the link between parental mental health and child outcomes (such as socio-emotional or cognitive development) is unequivocal (Beardslee et al., 1996; Hancock et al., 2013), many writers note that it often interacts with, or is associated with, other variables that can either generate resilience, such as a well-functioning family (Dickstein, 2006), or increase risk, such as poverty (Eamon & Zuehl, 2001) or mental illness (Dean et al., 2018).

#### Instrument description

The CES-D (Melchior et al., 1993) is a widely used, self-report measure that was developed specifically as a screening instrument for depression in the general population. A shortened 8-item version of the CES-D, which correlates highly with the full 20-item version, was used in the Main Study and has been used in previous waves of *Growing Up in Ireland*.

#### Psychometric information

The CES-D has reported good internal reliability consistency ( $\alpha = 0.86$ ) and correlates 0.93 with the original 20-item version of the instrument. Test-retest reliability has previously been reported as 0.83 and 0.87 for assessment at 6 and 12 months respectively (DiClemente et al., 2005), and the concurrent validity of the scale has been established through its association with other depression measures such as the Beck Depression Inventory (Melchior et al., 1993).

Mogos et al. (2015) conducted a longitudinal validation study of the CES-D, drawing on a sample of 2,000 participants from the Heart Strategies Concentrating on Risk Evaluation (Heart SCORE) study. The participants were assessed at four time-points approximately 1 year apart. Alpha values were .84 to .90 across the study. The findings produced moderate support for the stability of the scale across time for the participants, with items relating to 'feeling disliked' and 'an inability to get going' showing the least stability in the factor structure of the scale. However, the majority of the other items showed sufficient stability to endorse partial invariance of the scale over time. This can be seen to match the information showing stable cross-sectional performance referenced above.

#### Performance in the Main Study

Table 6.8 shows the mean, standard deviation and alpha levels of the CES-D scale in the Main Study. Reliability for this measure was high for both the Primary and Secondary Caregivers. Scores were also reported across the full range of the scale. Mean levels of depressive symptoms reported were sub-clinical, and the proportions of parents classified with high levels of depressive symptoms are broadly similar to previous research from *Growing Up in Ireland* (Murray et al., 2015).

**Table 6.8 CES-D Depression scores for Primary and Secondary Caregivers showing means, standard deviations, alpha values and classification**

	Primary Caregiver			Secondary Caregiver		
	Mean (SD)	Achieved Range	Alpha	Mean (SD)	Achieved Range	Alpha
<b>CES-D score</b>	2.44 (3.52)	0-24	.85	1.61 (2.61)	0-24	.81
	% Depressed	% Not depressed		% Depressed	% Not depressed	
<b>CES-D categorisation</b>	10.7%	89.3%		5.4%	94.6%	



#### **S40 – S41      Contact with gardaí**

Findings from the Head Start programme in America have shown that children whose family members had contact with the criminal justice system were more likely to have problem behaviour and were also likely to score lower on assessed vocabulary (Zill et al., 2006).

Questions S40 to S41 asked whether the parents had been in trouble with the Garda (the Irish police service) and if they had ever been to prison.

#### **S42      Distribution of household and child-rearing activities in the home**

While much of the research on gender inequality focuses on paid work, recent research has highlighted that the distribution of paid and unpaid work in Ireland is very different for men and women. McGinnity and Russell noted that “men are more likely to be involved in social/emotional care while women do the bulk of the physical care/supervision. In terms of housework, women spend a far greater amount of time on core domestic tasks like cleaning, cooking and shopping, while men spend more time on house repairs and gardening. These findings are consistent with the results of other international studies” (McGinnity & Russell, 2008, p.70).

Question S42 focused on perceived equity of the distribution of household and family-rearing chores in the home, and whether the respondent did their fair share.

#### **S43      Smacking**

There has been increased debate in both the media and in the academic literature about the effects of smacking. Most research reports primarily negative effects of using smacking as a discipline strategy (Gershoff, 2002; Gershoff & Grogan-Kaylor, 2016). Legal changes were introduced in Ireland in December 2015 which removed a defence of ‘reasonable chastisement’ for using corporal punishment.

As a result, this question did not ask parents if they used smacking. Instead it asked the parents what they thought about smacking a misbehaving child: whether it was *never justified*, *depends on the circumstance*, *sometimes justified* or *always justified*. Had parents been asked directly if they used smacking and answered in the affirmative, this would amount to an admission of an illegal activity that the Study Team would have been obliged to act upon.

#### **S44 – S45      Discrimination**

Discrimination in any form can have an extremely detrimental effect on physical and mental health outcomes for the individual on the receiving end (Lewis et al., 2012). While attitudes towards minority groups in Ireland are becoming more positive, many minority groups – a particularly Irish Travellers, people with disabilities and immigrants – still reported experiencing discrimination (Kenny & McNeela, 2007; NDA, 2011; McGinnity et al, 2017).

##### **Instrument description**

The short version of the Everyday Discrimination Scale (EDS) was used in the Main Study. This 5-item scale asks participants to indicate how frequently they feel that they experience various forms of interpersonal mistreatment in their day-to-day lives. It is assessed on a 6-point scale (1=almost every day, 2=at least once a week, 3=a few times a month, 4=a few times a year, 5=less than once a year, 6=never). Examples of items in the scale include: ‘You are treated with less courtesy than other people’, ‘You receive poorer service than other people at restaurants or stores’ and ‘People act as if they think you are not smart’. This 5-item scale was adapted from the original 9-item version of the EDS (Williams et al., 1997), which demonstrated good reliability and validity (e.g. Bernstein et al., 2011).

Follow-up questions are asked of respondents who answer ‘a few times a year’ or more frequently to at least one question, to ascertain the main reason for the experience. They are presented with a list of possible reasons, which was adapted for the *Growing Up in Ireland* study to include the nine grounds of discrimination as covered by Irish legislation: gender, civil status (including marital status), family status, race (which includes skin colour, ethnic group and nationality), age, religion, sexual orientation, family



status (e.g. pregnant or with children), disability, and membership of the Traveller community. Respondents were also offered an option to specify 'education or income level' and an 'other' reason. Data from the pilot study revealed that a significant proportion of Primary and Secondary Caregivers had reported the main reason for these experiences of discrimination as 'other', specifically as relating to their work or occupation. The response options were expanded to reflect this as a new category.

### Psychometric Information

Stucky et al. (2011) found that a shortened version of the EDS retained strong psychometric properties; good reliability (0.84) was found with an African American sample of law students (N = 589) and with a more representative sample of African Americans (0.82) (N = 3,570), obtained as a subsample of the National Survey of American Life (Pennell et al., 2004).

Kim, Sellbom and Ford (2014) carried out a large-scale measurement equivalence study of the Everyday Discrimination Scale in the United States, using data from the Collaborative Psychiatric Epidemiology Survey (n=10,656). The study found that the one-factor solution to the questionnaire held across all groups, showing that structural invariance could be asserted for this scale. However, there were significant differences in latent means according to ethnicity. These results support the usefulness of the EDS scale and its ability to successfully capture the underlying discrimination construct across various ethnic groups.

### Performance in the Main Study

The figures presented in Table 6.9 contrast the everyday discrimination experienced by the majority white Irish population against a combination of other ethnic minorities represented in the study.

For the majority group, means are low for both the PCG and SCG. Alpha values are also in the acceptable range, indicating adequate reliability for this scale within this group. For the minority group, the mean discrimination reported is moderately higher, with a much wider variability shown by the larger standard deviations. Alpha reliability of the EDS in the minority group is high, indicating that the scale functions well with this sub-group of the *Growing Up in Ireland* sample.

**Table 6.9** Everyday Discrimination Scale for majority and minority groups, means, standard deviations and alpha values

	Primary Caregiver			Secondary Caregiver		
	Mean (SD)	Achieved Range	Alpha	Mean (SD)	Achieved Range	Alpha
<b>Everyday Discrimination (Majority group)</b>	2.60 (2.71)	0-21	.61	2.95 (3.02)	0-25	.65
<b>Everyday Discrimination (Minority group)</b>	3.33 (3.70)	0-24	.77	4.29 (4.91)	0-25	.84

### S46 Job Security

This was a new question for this cohort, only previously asked of Cohort '98 at 17 years. It asked the respondent whether they agreed or disagreed with the statement, 'My job is secure'.

### S47 – S67 Details on 9-year-old's non-resident parent

Children and adolescents who grow up with a non-resident parent can be at increased risk of developing adjustment problems and delinquent behaviours (Jablonska & Lindberg, 2007) although this risk is often mediated by the quality of the non-resident parent-child relationship (Booth et al., 2010), among other factors. High-quality relationships, in which a non-resident parent exhibits warm and supportive behaviours,



are associated with fewer internalising and externalising problems, and better academic performance in adolescence (King & Sobolewski, 2006).

Questions S40 to S61 recorded information on the characteristics of the non-resident parent (where relevant), including details on parenting arrangements, contact with the 9-year-old and so on. Most of these questions were included in earlier rounds of the study. The questions were only asked of respondents who indicated that the 9-year-old's biological father/mother was not resident in the household. Questions S47–S49 asked the parent about their past relationship status with the non-resident parent and when they had separated or divorced; questions S50–S64 asked about parenting arrangements, frequency of contact with the 9-year-old and financial contributions towards the maintenance of the 9-year-old. Finally, questions S65–S67 asked about the quality of the inter-parental relationship (i.e. between the parent and the non-resident parent) and whether the non-resident parent had other children.

#### **S69 – S70 Caregivers' recollections of relationship with own parents when aged 9**

Two new questions were added to the Self-Complete Questionnaire about the caregivers' closeness to their own mother and father when they were 9 years old. Information gathered from these questions could, for example, give some insight into how parent-child dynamics may in some ways be transmitted inter-generationally.

### **6.5 PCG AND SCG HEIGHT, WEIGHT AND BMI**

Where possible, all Primary and Secondary Caregivers had their weight measured at home by trained interviewers. If it had not previously been recorded, height was also recorded. A Leicester portable height measure was used to record height. The Leicester measure gives height in imperial and metric units; all interviewers were instructed to record height to the nearest millimetre. SECA 761 flat mechanical scales were used for recording weight. They are Class IIII medically approved scales. The scales give weight on the metric scale only and have a capacity of 150kg with 1kg graduations. Interviewers were instructed to record weight to the nearest half-kilogram. Height and weight readings were recorded on a laptop.

By calculating parental BMI, the association between parent and child obesity can be investigated in this cohort. Strong associations have been observed between parental obesity and increased risk of overweight or obesity among their children (Lean, 2010).

Height and weight were used to calculate body mass index ( $BMI = \text{weight (kg)} / \text{height}^2 \text{ (m)}$ ). This figure was then used to establish BMI status, categorising all PCGs and SCGs as either normal weight, overweight or obese. These categories were based on international guidelines proposed by the World Health Organization (WHO, 2000); a normal BMI was less than 25, overweight was between 25 and 30, and obesity was greater than 30.

### **6.6 CONCLUSION**

This chapter detailed the questionnaires used with both the Primary and Secondary Caregivers. Each participant completed two modules: the main, interviewer-administered questionnaire and the self-complete module containing questions on more sensitive topics. In addition, the parents were weighed by the interviewer – and in some cases had their height measured too (if not available from the previous wave). The next chapter describes the instrumentation used with the 9-year-old respondent.



# Chapter 7

## 9-Year-Old Instruments





## 7.1 9-YEAR-OLD MAIN QUESTIONNAIRE

The main part of the child's questionnaire was administered on a CAPI basis by the interviewer. It consisted of three sections:

- 9-year-old's view of school
- 9-year-old's activities, including technology use
- 9-year-old's likes and dislikes

This is the first time that children in Cohort '08 have taken part in their own interview, although similar questions were asked of the 9-year-olds in Cohort '98. Where relevant, further information can be found in the associated design report (Murray et al., 2010). Each of the sections in the Child Main Questionnaire is outlined below.

### 7.1.1 SECTION A

The questions in this section were about the 9-year-old's feelings about school, schoolwork and homework.

SECTION A	Construct	Questions	Included in Cohort '98 at 9 years
Child's view of school	Attitudes to school and schoolwork	1-3	✓
	Homework frequency	4	✓

Previously used for the 9-year-olds in Cohort '98, this set of questions is relevant to current school experiences that can influence children's self-concept, attitudes towards school and future educational outcomes. Children's beliefs in their efficacy to regulate their own learning activities and master difficult subjects can affect their academic motivation, interest and academic achievement (Talsma et al., 2018). Researchers can potentially look at the association between self-concept and performance on cognitive tests, such as the Drumcondra Reading Test.

Question 1 asked if the 9-year-old liked school, with possible answers of always, sometimes and never. Question 2 asked how well they thought they were doing at school (well, ok, poorly); and question 3 asked whether they liked Maths, Reading and Irish. Question 4 asked them how often they got homework. These questions were adapted from items used in the National Longitudinal Study of Children and Youth.

### 7.1.2 SECTION B

The questions in this section were about the 9-year-old's activities, including activities with their family, information and communication technology (ICT) usage, hobbies and pastimes, sport and exercise, reading for fun, and chores.

SECTION	Construct	Questions	Included in Cohort '
B – Child's ICT usage	ICT usage*	5-11	✓
C – Likes and dislikes	Hobbies and pastimes	12	✓
	Friendship networks	13-14	
	Sport and exercise	15-18	✓
	Reading for fun	19-20	✓
	Chores	21	✓
	Future career	22	
	Family pets	23-24	

Notes: \* Questions significantly updated from the Cohort '98 survey at 9 years



Children were asked about their experience with computers, including ownership, usage and adult supervision of use of the internet. Children who come from homes that do not have a computer/laptop/tablet may be at a disadvantage compared to classmates who can practise their computer skills at home and use the internet as a resource for school projects. These questions are also relevant to the potential risk that exposure to the internet can entail. The section on ICT usage was substantially longer than that used with the Cohort '98 9-year-old Child Questionnaire, given how commonplace ICT has become in many facets of daily life nowadays.

Questions 5-11 asked about reasons for using the internet (including games, social media, streaming TV/films, reading), the types of device used (tablets, laptops, phones, etc) and whether they were supervised by parents when online. These questions were adapted from the EU Kids Online survey.

### 7.1.3 SECTION C

For question 12, the 9-year-old ranked in order (first, second and third) his/her preferred pastimes. Findings from an Irish study of children aged from 4 to 12 years indicated that, among group activities, sports and other outdoor activities are very popular, but when children are playing alone, technology is a common source of entertainment (Downey et al., 2007). Video games also offer children who might otherwise be isolated the possibility of playing co-operative games online, which may bring benefits (Granic et al., 2014) as well as risks (Gentile et al., 2017). The importance of pastimes and hobbies was highlighted by the participants in the children's consultative process.

In questions 13-14, the 9-year-old stated how many friends they had and how often they spent time with them.

Questions 15-18 related to the 9-year-old's participation in sports and exercise: how often they exercised, whether they played sport and, if so, what their favourite sport was. These questions are related to how children's current exercise behaviour, as part of their overall physical activity levels, can affect their health and well-being. In addition to immediate physiological benefits, exercise has been associated with psychosocial outcomes, including increased physical self-confidence and social acceptance (Lubans et al., 2016). It is important to consider that activity and exercise habits developed in childhood can track through into adulthood (Corder et al., 2017), and this can be investigated using data from *Growing Up in Ireland*.

Questions 19-20 asked about reading for fun (non-school-related); this activity may be related to academic performance at school. Associations have been observed between children's reading for pleasure and their achievement in reading tests (Baer et al., 2007). These questions were previously used in the National Longitudinal Survey of Children and Youth.

For question 21, children were asked to choose from a list of household chores (e.g. washing dishes, cleaning the car, vacuuming) and indicate which ones they did occasionally, often or never. This question is particularly relevant to children who may be engaged in a caring role in the home.

Question 22 was an open-ended question on what the child wants to be when they grow up. The information gathered from these questions could be of interest to those looking at, for example, gender differences in motivation and self-concept, and views on appropriate activities for males and females. These constructs can have causal influences on such cognitive outcomes as school achievement and occupational choice (Chetri, 2014).

Questions 23-24 enquired whether the 9-year-old had any type of pet. These data are mainly descriptive but with possible links to well-being and future attitudes to responsibility. Pets were noted for their importance among children taking part in the consultative process.





## 7.2 9-YEAR-OLD SELF-COMPLETE QUESTIONNAIRE

The self-complete questionnaire was completed by the 9-year-old using a paper and pencil. Dealing with potentially more sensitive issues, it consisted of the following sections:

- the core Self-Complete Questionnaire
- the Piers-Harris Self-Concept Scale

### 7.2.1 CORE SELF-COMPLETE QUESTIONNAIRE

#### Section A 1 – 10

The questions in this section recorded details on the 9-year-old's view of different aspects of the local area in which they live.

SECTION A	Construct	Questions	Included in Cohort '98 at 9 years
Child's view of local area	Child's perception of their local area	1-10	✓

This introductory section comprised 10 questions about the areas in which the 9-year-old lived, asking about the presence of local clubs and playgrounds, the cleanliness of the streets, and feeling safe. Research in the United States suggests that aspects of the neighbourhood, such as the quality of parks, playgrounds, and conditions of mutual trust and shared expectations among residents, can affect child outcomes (Brooks-Gunn et al., 1993; Vaden-Kiernan et al., 2010; Kohen and Findlay, 2014). These questions on local area were previously used with Cohort '98 at age 9.

#### Section B 11 – 21

The questions in this section related to the 9-year-old's self-perception, their view of school and peer relationships (specifically bullying, as a victim and a perpetrator).

SECTION B	Construct	Questions	Included in Cohort '98 at 9 years
Child's view of school and emotional well-being	Liking of school and teacher	11-13	✓
	Interactions with teacher	14	✓
	Bullying	15-20	✓
Self-perception	Describe own weight*	21	✓

\* Asked in face-to-face interview in older cohort.

Questions 11-14 asked the 9-year-old about their views on school and how well they got on with their teacher. This information could be used to investigate whether this affected their opinion of their own abilities to learn, along with their actual achievement. These questions were based on items used in the National Longitudinal Survey of Children and Youth.

Questions 15-17 enquired about being bullied, while questions 18-20 asked the 9-year-old about being a bully, picking on someone else. The initial questions were about being a victim of bullying in the last year, and where relevant, how upset they were by the experience. Research indicates that the effects of victimisation can include loneliness, school avoidance and reduced performance, low self-esteem, panic attacks, digestive disorders, and significant depression both at the time and in later life (Bee & Boyd, 2007).



Questions 18-20 about being a bully asked the 9-year-old about the type of bullying he/she carried out in the last year. These and subsequent bullying questions were developed in conjunction with researchers at the Anti-Bullying Centre at Trinity College Dublin. This information is related to how experiences of perpetrating bullying can affect a child's psychological well-being, as well as factors that may promote bullying behaviour.

Question 21 asked the 9-year-old if they thought they were skinny, the right size or overweight. Accurate self-perception of weight status is seen as positively aiding obesity prevention for children (Cai et al., 2017).

### Section C 22 – 24

The questions in this section focused on the 9-year-old's view of their family.

SECTION C	Construct	Questions	Included in Cohort '98 at 9 years
Child's view of family	People to talk to about a problem	22	✓
	Relationship with mum/dad	23-24	✓

Question 22 asked whom the 9-year-old would talk to if they had a problem. Potential answer categories were mum, dad, teacher, friends, sibling, grandparent, someone else or nobody. The Irish Health Behaviour of School-aged Children survey (Keane et al., 2017) found that 82 per cent of children aged 10-17 found it easy to talk to their mother when something was bothering them and, of those, the percentage was higher among boys and younger children.

Questions 23 and 24 asked how well the 9-year-old got on with their mum and dad, respectively.

## 7.2.2 PIERS-HARRIS SELF-CONCEPT SCALE

### Section D Piers-Harris Self-Concept Scale

This scale measured the child's self-concept as both a scale and a categorical variable. The scale is further subdivided into a number of sub-domains. The scales are scored so that a higher score indicates a more positive self-evaluation in the domain being measured. This scale was used successfully in the Cohort '98 survey at 9 years of age on a group self-completion basis in the classroom, along with the Drumcondra tests. At 13 years of age it was completed in the home.

	Construct	Questions	Included in Cohort '98 at 9 years
Child's Self-Concept	Piers Harris 2 (shortened)	25-55	✓

The sub-scales as used in the current wave were:

- Behavioural Adjustment – a sub-scale of 9 items on problematic behaviours
- Intellectual and School Status – a sub-scale of 8 items reflecting the 9-year-old's assessment of his/her abilities with respect to intellectual and academic tasks; general satisfaction with school and perceptions of future achievements
- Physical Appearance and Attributes – a sub-scale of 7 items about perceptions of physical appearance and other attributes such as leadership and ability to express ideas
- Freedom from Anxiety – a sub-scale of 8 items exploring a variety of feelings including fear, unhappiness, nervousness, shyness and feeling left out of things



- Popularity – a sub-scale of 6 items exploring the 9-year-old's evaluation of his or her social functioning
- Happiness and Satisfaction – a sub-scale of 6 items reflecting feelings of happiness and satisfaction with life

### *Psychometric information*

Piers and Herzberg (2007) report reliability and validity data for a sample of 271 13–14-year-old children. They report internal consistency reliabilities for the global measure of self-concept as well as for each of the domains: Total Self-concept (.91), Behavioural Adjustment (.81), Intellectual and School Status (.82), Physical Appearance and Attributes (.77), Freedom from Anxiety (.82), Popularity (.79), and Happiness and Satisfaction (.77).

Flahive, Chuang and Li (2015) carried out a review of the Piers-Harris scale, validating a computerised version of the scale administered on a CASI (Computer-Assisted Self Interview) basis and comparing it against a traditional pencil and paper-administered version. Their participants were 248 mainstream primary school children in Taiwan. Alpha values for the total scale averaged at .91. Alpha values for the six sub-scales ranged from .70 to .84. There was strong evidence for the equivalence of the CASI and pencil and paper versions of the test as a clear 6-factor structure in both samples demonstrated both configural and metric invariance using multiple group confirmatory factor analysis.

### *Piers-Harris shortened scale*

The version of the scale used in previous *Growing Up in Ireland* waves was the 60-item self-concept scale. Following feedback from external reviewers on the length of this particular measure, the Study Team applied for, and was granted, permission from the instrument copyright holders to substantially reduce the overall number of items in the Piers Harris while retaining the different domains.

The self-concept scale was shortened by removing redundant items and retaining those with the best psychometric properties. This ensured good coverage of the main topics covered in the scale at the factor level while also maintaining acceptable Cronbach's alpha levels for internal consistency. An extensive exploration of the psychometric properties of this shortened scale is to be found in the report on the pilot study with Cohort '08 at 9 years old.

When the scale was shortened to 31 items, the policy around missing data was also changed (it originally allowed for up to 7 missing items in total, and between 3 and 5 items per sub-scale). For the main scale, 3 items can be missing, and between 1 and 2 missing items per sub-scale. This more conservative missing-data policy causes a small additional level of attrition (varying between 0.5 per cent and 1 per cent or roughly 50 to 100 children) when compared to the original missing data strategy, but has been implemented in order to maintain internal consistency and enhance the validity of these items for the majority of the sample.

### *Performance of shortened scale*

The mean values tended to skew slightly towards the upper third of each scale. In accordance with previous uses of the scale, there was enough variability recorded to span most of the potential range of the scale, indicating that restricted range should not be an issue when using this scale in future research. Alpha levels were found to remain in the acceptable ranges across all sub-scales (Table 7.1).



**Table 7.1 Means, standard deviations range and alpha values for shortened Piers Harris scale using 9-year Cohort '98 and Cohort '08 data**

Sub-scale	Mean (SD) Cohort '98 data	Mean (SD) Cohort '08 data	Achieved Range Cohort '08	Alpha Cohort '98	Alpha Cohort '08
Total (31 items)	24.20 (4.56)	26.98 (4.21)	3-31	0.80	.84
Behaviour (9 items)	7.88 (1.57)	8.32 (1.21)	0-9	0.70	.66
Intellectual (8 items)	6.50 (1.61)	6.99 (1.38)	0-9	0.64	.64
Physical (7 items)	5.58 (1.62)	6.08 (1.35)	0-7	0.69	.66
Freedom from Anxiety (8 items)	6.48 (1.74)	6.61 (1.64)	0-8	0.71	.70
Popularity (6 items)	4.81 (1.41)	5.09 (1.30)	0-6	0.65	.66
Happiness (6 items)	5.20 (1.17)	5.44 (1.00)	0-6	0.63	.59

### 7.3 9-YEAR-OLD HEIGHT, WEIGHT AND BMI STATUS

All 9-year-olds had their height and weight measured at home by trained interviewers. A Leicester portable height measure was used to record height. The Leicester measure gives height in imperial and metric units, but the interviewer recorded height to the nearest millimetre. SECA 761 flat mechanical scales were used for recording weight. They are Class IIII medically approved scales. The scales give weight on the metric scale only and have a capacity of 150kg with 1kg graduations. Interviewers recorded weight to the nearest half-kilogram. Height and weight readings were recorded on a laptop.

By adolescence, overweight and obesity are already strongly associated with the risk of early development of many negative health outcomes (Lobstein & Jackson-Leach, 2011). Because of these serious health risks, coupled with the potential associated financial and societal implications, the prevention of overweight and obesity remains a major policy concern; combatting obesity is cited as a priority in Better Outcomes, Brighter Futures (DCYA, 2014).

As at previous waves of the study, height and weight were used to calculate body mass index ( $BMI = \text{weight (kg)} / \text{height}^2 \text{ (m)}$ ). This figure was then used to establish BMI status, categorising all young people as either *normal weight*, *overweight* or *obese*. These categories were based on international age- and sex-specific guidelines developed by the World Obesity Federation (formerly IOTF), previously used in this study. Given the propensity for the risk of overweight or obesity to persist from adolescence to early adulthood (Starc & Strel, 2010), it is essential to explore this potential trend in the *Growing Up in Ireland* cohort, specifically using data collected at earlier waves to observe growth trajectories and how they are affected by other factors (including parental BMI, diet and breastfeeding history).

### 7.4 TIME USE DIARY

At the end of the interview, the interviewer left a copy of a self-completion time-use diary with the 9-year-old and asked him/her to fill it, to be returned to the Study Team by post in a prepaid envelope. A worked example of the time-use diary was explained by the interviewer and left with the respondent. A specified date<sup>23</sup> for filling out the diary was added on the front cover by the interviewer before leaving the household. The 'diary days' were allocated to respondents in such a way as to provide a sample of days throughout the week. A copy of the time-use diary is provided in Appendix B3.

23 The day for completion was provided on the interviewer's Work Assignment Sheet.



The completed time-use diary provides information on what the 9-year-old did for each 15-minute slot during the reference day, from 12 midnight to 12 midnight. The structure, format and implementation of the diary was taken from a national study carried out by the ESRI (McGinnity et al., 2005). This information will potentially allow researchers to examine how 9-year-olds use their time, individual variation in the characteristics of their time use, and most importantly the relationship between time use and numerous outcomes.

There were 22 activities listed in the time-use diary:

- Sleeping
- Resting / relaxing ('time out', doing nothing)
- Personal care (washing, dressing, toilet)
- Eating / drinking / having a meal
- Travelling to and from school
- Other travelling (including leisure and domestic trips, dropping to games)
- At school
- Homework
- Physical play / sports / exercise (playground, running, chasing, football, dance)
- Playing board games, cards (card games, snakes & ladders, Monopoly, etc)
- General play (with toys, dolls, cars, etc; playing house or imaginary games)
- Hobbies and other leisure activities (crafts, painting, music practice, etc)
- Computer / internet / PlayStation / Xbox, etc (playing on computer / computer games)
- Email / social media / texting / on the phone (contacting, messaging friends or others)
- Watching TV and videos / DVDs, etc
- Reading books, comics, magazines, etc
- Household chores, housework
- Visiting a relative's house for some purpose other than to play
- On a family outing (a trip out as a family)
- On a shopping trip (grocery shopping, clothes, etc)
- Religious activity (attending religious services, prayer, etc)
- Not sure

## 7.5 CONCLUSION

This was the first time that the children of Cohort '08 completed their own interview. As with their parents, they completed a face-to-face questionnaire with an interviewer and self-completed more sensitive issues on a paper booklet. As before, their height and weight were measured by the interviewer in the home. The children also completed a standardised test of reading and a new, short measure of attention called the 'map mission' test; these are described in detail in the following chapter.



# Chapter 8

## Cognitive Tests





This chapter covers the direct assessments carried out by interviewers with the 9-year-old. During the course of the home visit, interviewers administered two cognitive tests: an adaptation of the Drumcondra Reading Test, previously been used with Cohort '98 at age 9 years, and a new test of selective attention (the 'map mission' test).

## 8.1 DRUMCONDRA READING TEST

The Drumcondra Reading Test was developed for Irish schoolchildren and is linked to the national curriculum. For each 9-year-old, interviewers were instructed to administer the Drumcondra test level that corresponded to the child's last year of school: i.e. a child who had/would start 3rd class in September 2017 completed the Level 2 Drumcondra test, and a child who had/would start 4th class in September 2017 completed the Level 3 Drumcondra test. This is based on the fact that the tests are curriculum-based, so October/November 2017 would be too early to administer the Level 3 test to a child who had only started 3rd class two months previously (in September). The majority of children had just completed 3rd class and so completed Level 3 tests in Reading; the remaining children did either Level 4 or Level 2. The Level 4 test followed the same procedures as Level 3, but there were some differences for Level 2.

Prior to analysis, scores are adjusted according to class level and the child's age at administration so that they are comparable across the different levels. As the majority of children completed Level 3, this level of the test is described in detail, with supplementary information on Levels 2 and 4 where these are different. The wishes of parents/guardians who requested that a child should not sit the test were respected in all cases. Only 3.5 per cent of 9-year-olds did not complete the reading test.

The Drumcondra Primary Reading Test – Revised (DPRT-R) Level 3 assesses the reading skills expected for 3rd class pupils. The total test comprises Vocabulary and Comprehension. For the purposes of *Growing Up in Ireland*, however, only the Vocabulary part of the test was administered.

Form A of the Vocabulary Test consists of a booklet of 40 questions. Each 9-year-old was awarded one mark for each correct answer, giving a raw score range of 0 – 40. Questions were in the form of a short sentence with a word underlined. Children were asked to select, from a choice of four, the words closest in meaning for the underlined words. For example:

*(Which word is closest in meaning to the underlined word?)*

*Q. They had an anxious wait.*

*A. a lengthy                      B. an uneasy                      C. an unusual                      D. a relaxed*

Having completed the sample questions with the children, the test administrator (the interviewer) allowed them 20 minutes to complete all the questions. The questions were not read aloud. Children filled in their answers on a separate, computer-readable answer sheet. This involved filling in a box corresponding to the letter beside the correct answer for the appropriate question number. The reading test was always in English, even if the 9-year-old attended an Irish-language school; it is an English reading test so cannot, by definition, be translated. However, differences in the performance of children in the two types of schools can be analysed.

### *Uses of Drumcondra tests in current research*

Beyond the continued use of the Drumcondra tests in primary schools, the Drumcondra tests are frequently used in research based in Ireland due to the valuable links that the tests have with the Irish primary school curriculum.

Fives (2015) explored student self-concept as a predictor of reading ability using Wave 1 of Cohort '98 of the *Growing Up in Ireland* study, using the Drumcondra Primary Reading Test. Results showed a positive linear association between reading achievement and attitude to reading for the whole sample, though this was qualified by an interaction where this effect was true at all levels for girls but only held for the



older boys in the study. This association did not differ significantly across social class, but there was some evidence that children who were classed a standard deviation below average in reading performance tended to report an overly optimistic assessment of their reading ability relative to average or above-average readers. Fives (2015) asserted that the findings largely aligned with relevant developmental theory such as the 'McKenna model' (McKenna, Kear, & Ellsworth, 1995) which posits that, as children's attitudes towards reading become more positive, there would be statistically significant gains in scores for reading achievement.

In summary, recent uses of the Drumcondra test have shown that it correlates well with ability measures such as digit span and letter/number sequencing tasks (Hayes & Stewart, 2016) and attitudinal measures (Fives, 2015) in a systematic and theoretically supported way. Therefore, the Drumcondra tests appear to be a reliable and valid method of assessing a child's verbal ability with reference to the Irish national curriculum.

## 8.2 SELECTIVE ATTENTION AND THE MAP MISSION TEST

Executive functions can be defined as "a collection of correlated but separable control processes that regulate lower level cognitive processes to shape complex performance" (Friedman et al., 2008). Understanding executive processes and their relationships with everyday cognitive tasks is critical to differentially diagnosing and treating the effects of disease, disability and injury for adults and children.

Early research in the area considered executive function as a unitary concept (Heaton et al., 1993), but more recent clinical and experimental literature showed that there are a few broad categories of executive functions that underlie many cognitive tasks (Friedman et al., 2006).

There are varied models of executive control. One example is the widely employed tripartite model of processes of 'Inhibiting, Updating, and Shifting' (Miyake et al., 2000). An alternative model is the hierarchical model of 'Sustained attention, Selective attention, and Central capacity' (Manly et al., 2001).<sup>24</sup> Competing explanations of executive function enable a researcher to model normal development and disability in several different ways. For instance, deficits in selective attention have shown themselves to be a significant and productive area of research into problems such as ADHD (Chan et al., 2008). The largely language-free nature of the tasks facilitates international comparison and overall reliability of the task in particular.

Selective attention represents an important control process enabling more complex behaviours. Specifically, selective attention is defined as "the ability to enhance the processing of particular target characteristics regardless of spatial location" (Manly et al., 2001). This fundamental cognitive skill is targeted by the selective attention subtest from the Tests of Everyday Attention for Children (TEA-Ch: Manly et al., 2001; Manly, Robertson, Anderson & Nimmo-Smith, 1999).

The task, typically referred to as the 'map mission', was used as a measure of executive processing in this wave of *Growing Up in Ireland*. It was the first time, aside from the pilot test for this phase, that *Growing Up in Ireland* had attempted to directly assess this aspect of cognition. The test requires children to search for small symbols or 'targets' (a knife and fork in this instance) on an A3 sized map. These targets compete with a lot of other information on the map such as road numbers and typical topographical indicators; the 9-year-old must ignore this competing, distracting information and focus solely on finding symbols that match the target. There are 80 symbols to be found and circled on the map. However, as the child has only one minute to search the map, it is highly unlikely that anyone would find all of them in the time available.

Information on the attentional abilities of the 9-year-old provides valuable information on overall cognitive capacity and executive functioning. This is gained independently of accumulated knowledge, language skills or other training. Importantly, this allows exploration of pathways whereby disability, injury and inequality may affect cognitive performance and affect normal development. The separation of attention

24 See below for a discussion of more recent work by Pardos, Quintero, Zuluaga and Fernandez (2016).





from scholastic achievement or intelligence also allows the relationships between executive function and important developmental concepts such as self-regulation and wider areas of mental health to be explored.

#### *Psychometric properties of the 'map mission task'*

The psychometric properties of the 'map mission' in the TEA-Ch battery were assessed by Manly et al. (2001) and Manly et al. (1999). Normative performances were generated using a sample of 293 healthy Australian children from 6 to 15 years.

These performances were used to produce age-standardised scores for the different tests. A useful feature of the design of the map mission task is that it was found to be largely free of floor or ceiling effects among the youngest and oldest participants respectively. It was also found to be largely insensitive to normal variation in visual acuity.

The test retest validity of the TEA-Ch sub-scale was high, averaging above  $r = .70$  for the battery and  $r = .88$  for the map mission test.

Excellent divergent validity was observed for the map mission: non-significant relationships were found with all sub-scales of the Wide Ranging Achievement test (WRAT) and weak correlations observed between map mission scores and WISC-III IQ  $r = .25$ ,  $p < .001$ , but just  $.15$  (n.s.) for vocabulary; whereas correlations with non-verbal subtests like block design and object assembly were  $.24$  and  $.27$  (both  $p < .001$ ).

Higher convergent validity was found with other established tests of attention such as a Stroop task  $r = .31$ ,  $p < .01$ ; Trail making task (A)  $r = .37$ ,  $p < .001$ , and Trail making task (B)  $r = .31$ ,  $p < .01$ .

Manly et al. (2001) concluded that the map mission measure itself is not a direct test of attention but is an ecologically valid test of visual detection and search strategy that is relatively free of variability from non-attentional factors such as memory, language and reasoning. The map mission task was seen as a valuable component of a test battery that could be used to infer attentional processes as a latent factor related to test performance.

#### *Current research on TEA-Ch*

Initial validation of the TEA-Ch has been followed up by Pardos, Quintero, Zuluaga and Fernandez (2016). They used a normative sample of 133 Spanish children ranging from 6-11 years. Normative scores were found that were close to those of Manly et al. (2001) and a predictable developmental curve of increasing performance was found between 6 and 10 years which started to flatten out at 11 as attentional abilities matured. There was no significant interaction between age and sex, and a slightly higher performance by pre-teen girls would be expected to converge in early teen years (Manly et al., 1999). Overall, Pardos et al. (2016) endorsed the TEA-Ch and map mission task as a reliable and ecologically valid attentional task. They called for continued use of attentional tasks that are anchored in everyday life, such as the map mission.

### 8.3 CONCLUSION

This chapter described the two cognitive tests that were administered to children in the home by the interviewer. The Drumcondra Reading Test was a repeat of the test previously administered to Cohort '98 at age 9 years. The 'map mission' was a short measure of selective attention that was brand new to the *Growing Up in Ireland* study. Interviewers received extensive training on how to administer these tests, and instructional videos were made available online for the duration of fieldwork so that they could refresh the original training at any time. The next chapter describes the instruments and procedures used in the follow-up postal survey of the children's schools.



# Chapter 9

## School and Non-resident Parent Instruments





## 9.1 SCHOOL INSTRUMENTS – INTRODUCTION

Attending primary school is one of the most important aspects of a child's life at 9 years old. Although the family remains the most critical influence in the life of a child, the child now spends roughly six hours (or almost half their waking day) in school; school thus plays a strong role in their microsystem (in Bronfenbrenner's bio-ecological view of the world).<sup>25</sup> Each year of school brings a huge range of new experiences (subjects and activities) and people (classmates and teachers) into their lives. This key period in the children's lives is critical for their cognitive, social and socio-emotional development, as well as subsequent success in the secondary-level education system.

The importance of the period for the child's long-term development made it essential to record as much information as possible on their experience of school and to record it not only from the perspective of the child and their main caregivers in the home, but also from the perspective of their teacher and school principal – both of whom assume an important role in their lives at this time. Accordingly, the study design involved completion of three types of questionnaires in the 9-year-old's school:

- the Principal's Questionnaire – this recorded details on the characteristics of the school principal and the resources, management, practices and ethos of the school attended by the 9-year-old
- the Teacher-on-Self Questionnaire – this recorded details on the 9-year-old's teacher and his/her teaching style and methods
- the Teacher-on-Pupil Questionnaire – this recorded details from the 9-year-old's teacher on the on the 9-year-old, including information on their social and academic performance

This chapter focuses on the school-based component of the fieldwork with Cohort '08 at 9 years of age. The procedures used in the schools around recruitment, completion and return of the questionnaires are considered. This is followed by a detailed discussion of the questionnaires and their content.

## 9.2 SCHOOL RECRUITMENT AND SURVEY IMPLEMENTATION

The name and address of the school currently attended by the 9-year-old were collected during the household interview with the Primary Caregiver. Signed consent was secured from the Primary Caregiver to approach the 9-year-old's teacher in order to ask the teacher to complete a detailed questionnaire about the child's engagement and performance in school. Just 1.5 per cent of parents refused to provide consent to contact their child's teacher.

The school-based component of the 9-year (Wave 5) survey adopted a multi-mode methodology based, in the first instance, on a postal approach to the school; in the second, on intensive telephone follow-up, and in the third, on personal visit to the school by a survey interviewer. Recruitment and implementation of the survey is discussed in detail in section 2.8.

## 9.3 ENDORSEMENT FROM TEACHER'S UNION AND PRINCIPAL'S REPRESENTATIVE BODY

The Study Team secured endorsement and support for this phase of the project from both the Irish National Teachers' Organisation (INTO) and the Irish Primary Principals' Network (IPPN) for this phase of the study (as had been done with the 9-year cohort '98).<sup>26</sup>

25 See Chapter 1 for an extensive consideration of Bronfenbrenner's bio-ecological model and its role as an underlying conceptual framework for *Growing Up in Ireland*.

26 As noted in Chapter 2 of this report, the response rate at the school level was very high, of the order of 95 per cent. The Study Team would like to express its appreciation to the principals, teachers and other school staff involved for their extremely positive response to Growing Up in Ireland and for undertaking the substantial work involved in completing the various questionnaires.



## 9.4 THE PRINCIPAL'S QUESTIONNAIRE

The information recorded in the school-based questionnaires, starting with the principal's, provided the information necessary to allow analysts to investigate how child outcomes in the *Growing Up in Ireland* cohort are related to school and teacher characteristics.<sup>27</sup>

As noted above, the Principal's Questionnaire recorded details on the characteristics of the school principal him/herself and the resources, management, practices and ethos of the school attended by the 9-year-old. In addition to capturing basic information on the characteristics of the principal and the school, the questionnaire also recorded details on the adequacy of facilities and resources, the prevailing value system and ethos of the school, and various aspects of school climate, all information of value in exploring explanatory factors in comparisons of educational outcomes between schools. Most of these questions were previously asked at Wave 3 of the study and are discussed in the affiliated design report (Williams et al., 2019).

**Q1 – Q6: Personal information** – These items captured basic descriptive information about the principal, including age, gender, the number of years he/she has been principal at the current and other primary schools, their qualifications and their recent continuous professional development.

**Q7 – Q13: Basic school information** – These items included the DEIS status of the school,<sup>28</sup> whether it is a fee-paying school and the number of pupils (by gender).

**Q14: Ethos of the school** – This question measured the importance of different activities (e.g. Irish language and culture, sports) to the prevailing ethos of the school and was designed to explore variation across different types of schools and by gender.

**Q15 – Q22: Staff and classroom provision** – This included information on the number of permanent and temporary classrooms in the school, the number of staff, the number of classes across all year groups, and the number of children the school was designed to accommodate. There is continuing dispute in the literature concerning the impact of educational inputs (such as staffing levels and class size) to educational outcomes at the school level. While Hanushek (1997, 2003) has argued that there is little evidence to support the idea that resources are positively related to educational outcomes, there is good evidence, summarised by both Greenwald (1996) and Krueger (2003), and more recently by Jepsen (2009), that school resources such as per-pupil expenditure, teacher-pupil ratio and class size are systematically related to student achievement.

**Q23 – Q24: Year in which school was built and also year most recently refurbished.**

**Q25: Adequacy of school facilities and resources** – These questions, largely adapted from the Early Childhood Longitudinal Study (ECLS), were designed to assess the adequacy of the school's facilities and resources across 17 areas (e.g. number of teachers, number of classrooms) with responses indicated on a four-point Likert scale ranging from poor to excellent. Seven of the original ECLS items were retained and supplemented with 10 additional items provided by the education panel of experts. There is evidence summarised in Schneider (2002) that student achievement is correlated with better school facilities, such as newer school buildings and more modern libraries.

**Q26: Does the school have a Home-School Community Liaison Co-ordinator?** – this is a strategy available to all DEIS schools, targeted at pupils at risk of not reaching their educational potential.

**Q27 – Q30: Free school meal provision** – This question related to whether the school provides a breakfast club or free meals at lunchtime.

**Q31: Does the school have a parents association or council?**

<sup>27</sup> <http://www.nber.org/papers/w17554>

<sup>28</sup> *Delivering Equality of Opportunity in Schools* (DEIS) is the government policy instrument to address educational disadvantage, focusing on the educational needs of children and young people from disadvantaged communities.



**Q32 – Q35: Computer resources in the school** – Details collected included the total number of computers available in the school, the number of these that can be used by the pupils, and whether there is a dedicated computer room in the school. Q34 was a more recently added question on whether children used individual devices such as tablet computers or laptops during classes.

**Q36: School-community relationships** – This is a question on whether the school buildings and facilities were open to the local community outside of school hours.

**Q37: Extracurricular activities** – This question asked whether the school offers a range of extracurricular activities (sports, music, etc), who they are provided by, and whether they are important to the ethos of the school.

**Q38: School ethos** – This question recorded the importance of a number of topics to the overall ethos of the school. The topics included sports, religion, drama, community involvement, parental involvement and Irish culture.

**Q39: Pupil population composition** – This question recorded information in respect of the number of children who were foreign nationals or were from Traveller families, as well as the number of children with sensory, language and learning difficulties. Studies have consistently shown that the background of fellow students has a strong impact on educational outcomes, and that both ability-mix and social-mix influence pupil progress and achievement (Rutter & Maughan, 2002).

**Q40 – Q41: School attendance levels** – The school returns these figures to the Department of Education and Skills on an annual basis. They consist of the average daily attendance for the school year, and the proportion of pupils who missed 20 days or more. Research points to the strong link between attendance and educational outcomes (Kearney, 2008).

**Q42: School catchment area** – This question asked about the proportion of students who lived within a 20-minute walk of the school.

**Q43 – Q44: Emotional/behavioural problems and school supports** – Question 43 concerned the level of interpersonal supports in the school for children with emotional/behavioural problems and the extent to which a whole-school approach was adopted. Question 44, previously used by the ESRI, recorded details on the proportion of students who had such literacy, numeracy or behavioural problems as to adversely affect their educational development. A higher prevalence within the school of children with these types of problems may indicate a challenging teaching and learning environment.

**Q45 – Q49: Admission and streaming criteria** – This set of questions was designed to assess the degree to which the school was selective in its admission criteria. The increasing pressure on school places in large urban areas has prompted interest in the extent to which there is selection in the primary school sector, and whether this is differentially related to educational outcomes at the school level.

**Q50 – Q52: Engagement with parents** – Information was collected on whether the school holds a formal parent-teacher meeting at least once a year, and the proportion of parents in attendance. Parental involvement is often considered a measure of school climate, and high parental involvement is considered a correlate of school effectiveness (Marzano, 2002).

**Q53: Pupil engagement with school** – These questions were related to how much pupils enjoy being at school, are well behaved, and show respect for peers and teachers. A wealth of international literature highlights the association of school engagement with a range of social, behavioural and academic outcomes (Fredericks et al., 2004; Jimerson et al., 2003).

**Q54 – Q56: Disciplinary policy in the school** – Question 54 asked whether the school had a formal written Code of Behaviour (i.e. policy on discipline). Question 55 asked to what extent teachers, parents, pupils and the board of management were involved in developing the policy. Question 56, adapted from the British Cohort Study (1970), asked about the frequency with which various forms of discipline were applied in



the school. Previous research in Ireland with secondary-level students has shown that a strict but fair and consistent disciplinary policy is associated with better school results and higher levels of pupil retention. More effective schools have been found to involve parents early in the disciplinary process and to adopt a whole-school approach to it (Smyth, 1999).

**Q57: Bullying in the school** – this item asked the principal to what extent bullying was a problem in the school. School bullying has become a topic of public concern and considerable research in various countries around the world in the last two decades (Chester et al., 2015).

**Q58 – Q60: Principal's perception of general school climate** - These questions asked about the scale of day-to-day problems and the general environment in the school compared with other primary schools in the country. Question 58, adapted from the teacher schedule used in 'Do Schools Differ?' (Smyth, 1999), concerned the principal's general perception of teachers in the school. Q60 records the level of satisfaction which the principal derives from his/her job. Previous research in Ireland indicates that less academically effective schools are characterised by less positive relations between management and staff and less supportive relations among colleagues (Smyth, 2004).

## 9.5 THE TEACHER-ON-SELF QUESTIONNAIRE

The effectiveness of teaching and the relationship between teacher characteristics and child educational outcomes and performance is reviewed in the literature by, for example, Stronge and associates (2011). The purpose of the Teacher-on-Self Questionnaire was to record background details on the teacher, such as age, gender, qualifications, teaching methods adopted in class, etc. In addition, the questionnaire recorded information at the classroom level on topics such as curriculum, teaching methods and class composition. This questionnaire was filled out on a self-completion basis by the teachers of the 9-year-olds. It provided the information necessary to allow analysts to investigate how child outcomes are related to classroom-level features such as the socio-demographic and other characteristics of the teacher; the size and composition of the class, and the teacher's classroom management and teaching style, controlling for other background characteristics at various levels such as characteristics of the home, the neighbourhood or the school.

**Q1 – Q7: Background characteristics of the teacher** – The questions recorded personal information on the teacher including gender, age, qualifications and continuing professional development.

**Q8 – Q13: Basic characteristics of the class** – These questions recorded information on the 9-year-old's school class, including size, year group and number of children with special needs. This information relates to the type of teaching challenges that the teacher may have had to deal with in the classroom and the level of support s/he received from special-needs assistants.

**Q14: Subjects undertaken** – Details were recorded on the range of subjects undertaken by the pupils in the 9-year-old's class and the time spent on each subject in a week. This information is related to the breadth of the curriculum.

**Q15 – Q16: Teaching equipment** – Teachers were asked if they had an interactive whiteboard, computer or other electronic devices in the classroom.

**Q17: Teaching methods** – Teachers were asked to record details on their teaching methods, including aspects of interactive and passive teaching techniques such as play. Planning of teaching and the extent to which it is tailored to the needs of the pupils may be significant in pupil achievement.

**Q18 – Q19: Homework** – Teachers were asked how often they gave homework per week, and how long they expected pupils to spend on it.

**Q20 – Q21: Teacher's assessment of pupils** – These questions asked how often the teacher assessed pupils and what form this assessment took.

**Q22: Teacher control and input to decision-making in the classroom** – This question elicited details about



perceived control over various aspects of teaching including selection of subjects and year group, teaching methods and discipline. Previous research in Ireland has found that greater teacher involvement in decision-making in the classroom leads to benefits in terms of satisfaction and student achievement (Smyth et al., 2004a; 2004b).

**Q23: Teacher's perception of pupils** – These items asked whether they thought the pupils enjoyed school, were well-behaved, respectful and rewarding to work with.

**Q24 – Q25: Parental attendance at parent-teacher or school meetings** – These items recorded details on the level of involvement of parents in the school and their interest in their child's education. Little research has been done on parent involvement at primary school level. These questions complemented Question 11 in the Teacher-On-Child Questionnaire (see section 9.6). Parental involvement in schools in the US has been associated with greater academic attainment, particularly for schools in disadvantaged areas (Benner, Boyle & Sadley, 2016).

**Q26: Challenges for the teacher** – This was an open-ended question wherein a teacher could describe the main challenges they faced in their job.

**Q27: Teacher's perception of the general environment** in the school in terms of how happy or otherwise teachers and pupils are and (a) how stressed and (b) how satisfied teachers are in the school.

## 9.6 THE TEACHER-ON-CHILD QUESTIONNAIRE

The Teacher-on-Child Questionnaire focused on the individual 9-year-old, including his/her behaviour, and the teacher's assessment of engagement and ability. Much of the information relates to the teacher's views on the child's performance in school in comparison to their classmates, along with parental engagement in the child's schooling. The questionnaire also provides an extra level of information that allows for cross-situational analysis against the parents' interpretation of how well their child is faring at school. Again, the majority of these questions were previously asked and are covered in detail in the Wave 3 design report (Williams et al., 2019).

**Q1 – Q4: Characteristics of the 9-year-old** – Basic information was recorded on the child including gender, date of birth, school grade/year and how long the teacher had known the child. As the sample was split across grades, this latter information will be particularly important for analysis.

**Q5 – Q6: Attending school in an appropriate state** – These questions recorded the frequency of the 9-year-old missing school or arriving at school in an inappropriate state for school, including being inadequately dressed for weather conditions, being hungry, lacking cleanliness, etc. Attending in an inappropriate state may be associated with misbehaviour, low achievement and performance, and may also be an indicator of neglect. This question was adapted from the Early Childhood Longitudinal Study. A study of four Dublin primary schools designated with disadvantaged status found that almost one in five pupils (18 per cent) said they were often 'too hungry to do their work in school' (Downes et al., 2006).

**Q7: Completing homework** – This question gauged how often the 9-year-old failed to complete their homework.

**Q8 – Q11:** This question recorded details on within-class grouping on the basis of reading/literacy and also maths. If relevant, it records which group the child is placed in within the class.

**Q12:** This set of items recorded details on the child's abilities in a number of areas such as speaking and listening, reading, writing, science, maths and numeracy, physical education and art. The question was adapted from the Millennium Cohort Study Age 7 survey teacher questionnaire. These questions were asked of the teachers about the 9-year-old's ability and attainment. For *Growing Up in Ireland* the questions on 'speaking and listening' and 'reading' were split into ability in English and Irish.

**Q13: Strengths and Difficulties Questionnaire (SDQ)** – The SDQ was completed by the teacher to measure





the 9-year-old's behaviours in the classroom. The SDQ was chosen because of its single short form, which is suitable for both parents and teachers (Goodman, 1997). It was also completed by the Primary Caregiver in the course of the main home-based survey (see section 6.2.8). Recording the Strengths and Difficulties Questionnaire independently from both the teacher and the Primary Caregiver is an excellent example of the strength of the study design at this stage in the project, allowing a comparison of the child's score on the same measure from two different sources. A child may respond differently to the varied contexts of home and the classroom, especially in terms of interactions with peers, for example. In addition, the 'reference' for teachers will typically be many more children compared to that available to a parent – although both scales are anchored to specific behaviours rather than a general impression of whether a child is difficult or not.

**Q14:** This question asked whether the 9-year-old's parents attended parent-teacher meetings.

**Q15:** This set of questions asked about the teacher's perception of the 9-year-old's disposition and attitudes to school. These items are a subset of those previously used in the Millennium Cohort Study and with this *Growing Up in Ireland* cohort at 5 years of age.

**Q16 – Q17:** Q16 elicited details on parental engagement with the school and teacher, specifically on the teacher's perception of the parents' interest in the 9-year-old's education. It included 'cannot say' among the response categories. Q17 recorded details on parental engagement with the school and their contact in relation to behavioural issues and schoolwork. A recurrent concern for teachers and home-school-community liaison co-ordinators is the non-involvement of marginalised parents in their child's education (Mulkerrins, 2007). Hanafin and Lynch (2002) found that working-class parents may be reluctant to get involved in their child's education because they do not feel confident in dealing with teachers.

**Q18: The Pianta Student-Teacher Relationship Scale (STRS)** – The STRS recorded details on both positive and negative aspects of the teacher-child relationship (Pianta, 1992). As discussed in the context of the parent-child relationship in Chapter Six (section 6.2.2), the student-teacher relationship is highly salient, both independently and in terms of mediating the effects of a multitude of other factors (both family- and school-based) on child outcomes. It will be used to measure the extent of positive and supportive interactions between teacher and child and to relate this to school factors and developmental outcomes. The nature of the relationship has been shown to be related to social behaviour, school grades and certain externalising behaviours (McCormick & O'Connor, 2015; Lei, Cui & Chiu, 2016).

**Q19 – Q21: Conditions that limit activities** – These items recorded whether or not the 9-year-old had any disability (physical, sensory or learning), problem or other characteristic that limited his/her participation in school, and the associated supports which he/she received from the school. This is a measure of the supportiveness or otherwise of the structures within the school for those who need them. The National Council for Special Education was set up in 2003 to facilitate the inclusion of the child with special education needs in the school system.

## 9.7 NON-RESIDENT PARENT QUESTIONNAIRE

If applicable and if permission had been granted by the PCG in the course of their own interview, the interviewer recorded the contact details of a biological non-resident parent for the purpose of sending out a self-completion questionnaire to that parent. This questionnaire was sent out directly from Head Office. A detailed description of the questions contained in the Non-Resident Parent Questionnaire can be found below. Many of the questions included here were also included in the design report for Cohort '98 at 17 years (Murphy et al., 2019).

### Q1 – Q8 Contact with the 9-year-old

Questions 1-8 asked the non-resident parent about contact that they had with the 9-year-old, including: when they last saw their child (Q1), how many days/nights they spent together in a typical month (Q2-3)





and length of contact (Q4). Question 5-6 asked the non-resident parent to rate the amount of time spent with the 9-year-old from 1 (nowhere near enough) to 5 (way too much). Non-resident parents who felt they did not spend enough time with the 9-year-old were asked to specify why. Question 7 asked where they spent their time together. Question 8 asked how they arrived at these current arrangements with the PCG.

Prior research has examined the extent to which the frequency, type, nature and quality of time spent with a non-resident parent affects a variety of indicators of child/adolescent well-being (Aquilino, 2006). This research found that non-resident fathers who remained consistently involved with their children and committed to their parent role when children were younger were likely to have stronger relationships with their sons and daughters into adulthood (Aquilino, 2006). Furthermore, both sons and daughters benefited from non-resident fathers' involvement in the same way: the more frequently they saw their non-resident parent, the lower the risk of internalising and externalising problems and poor academic performance (Mitchell, Booth & King, 2009). However, the level, frequency and type of contact appears to differ between boys and girls, boys often spending more time with a non-resident father (Mitchell, Booth & King, 2009).

#### **Q9 Perception of parental role**

This was a ranking question in which the respondent was asked to indicate the top three roles, in order, that he/she considered important to fulfil as a parent. A list, including 'showing my child love and affection' and 'taking care of my child financially', was provided, along with an option to specify an open-ended 'other' response. This question is intended to find out how non-resident parents see their role. It was adapted from a question asked by the Early Childhood Longitudinal Study and was previously used with Cohort '98 at 9 years.

#### **Q10 Rating of quality time spent with the 9-year-old**

Amato and Gilbreth's (1999) meta-analysis of 63 studies demonstrated that the quality of the parent-child relationship is more important than the frequency of contact in terms of its impact on the 9-year-old's scholastic achievement and externalising/internalising behaviours. This finding has been affirmed by other investigators (Stewart, 2003; King & Sobolewski, 2006). Question 10 asked the parent to rate the quality of the time spent with the 9-year-old.

#### **Q11 Performance of routine parental tasks**

This item asked how often the parent performed routine care tasks for the 9-year-old, such as preparing meals and helping with homework, which may be related to the parent's engagement in an authoritative parenting role as opposed to simple companionship. The exercise of authoritative parenting by non-resident (and resident) fathers has been strongly linked to positive child outcomes (Amato & Gilbreth, 1999) and, in Amato & Gilbreth's meta-analysis, was operationalised by the performance of tasks such as helping with homework. This question was adapted to tasks more relevant to 9-year-olds from a similar item asked by the Early Childhood Longitudinal Study, and was previously used with Cohort '98 at 9 years.

#### **Q12 – Q16 Financial supports paid to PCG and the 9-year-old**

Question 12–16 asked the non-resident parent whether or not they made payments towards the mortgage or rent of the 9-year-old's resident parent's home and whether or not they paid financial support to the resident parent.

After divorce or separation mothers and children tend to be economically disadvantaged relative to fathers (96 per cent of non-resident parents were fathers). In many circumstances child support payments help to alleviate that disadvantage (Cabrera et al., 2000; Popova & Navike, 2018). Furthermore, there is a positive relationship between payments of support and child-well-being, educational attainment and health (Dunn, 2004). A variety of factors appear to affect fathers' payment of child support, including employment, income and responsibilities to a new family (Cheadle et al., 2010).

#### **Q17 Status of relationship to PCG at 9-year-old's birth**

This question asked the parent to describe the status of his/her relationship to the child's other parent at



the time of conceiving the Study Child. This status may affect subsequent contact between the non-resident parent and Study Child. Many studies suggest that a father will be more likely to maintain contact if he has been married to, or at least has cohabitated with, the mother (e.g. Argys et al., 2003; Clarke et al., 1998; Skevik, 2006), although some variation in the relative effect of marriage versus cohabitation has been observed between cultures. This question was adapted from the Millennium Cohort Study.

#### **Q18                      Age of Study Child at time of parental separation**

Details on the age of the Study Child at the time of separation were recorded to investigate the influence of age on the effects of parental separation. Research has shown that the age of the child has an impact on the father-child relationship; the younger the child at separation the less contact there is between fathers and children at later ages (Aquilino, 2006). Although the short-term consequences of divorce tend to dissipate over time, research is inconclusive with regard to whether marital dissolution has stronger effects on younger children as opposed to adolescents (Cherlin et al., 1998; see also Amato & Anthony, 2014).

#### **Q19 – Q21              Father on birth cert / applied for guardianship**

Question 19 asked fathers if they were named on the 9-year-old's birth certificate, with a view to considering how this status might affect subsequent contact. An American study of 'fragile families' by Lundberg and associates (2005) found that fathers were more likely to maintain contact with their children if they were named on the birth certificate. This question was adapted from the Millennium Cohort Study.

Questions 20–21 asked fathers who were not married to the 9-year-old's mother if they had applied for guardianship status, if this application was made through the mother or the courts, and if the application was successful. This will provide useful information indicating the number of fathers who take up this option and whether the status affects their involvement with their children.

#### **Q22 – Q24              Quality of relationship with PCG**

Some research on divorced and non-divorced families indicates that divorce itself may not have much impact on children's relationships with their parents; rather it is the degree of interpersonal conflict. A high degree of conflict between former spouses can have an adverse impact on child outcomes and on parent/child relationships (Afifi & Schrod, 2003).

These questions asked about frequency of contact with the child's biological parent, the quality of the interpersonal relationship and the extent of the non-resident parent's involvement in major decisions concerning the 9-year-old.

#### **Q25 – Q26              Parent's socio-emotional support for the 9-year-old**

The non-resident parent's socio-emotional support for the 9-year-old was measured using a composite 4-item scale (e.g. of items: you talk a lot about your child to your friends and family; you often find yourself thinking about your child), scored as follows; 1 = all of the time, 2 = some of the time, 3 = rarely, and 4 = never. This measure was reverse-scored such that lower scores indicate higher levels of socio-emotional support.

#### **Q27 – Q31              Demographic information on non-resident parent**

These questions gathered basic demographic information about the non-resident parent including their date of birth, age when their first child was born, current employment status and occupation, and level of education. These are important explanatory variables in the non-resident parent and child relationship. For example, non-resident parents who are employed and have a higher level of education are more likely to spend more time with their child and provide financial assistance to their child than their unemployed or lower-educated peers (Aquilino, 2006).

#### **Q32 – Q35              Current family/relationship status**

The findings on the impact of a 'new' family on contact with the 'old' are conflicting. Some studies indicate that contact does not change if the partner remarries or has other children. However, other studies have



found that non-resident parents who remarry or have other children report that being a parent is less manageable than do non-resident parents who remain single (Seltzer & Brandreth, 1994; Turney & Halpern-Meekin, 2017). Furthermore, Manning, Stewart & Smock (2003) found that the frequency of visits with their non-resident children dropped when men had additional children with a new spouse or partner.

Question 32–35 asked about the non-resident parent's current marital status, whether they were in a relationship with a new partner, how long this relationship had been established and whether they had other biological children. This information will enable researchers to explore the extent to which commitment to another family affects the relationship with the non-resident child.

#### **Q36 – Q37      Parent's nationality and residence in Ireland**

These questions captured basic demographic information about the non-resident parent's nationality, and where applicable, the length of time they have been living in Ireland.

#### **Q38              Parent's health status**

This section used the same item as was used to index the PCG's health status (see section 6.2.5 above).

## **9.8      CONCLUSION**

This chapter primarily focused on the follow-up postal survey of the schools attended by the 9-year-olds. Interviewers collected details on what school was attended by each 9-year-old during the home interview. The schools were then contacted and asked to participate by filling out a Principal's Questionnaire (mostly about the school) and asking the teachers to complete a questionnaire about any participating 9-year-old and one questionnaire about them (the teacher) and their classroom. The *Growing Up in Ireland* Study Team are very grateful to schools and their staff for engaging with this important element of the study at this wave.

This chapter also described another postal questionnaire – one that was sent to non-resident parents. The questionnaire was sent with the permission of the resident parent. The next, and final, chapter presents a short overall summary of this report and some discussion points on the particular value of the data at this wave.



# Chapter 10

## Summary





## CHAPTER 10: SUMMARY

The purpose of this report is to describe in detail the design, instruments and procedures used to implement the fifth wave of **Growing Up in Ireland** for Cohort '08 (formerly the Infant Cohort) at 9 years of age. The focus throughout the report is on operational issues as well as the content, structure and format of the instrumentation and related documentation.

The completion of interviews in this phase of the project means that data spanning the first nine years of life have been gathered for a large representative cohort of Irish children. This includes data collected over five separate time-points, from nine months to nine years, including the postal phase at Wave 4 (7/8 years). The study continues to play a key role in informing child and family policy in Ireland. As the fifth wave of data becomes available, it will now be possible to describe the lives of the children in truly longitudinal terms, along with the contextual processes of the child's development. This report outlines in detail the design and implementation of Wave 5, aimed at ensuring that a comprehensive data bank in respect of the whole child is fully achieved.

**Growing Up in Ireland** is mainly funded by the Irish government, with a primary aim of addressing policy issues and providing an evidence base for policy formation. The scope, complexity and longitudinal nature of **Growing Up in Ireland** will hopefully bridge many of the gaps in data available on Irish children and childhood. It will enable the assessment, over time, of whether or not key national goals of child development and policy are being achieved, in terms of child and family outcomes, or in terms of access to services aimed at children and families. Analysis of these data will aid identification of children who are most at risk of suboptimal development and poor outcomes. By identifying the early antecedents of poor outcomes, the analyses will continue to assist in developing preventive strategies and measures where they are most needed.

In designing the instrumentation, the Study Team was aware of the need to adequately capture the multi-faceted and bidirectional nature of the many influences on children's development over the nine years, while being sensitive to emerging abilities and developmental milestones, and also maintaining cross-wave consistency in terms of measures. In light of this, **Growing Up in Ireland** is multi-disciplinary, with information collected on a broad range of variables that can both affect and describe the lives of young children and their families from birth to 9 years.

The focus of the measures has shifted between waves to take account of appropriate developmental milestones and trajectories. The three main outcome domains that are central to the project (see Greene et al., 2010) are *socio-emotional/behavioural* (including family relationships) *outcomes*, *educational/cognitive outcomes* and *physical and mental health outcomes*. In addition, a fourth 'classificatory' domain is included. These domains are subdivided into several themes and subthemes, which in turn are ultimately broken down into individual questions. As always in discussing outcomes and their correlates, the reader must remember that an outcome in one analytical context may be a predictor or moderating characteristic/variable in another.

### 10.1 THE STRUCTURE OF THE REPORT

The four main outcome domains are understood as being influenced by, and influencing, the relationships between the child and the actors in the various environments (home school/ community) within which he/she operates. This theory, conceptualised by Bronfenbrenner (2006), was described in detail in Chapter One. For example, it is possible to look at the ways in which regularly occurring parent-child interactions vary by the characteristics of the child (say temperament) and also by another relevant aspect of the context of this interaction (different family types or social class), with data which has now been collected at five different time-points.



Chapter Two described the broad outline of the sample design at each wave and the corresponding response rates. At the first wave, the Child Benefit Register was used as the sampling frame to select potential respondents into the study, because it contained a comprehensive up-to-date listing of eligible members of the relevant population. At each wave, the data were reweighted prior to analysis using an iterative procedure based on key variables measured at previous waves, including family structure and income, and mother's age and smoking status. This was done to address potential biases, including selective attrition.

In Chapter Three, the background to the development and design of procedures was discussed in full, outlining the important input received from various advisory committees. This section discussed the important work of the Scientific Advisory Group, the Panel of International Expert Advisors, the Child Consultative Process, the various Stakeholder Groups and the key groups in the overall governance structure of the project.

The Study Team was very conscious of its responsibilities in conducting a scientifically rigorous, ethically sound survey to the highest international standards. Considerations related to this were presented in Chapter Four. The overall design and operation substantially benefit from a multi-layered and interlocking governance structure – the overarching element of which is a high-level Inter-Departmental Steering Group. A particularly important aspect of the monitoring structure is the Research Ethics Committee. The importance of rigorous ethical protocols in research is assuming an ever-increasing priority, all the more so in a study of children and families. Procedures and protocols to ensure that the study has been carried out to the highest ethical standards have been put in place, with data collection being carried out under the Statistics Act (1993). While the Statistics Act facilitates access to certain data sources, its most important implication is that it provides a particularly strong legal basis for protecting all information collected from all informants. Under the Act, the information collected must be strictly confidential and used for statistical purposes only. The protection of the data against unlawful disclosure greatly strengthened the Study Team's guarantee of confidentiality.

Chapter Five provided an overview of the instruments and procedures employed at this wave at age 9. It described the use of the laptop for questionnaires completed by the interviewer (CAPI) and those self-completed by parents/guardians (CASI). Modal considerations for completion of the child's self-complete questionnaire (on paper or on laptop) were also discussed in detail here.

Chapters Six and Seven described in detail the questionnaires that were completed by the 9-year-old and his/her Primary and Secondary Caregivers (where relevant). The instruments used contained a number of standardised measures, with information being recorded on a broad range of variables, which can both affect and describe the life of a 9-year-old child in contemporary Ireland. These areas include health, parenting, family context, pastimes and activities, education, intellectual capacity, temperament, income, and community. Throughout all the questionnaires used in the study, there was an emphasis on obtaining children's views and opinions on their lives. In addition, an attempt was made to record details from non-resident parents. The cognitive tests, the Drumcondra Reading Test and the Selective Attention 'map' Test, completed by the 9-year-old and administered by the interviewer, were discussed in Chapter Eight.

The school-based data collection was discussed in Chapter Nine. When consent had been secured, questionnaires were self-completed in the schools by the teachers in respect of each participating child. In addition, the teachers and school principals completed questionnaires in respect of themselves and their schools.

## 10.2 THE VALUE OF THE DATA AT WAVE 5

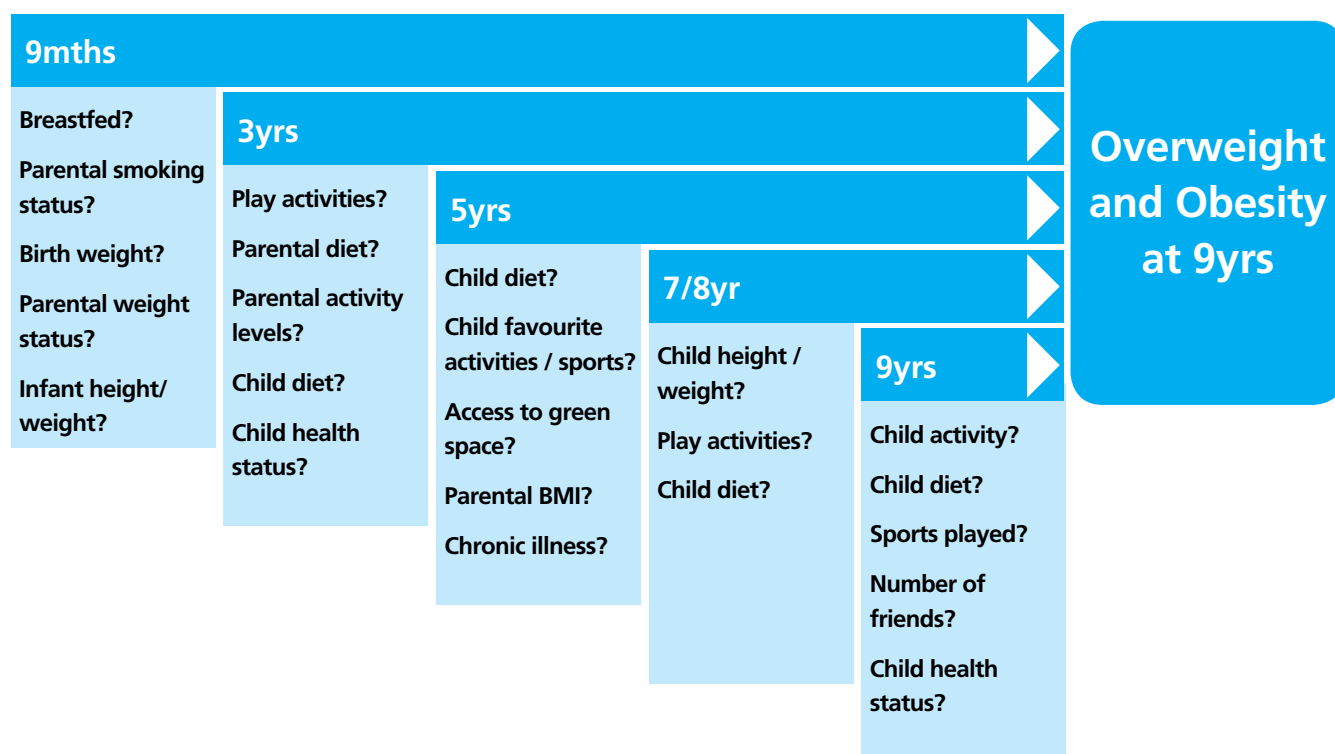
This report has described in detail all items and scaled measures used in this wave. The richness of the data gathered will allow many valuable analyses to be undertaken, even with only one wave of data. However, the full value of the data collection is premised not just on their value for cross-sectional or cross-cohort analysis, but for longitudinal analysis. The *Growing Up in Ireland* instruments include variables that



can be used to explain both current and future outcomes. When selecting items for the original Wave 1 instruments, the Study Team endeavoured to include items that would be relevant to models for predicting outcomes at follow-up at subsequent waves, as well as variables relevant to explaining contemporary outcomes. A longitudinal design has considerable advantages over two separate cross-sectional studies with different individuals at each data collection. For example, with five waves of data it will now be possible to build a more complete record of the children's development as they move from the postnatal period through infancy and early childhood, transitioning from the home and childcare/preschool settings into and now halfway through primary school. How the children and those around them cope with this important process will mean the success or failure of reaching each important developmental milestone, which in turn will have implications for other aspects of their development in both the short and longer term.

After nine years of longitudinal observation, developmental outcomes such as physical growth and health, cognitive development, communication and language, and social outcomes can all be studied over time. Many variables measured at nine months or three years could be used in a model to explain developmental outcomes at age 9 years. These include early developmental patterns (as measured by the Ages and Stages Questionnaire), child temperament (as measured by the Infant Characteristics Questionnaire), parenting style, breastfeeding, parental lifestyle (smoking and drinking), parental stress (Parental Stress Scale), family structure, and socio-economic status. It will be possible to identify not just risk factors (e.g. parent smoking) but also factors that promote resilience (e.g. parental satisfaction). For example, breastfeeding and/or parental smoking status at 9 months, coupled with parental weight status and activity levels at age 3 and 5, child diet at 5 and 7/8, and play activities at each wave could all act as predictors of the risk of child overweight and obesity at 9 years (see Figure 10.1).

**Figure 10.1: Potential predictors of the risk of overweight and obesity at age 9, measured across all waves of Growing Up in Ireland**





Also, over nine years a child may move from a two-parent to a one-parent family structure, which in turn may result in a decrease in economic resources and, possibly, a negative impact on the child's cognitive or behavioural outcomes. However, this trajectory in itself may be moderated by supportive relationships (e.g. grandparents), a prosocial temperament, secure attachment or a combination of all these characteristics. In ***Growing Up in Ireland***, it will be possible to look at the changes in the explanatory variables and how they might interact to influence the likelihood of a given outcome at this fifth wave.

With each new wave of data, ***Growing Up in Ireland*** has aided, and will continue to aid, the development of trajectories of the lives of all children in Ireland in their full diversity. Continuing data collection beyond the current wave, potentially at age 13, will substantially contribute to the broader research into children's lives in Ireland.

### 10.3 CONCLUSION

The focus of data collection shifted considerably at this wave of the study, both in terms of the nature of the information recorded and particularly in terms of the sources of that information. For the first time, the 9-year-old was much more centrally involved in providing the information him/herself, completing both a main and self-complete questionnaire. Despite this change in emphasis and focus, the objectives originally set out for ***Growing Up in Ireland*** continued to be met through the collection of age-appropriate and policy-relevant data. All of these data are being made available on an anonymised basis to policymakers, researchers and other analysts. ***Growing Up in Ireland*** provides a unique large-scale quantitative scientific database for analysis of the development of children and young people in Ireland today.

With five waves of anonymised data from the younger Cohort '08 now available, it is possible to build a more complete picture of children's development as they move from infancy through childhood. With data gathered over 9 years, it will now be possible to move to an increasing degree from a cross-sectional analysis, investigating relationships and correlations, to a more longitudinal causal analysis of the processes underlying developmental trajectories across this period and potentially into adolescence. The richness of the data permits researchers to simultaneously examine multiple factors from various levels of a child's environment (family, neighbourhood, school, time period), while the longitudinal design allows trajectories and change over time to be modelled.





## REFERENCES

- Afifi, T. D. & Schrodt, P. (2003). "Feeling caught" as a mediator of adolescents' and young adults' avoidance and satisfaction with their parents in divorced and non-divorced households. *Communication Monographs*, 70(2), 142-173.
- Albanese, A. M., Russo, G. R. & Geller, P. A. (2019). The role of parental self-efficacy in parent and child well-being: a systematic review of associated outcomes. *Child Care Health Dev*, 45(3), 333-363.
- Altman, D. G. & Bland, J. M. (1994). Diagnostic tests. 1: Sensitivity and specificity. *BMJ*, 308(6943), 1552.
- Amato, P. R. & Anthony, C. J. (2014). Estimating the effects of parental divorce and death with fixed effects models. *Journal of Marriage and Family*, 76(2), 370-386.
- Amato, P. R. & Gilbreth, J. G. (1999). Non-resident fathers and children's well-being: A meta-analysis. *Journal of Marriage and the Family*, 61, 557-573.
- Amato, P. R. (2001). Children and divorce in the 1990s: An update of the Amato and Keith (1991) meta-analysis. *Journal of Family Psychology*, 15, 355-370.
- Amato, P. R. (2004). Tension between institutional and individual views of marriage. *Journal of Marriage and Family*, 66(4), 959-965.
- An, R., Yan, H., Shi, X. & Yang, Y. (2017). Childhood obesity and school absenteeism: a systematic review and meta-analysis. *Pediatric Obesity*, 18(12), 1412-1424.
- Aquilino, W. S. (2006). The noncustodial father-child relationship from adolescence into young adulthood. *Journal of Marriage and Family*, 68(4), 929-946.
- Argys, L., Peters, E., Cook, S., Garasky, S., Nepomnyaschy, L., Sorensen, E. & Waller, M. (2003). 'Nonresidential parenting: Measuring contact between children and their nonresident fathers', in Bethesda, M. D.: Paper presented at Measurement Issues in Family Demography Workshop.
- Asher, I. and Pearce, N. (2014). Global burden of asthma among children. *The International Journal of Tuberculosis and Lung Disease*, 18(11): 1269-1278(10). DOI: <https://doi.org/10.5588/ijtld.14.0170>
- Baer, J., Baldi, S., Ayotte, K. & Green, P. (2007). The Reading Literacy of U.S. Fourth-Grade Students in an International Context: Results From the 2001 and 2006 Progress in International Reading Literacy Study, 2008-017. U.S. Dept. of Education. Washington, DC.
- Beard, A. (2018). Speech, language and communication: a public health issue across the lifecourse. *Paediatrics and Child Health*, 28(3):126-131. <https://doi.org/10.1016/j.paed.2017.12.004>
- Beardslee, W. R., Keller, M. B., Seifer, R., Podorefsky, D., Staley, J., Lavori, P. W. & Shera, D. (1996). Prediction of adolescent affective disorder: Effects of prior parental affective disorders and child psychopathology. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35, 279-288.
- Bee, H. & Boyd, D. (2007). *The Developing Child*, 11th edn. Boston: Pearson Education.
- Beitchman, J.H., Brownlie, E.B., Inglis, A., Wild, J., Ferguson, B., Schachter, D., Lancee, W., Wilson, B. & Mathews, R. (1996). Seven-year follow-up of speech/language impaired and control children: psychiatric outcome. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 37 (8): 961-970.
- Benner, A. D., Boyle, A. E. & Sadler, S. (2016). Parental involvement and adolescents' educational success: The roles of prior achievement and socioeconomic status. *Journal of Youth and Adolescence*, 45(6), 1053-1064.
- Bernstein, K.S., Park, S., Shin, J., Cho, S. & Park, Y. (2011). Acculturation, discrimination and depressive symptoms among Korean Immigrants in New York City. *Community Ment. Health*, 47(1), 24-34.
- Berry, J.O. & Jones, W.H. (1995). The Parental Stress Scale: Initial Psychometric Evidence. *Journal of Social and Personal Relationships*, 12 (3), 463-472.
- Bloomquist, M.L. & Schnell, S. (2002, paperback release 2005). *Helping children with aggression and conduct problems: Best practices for intervention*. New York: Guilford Press.



- Bond, L., Carlin, J. B., Thomas, L., Rubin, K. & Patton, G. (2001). Does bullying cause emotional problems? A prospective study of young teenagers. *BMJ*, 323(7311), 480-484.
- Boonk, L., Gijsselaers, H. J., Ritzen, H. & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational Research Review*, 24, 10-30.
- Booth, A., Scott, ME. & King V. (2010). Father residence and adolescent problem behavior: are youth always better off in two-parent families? *J Fam Issues*, 31(5), 585-605.
- Bowling, A. (2005). Just one question: if one question works, why ask several? *Journal of Epidemiology and Community Health*, 59, 342-345.
- Boyatzis, C. J. (2013). The nature and functions of religion and spirituality in children. In K. I. Pargament, J. J. Exline & J. W. Jones (Eds.), *APA handbooks in psychology®. APA handbook of psychology, religion, and spirituality (Vol. 1): Context, theory, and research* (p. 497-512). American Psychological Association. <https://doi.org/10.1037/14045-027>
- Boyce, W. T., Jensen, E. W., James, S. A. & Peacock, J. L. (1983). The Family Routines Inventory: Theoretical Origins, *Social Science & Medicine*, 17, 193-200.
- Bradley, R.H., Iida, M., Pennar, A., Tresch Owen, M. & Lowe Vandell, D. (2017). The Dialectics of Parenting: Changes in the Interplay of Maternal Behaviors during Early and Middle Childhood. *J Child Fam Stud*, 26(11), 3214-3225. <https://doi.org/10.1007/s10826-017-0805-6>.
- Braman, S. S. (2006). The global burden of asthma. *Chest*, 130, 45-125.
- Bronfenbrenner, U. & Morris, P. A. (2006). The Bioecological Model of Human Development. In R. M. Lerner & W. Damon (Eds.), *Handbook of Child Psychology: Theoretical Models of Human Development* (pp. 793-828). Hoboken, NJ: John Wiley & Sons Inc.
- Brooks-Gunn, J., Duncan, G. J., Klebanov, P. K. & Sealander, N. (1993). Do Neighbourhoods Influence Child and Adolescent Development? *American Journal of Sociology*, 99(2), 353-395.
- Burke, S., Schmied, V. & Montrose, M. (2006). *Parental alcohol misuse and the impact on children: Literature Review*. New South Wales Department of Community Services.
- Cabrera, N., Tamis LeMonda, CS., Bradley, RH., Hofferth, S., & Lamb, ME. (2000). Fatherhood in the twenty first century. *Child Development*, 71(1), 127-136.
- Cai, L., Zhang, T., Ma, J., Ma, L., Jing, J. & Chen, Y. (2017). Self-perception of weight status and its association with weight-related knowledge, attitudes, and behaviors among Chinese children in Guangzhou. *J Epid*, 27, 338-345.
- Callan, T., Nolan, B. & Whelan, C.T. (1993). Resources, deprivation and the measurement of poverty. *Journal of Social Policy*, 22, 2.
- Central Statistics Office (2016). *Press statement on Census 2016 Results, Profile 6 – Commuting in Ireland*. Retrieved from <https://www.cso.ie/en/csolatestnews/pressreleases/2017pressreleases/pressstatementcensus2016resultsprofile6-commutinginireland/>
- Central Statistics Office (2016). *Census of population 2016 – Profile 8, Irish Travellers, ethnicity and religion*. Retrieved from <https://www.cso.ie/en/releasesandpublications/ep/p-cp8iter/p8iter/p8rrc/>
- Chaput, J.P., Brunet, M. & Tremblay, A. (2006). Relationship between short sleeping hours and childhood overweight/obesity: results from the 'Québec en Forme' Project. *International Journal of Obesity*, 30, 1080-1085.
- Chan, R. C., Wang, L., Ye, J., Leung, W. W. & Mok, M. Y. (2008). A psychometric study of the Test of Everyday Attention for Children in the Chinese setting. *Arch Clin Neuropsychol*, 23(4), 455-466. doi: 10.1016/j.acn.2008.03.007
- Chatterjee, A., Modarai, M., Naylor, NR. Boyd, SE. Atun, R., Barlow, J., Holmes, AH., Johnson, A. & Robotham, JV. (2018). Quantifying drivers of antibiotic resistance in humans: a systematic review. *Lancet Infect Dis*, 18(12), e368-e378.



- Cheadle, J. E., Amato, P. R. & King, V. (2010). Patterns of non-resident father contact. *Demography*, 47(1), 205-225.
- Cheak-Zamora, N. C., Wyrwich, K. W. & McBride, T. D. (2009). Reliability and validity of the SF-12v2 in the Medical Expenditure Panel Survey. *Qual Life Res*, 18(6), 727-35.
- Chen, Y. C., & Fish, M. C. (2013). Parental involvement of mothers with chronic illness and children's academic achievement. *Journal of Family Issues*, 34, 583-606.
- Chen, Y. C. (2017). Effects of Parental Chronic Illness on Children's Psychosocial and Educational Functioning: a Literature Review. *Contemporary School Psychology*, 21(2), 166-176.
- Cheng, H., Dunn, J., O'Connor, T.G. & Golding, G. (2006). Factors Moderating Children's Adjustment to Parental Separation: Findings from a Community Study in England. *J Abnorm Child Psychol* 34: 230-241. <https://doi.org/10.1007/s10802-005-9013-8>
- Cherlin, A. J., Chase-Lansdale, P. L. & McRae, C. (1998). Effects of parental divorce on mental health throughout the life course. *American Sociological Review*, 63(2), 239-249.
- Chester, K. L., Callaghan, M., Cosma, A., Donnelly, P., Craig, W., Walsh, S. & Molcho, M. (2015). Cross-national time trends in bullying victimization in 33 countries among children aged 11, 13 and 15 from 2002 to 2010. *Eur J Public Health*, 25 Suppl 2, 61-64.
- Chetri, S. (2014). Self-concept and achievement motivation of adolescents and their relationship with academic achievement. *International Journal of Advancements in Research & Technology*, 3(5), 236-253.
- Clarke, E. C., Cooksey, E. C. & Verropoulou, G. (1998), Fathers and absent fathers: Sociodemographic similarities in Britain and the United States, *Demography*, 35, 217-228.
- Clarke, N. & HBSC Ireland Team. (2010). *Oral hygiene among schoolchildren in Ireland – HBSC Ireland Research Factsheet 7*. Health Promotion Research Centre, NUI Galway.
- Conger R.D. & Donnellan M.B. (2007). An interactionist perspective on the socioeconomic context of human development. *Annual Review of Psychology*, 58, 175-199.
- Corder, K., Winpenny, E., Love, R., Brown, H.E., White, M. & van Sluijs, E. (2017). Change in physical activity from adolescence to early adulthood: a systematic review and meta-analysis of longitudinal cohort studies. *Br J Sports Med*, 53(8), 496-503.
- Cronin, P., Reeve, R., McCabe, P., Viney, R. & Goodall, S. (2017). The impact of childhood language difficulties on healthcare costs from 4 to 13 years: Australian longitudinal study. *International Journal of Speech-Language Pathology*, 19(4), 381-391.  
DOI: 10.1080/17549507.2016.1216599
- Crnic, K.A. & Low, C. (2002). Everyday Stresses and parenting. In M. Bornstein (Ed.), *Handbook of Parenting*, Vol. 4, 2nd Edition (pp. 243-268), Hillsdale, NJ: Erlbaum.
- Crnic, K.A., Gaze, C. & Hoffman C. (2005). Cumulative Parenting Stress Across the Preschool Period: Relations to Maternal Parenting and Child Behaviour at Age 5. *Infant and Child Development*, 14, 117-132.
- Cullinan, B (2000). Independent Reading & School Achievement. *Research Journal of the American Association of School Librarians*, Vol. 3.
- Davis-Kean, P.E. (2005). The Influence of Parent Education and Family Income on Child Achievement: The Indirect Role of Parental Expectations and the Home Environment. *Journal of Family Psychology*, 19, 294-304.
- Dawe, S., Frye, S., Best, D., Moss, D., Atkinson, J., Evans, C. & Lynch, M. H. P. (2007). ANCD Research Paper: *Drug use in the family: impacts and implications for children*. Australian National Council on Drugs.
- Dean, K., Green J., Laurens, R., Kariuki, M., Tzoumakis, S., Sprague, T., Lenroot K. & Carr, J. (2018). The impact of parental mental illness across the full diagnostic spectrum on externalising and internalising vulnerabilities in young offspring. *Psychological Medicine*, 48(13), 2257-2263.



Demi-Lira, O. E., Applebaum, L. R., Goldin-Meadow, S. & Levine, S. C. (2019). Parents' early book reading to children: relation to children's later language and literacy outcomes controlling for other parent language input. *Dev Sci*, 22(3), e12764.

Department of Children and Youth Affairs (2014). *Better Outcomes, Brighter Futures. The National Policy Framework for Children & Young People 2014-2020*. Dublin: Government Publications.

Department of Children and Youth Affairs (2017). *Children First: National guidance for the protection and welfare of children*. Dublin: Government Publications.

Department of Health (2014). *The Protection of Children's Health (Tobacco Smoke in Mechanically Propelled Vehicles) Act 2014*. Retrieved from: <https://health.gov.ie/healthy-ireland/tobacco/smoking-in-cars-with-children-present/>

Department of Health (2017). *Healthy Ireland Survey 2017*. Dublin: Government Publications.

Dickstein, S. (2006). *Family Mealtime Functioning, Maternal Depression, and Early Childhood Outcomes*. American Psychological Association Committee on Children, Youth, and Families, APA Online (summer).

DiClemente, R.J., Wingood, G.M., Lang, D.L., Crosby, R.A., Salazar, L.F., Harrington, K. & Hertzberg, V.S. (2005). Adverse Health Consequences that Co-Occur with Depression: A Longitudinal Study of Black Adolescent Females. *Pediatrics*, 116, 78-81.

Domingues-Montanari, S. (2017). Clinical and psychological effects of excessive screen time on children. *J Paediatr Child Health*, 53(4), 333-8.

Downes, P., Maunsell, C. & Ivers, J. (2006). *A Holistic Approach to Early School Leaving and School Retention in Blanchardstown: Current Issues and Future Steps for Services and Schools*. Dublin: Blanchardstown Area Partnership.

Downey, S., Hayes, N. & O'Neill, B. (2007). *Play and Technology for children aged 4-12*. Centre for Social and Educational Research, Dublin Institute of Technology.

Duncan, G.J., Ludwig, J. & Magnuson, K. (2007). Reducing poverty through pre-school interventions. *The Future of Children*, 17(2), 143-160.

Duncan, G.J., Magnuson, K., Kalil, A. & Ziol-Guest, K. (2012). The importance of early childhood poverty. *Social Indicators Research*, 108, 87-98.

Dunn, J. (2004). Annotation: Children's relationships with their non-resident fathers. *Journal of Child Psychology and Psychiatry*, 45, 4, 659-671.

Dunst, C.J., Trivette, C.M. & Cross, A.H. (1986). Mediating influences of social support: Personal, family, and child outcomes. *Am J Mental Deficiency*, 90, 403-417.

Duursma, E., Augustyn, M. & Zuckerman, B. (2008). Reading aloud to children: the evidence. *Archive of Diseases in Childhood*, 93, 554-557.

Eamon, M.K. & Zuehl, R.M. (2001). Maternal Depression and Physical Punishment as Mediators of the Effect of Poverty on Socioemotional Problems of Children in Single-Mother Families. *American Journal of Orthopsychiatry*, 71(2), 218-226.

Eccles, J. S., Wigfield, A. & Schiefele, U. (1998). Motivation to succeed. In W. Damon (Ed.), *Handbook of Child Psychology: Social, Emotional and Personality Development*, 5th ed., 1017-1096. New York: Wiley.

Edelstein, B. L. (2002). Disparities in oral health and access to care: findings of national surveys. *Ambul Pediatr*, 2(2 Suppl), 141-7.

Eiser, C. (1997). Effects of Chronic Illness on Children and their Families. *Advances in Psychiatric Treatment*, 3, 204-210.

Fatima, Y., Doi, S. A. R. & Mamun, A. A. (2016). Sleep quality and obesity in young subjects: a meta analysis. *Obesity Reviews*, 17: 1154-1166. doi: 10.1111/obr.12444.

Feinberg, M.E. (2003). The Internal Structure and Ecological Context of Co-parenting: A Framework for Research and Intervention. *Parent Sci Pract*, 3(2), 95-131.



- Feinberg, M. E., Brown, L. D. & Kan, M. L. (2012). A Multi-Domain Self-Report Measure of Co-parenting. *Parent Sci Pract*, 12(1), 1-21. doi: 10.1080/15295192.2012.638870
- Feinstein, L., Sabates, R., Sorhaindo, A., Rogers, I., Herrick, D., Northstone, K. & Emmett, P. (2008). Dietary patterns related to attainment in school: the importance of early eating patterns. *Journal of Epidemiology and Community Health*, 62, 734-739.
- Ferro, M. A., & Boyle, M. H. (2013). Self-concept among youth with a chronic illness: A meta-analytic review. *Health Psychology*, 32(8), 839-848. DOI: 10.1037/a0031861
- Fives, A. (2015). The Association of Attitude to Reading and Reading Achievement Among a Representative Sample of Nine Year Olds in Ireland. *Reading Psychology*, 37(1), 27-54.
- Flahive, M. H., Chuang, Y. C. & Li, C. M. (2015). The Multimedia Piers-Harris Children's Self-Concept Scale 2: Its Psychometric Properties, Equivalence with the Paper-and-Pencil Version, and Respondent Preferences. *PLoS One*, 10(8), e0135386.
- Flouri, E. & Midouhas, E. (2017). Environmental adversity and children's early trajectories of problem behavior: The role of harsh parental discipline. *Journal of Family Psychology*, 31(2), 234-243. <http://dx.doi.org/10.1037/fam0000258>
- Foley, D., Best, E., Reid, N. & Berry, M. (2019). Respiratory health inequality starts early: the impact of social determinants on the aetiology and severity of bronchiolitis in infancy. *Journal of Paediatrics and Child Health*, 55(5), 528-532.
- Fredericks, J. A., Blumenfeld, P. C. & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74, 59-109.
- Friedman, N. P., Miyake, A., Corley, R. P., Young, S. E., DeFries, J. C. & Hewitt, J. K. (2006). Not all executive functions are related to intelligence. *Psychological Science*, 17, 172-179.
- Friedman, N. P., Miyake, A., Young, S. E., DeFries, J. C., Corley, R. P. & Hewitt, J. K. (2008). Individual differences in executive functions are almost entirely genetic in origin. *J Exp Psychol Gen*, 137(2), 201-225. doi: 10.1037/0096-3445.137.2.201
- Galinsky, E. (1999) *Ask the children: What America's children really think about working parents*. New York: William Morrow & Co.
- Garbarino, J. (1982). *Children and Families in the Social Environment*. New York: Hawthorne, Aldine de Gruyer.
- Geers, A. E., Moog, J. S., Biedenstein, J. B., Brenner, C. & Hayes, H. (2009). Spoken language scores of children using cochlear implants compared to hearing age-mates at school entry. *Journal of Deaf Studies and Deaf Education*, 14(3), 371-385. doi: 10.1093/deafed/enn046
- Geist, R., Grdisa, V. & Otley, A. (2003). Psychosocial issues in the child with chronic conditions. Best Practice and Research. *Clinical Gastroenterology*, 17, 141-152.
- Gentile, D.A., Bailey, K., Bavelier, D., Brockmyer, J.F., Cash, H., Coyne, S.M., ....Young, K. (2017). Internet Gaming Disorder in Children and Adolescents. *Pediatrics*, 140 (Supplement 2) S81-S85; DOI: <https://doi.org/10.1542/peds.2016-1758H>
- Gershoff, E. T. & Grogan-Kaylor, A. (2016). Spanking and child outcomes: old controversies and new meta-analyses. *Journal of Family Psychology*, 30(4), 453.
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, 128, 539-579.
- Gialamas, A., Mittinty, M.N., Sawyer, M.G., Zubrick, S.R. & Lynch, J. (2015). Time spent in different types of childcare and children's development at school entry: an Australian longitudinal study. *Arch Dis Child*, 100(3), 226-32.
- Ginther, Donna K. & Robert A. Pollak. (2004). Family Structure and Children's Educational Outcomes: Blended Families, Stylized Facts, and Descriptive Regressions. *Demography*, 41, 671-696.





- Glascoc, F.P. (2006). *Parents' Evaluation of Developmental Status: An Evidence-based Approach to Developmental/Behavioral Screening and Surveillance*. Nashville, Tennessee: Ellsworth & Vandermeer Press.
- Glewwe, P., Hanushek, E., Humpage, S. & Ravina, R. (2011). *School Resources and Educational Outcomes in Developing Countries: A Review of the Literature from 1990 to 2010. Education Policy in Developing Countries*. Chicago: University of Chicago Press.
- Godin, G. (2011). The Godin-Shephard Leisure-Time Physical Activity Questionnaire. *The Health & Fitness Journal of Canada*, 4(1), 18-22. <https://doi.org/10.14288/hfjc.v4i1.82>
- Godin, G., Jobin, J. & Bouillon, J. (1985). Assessment of leisure time exercise behaviour by self-report: A concurrent validity study. *Canadian J Public Health*, 77(5), 359-62.
- Godin, G., & Shepherd, R. (1986). A simple method to assess exercise behaviour in the community. *Can J Appl Sport Sci*, 10, 141-6.
- Gomulka, J. (1992). Grossing-Up Revisited. In R. Hancock & H. Sutherland (Eds.), *Microsimulation Models for Public Policy Analysis: New Frontiers*, STICERD, Occasional Paper 17, LSE.
- Gomulka, J. (1994). *Grossing Up: A Note on Calculating Household Weights from Family Composition Totals*. University of Cambridge, Department of Economics, Microsimulation Unit Research Note MU/RN/4, March 1994.
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A Research Note. *J Child Psychol Psychiatry*, 38(5), 581-6.
- Gortmaker, S.L., Walker, D.K., Weitzman, M. & Sobol, A.M. (1990). Chronic conditions, socioeconomic risks, and behavioral problems in children and adolescents. *Pediatrics*, 85(3), 267-276.
- Gralinski-Bakker, J. & Kopp, C. (1993). Everyday Rules for Behavior: Mothers' Requests to Young Children. *Developmental Psychology*, 29, 573-584.
- Granic, I., Lobel, A. & Engels, R.C.M.E. (2014). The benefits of playing video games. *American Psychologist*, 69(1), 66-78. <https://doi.org/10.1037/a0034857>
- Greene, S., Williams, J., Layte, R., Doyle, E., Harris, E., McCrory, C., Murray, A., O'Dowd, T., Quail, A., Swords, L., Thornton, M. & Whelan, C. (2010). *Growing Up in Ireland – Background and Conceptual Framework*. Dublin: Economic and Social Research Institute.
- Greenwald, R., Hedges, L. & Laine, R. (1996). The effect of school resources on student achievement. *Review of Educational Research*, 66(3), 361-396.
- Gregory, A.M., O'Connor, T.G. (2002). Sleep problems in childhood: a longitudinal study of developmental change and association with behavioral problems. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 964-971.
- Growing Up in Ireland Study Team (2013). *Well-being, play and diet among 5-year-olds – Key Findings #3: Infant Cohort at 5 Years*. Dublin: Economic and Social Research Institute.
- Growing Up in Ireland Study Team (2017). *Socio-emotional development, relationships and play. Key Findings #3: Infant Cohort at 7/8 Years*. Dublin: Economic & Social Research Institute.
- Grusec, J.E. & Goodnow, J.J. (1994) Impact of Parental Discipline Methods on the Child's Internalization of Values: A Reconceptualization of Current Points of View. *Developmental Psychology*, 30, 1, 4-19.
- Grusec, J. E., Danyliuk, T., Kil, H. & O'Neill, D. (2017). Perspectives on parent discipline and child outcomes. *International Journal of Behavioral Development*, 41(4), 465-471. <https://doi.org/10.1177/0165025416681538>
- Haas, S.A. (2007). The Long-Term Effects of Poor Childhood Health: An Assessment and Application of Retrospective Reports. *Demography* 44 (1), 113-115.
- Hanafin, J. & Lynch, A. (2002). Peripheral voices: Parental involvement, social class, and educational disadvantage. *British Journal of Sociology of Education*, 23(1), 35-49.



- Hancock, K.J., Mitrou, F., Shipley, M., Lawrence, D. & Zubrick, S.R. (2013). A three generation study of the mental health relationships between grandparents, parents and children. *BMC Psychiatry*, 13, 299.
- Hanushek, E. A. (1997). Assessing the Effects of School Resources on Student Performance: An Update. *Educational Evaluation and Policy Analysis*, 19, 141-164.
- Hanushek, E. A. (2003). The Failure of Input-based Schooling Policies. *The Economic Journal*, 113, F64-F98.
- Hayes, J. & Stewart, I. (2016). Comparing the effects of derived relational training and computer coding on intellectual potential in school-age children. [Comparative Study]. *Br J Educ Psychol*, 86(3), 397-411. doi: 10.1111/bjep.12114
- Haynes, R., Reading, R. & Gale, S. (2003). Household and neighbourhood risks for injury to 5-14 year old children. *Social Science and Medicine*, 57, 625-636.
- Heaton, R. K., Chelune, G. J., Talley, J. L., Kay, G. C. & Curtis, G. (1993). *Wisconsin Card Sorting Test Manual: Revised and expanded*. Odessa, FL: Psychological Assessment Resources.
- Henly, J.R., Danziger, S.K. & Shira Offer, S. (2005). The Contribution of Social Support to the Material Well-Being of Low-Income Families. *J Marriage and the Family*, 67, 1, 122-40.
- Hinnig, P. de F., Monteiro, J. S., de Assis, M. A. A., Levy, R. B., Peres, M. A., Perazi, F. M., Porporatti, A. L. & Canto, G. D. L. (2018). Dietary Patterns of Children and Adolescents from High, Medium and Low Human Development Countries and Associated Socioeconomic Factors: A Systematic Review. *Nutrients*, 10(4), 436.
- Hippisley-Cox, J., Groom, L., Kendrick, D., Coupland, C., Webber, E. & Savelyich, B. (2002). Cross sectional survey of socioeconomic variations in severity and mechanism of childhood injuries in Trent 1992-7. *British Medical Journal*, 324 (7346), 1132.
- Hodgson, R. (2002a). The Fast Alcohol Screening Test. *Alcohol and Alcoholism*, 37(1), 61-66. doi: 10.1093/alcal/37.1.61
- Hodgson, R., Alwyn, T., John, B., Smith, A., Newcombe, R., Morgan, C. & Waller, S. (2002b). *Manual for the Fast Alcohol Screening Test (FAST)*. London: NHS Health Development Agency.
- Holzer, H. J., Duncan, G. J. & Ludwig, J. (2007). *The economic costs of poverty in the United States: Subsequent effects of children growing up poor*. Madison, WI: Institute for Research on Poverty.
- Hope S., Deighton J., Micali N. & Law, C. (2019). Maternal mental health and childhood injury: evidence from the UK Millennium Cohort Study. *Archives of Disease in Childhood*, 104, 268-274. <http://dx.doi.org/10.1136/archdischild-2017-313809>
- Hu, L. & Bentler, P. M. (1998). Fit Indices in Covariance Structure Modeling Sensitivity to Underparameterized Model Misspecification. *Psychological Methods*, 3(4), 424-453.
- Hu, L. & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. doi: 10.1080/10705519909540118
- Huang, J.S., Becerra, K., Oda, T., Walker, E., Xu, R., Donohoe, M., Chen, I. Curbelo, V. & Breslow, A. (2007). Parental Ability to Discriminate the Weight Status of Children: Results of a Survey. *Pediatrics*, 120, e112-e119.
- Huo, T., Guo, Y., Shenkman, E. & Muller, K. (2018). Assessing the reliability of the short form 12 (SF-12) health survey in adults with mental health conditions: a report from the wellness incentive and navigation (WIN) study. *Health Qual Life Outcomes*, 16, 34.
- Hutzell, K. L. & Payne, A. A. (2012). The impact of bullying victimization on school avoidance. *Youth Violence and Juvenile Justice*, 10(4), 370-385.
- Iruka, I. U., Jones Harden, B. P., Bingham, G., Esteraich, J. & Green, S. (2018). Profiles of Parenting for Low-Income Families and Links to Children's Preschool Outcomes. *Early Education and Development*, 29(4), 515-539. doi: 10.1080/10409289.2018.1440843



- Ivis, F. J., Adlaf, E. M. & Rehm, J. (2000). Incorporating the AUDIT into a general population telephone survey: a methodological experiment. *Drug and Alcohol Dependence*, 60(1), 97-104. doi: 10.1016/s0376-8716(00)80012-5
- Jablonska, B. & Lindberg, L. (2007). Risk behaviours, victimisation and mental distress among adolescents in different family structures. *Social Psychiatry & Psychiatric Epidemiology*, 42(8), 656-663.
- Jaakkola, J.J.K. & Jaakkola, M.S. (2002). Effects of environmental tobacco smoke on the respiratory health of children. *Scandinavian Journal of Work, Environment & Health*, 28 [supplement 2], 71-83.
- Jepsen, C. & Rivkin, S. (2009). Class size reduction and student achievement: the potential tradeoff between teacher quality and class size. *Journal of Human Resources*, 44(1), 223-250.
- Jimerson, S., Campos, E. & Greif, J. (2003). Towards an understanding of definitions and measures of school engagement and related terms. *California School Psychologist*, 8, 7-28.
- Kanaiaupuni, S.M., Donato, K.M., Thompson-Colon, T. & Stainback, M. (2005). Counting on Kin: Social Networks, Social Support, and Child Health Status. *Social Forces*, 83, 1137-1164.
- Keane, E., Cullinan, J., Perry, C.P., Kearney, P.M., Harrington, J. & Layte, R. (2016). Dietary quality in children and the role of the local food environment. *SSM – Population Health*, 2, 770-777. <https://doi.org/10.1016/j.ssmph.2016.10.002>
- Keane, E., Gavin, A., Perry, C., Molcho, M., Kelly, C. & Nic Gabhainn, S. (2017). *Trends in health behaviours, health outcomes and contextual factors between 1998-2014: findings from the Irish Health Behaviour in School-Aged Children Study*. Galway: Department of Health and National University of Ireland Galway.
- Kearney, C. (2008). School absenteeism and school refusal behavior in youth: A contemporary review. *Clinical Psychology Review*, 28(3), 451-471.
- Kenny, M. & McNeela, E. (2007). *Assimilation Policies and Outcomes: Travellers' Experience*. Dublin: Pavee Point Travellers Centre.
- Kerr, D. C. R., Lopez, N. L., Olson, S. L. & Sameroff, A. J. (2004). Parental discipline and externalizing behavior problems in early childhood: The roles of moral regulation and child gender. *Journal of Abnormal Child Psychology*, 32, 4, 369-383.
- Kim, J., McHale, S., Osgood, W. & Crouter, A. (2006). Longitudinal course and family correlates of sibling relationships from childhood through adolescence. *Child Dev*, 77(6), 1746-61.
- Kim, S. & Esquivel, G. (2011). Adolescent spirituality and resilience: Theory, research, and educational practices. *Psychology in the Schools*, 48(7), 755-765.
- Kim, G., Sellbom, M. & Ford, K. L. (2014). Race/ethnicity and measurement equivalence of the Everyday Discrimination Scale. [Research Support, N.I.H., Extramural]. *Psychol Assess*, 26(3), 892-900. doi: 10.1037/a0036431
- King, V. & Sobolewski, J. M. (2006). Non-resident fathers' contributions to adolescent well being. *Journal of Marriage and Family*, 68(3), 537-557.
- Kleinsorge, C. & Covitz, LM. (2012). Impact of divorce on children: developmental considerations. *Pediatr Rev*, 33(4), 147-54.
- Klingemann, H. (2001). *Alcohol and its social consequences – the forgotten dimension*. World Health Organization.
- Kohen, D. and Findlay, L. (2014). *Neighborhood Effects and Young Children's Outcomes in Wellbeing: A Complete Reference Guide. (Volume 1. Wellbeing in Children and Families; Part 4. Stress and Family and Child Wellbeing)*. Hoboken, NJ: John Wiley and Sons. <https://doi.org/10.1002/9781118539415.wbwell016>
- Kremer Sadlik, T., & Paugh, A. L. (2007). Everyday moments: Finding "quality time" in American working families. *Time & Society*, 16, 287-308. DOI: 10.1177/0961463X07080276





- Krueger, A. (2003). Economic considerations and class size. *The Economic Journal*, 113, F34-63.
- Kuppens, S., Moore, S. C., Gross, V., Lowthian, E. & Siddaway, A. P. (2019). The Enduring Effects of Parental Alcohol, Tobacco, and Drug Use on Child Well-being: A Multilevel Meta-Analysis. *Development and Psychopathology* 31(1), 1-14.
- Layte, R., Nolan, B. & Whelan, C. T. (2001). Reassessing income and deprivation approaches to the measurement of poverty in Ireland. *Economic and Social Review*, 32, 3.
- Layte, R. & Nolan, B. (2004). Equity in the Utilisation of Health Care in Ireland. *Economic and Social Review*, 35, 111-134.
- Layte, R. & McCrory, C. (2013). Paediatric chronic illness and educational failure: the role of emotional and behavioural problems. *Soc Psychiatry Psychiatr Epidemiol*, 48(8), 1307-16.
- Lean, M. (2010). Childhood obesity: time to shrink the parent. *Int J Obesity*, 34, 1-3.
- Lee, I.M., Shiroma, E.J., Lobelo, F., Puska, P., Blair, S.N. & Katzmarzyk, P.T. (2012). Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet*, 380, 9838, 21-27.
- Lei, H., Cui, Y. & Chiu, M. M. (2016). Affective teacher—student relationships and students' externalizing behavior problems: A meta-analysis. *Frontiers in Psychology*, 7, 1311.
- Leslie, E. & Cerin, E. (2008). Are perceptions of the local environment related to neighbourhood satisfaction and mental health in adults? *Preventive Medicine*, 47(3), 273-278.
- Lewis, T. T., Yang, F. M., Jacobs, E. A. & Fitchett, G. (2012). Racial/ethnic differences in responses to the everyday discrimination scale: a differential item functioning analysis. *American Journal of Epidemiology*, 175(5), 391-401.
- Liskola, J., Haravuori, H., Lindberg, N., Niemela, S., Karlsson, L., Kiviruusu, O. & Marttunen, M. (2018). AUDIT and AUDIT-C as screening instruments for alcohol problem use in adolescents. *Drug Alcohol Depend*, 188, 266-273.
- Lobstein, T. & Jackson-Leach, R. (2011) Estimated burden of paediatric obesity and co morbidities in Europe. Part 2. Numbers of children with indicators of obesity related disease. *Int J Pediatr Obes*, 1(1), 33-41.
- Lubans, D., Richards, J., Hillman, C., Faulkner, G., Beauchamp, M., Nilsson, M., Kelly, P., Smith, J., Raine, L. & Biddle, S. (2016). Physical activity for cognitive and mental health in youth: a systematic review of mechanisms. *Pediatrics*, 138(3). DOI: 10.1542/peds.2016-1642
- Lundberg, S., McLanahan, S. & Rose, E. (2005), *Child gender and father involvement in fragile families*. Working Paper, Department of Economics, Univ. Washington.
- Magnuson, K. (2007). Maternal Education and Children's Academic Achievement during Middle Childhood. *Developmental Psychology*, 43, 1497-1512.
- Mahboob, A., Richmond, S.A., Harkins, J.P. & Macpherson, A.K. (2019). Childhood unintentional injury: The impact of family income, education level, occupation status, and other measures of socioeconomic status. A systematic review. *Paediatrics & Child Health*, pxx145, <https://doi.org/10.1093/pch/pxx145>
- Maître, B., Nolan, B. & Whelan, C.T. (2006). Reconfiguring the measurement of deprivation and consistent poverty in Ireland. *Policy Research Series*, 58.
- Manly, T., Anderson, V., Nimmo-Smith, I., Turner, A., Watson, P. & Robertson, I. H. (2001). The Differential Assessment of Children's Attention: The Test of Everyday Attention for Children (TEA-Ch), Normative Sample and ADHD Performance. *Journal of Child Psychology and Psychiatry*, 42(8), 1065-1081.
- Manly, T., Robertson, I. H., Anderson, V. & Nimmo-Smith, I. (1999). *TEA-Ch: The Test of Everyday Attention for Children*. Thames Valley Test Company. Bury St. Edmunds, England.
- Manning, W. D., Stewart, S. D. & Smock, P. J. (2003). The complexity of fathers' parenting responsibilities and involvement with non-resident children. *Journal of Family Issues*, 24(5), 645-667.



- Marmot, M. & Allen, J.J. (2014). Social Determinants of Health Equity. *Am J Pub Health* (AJPH, Supplement 4), 104(s4): S517-S519. <https://doi.org/10.2105/AJPH.2014.302200>
- Marra, F., Lynd, L., Coombes, M., Richardson, K., Legal, M., Fitzgerald, JM. & Marra C.A. (2006). Does antibiotic exposure during infancy lead to development of asthma? A systematic review and meta-analysis. *Chest*, 129(3), 610-18.
- Marzano, R. J. (2002). *A New Era of School Reform: Going Where the Research Takes Us*. Mid-continent Research for Education and Learning (McREL) [Online]. Available: [http://www.mcrel.org/PDF/SchoolImprovementReform/5002RR\\_NewEraSchoolReform.pdf](http://www.mcrel.org/PDF/SchoolImprovementReform/5002RR_NewEraSchoolReform.pdf)
- Masoli, M., Fabian, D., Holt, S., Beasley, R. & Global Initiative for Asthma (GINA) Program (2004). The global burden of asthma: executive summary of the GINA Dissemination Committee report. *Allergy*, 59(5), 469-78.
- Maynard, L.M., Galuska, D.A., Blanck H.M. & Serdula, M.K. (2003). Maternal Perceptions of Weight Status of Children. *Pediatrics*, 111, 1226-1231.
- Melchior, L.A., Huba, G.J., Brown, V.B. & Reback, C.J. (1993). A Short Depression Index for Women. *Educational and Psychological Measurement*, 53, 1117-1125.
- McCormick, M. P. & O'Connor, E. E. (2015). Teacher-child relationship quality and academic achievement in elementary school: Does gender matter? *Journal of Educational Psychology*, 107(2), 502.
- McCorry, C., Williams, J., Murray, A., Quail, A. & Thornton, M. (2013) *Growing Up in Ireland: Design, Instrumentation and Procedures for the Infant Cohort at Wave 2 (3 years)*. Dublin: Department of Children and Youth Affairs.
- McGinnity, F., Russell, H., Williams, J. & Blackwell, S. (2005). *Time-use in Ireland 2005: Survey Report*. Dublin: Economic and Social Research Institute.
- McGinnity, F. & Russell H. (2008). *Gender Inequalities in Time Use: The Distribution of Caring, Housework and Employment among Women and Men in Ireland*. The Equality Authority.
- McGinnity, F., Russell, H. & Murray, A. (2015). *Growing Up in Ireland: Non-parental childcare and child cognitive outcomes at age 5*. Dublin: Economic & Social Research Institute.
- McGinnity, F., Grotti, R., Kenny, O. & Russell, H. (2017) *Who experiences discrimination in Ireland? Evidence from the QNHS Equality Modules*. Dublin: ESRI and Irish Human Rights and Equality Commission.
- McHale, J.P. (2007). *Charting the bumpy road of coparenthood: Understanding the challenges of family life*. Washington, DC: Zero to Three.
- McKenna, M. C., Kear, D. J. & Ellsworth, R. A. (1995). Children's attitudes toward reading: A national survey. *Reading Research Quarterly*, 30(4), 934-955.
- Meneses-Gaya, C., Crippa, J. A., Zuardi, A. W., Loureiro, S. R., Hallak, J. E., Trzesniak, C., . . . Martin-Santos, R. (2010). The fast alcohol screening test (FAST) is as good as the AUDIT to screen alcohol use disorders. [Research Support, Non-U.S. Govt Validation Studies]. *Subst Use Misuse*, 45(10), 1542-1557. doi: 10.3109/10826081003682206
- Mistry, R.S., Biesanz, J.C., Taylor, L.C., Burchinal, M. & Cox, M.J. (2004). Family income and its relation to preschool children's adjustment for families in the NICHD Study of Early Child Care. *Developmental Psychology*, 40, 717-745.
- Mitchell, K. S., Booth, A. & King, V. (2009). Adolescents with non-resident fathers: Are daughters more disadvantaged than sons? *Journal of Marriage and Family*, 71(3), 650-662.
- Mitchell, J., Skouteris, H., McCabe, M. Ricciardelli, L., Milgrom, J., Baur, L., Fuller-Tyszkiewicz, M. & Dwyer, G. (2012). Physical activity in young children: a systematic review of parental influences. *Early Child Development and Care*, 182(11), 1411-1437.
- Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., Howerter, A. & Wager, T. D. (2000). The unity and diversity of executive functions and their contributions to complex "frontal lobe" tasks: A latent variable analysis. *Cognitive Psychology*, 41, 49-100.



- Mogos, M. F., Beckstead, J. W., Kip, K. E., Evans, M. E., Boothroyd, R. A., Aiyer, A. N. & Reis, S. E. (2015). Assessing Longitudinal Invariance of the Center for Epidemiologic Studies-Depression Scale among Middle-Aged and Older Adults. *J Nurs Meas*, 23(2), 302-314.
- Moor I., Spallek J., Richter M. (2017). Explaining socioeconomic inequalities in self-rated health: a systematic review of the relative contribution of material, psychosocial and behavioural factors. *J Epidemiol Community Health*, 71, 565-575. <http://dx.doi.org/10.1136/jech-2016-207589>
- Morawska, A., Winter, L. & Sanders, M.R. (2009). Parenting knowledge and its role in the prediction of dysfunctional parenting and disruptive child behaviour. *Child: Care, Health and Development*, 35, 217-226.
- Mosley, J. & Thompson, E. (1995). Fathering Behavior and Child Outcomes: The role of race and poverty. In W. Marsiglio (Ed.), *Fatherhood: Contemporary Theory, Research, and Social Policy* (pp. 148-165). Thousand Oaks, CA: Sage, 1995.
- Mulkerrins, D. (2007). The Transformational Potential of the Home School Community Liaison Scheme. In P. Downes & A. L. Gilligan (Eds.), *Beyond Educational Disadvantage*. Dublin: IPA.
- Murphy, D., Williams, J., Murray, A. & Smyth, E. (2019). *Growing Up in Ireland – Design, Instrumentation and Procedures for Cohort '98 at 17 Years of Age*. Dublin: Economic and Social Research Institute.
- Murray, A., McCrory, C., Thornton, M., Williams, J., Quail, A., Swords, L., Doyle, E. & Harris, E. (2010). *Growing Up in Ireland – Design, Instrumentation and Procedures for the Child Cohort (at 9 Years)*. Dublin: Economic and Social Research Institute.
- Murray, A., Williams, J., Quail, A., Neary, M. & Thornton, M. (2015). *A Summary Guide to Wave 3 of the Infant Cohort (at 5 years) of Growing Up in Ireland*. Dublin: Economic and Social Research Institute.
- Murray, A., Williams, J., Gallagher, S., Thornton, M., with Watson, D., McNamara, E., Murphy, D. & O'Reilly, C. (in press). *Report on the Pilot for Wave Five of the Cohort '08 Survey (at 9 Years of Age)*. Dublin: Department of Children and Youth Affairs.
- National Disability Authority. (2011). *Public Attitudes to Disability in Ireland*. Dublin: National Disability Authority.
- National Institutes of Health (2000). *Oral Health in America. A report of the Surgeon General. US Department of Health and Human Services*, National Institute of Dental and Craniofacial Research; Rockville, MD.
- Neece, C. L., Green, S. A. & Baker, B. L. (2012). Parenting stress and child behavior problems: a transactional relationship across time. *Am J Intellect Dev Disabil*, 117(1), 48-66.
- Newacheck, P. W., Hung, Y. Y., Jane Park, M., Brindis, C. D. & Irwin Jr, C. E. (2003). Disparities in adolescent health and health care: does socioeconomic status matter? *Health Services Research*, 38(5), 1235-1252.
- Nicholas, J.G. & Geers, A.E. (2006). Effects of early auditory experience on the spoken language of deaf children at 3 years of age. *Ear and Hearing*, 27, 286-298.
- Nolan, A. & Layte, R. (2017). *Growing Up in Ireland: Understanding Use of General Practitioner Services among Children in Ireland*. Dublin: Department of Children and Youth Affairs.
- Northam, E.A. (1997). Psychosocial impact of chronic illness in children. *Journal of Paediatrics and Child Health*, 33(5), 369-372.
- O'Connell, P. & Russell, H. (2005). *Equality at Work? Workplace Equality Policies, Flexible Working Arrangements and the Quality of Work*. Dublin: Equality Authority.
- Offer, S. (2013). Family Time Activities and Adolescents' Emotional Well being. *Journal of Marriage and Family*, 75(1), 26-41.
- Oronoz, B., Alonso-Arbiol, I. & Balluerka, N. (2007). A Spanish adaptation of the Parental Stress Scale. [Research Support, Non-U.S. Govt Validation Studies]. *Psicothema*, 19(4), 687-692.



- Pardos, A., Quintero, J., Zuluaga, P. & Fernandez, A. (2016). Descriptive analysis of the Test of Everyday Attention for Children in a Spanish Normative Sample. *Actas Esp Psiquiatr*, 44(5), 183-192.
- Pedersen, S. & Revenson, T. A. (2005). Parental Illness, Family Functioning, and Adolescent Well-Being: A Family Ecology Framework to Guide Research. *Journal of Family Psychology*, 19, 404-409.
- Pennell, B.E., Bowers, A., Carr, D., Chardoul, S., Cheung, G.Q., Dinkelmann, K., Gebler, N., Hansen, S.E., Pennell, S. & Torres, M. (2004). The development and implementation of the National Comorbidity Survey Replication, the National Survey of American Life, and the National Latino and Asian American Survey. *Int J Methods Psychiatr Res*, 13(4), 241-69.
- Pianta, RC. & Steinberg, M. (1992). Teacher-child relationships and the process of adjusting to school. *New Directions for Child and Adolescent Development*, 57, 61-80.
- Piers, E. & Herzberg, D. (2007). *Piers-Harris Children's Self-Concept Scale, 2<sup>nd</sup> Edition Manual*. Los Angeles, CA: Western Psychological Services.
- Pike, A., Coldwell, J. & Dunn, JF. (2005). Sibling relationships in early/middle childhood: links with individual adjustment. *J Fam Psychol*, 19(4), 523-32.
- Plumert, J.M. & Schwebel, D.C. (1997). Social and temperamental influences on children's overestimation of their physical abilities: Links to accidental injuries. *Journal of Experimental and Child Psychology*, 67, 317-337.
- Popova, D. & Navicke, J. (2018). The probability of poverty for mothers after childbirth and divorce in Europe: The role of social stratification and tax-benefit policies. *Social Science Research*, 78, 57-70. <https://doi.org/10.1016/j.ssresearch.2018.10.007>
- Pulgaron, E., Marchante, A., Agosto, Y., Lebron, C. & Delamater, A. (2016). Grandparent Involvement and Children's Health Outcomes: The Current State of the Literature. *Families, Systems, & Health*. 34(3), 260-269. DOI:10.1037/fsh0000212.
- Rampersaud, G. C. (2009). Benefits of Breakfast for Children and Adolescents: Update and Recommendations for Practitioners. *American Journal of Lifestyle Medicine*, 3(2), 86-103. <https://doi.org/10.1177/1559827608327219>.
- Rampersaud, G. C., Pereira, M. A., Girard, B. L., Adams, J. & Metz, J. D. (2005). Breakfast habits, nutritional status, body weight, and academic performance in children and adolescents. *Journal of the American Dietetic Association*, 105, 743-760.
- Rodriguez, ET., Tamis-LeMonda, CS., Spellmann, ME., Pan, BA., Raikes, H., Lugo-Gil, J. & Luze, G. (2009). The formative role of home literacy experiences across the first three years of life in children from low-income families. *J Applied Dev Psychology*, 30(6), 677-694.
- Roberts I. (1997). Cause specific social class mortality differentials for child injury and poisoning in England and Wales. *J Epidemiol Community Health*, 51, 334-5.
- Roux, A. V. & Mair, C. (2010). Neighborhoods and Health. *Annals of the New York Academy of Sciences*, 1186(1), 125-145.
- Rutter, M. & Maughan, B. (2002). School Effectiveness Findings 1979-2002. *J School Psychology*, 40, 451-475.
- Sabourin, S., Valos, P. & Lussier, Y. (2005). Development and validation of a brief version of the dyadic adjustment scale with a nonparametric item analysis model. *Psychol Assess*, 17(1), 15-27.
- Sadrudin A.F.A, Ponguta L.A., Zonderman A.L., Wiley, K.S., Grimshaw A. & Panter-Brick C. (2019). How do grandparents influence child health and development? A systematic review. *Social Science & Medicine*, 239, 112476. <https://doi.org/10.1016/j.socscimed.2019.112476>
- Sallis, J.F., Buono, M.J., Roby, J.J., Micale, F.G. & Nelson, J.A. (1993). Seven-day recall and other physical activity self-reports in children and adolescents. *Med Sci Sports Exerc*, 25(1), 99-108.
- Sallis, J.F., Taylor, W.C., Dowda, M., Freedson, P.S. & Pate, R.R. (2002). Correlates of vigorous physical activity for children in grades 1 through 12: Comparing parent-reported and objectively measured physical activity. *Pediatric Exercise Science*, 14, 30-44.



- Sanson, A., Misson, S., Wake, M., Zubrick, S., Silburn, S., Rothman, S. & Dickenson, J. (2005), *Summarising children's well-being: the LSAC Outcome Index*, LSAC Technical Paper #2. Australian Government and Australian Institute of Family Studies.
- Schneider, M. (2002). *Do School Facilities Affect Academic Outcomes? National Clearinghouse for Educational Facilities*. Available: <http://www.edfacilities.org/pubs/outcomes.pdf>
- Schoon, I. (2010). Planning for the Future: Changing Education Expectations in Three British Cohorts. *Historical Social Research – Historische Sozialforschung*, 35(2), 99-119.
- Seltzer, J. A. & Brandreth, Y. (1994). What fathers say about involvement with children after separation. *Journal of Family Issues*, 15(1), 49-77.
- Seefeldt, C., Denton, K., Galper, A. & Younoszai, T. (1999). The relation between Head Start parents' participation in a transition demonstration, education, efficacy, and their children's academic abilities. *Early Childhood Quarterly*, 14 (1), 99-109.
- Shai D. & Lupinacci P. (2003) Fire fatalities among children: An analysis across Philadelphia's census tracts. *Public Health Rep.* 118, 115-26.
- Sirgy, M. & Lee, D.J. (2018). Work-Life Balance: an Integrative Review. *Applied Research Quality Life*, 13, 229. <https://doi.org/10.1007/s11482-017-9509-8>
- Silversides, J.A., Gibson, A., Glasgow, J.F.T., Mercer, R. & Cran, G.W. (2005). Social deprivation and childhood injuries in North and West Belfast. *Ulster Medical Journal*, 74 (1), 22-28.
- Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75, 417-453.
- Skevik, A. (2006). 'Absent fathers' or 'reorganized families'? Variations in father-child contact after parental breakup in Norway. *The Sociological Review*, 54, 114-132.
- Smith, H. G. (1993). Intervention strategies for children vulnerable for school failure due to exposure to drugs and alcohol. *International Journal of Addiction*, 28, 1435-1470.
- Smith, P., Cowie, H. & Blades, M. (2015). *Understanding Children's Development*, 6th Edition. NJ: Wiley-Blackwell.
- Smyth, E. (1999). *Do Schools Differ? Academic and Personal Development among Pupils in the Second-Level Sector*. General Research Series, 173.
- Smyth, E. (2004). *Do Schools Differ? Academic and Personal Development among Pupils in the Second-Level Sector*. Dublin: Oak Tree Press.
- Smyth, E., Byrne, D. & Hannan, C. (2004a). *The Transition Year Programme: An Assessment*. Dublin: The Liffey Press in association with the ESRI.
- Smyth, E., McCoy, S. & Darmody, M. (2004b). *Moving Up: The Experiences of First-year Students in Post-Primary Education*. Dublin: The Liffey Press and the ESRI.
- Smyth, E., Whelan, C.T., McCoy, S., Quail, A. & Doyle, E. (2010). Understanding Parental Influence on Educational Outcomes Among 9-Year-Olds in Ireland: The Mediating Role of Resources, Attitudes and Children's Own Perspectives. *Child Indicators Research*, 3, 85-104.
- Smyth, E. (2019). *School social mix and junior cycle performance: are there cumulative effects?* Paper presented at the Growing Up in Ireland 11<sup>th</sup> Annual Research Conference, Dublin. Available at: <https://www.growingup.ie/pubs/F01-Emer-Smyth-GUI-2019-rcd-20191111.pdf>
- South, S.C., Krueger, R.F. & Lacono, W.G. (2009). Factorial invariance of the Dyadic Adjustment Scale across gender. [Twin Study]. *Psychol Assess*, 21(4), 622-628.
- Starc, G. and Strel, J. (2010). Tracking excess weight and obesity from childhood to young adulthood: a 12-year prospective cohort study in Slovenia. *Pub Health Nutr*, 14, 1, 49-55.
- Stein, A., Malmberg, L-E., Leach, P., Barnes, J., Sylva, K. & FCCC Team. (2013). The influence of different forms of early childcare on children's emotional and behavioural development at school entry. *Child Care Health Dev*, 39(5), 676-87. DOI: 10.1111/j.1365-2214.2012.01421.x





- Steinberg, L., Lamborn, S.D., Dornbusch, S.M. & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development*, 63(5), 1266-1281.
- Stewart, S. D. (2003). Non-resident parenting and adolescent adjustment: The quality of non-resident father-child interaction. *Journal of Family Issues*, 24(2), 217-244.
- Stronge, J., Ward, T. & Grant, L. (2011). What Makes Good Teachers Good? A Cross-Case Analysis of the Connection between Teacher Effectiveness and Student Achievement. *Journal of Teacher Education*, 62(4), 339-355.
- Stone, L.L., Janssens, J.M., Vermulst, A.A., Van Der Maten, M., Engels, R.C. & Otten, R. (2015). The Strengths and Difficulties Questionnaire: psychometric properties of the parent and teacher version in children aged 4-7. *BMC Psychol*, 3(1), 4. doi: 10.1186/s40359-015-0061-8.
- Stucky, B.D., Gottfredson, N.C., Panter, A.T., Daye, C.E., Allen, W.R. & Wightman, L.F. (2011). An item factor analysis and item response theory-based revision of the Everyday Discrimination Scale. *Cultural Diversity and Ethnic Minority Psychology*, 17(2), 175-85.
- Sullivan, A. & Brown, M. (2013). *Social inequalities in cognitive scores at age 16: The role of reading. (CLS Working Papers 13/10)*. Centre for Longitudinal Studies, Institute of Education, University College London: London, UK.
- Swyden, K., Sisson, S.B., Lora, K., Castle, S. & Copeland, K.A. (2017). Association of childcare arrangement with overweight and obesity in preschool-aged children: a narrative review of literature. *Int J Obes*, 41(1), 1-12. DOI: 10.1038/ijo.2016.198
- Talsma, K., Schüz, B., Schwarzer, R. & Norris, K. (2018). I believe, therefore I achieve (and vice versa): A meta-analytic cross-lagged panel analysis of self-efficacy and academic performance. *Learning and Individual Differences*, 61, 136-150.
- Tanskanen, A.O. & Danielsbacka, M. (2017). Association Between Grandparental Co-Residence and Early Childhood Injury in the UK. *Child Indicators Research*, 10(3): 825-837. <https://doi.org/10.1007/s12187-016-9411-1>
- Thornton, M., Williams, J., McCrory, C., Murray, A. & Quail, A. (2013) *Growing Up in Ireland National Longitudinal Study of Children: Design, Instrumentation and Procedures for the Infant Cohort at Wave One (9 Months)*. Dublin: Department of Children and Youth Affairs.
- Tokunaga, R.S. (2010). Following you home from school: a critical review and synthesis of research on cyberbullying victimization. *Comput Human Behav*, 26:277-87.
- Tsitsika, A.K., Barlow, E., Andrieu, E., Dimitropoulou, C., Tzavela, E.C., Janikian, M. & Tsolia, M. (2014). Bullying behaviors in children and adolescents: "an ongoing story". *Frontiers in Public Health*, 2, 7.
- Turney, K. & Halpern-Meekin, S. (2017). Parenting in on/off relationships: the link between relationship churning and father involvement. *Demography*, 54(3), 861-886.
- Vaden-Kiernan, M., D'Elio, M.A., O'Brien, R.W., Banks Tarullo, L., Zill, N. & Hubbell-McKey, R. (2010). Neighborhoods as a Developmental Context: A Multilevel Analysis of Neighborhood Effects on Head Start Families and Children. *Am J Community Psychol* 45(1-2), 49. <https://doi.org/10.1007/s10464-009-9279-z>.
- Van der Lee, J. H., Mokkink, L.B., Grootenhuys, M.A., Heymans, H.S. & Offringa, M. (2007). Definitions and measurement of chronic health conditions in childhood: a systematic review. *JAMA*, 297, 24, 2741-571.
- Villeneuve, L., Trudel, G., Preville, M., Dargis, L., Boyer, R. & Begin, J. (2015). Dyadic Adjustment Scale: a validation study among older French-Canadians living in relationships. [Research Support, Non-U.S. Govt Validation Studies]. *Can J Aging*, 34(1), 26-35.
- Vitaro, F., Boivin, M. & Bukowski, W. M. (2009). The role of friendship in child and adolescent psychosocial development. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Social, Emotional, and*



*Personality Development in Context. Handbook of Peer Interactions, Relationships, and Groups* (p. 568-585). New York: The Guilford Press.

Walsh, K., Clerkin, P. & Nic Gabhainn, S. (2004). *Relationship with mothers among Irish schoolchildren in Health Behaviour Survey of Children 2002*. Retrieved from [http://www.nuigalway.ie/hbsc/documents/factsheet\\_12.pdf](http://www.nuigalway.ie/hbsc/documents/factsheet_12.pdf)

Watson, D. & Maître, B. (2013). *Social Transfers and Poverty Alleviation in Ireland: An Analysis of the Survey on Income and Living Conditions 2004–2011*. Dublin: Department of Social Protection and Economic and Social Research Institute.

Watson, D., Maître, B., Whelan, C.T. & Williams, J. (2014). *Growing Up in Ireland: Dynamics of Child Economic Vulnerability and Socio-emotional Development*. Dublin: Department of Children and Youth Affairs.

Watson, N. & Wooden, M. (2009). Identifying factors affecting longitudinal survey response. In Lunn, P., *Methodology of Longitudinal Surveys*. UK: Wiley & Sons.

Weir, S. (1999). *An analysis of the application variables used to select schools for the Breaking the Cycle scheme. Report to the Department of Education and Science*. Dublin: Educational Research Centre.

Whelan, C. T, Maître, B. & Nolan, B. (2007). *Multiple Deprivation and Multiple Disadvantage*. Dublin: Economic and Social Research Institute.

Williams, W.R., Latif, A.H., Hannington, L. & Watkins, D.R. (2005). Hyperopia and educational attainment in a primary school cohort. *Archives of Disease in Childhood*, 90, 150-153.

Williams, D, Yu, Y., Jackson, J. & Anderson, N. (1997). Racial differences in physical and mental health: socio-economic status, stress and discrimination. *J Health Psychol*, 2(3), 335-51.

Williams, J., Greene, S., Doyle, E., Harris, E., Layte, R., McCoy, S., ....Thornton, M. (2009) *Growing Up in Ireland: The Lives of 9-Year-Olds*. Dublin: The Stationery Office.

Williams, J., Thornton, M., Murray, A. & Quail, A. (2019). *Growing Up in Ireland – Design, Instrumentation and Procedures for the Infant Cohort at Wave 3 (5 Years)*. Dublin: Economic and Social Research Institute.

World Health Organization (2000). *Obesity: Preventing and Managing the Global Epidemic – Technical Report Series 894*. Geneva: WHO.

World Health Organization (2007). *Global surveillance, prevention and control of chronic respiratory diseases – a comprehensive approach*. Geneva: WHO.

Zill, N., Resnick, G., Kim, K., O'Donnell, K, Sorongon, A., Ziv, Y., ....D'Elia, M.A. (2006). *Head Start Performance Measures Center – Family and Child Experiences Survey (FACES 2000) Technical Report*. U.S. Department of Health and Human Services.

Zubrick, S., Smith, G., Nicholson, J., Sanson, A. & Jackiewicz, T.A. (2010). *Parenting and Families in Australia*. Canberra ACT: Department of Families, Housing, Community Services and Indigenous Affairs.

Zubrick, S., Lucas, N., Westrupp, E. & Nicholson, J. M. (2014). *Parenting measures in the longitudinal study of Australian children: Construct validity and measurement quality, waves 1 to 4*. Canberra ACT: Department of Social Services.













