A SUMMARY GUIDE TO WAVE 3 OF *GROWING UP IN IRELAND'S* CHILD COHORT (AT 17/18 YEARS)

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Chapter 1 Introduction

1.1   Introduction

This document provides the reader with a brief summary of the third wave of the Child Cohort (at age 17/18 years) from *Growing Up in Ireland*, as well as an over-view of the microdata files (Researcher and Anonymised) from that round of the study.

Growing Up in Ireland- the National Longitudinal Study of Children, is the first project of its kind undertaken in Ireland. *Growing Up in Ireland* aims to describe the lives of children and young people and to identity key factors that help or hinder their development. A two cohort longitudinal design was adopted. The Child Cohort recruited and interviewed 8568 nine-year-olds and their families in 2007/2008. The Infant Cohort recruited and interviewed the families of 11,134 nine-month-olds in 2008. As the project is longitudinal in nature, both cohorts are being interviewed on a number of occasions. The child cohort and their parents / guardians were interviewed previously when the children were nine years of age, thirteen years of age and recently at seventeen/eighteen years of age (subject of this report). The families of the infant cohort were interviewed when the children were nine-months, three years, five years and seven years of age. A series of reports, summary Key Findings and peer reviewed papers is being produced from both cohorts.

The 8,568 children in the Child Cohort were born between 1st November 1997 and the 31st of October 1998. Data collection for the first wave at age 9 years took place between August 2007 and May 2008 and data collection for the second wave at age 13 years took place between August 2011 and March 2012. Data collection for the current wave of *Growing Up in Ireland* (age 17/18) took place between April 2015 and August 2016 and resulted in a complete data set of 6216 cases.

This report describes in detail the background, design, instruments and procedures used only in respect of Wave 3 of the Child Cohort. Wave 1 and 2 of this cohort (and the infant cohort) are the subject of another set of reports. The focus here is on the sample design and response rate, the nature and content of the questionnaires and other instruments, along with a broad overview of the dataset.

1.2   Background

Growing Up in Ireland provides important input to the implementation of *The National Children's strategy*- a major national plan for children, published in 2000 by the Department of Health and Children. The principal objective of the study is to provide evidence-informed research into children and young people's well-being. This increased understanding of the determinant and drivers of well-being and its change and transformation over time will be used to assist in policy formation and in the design and delivery of services for young people and their families.

Growing Up in Ireland was commissioned by the Irish Government. It is funded by the Department of Children and Youth Affairs in association with the Central Statistics Office. This wave of the study also received a contribution from the Atlantic Philanthropies. Detailed recommendations for the design of a National Longitudinal Children's Study were first presented in a paper entitled *Design of the National Children's Strategy – Longitudinal Study of Children* (Collins, 2001). The current study stems from a

Request for Tender[1] which was issued by the then Department of Health and Children in December 2004. After an assessment and evaluation process throughout 2005 and early 2006, work on the project began in April 2006 by a research consortium led by the Economic and Social Research Institute (ESRI) and Trinity College Dublin (TCD).

The study provides an immense amount of information on young people and their families, and explores the following key domains of young people's lives: health and physical development educational/cognitive development, socio-emotional and behavioural well-being and economic and civic participation. By gathering comprehensive data on young people's development throughout childhood and into adolescence the study will provide a statistical basis for evidence informed policy formation and applied research across all aspect of young people's development-currently and into the future.

Growing Up in Ireland has nine specific objectives as outlined below:

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

Full details on the underlying theoretical and conceptual framework can be found in Greene et al (2010)[2].

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[1] *Request for tender (RFT) for Proposals to Undertake a National Longitudinal Study of Children in the Republic of Ireland*, issued by the National Children's Office of the Department of Health and Children and the Department of Social and Family Affairs, December 205, p.20.

[2] Available at http://www.esri.ie/growing-up-in-ireland/growing-up-in-ireland-official-publications-from-the-child-cohort/

Chapter 2 The Sample and Data

2.1   Introduction

This chapter considers the methodology and sample design for Wave 3 of the Child Cohort (Cohort'98) at 17/18 years of age. Consideration is given to the composition of the longitudinal sample, followed by discussion of the levels of inter-wave attrition and procedures for statistically reweighting the data to ensure that they are representative of the population are also discussed.

2.2   Composition of the longitudinal sample

As noted in Thornton et al. (2016) ***Growing Up in Ireland*** is a longitudinal study based on a fixed panel design. This means that the project follows the children and their families who were recruited into the study at 9 years of age for re-interview on several subsequent occasions. In respect of Cohort'98 this involved re-interviewing the 9-year-olds and their families at 13 and subsequently 17/18 years of age. After the initial sample selection at 9 years of age, no additions were made to the sample. So by 17/18 years of age the sample represents the children/young people (and their families) who were resident in Ireland at 9 years of age and who continued to live in the country when they were 17/18 years old. There are, of course, young people who lived in Ireland at 17/18 years of age but who were not resident at 9 years of age. These are effectively new 'entrants' to the country since the recruitment of the sample. This group of young people is not part of the longitudinal population under consideration in the fixed panel design of the study.

At Wave 1 of the project a total of 8,568 9-year-olds and their families were interviewed. All of these families were approached for re-interview when the Study Child was 13 years old. Table 2.1 summarises response outcomes at that time. From this one can see that 7,525 families participated in the study when the Study Child was 13 years of age, giving a response rate of just 89 per cent. A further 665 families refused to participate at that time. From the bottom row in the table one can see that 101 13-year-olds (and their families) no longer lived in Ireland when approached for interview and so are excluded from the target population – they are no longer growing up in Ireland and so do not form part of the longitudinal population. The reader should note that some of the 80 families who were identified as having 'Moved/no forwarding address' may also have moved outside the country. As the Study Team was not able to definitively say this was the case they were left in the valid population and in the calculation of response rates in the table.

Table 2.1: Summary response outcomes in Wave Two, Cohort'98

Outcome Wave Two	No. of families	Per cent
Completed	7,525	88.9
Refused	665	7.9
Moved/No forwarding address	80	0.9
Persistent broken appointments	98	1.2
No contact/unavailable within fieldwork period	49	0.6
Other	50	0.6
TOTAL ABOVE	8,467	100.0
No longer living in Ireland/Deceased	101	-

The target sample at Wave 3 (when the young people were 17/18 years of age) was made up of most (but not all) of the Wave 2 sample. At the third round of interviewing a total of 8,277 families were

issued to field interviewers. Table 2.3 shows that a large proportion of *non-respondents* from Wave 2 were issued to interviewers in Wave 3. We did not attempt to re-interview families for whom we did not have a valid address or where the family had explicitly requested that it did not want to be approached in subsequent waves of the study. Section B of Table 2.3 summarises response outcomes in Wave 3 in each of the outcome categories of Wave 2.

Table 2.2: Response outcomes in Wave 3 (at 17/18 years of age) by outcome at Wave 2

Section A Sample issued at Wave 3				SECTION B Response outcome at Wave 3, 17/18 years of age							
Response Outcome at Wave 2, 9 years of age	Issued in Wave 3	Not issued in Wave 3		Completed	Parent completed but 17/18-yr-old did not	Refused	Moved/No address	Persistent broken appointments	No contact/unavailable within	Other	Outside RoI/Deceased
Completed	7,519	6	*No.*	6,039	199	912	76	87	140	3	63
			%	81.0%	2.7%	12.2%	1.0%	1.2%	1.9%	0.0%	-
Refused	565	100	*No.*	112	10	345	42	9	41	1	5
			%	20.0%	1.8%	61.6%	7.5%	1.6%	7.3%	0.2%	
Moved/No address	9	71	*No.*	3	0	2	3	0	1	0	0
Persistent broken appointments	97	1	*No.*	32	2	36	5	7	12	0	3
No contact/unavailable within fieldwork period	49	0	*No.*	13	2	11	8	1	14	0	0
Other	38	12	*No.*	17		13	2	1	3	0	0
No longer living in Ireland/Deceased	0	101		-	-	-	-	-	-	-	-
TOTAL ABOVE	**8,277**	**291**									
				6,216	215	1,319	136	105	211	4	-
			%	75.5%	2.6%	16.1%	1.7%	1.3%	2.6%	0.0%	-
							TOTAL			8,206	71

The table shows that 8,277 families were issued to field interviewers at Wave 3 of the study. A total of 101 of the 291 families who were not issued at Wave 3 were identified in the course of fieldwork for Wave 2 as no longer living in Ireland[3]. A further 100 families who were approached at Wave 2 but said they did not wish to participate in that round or subsequent rounds of the study. This latter group of families was not included in Wave 3 fieldwork. Families for whom we had no known address (despite our best efforts at tracing them in Wave 2) were not included in the sample for Wave 3.

The first row of Section B in the table indicates that approximately 81 per cent of young people who took part at 13-years of age also took part at 17/18 years. Response rates were much lower among young

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[3] In a small number of cases in this group the Study Child had been identified as having deceased, either in the course of Wave 2 fieldwork or between Waves 2 and 3.

people who had refused or otherwise had not participated in the study at 13 years of age. For example, only 20 per cent of those who 'refused' at 13 years but who were re-issued at 17/18 years of age completed their questionnaires. This is very much in line with expectations.

The reader should note from Table 2.3 that in 215 families the Young Person's parent(s) completed the questionnaire but the Young Person did not. In preparing the data it was decided to exclude these cases from the re-weighted files for analysis. Most of the information recorded at 17/18 years of age was collected from the Young Person him/herself. From a technical perspective it is preferable to have excluded cases where only the Parent(s) participated with non-participation (for whatever reason) by the 17/18-year-old. As with all non-participation this set of families is accounted for in the re-weighting procedure. To have included them in the files for re-weighting and public archiving would have meant that effectively 2.5-3.0 per cent of cases would have been unit missing on *all* of the young person's information. The best way to address this issue is through re-weighting of the data.

Finally, the reader should note that Table 2.3 accounts for 8,277 families who were issued to the field in Wave 3 (71 of whom were identified in the course of fieldwork as no longer living in Ireland). Adding the 291 families from Wave 2 who were not issued to field interviewers in Wave 3 for a variety of reasons brings us back to the 8,568 families included in Wave 1 of the study. If one excludes the 172 families who were positively identified during Wave 1 or Wave 2 fieldwork as no longer living in Ireland from the base of 8,568 families who were initially interviewed in Wave 1 the 6,216 who were included in the datasets for Wave 3 of the study represent 74 per cent retention of the original sample of 9-year-olds who are believed to have been still resident in Ireland at 17/18 years of age[4].

2.3   Differential inter-wave attrition

Non-response in a feature of all sample surveys. It is highly undesirable, especially if it is found to be non-random or concentrated in certain sub-groups of the target sample. Non-response from one round to another in a longitudinal survey is referred to as inter-wave attrition. As discussed in detail in Thornton et al. 2016, it may be mitigated by implementing tracking procedures aimed at tracing respondents who change address between successive interviews, to try to keep them included in the sample. The types of tracing procedures used with Cohort'98 at 17/18 years of age are discussed in full in Williams et al., 2018 (forthcoming).

To assess the extent to which non-response at 17/18 years was systematically associated with family or other characteristics Table 2.3 summaries response outcomes at 17/18 years of age by a selection of background characteristics when the Study Child was 13 years of age[5].

Table 2.3: Response rates at 17/18 years by background characteristics at 13 years of age. Table based on the 7,525 families who participated at 13 years of age.

	Outcome at 17/18 years of age

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[4] This is probably an under-estimate of the numbers who were actually no longer living in Ireland at Wave 3 of the study. Many of the 71 families who were identified in Wave 2 fieldwork and the 136 families identified in Wave 3 fieldwork as 'Moved/no forwarding address' may actually have been no longer living in Ireland. As we were not able to affirmatively verify this they were not excluded from the target sample. This will have the effect of reducing the retention levels among the original sample.

[5] By definition the table is based on participants in the earlier 13-year round of the study.

	Completed	Refused	Unable to contact	Total
	Per cent			
Primary Caregiver's Education				
None or primary	65.8%	25.8%	8.3%	100.0%
Lower Sec	73.1%	23.0%	3.9%	100.0%
Hi Sec/TechVoc/UppSec+Tech/Voc	78.6%	18.3%	3.2%	100.0%
Non Degree	81.6%	15.9%	2.5%	100.0%
Primary	86.1%	11.5%	2.4%	100.0%
Equivalised family income quintile				
Quintile One (low)	77.3%	18.1%	4.6%	100.0%
Quintile Two	78.2%	17.8%	4.0%	100.0%
Quintile Three	80.7%	16.6%	2.7%	100.0%
Quintile Four	82.7%	15.2%	2.1%	100.0%
Quintile Five (high)	85.8%	12.4%	1.8%	100.0%
Income Missing	74.1%	21.9%	4.0%	100.0%
Family Social Class				
Professional workers	87.7%	10.7%	1.6%	100.0%
Managerial and technical	82.4%	15.2%	2.4%	100.0%
Non-manual	79.8%	17.4%	2.8%	100.0%
Skilled manual	77.9%	19.3%	2.8%	100.0%
Semi-skilled	73.9%	21.7%	4.4%	100.0%
Unskilled	64.6%	28.0%	7.3%	100.0%
Never worked outside the home	75.4%	17.0%	7.6%	100.0%
Family type				
One-Parent-1 or 2 children	73.3%	22.3%	4.4%	100.0%
One-Parent-3+children	74.9%	14.2%	10.9%	100.0%
Two-Parent-1 or 2 children	80.7%	17.2%	2.1%	100.0%
Two-Parent-3+children	83.4%	13.8%	2.7%	100.0%
Study Child's gender				
Male	80.6%	16.4%	3.0%	100.0%
Female	81.2%	15.9%	2.8%	100.0%
Drumcondra Reasoning Test Quintile				
Quintile One (low)	74.1%	21.3%	4.5%	100.0%
Quintile Two	80.5%	16.8%	2.7%	100.0%
Quintile Three	82.9%	14.5%	2.6%	100.0%
Quintile Four	84.8%	12.8%	2.4%	100.0%
Quintile Five (high)	87.1%	11.2%	1.7%	100.0%
Drumcondra Reasoning Test Missing at 13 years of age	66.4%	29.1%	4.5%	100.0%
Child Sensitive questionnaire completed at 13 years?				
Not completed	68.0%	28.1%	3.8%	
Completed	81.5%	15.6%	2.9%	
TOTAL	80.9%	16.1%	2.9%	100.0%

It is clear from the table that response is strongly related to Primary Caregiver's education, equivalised income and social class, in all cases being higher among families in the more advantaged groups. The lowest rate of participation is among those whose income was

missing from the 13-year interview. Prior analysis of the data suggest that these households are generally among the most disadvantaged in the study. Participation at 17/18 years was also lower among one-parent families, though some of this may reflect the background characteristics or composition of family types – one parent families being more like to be more disadvantaged in terms of income, education and social class grouping. The table also indicates that there is also a lower response rate among one-parent families.

There is no difference in participation at 17/18 years of age between males and females.

The table indicates, however, that there is a strong link between participation at 17/18 years and how well the Study Child did in the Drumcondra Reasoning Test (DRT) at 13 years of age. For example, 77 per cent of the 13-year-olds who were in the lowest quintile of scores on the Drumcondra Reasoning Test participated at 17/18 years of age, compared with 88 per cent of 13-year-olds who were in the highest quintile of scores on the test. Participation at 17/18 years of age was lowest among 13-year-olds who did not complete the Drumcondra Reasoning Test. Only 73 per cent of 13-year-olds who did not sit the test (those for whom the results were missing) took part in the study at 17/18 years of age. Non-completion of the DRT at 13 years may reflect reasoning ability on the part of the 13-year-old (perhaps the least capable may have been intimidated by the test at that time). Equally, some of this higher level of non-response among those who did not complete the DRT may be taken as a proxy measure of the Study Child's engagement with the project.

Finally, the last section in Table 2.3 summarises response rates according to whether or not the 13-year-old completed the Child Sensitive questionnaire as part of their 13-year interview. One can clearly see that response at 17/18 years of age is much lower among the participants at 13 years who did not complete a sensitive questionnaire (which was filled out on a self-completion basis on the laptop as part of the 13-year interview) – 68.0 per cent compared to 81.5 per cent among those who filled it out. Failure to fill out their self-complete questionnaire may be interpreted as an early indicator of commitment (or otherwise) to the study.

Table 2.4 presents an alternative way of considering variations in inter-wave attrition between 13 and 17/18 years of age. This summarises 'odds-ratios' from a logistic regression analysis.

Table 2.4: Odds ratios of participating in Wave 3 among those who participated in Wave 2

	A		B
	Bivariate		Multivariate
Primary Caregiver / Parent	Exp(B)		Exp(B)
Leaving Cert. or Vocational	1.416**		1.173
Cert./Diploma	1.714**		1.301*
Degree or higher	2.396**		1.559**
Family Characteristics			
One-parent/1-2 children	0.917		0.828
Two-parent/1-2 children	1.402*		1.140
Two-parent/3+ children	1.688**		1.371*
Income quintile 2	1.053		1.000
Income quintile 3	1.224*		1.042
Income quintile 4	1.402**		1.073
Income quintile 5 (high)	1.769**		1.156
Income missing	0.838		0.706**
Managerial/Technical	2.450**		1.249
Non-manual	1.612**		0.932
Skilled Manaul	1.365*		0.965
Semi-skilled manual	1.216		0.933
Unskilled Manual	0.977		0.802
Never worked	0.631		0.638
Child/YP characteristics			
Boy	0.959		0.893
DRT quintile 2	1.444**		1.324**
DRT quintile 3	1.697**		1.452**
DRT quintile 4	1.944**		1.614**
DRT quintile 5 (High)	2.353**		1.825**
DRT missing	0.690**		0.735**
Child NOT completed sensitive	0.482**		0.634**

The figures in the table represent the odds of completing the survey at Wave 3 (at 17/18 years of age) compared to not completing it. Column A in the table presents the bivariate odds ratio of participation at 17/18 years among families who participated at 13 years of age. This means that only the individual variable in the table is considered in terms of participation (or not) in Wave 3. In contrast, Column B shows the odds ratios of participation based on a model which simultaneously controls for all of the background characteristics in the table.

Column A indicates that participation in Wave 3 of the study was strongly related to family characteristics such as Primary Caregiver education, income, social class. For example, a 17/18-year-old whose Primary Caregiver was educated to degree level was 2.4 times more likely to participate in the most recent round of interview as compared to their counterpart whose main caregiver had primary-level or no education.

One can see that in terms of individual-level characteristics of the 17/18-year-old gender was not a significant factor in the chances of participation in the survey at this round of interviewing. In contrast, how well the young person did in their Drumcondra Reasoning Test (DRT) at 13 years of age was highly significant – a young person who was ranked in the top quintile of scores in the DRT at 13 years was 2.35 times more likely to participate at 17/18 years of age as compared to one who was in the lowest quintile. As noted in our discussion of Table 2.2 the figures indicate that 13-year-olds who did not complete the DRT at 13 years (score was missing) were significantly less likely (only 0.69 times) to participate at 17/18 years of age than those in the lowest quintile of scores (the reference group).

The figures in Column B provide comparable information on bivariate odds ratios – i.e. controlling for all variables simultaneously. One can see that when we do this the relationship becomes insignificant and the level of coefficients becomes substantially moderated in many instances. Primary Caregiver education and performance in the DRT at 13 years of age remain the most consistently and systematically significant as predictors of participation in the 17/18 year survey.

2.4   Reweighting the data

As noted above, the longitudinal sample at Wave 3 is made up of Study Children/Young People and their families who participated in the study at 9 years of age and who were continuing to live in Ireland when they were 17/18 years old. Given the fixed sample design, children who were living in Ireland at 17/18 years of age but who were not resident in the country at 9 years were not included in this population. Equally, it does not include children who were resident in Ireland at 9 years of age but who had emigrated out of the country by 17/18 years and who, accordingly, were no longer growing up in Ireland. The statistical re-adjustment of the data must take account of the population to which we are weighting, the study's design as well as response / non-response patterns in successive rounds.

With three waves of data now available analysts can focus on children and families who participated at 9 years; 13 years and 17/18 years of age or, alternatively, the subset who participated at various combinations of these ages. The full sample of 8,568 Wave 1 participants breaks down in terms of response patterns at Waves 2 and 3 as set out in Table 2.5 below.

Table 2.5: Breakdown of Study Children/Young people and their families according to participation at 9 years, 13 years and 17/18 years of age

File Option	Participated at:	No. of Study Children/Young People
	9 years only	866
	9 years and 13 years only	1,486
A	**9 years, 13 years and 17/18 years**	**6,039**
B	**9 years and 17/18 years only**	**177**
	TOTAL	8,568

These response patterns mean that there are 8,568 children and their families available for analysis in cross-section at 9 years of age (Wave 1). If one is interested in transitions from 9 years to 17/18 years of age one can use 6,216 cases for analysis (the combination of subgroups A and B above). If the focus of investigation is child development at each observation from 9 years, 13 years and 17/18 years of age then 6,039 cases are available for analysis (sub-group A in Table 2.5).

In preparing the Wave 3 data two sets of weights and grossing factors were calculated. The first set was generated for use in analysis based on the 6,039 Children/Young People and their families who took part in all 3 Waves (Row A in Table 2.5). The second set of weights and grossing factors was generated for use in analysis of 17/18-year-olds who were also interviewed at 9 years of age – the slightly larger group of 6,216 cases (Row B in Table 2.5).

A standard iterative procedure (known as the GROSS system) was used to generate both sets of weights (i.e. those based on the 6,039 Children/ Young People who participated in all 3 waves of the study as well as the 6,216 families who participated only at 9 and 17/18 years. This system is based on a minimum information loss algorithm which fits population marginals within a regression framework and adjusts the sample according to pre-specified characteristics to ensure that it produces estimates which match population totals. This is the system used in all previous rounds of *Growing Up in Ireland*[6].

The sample weights for Wave 3 were constructed by first generating an inter-wave attrition weight to adjust the composition of the completed Wave 3 sample to the Wave 2 sample by taking account of: (a) 13-year-olds who lived in Ireland at Wave 2 but who had been identified as having moved out of the country by Wave 3 or who had deceased

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[6] 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.

between Waves 2 and 3 and (b) variations in Wave 3 response rates according to background characteristics. The former adjustment accounts for changes in the longitudinal population by excluding children/young people who no longer live in Ireland (or who have deceased) since their previous interview. The latter adjusts for differential attrition rates between Waves 2 and 3. The variables or background characteristics which were used to adjust for Wave 2 to Wave 3 attrition and so generate the inter-wave attrition weights were those which were considered in the previous section and outlined in Table 2.3 and 2.4 above[7]. These were:

- Primary Caregiver's educational attainment in previous interview
- Family structure (four-fold small/large one-parent/two-parent families in previous interview
- Family income quintile in previous interview
- Family social class in previous interview
- Child/Young person's gender
- Position in quintile distribution on Drumcondra Test in previous interview
- Whether child completed the Child Sensitive Self-complete at 13 years of age

When the Wave 3 sample was adjusted in line with both changes in the population and differential interwave attrition a new Wave 3 weighting/grossing factor was generated by taking the product of the attrition weight and the Wave 2 weighting/grossing factor. The Wave 2 weight incorporated the original design and differential response at Wave 1 as well as attrition between Waves 1 and 2.

In generating the two sets of weights/grossing factors the characteristics of the family or child at the previous round of their interview was used. This means that when generating the adjustment factors for use with the 6,039 families who had participated in all three rounds of the study the characteristics from the 13-year interview were used.

When generating the weights/grossing factors for use with the slightly larger set of 6,216 families who participated at 9 years and 17/18 years of age but not at Wave 2, the characteristics at Wave 2 were used in respect of the 6,039 families who had participated at all 3 rounds (and most recently in Wave 2 at 13 years of age). The characteristics which were recorded at Wave 1 (at the 9-year interview) were used in respect of the remaining 177 families who participated when the Study Child/Young Person was 9 years and 17/18 years but not at 13 years of age. This means that the most recently available information was used in respect of all families in deriving the two sets of weights and grossing factors. In generating the second set of weights and grossing factors for the slightly larger 6,216

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[7] Other characteristics of the family or young person were also investigated, to assess whether or not they were significantly related to inter-wave attrition. These included whether or not the PCG was born in Ireland; depression status of the PCG; the 17/18-year-old's physical and mental health (scores on Short Mood & Feelings Questionnaire (SMFQ) and Strengths and Difficulties Questionnaire (SDQ)) and self-esteem (Piers Harris scale). Although various significant bivariate relationships were identified between attrition and some of the characteristics in question these were not found to be systematic or to retain significance when other variables were included as controls in the model.

sample only six weighting dimensions were used. Whether or not the child completed the Child Sensitive questionnaire at 13 years was not included as (by definition) all of the additional 177 cases underlying the second set of weights and grossing factors did not self-complete that questionnaire (as they did not participate at all in that round of the study.

The two sets of weighting and grossing factors on the 17/18-year AMF files are as set out in Table 2.6 below.

Table 2.6: Weighting and Grossing Factors included on the 17/18-year AMF

17/18-year-olds participated at:	*No of 17/18-year-olds*	*Weight and Grossing Factor*
9 years and 17/18 years of age	6,216	WGT_17YRa GROSS_17YRa
9 years; 13 years and 17/18 years of age	6,039	WGT_17YRb GROSS_17YRb

Chapter 3   Instrument Development and Piloting

3.1   Instrument Design

The questionnaires were developed by the Study Team along with the input from two International Advisors, the Scientific Advisory Group, and through consultations with a number of young people.

The **Scientific Advisory Group (SAG)** is a non-executive group that is made up of approximately 50 experts from a range of fields, drawn from many of the third level and related institutions in Ireland. The Scientific Advisory Group was heavily involved in the development of the content of the questionnaires, instruments and procedures.

Two **International Advisors** who had been involved with the Centre for Longitudinal studies in Britain and who have worked on a number of similar longitudinal studies including the National Child Development Study (NCDS), German Family Panel PAIRFAM ("Panel Analysis of Intimate Relationships and Family Dynamics") and the "ESRC 16-19 Initiative" provided significant advice to the study team at wave 3 of Growing Up in Ireland. The two International Experts contributed very substantially in terms of input and suggestions regarding procedures and protocols for all aspects of the study, including design and coverage; sample composition; approaching the families; securing informed consent etc. as well as on the substantive issues around content, scales, modules, topics and questions.

The **Young Persons Consultative Process** involved focus groups with young people aged 17/18. The first focus groups involved participants from the Department of Children and Youth Affair's Comhairlí na nOg (National Youth Committees). The Study Team also held a focus group with 17-year-olds from a school which has designated disadvantaged status in the Irish second level system. This component was included to ensure that the views of young people from across as broad a range as possible of social backgrounds were included in the development of the study. These focus groups were important in the development of this phase of the study by identifying the main issues impacting young people today and to address the operational aspects of interviewing 17-year-olds such as how to maximise an honest and full response. Members of the Study Team also met with other relevant stakeholder groups and feedback from these meetings was incorporated into the development of the instrumentation and in the design of the project in general.

In developing the instrumentation, the Study Team synchronised, as far as possible, with other longitudinal child cohort studies, in order to enable later comparison as well as to draw on the experiences and lessons learned by them.

3.2   Piloting the Instruments

The pilot of the 17 year data involved interviews with young people aged 17 and their Parent(s)/Guardian(s). Interviews took place in the home and were completed on a CAPI and CASI basis. Once the interview was completed the 17 year old participant was given an URL link to an on-line survey. The survey contained questions on the interview process and the survey content, along with suggestions on how it could be modified and improved for the main phase. A similar survey was also completed by the survey interviewers. A focus group was also held with pilot participants to discuss issues related to the content and administration of the questionnaire. Any suggestions made in the focus group and the surveys were considered and modifications were made to the main phase of the study.

Chapter 4   Survey Instruments

4.1   The school-based instrument

A four page questionnaire for recording school-level information was self-completed by the Principal of each participant.

The questionnaire modules are outlined in the table below, and the questionnaires are given in full in the Appendix.

Table 4.1: School based instruments

Respondent	Mode	Summary of content
Principal	Self-completion (on paper)	Personal information in respect of the school Principal: gender, age, experience, his/her sense of job satisfaction
		Basic information about the school: number of students, gender mix, religious ethos, type of school, DEIS status
		School resources: staff, guidance provisions, learning supports, school building
		Student body: pupils with difficulties, supports to students, over-subscription and entrance criteria, attendance and absence levels, proportion of student that attend higher education and social-mix.
		School practices and policies: programmes offered, subjects offered, extra-curricular activities, parent-teacher meetings, bullying, teachers attitudes, students attitudes

4.2 The household instruments

The household-based questionnaires used with the child cohort in *Growing Up in Ireland* at 17/18years were divided into sections of questions according to the topic. Interviews were conducted with the 'Parent One' (formally, Primary Caregiver) - the person who provides the most care and is most knowledgeable about the Young Person (usually his/her mother or mother figure); 'Secondary Caregiver' (formally, Parent Two) the resident spouse or partner of the Parent One (usually the Young Person's father or father figure, where applicable) and the Young Person him- or herself. The various section in the home-based phase of the study are outlined in Table 4.2 below, and are given in full in the Appendices.

Table 4.2: Summary of household-based instruments

Parent One	
CAPI Interview (Main questionnaire)	**Module/Section**
	ZA: Household Composition
	A: Parent's Health
	B: Young Person's Health and Illness
	C: Family Context
	D: Young Person's Emotional Health and Well-Being
	E: Parent's Socio-Demographic
	F: Parent's Background Characteristics
	G: Household Income
	H: Neighbourhood/ Community Involvement
	J: Intergenerational Characteristics
Self-completion (on CASI) (Sensitive questionnaire)	
	AS: Reason for people leaving the household at Wave 2
	A: Relationship to Young Person
	B: Current Marital Status
	C: Parental Efficacy and Pregnancy Status
	D: Alcohol Screen
	E: Current Smoking and Drugs
	F: Mental Health
	G: Parental and Relative's Trouble with the Gardaí
	H: Parental Knowledge of Young Person's Health Risk Behaviours
	I: Information on Non-Resident Parent (if relevant)
Parent Two	
CAPI Interview (Main questionnaire)	
	A: Parental Health
	B: Family Context
	C: Young Person's Emotional Health and Well-Being
	D: Parent's Socio-Demographics
	E: Parent's Background Characteristics
	F: Intergenerational Characteristics
Self-Completion (on CASI) (Sensitive questionnaire)	
	A: Relationship to Young Person
	B: Current Marital Status
	C: Parental Efficacy and Pregnancy Status
	D: Alcohol Screen
	E: Current Smoking and Drugs
	F: Mental Health
	G: Parental and Relative's Trouble with the Gardaí
	H: Parental Knowledge of Young Person's Health Risk Behaviours
	I: Information on Non-Resident Parent (if relevant)
Young Person – 17/18-year-old	
CAPI Interview (Main Questionnaire)	
	A: Current Education or Work Status
	B: Experience of Secondary School
	C: Career Guidance and Attitudes to Further/Higher Education
	D: Involvement in Post-School Education and Training
	E: Parental Engagement in Education
	F: Part-Time Work while in Education
	G: Attitudes to Work
	H: Work History
	J: Activities
	K: Citizenship, Identity and Civic Participation
	L: Neighbourhood
	M: Young Person's Health

	N: Diet, Exercise and Sleep
	O: Dental Health
Self-completion (on CASI) (Sensitive questionnaire)	
	A: Friendship networks
	B: Current Smoking, Alcohol, Drugs
	C: Relationship and Sexuality Education
	D: Gender Identity and Intimate Relationships
	E: Pregnancy
	F: Physical Health
	G: Self-Esteem, Life Events and Attitudes
	H: Family Relationships
	J: Mental Health
	K: Self-Harm
	L: Bullying
	M: Anti-social Behaviour and Contact with the Criminal Justice System
	N: Leisure Activities and Internet Use
Measurements	Height and weight
	Blood pressure
	Semantic Fluency Task
	Vocabulary Test
	Financial literacy/numeracy test

The self-complete questionnaire contained some questions which could be deemed as very sensitive; therefore, prior to commencing the self-complete questionnaire, the Young Person was made aware of what the questionnaire entailed. The Young Person was given an opportunity to opt out if they were not happy with the content or to skip any questions if they did not wish to answer.

In order to achieve as inclusive a sample as possible the household questionnaire was also available in a number of different languages (for completion on paper). As well as Irish and English, all questionnaires (and other documentation) were available in Chinese, Lithuanian, and Polish.

In addition to the questionnaires the interviewers recorded the parents' weight and height (if applicable), and the height, weight and blood pressure of the Young Person. A medically approved mechanical SECA 761 weighing scales was used for recording the weights, a Leicester measuring stick was used to record the heights and an Omron M2 Basic Monitor was used to record blood pressure and heart rate.

The Young Person also completed three cognitive tests which were administered directly by the interviewer in the home. The cognitive tests included a Semantic Fluency test, a test of the Young Person's vocabulary and three mathematical calculations.

Chapter 5 Fieldwork and Implementation

5.1   Interviewer training

Fieldwork was carried out by the ESRI's national panel of interviewers. All interviewers received in-depth training prior to commencing work on the project. This included the following modules:

1. Background and objectives of the study
2. Detailed review of the content of all questionnaires
3. Familiarisation with, and practice on, using the Computer Assisted Personal Interview system (CAPI)
4. Fieldwork procedures.
5. Adult and Young Person measurements (height, weight and blood pressure) and GPS co-ordinates
6. Instruction and practice in the administration of the direct Young Person assessment, including instruction on how to use the Dictaphone for the Semantic Fluency Test.
7. Child protection guidelines and incident reporting.
8. Ethics
9. Summary of other documentation used in the administration of the survey

5.2   Vetting

Growing Up in Ireland was carried out under the Statistics Act (1993). This is the same legislation as is used, for example, to carry out the Census of Population. Interviewers were appointed 'Officers of Statistics' for the purpose of this project. This included a confidentiality clause on non-disclosure of information which was recorded in respect of any family or young person to any unauthorised person, for any purpose.

In addition to being appointed Officers of Statistics, all interviewers (as well as all staff involved in the project) were security vetted by An Garda Síochana (the Irish Police Force).

5.3   Interviewing Guidelines on Interviews with Adults and Young People

The importance of privacy and confidentiality for both the parents and the Young Person was impressed upon the interviewers. Strict guidelines were given in relation to interviewing the Young Person. At previous waves of the study interviewers were told to never be left alone with the study child. However as the Young Person is now more mature at age 17 (or 18 in some cases) and is at the cusp of being classified as an adult, the interviewer was told they could be alone with the Young Person as long as there was another adult present in the accommodation, the door was left open at all times and another adult was present in the room when the Young Person was being helped to put on/take off the blood pressure monitor. The interviewers were also instructed to never allow themselves to be alone with any young child during their time in the household.

5.4   Contacting a Household

Information about the third phase of the study was sent to the families who had taken part at previous waves in advance of first contact from the interviewer. Interviewers then made a face-to-face visit to the household to organise an appointment to carry out the interview at a time that was convenient for the family and the Young Person. Inclusion in the third wave of the study was on an opt-out basis. If the Young Person was under 18 years of age the parents provided consent for the 17-year-olds participation in the study. If the Young Person was over 18 years of age the parents were asked to sign that they understood that their 18-year-old was taking part, however, it was not a legal requirement to obtain their consent. A copy of the introductory letter, information leaflet and consent forms are included in the Appendices.

5.5   Follow Up/Tracing Information

On successful completion of the surveys, interviewers collected tracing information from 'Parent 1'. This recorded alternative contact details of two people from outside the household who would be able to assist the study team in contacting the family should they move between the current and subsequent waves of the study. The Young Person's email and mobile number was also recorded, with a view to assisting the study team in tracing the respondent if he/she moved address.

5.6   Incidents

A detailed *Growing Up in Ireland* Child Welfare and Protection protocol was developed by the Study Team. One aspect of this involved an incident report system. All incidents were immediately reported by interviewers to their Field Support Contact at Head Office and a detailed Incident Report Form was completed. Given that interviews often took place outside office hours during the week and also at weekends, interviewers were provided with an emergency telephone number that could be used to contact the Study Team on a 24-hour, 7 days a week basis. Interviewers were instructed that in extreme circumstances, where a child or other vulnerable person was thought to be in immediate danger they should use their own discretion and contact the Gardaí if necessary, without recourse to the Study Team.

Chapter 6 Structure and Content of the Data File

6.1   The Structure of the Household and School Data File

Both the Researcher Microdata File (RMF) and the Anonymised Microdata File (AMF) are presented as a flat rectangular data file based on a simple concatenation of all home-based questionnaires followed by the questionnaire completed by the School Principal. The case-base is the Young Person (the 17/18-year-old). This means that the user does not have to be concerned about matching questionnaires within the family.

The scores for the Semantic Fluency Test, Vocabulary Test and Mathematical Calculations are appended at the end of the file-after the data from the School Principal.

6.2   Variable naming

Variables for Wave 3 of the Child cohort are prefixed with 'pc3' for Parent One, 'sc3' for the Parent Two and 'cq3' for the Young Person. The '3' indicates that the data came from the third wave of the project. For example, question b1 from the Parent One Main Questionnaire has the variable name 'pc3b1'. An s is included in the variable name if the question was from the sensitive questionnaire, for example, question A1 from the Young Person Sensitive Questionnaire was 'cq3sa1'.

Other variables from the third wave not directly referring to either caregiver (including derived variables) are prefixed 'w3'.

The only exceptions to this convention are the household grid variables which are prefixed with the person number. For example, the variable for the sex of the person on line 1 of the grid is 'P1sexW3' where 'W3' indicates Wave 3 data.

Blocks of variables appear in the data set in the following order (variable prefixes are shown in brackets):
  – Household Grid (p1xxW3, p2xxW3)
  – Parent One Main Questionnaire (pc3)
  – Parent One Sensitive Questionnaire (pc3s)
  – Parent Two Main Questionnaire (sc3)
  – Parent Two Sensitive Questionnaire (sc3s)
  – Young Person Main Questionnaire (cq3)
  – Young Person Sensitive Questionnaire (cq3s)
  – Standardised Scale Scores (w3)
  – Physical Measurements (w3)
  – Derived Variables (w3)

The Study Team would advise that the data are used in conjunction with the Questionnaire Documentation. This is the most efficient way to get a broad overview of the topics included in the data file. The user should note, of course, that with a view to ensuring anonymity of the data, not every question from the questionnaire is included in the data file – particularly in the case of the AMF dataset. A list of variables included in each data file is available via the appropriate summary data dictionary.

6.3   Identification codes

There are two levels of identification codes on the file and both are anonymised. The first is at the level of the household, with a unique identification code for each case in the file. The second is at the level of the Young Person's second-level school. An anonymised school identification code is provided on the RMF to allow for analysis at the school level.

6.4   The Household Grid

The household grid contains information on members of the household i.e. who lives in the household, their person number on the grid, gender, age, relationship to both Parent One and the Young Person and principal economic status. This information was collected at the previous wave of the study and was fed forward for review and update (as appropriate) by Parent One at the beginning of the interview at Wave 3. Details were recorded such that Parent One (usually the mother) was on line 1, the Young Person (focus of the study) was on line 2, and (where relevant) Parent Two was on line 3. The Study Child's twin or triplet etc. was on lines 4, 5 as appropriate, unless there was no Parent Two in the family, in which case the twin or triplet was included on lines 3, 4.

At Wave 3, Parent One from Wave 2 was asked to check that the information recorded on the household gird was correct and still valid, and if not, to correct/or update the information. New members of the household could be added to the grid and others removed (as relevant). The variables labelled 'P1xxW3' etc. represent the information collected at Wave 3 including any corrections. On the *RMF only*, the original line number for the person at Wave 3 can be found in the variables named '**P1origlinew3'** etc.

In families in which Parent One at Wave 2 had become Parent Two at Wave 3 (and hence would not be completing the Wave 3 Parent One Questionnaire), s/he was asked to review (and correct if necessary) the grid information which s/he had provided at the previous wave and to then continue filling out the Wave 3 Parent Two questionnaire. This was done to meet the guarantees of confidentiality of information which were given to respondents at the previous two waves. At the previous waves the respondents were told that no-one would have sight of the information that they provided in the course of their interview, including the information contained in the household grid. In a small number of families

where the Parent One from Wave 2 was no longer resident in the household or was unable to complete the household grid, a completely new household grid was filled out by the new Parent One at Wave 3. Whether or not the Parent One and Parent Two roles at Wave 3 were being taken by the same individual as in Wave 2 is indicated by the variables '**pg1statph3'** and '**pg2statph3'**.

As noted, where there is a Parent Two, s/he will be person 3 on the household grid. However, not all persons on line 3 of the household grid are Parent Twos. For example, in a one-parent family the third person will be another household member (other than the Parent One or Study Child). A variable has been included in the database to highlight whether or not a partner of Parent One (by definition Parent Two) is resident in the household (**w3partner**)

Details obtained in the household grid, such as dates of birth, gender and relationships are very important in terms of derived variables. Consequently, some editing of the information took place where it was clear from relevant details on the body of the questionnaire that this was appropriate. There are, however, a few minor outstanding anomalies between the information given on the interviewer administered household grid and that given in the Parent One Sensitive questionnaire (self-completed on CASI).

The reader should note that (for anonymisation purposes) exact dates of birth have been removed from the archived file and replaced with age in years.

6.5   The Main Respondent- Parent One

Parent One was self-identified within the home as the person who provides the most care to the Young Person and is most knowledgeable about him/her. In most cases, this was the Young Person's mother though in a small proportion of cases the Young Person's father identified himself as the Parent One even though the child's mother lived in the household.

As noted above, in some cases the Parent One and Parent Two from Wave 2 had swopped roles between waves. This is flagged by the variables '**pg1statph3'** and '**pg2statph3'** (note that more detailed information on the inter-wave swopping of roles is provided in the RMF).

6.6 Twins

There is a data record for each Young Person included in the sample. In households with resident non-singletons either two or three data records (for twins and triplets respectively) are included. All non-singleton young people are coded as '**w3nonsingleton'** in the file.

6.6.1 How many twins?

There are a total of 195 non-singleton young people included in the sample. This was made up of 90 sets of twins and five sets of triplets.

6.6.2 Interview procedures for non-singleton births

In situations where there was a non-singleton in a family a full interview was administered in the normal way to each Young Person in question. In addition, a core questionnaire was administered to the Parent One and Parent Two (where relevant) in the normal way to record the characteristics of the informant himself/herself. These core questionnaires included details on, for example, the informant's health status and lifestyle, socio-demographic characteristics etc. In addition, Parent One and Parent Twos were asked to complete a questionnaire containing questions specific to each of the non-singleton study children- for example, in respect of Parent One and Parent Two's relationship to the Young Person and so on. Subsequent to the interview, a data record was constructed for each non-singleton Young Person to include common questions relating to Parent One and Parent Two him/herself as well as the Young Person specific questions in respect of each of the non-singletons in question.

6.7 Weighting Variables

In line with best practice in sample surveys the data have been reweighted or statistically adjusted to ensure that the sample is wholly representative of the population from which it has been drawn. By doing this one ensures that the structure of the completed sample is in line with the structure of the population along key socio-demographic and other dimensions.

The data file contains two weighting and grossing factors. The weighting factor to be used on participants who participated at age 17/18 only is (**WGT_17YRa**) and the grossing factor is (**GROSS_17YRa**). The weighting factor (**WGT_17YRa**) incorporates the structural adjustment of the completed sample to the population, whilst maintaining the total completed sample size of 6216. The grossing factor (**GROSS_17YRa)** calibrates to the estimated Wave 3 population total of 55,796 young people aged 17 years who were resident in Ireland at Wave 1 and continued to be resident at Wave 3. Both **WGT_17YRa** and **GROSS_17YRa** provide the user with the same structural breakdown of the data. The former (which maintain the actual number of cases) can be used in significance testing and data modelling. The weighting and grossing factors which should be used with the

sample of 6,039 cases who participated at 9 years, 13 years and 17/18 years of age are **WGT_17YRb** and **GROSS_17YRb.**

More details on the specifics of the weighting/grossing procedure is provided in Chapter Two above.

6.8   Derived Variables

In this section we discuss the derived variables included in the dataset which have been generated from information recorded in the original interview.

The derived variables are mostly included at the end of the household files, i.e. after the Young Person Supplementary questionnaires, and before the school Principal questionnaire, with the exception of the weighting variables, the variable relating to the number of caregivers in the household (**w3partner**) and the variables relating to the status of Parent One and Parent Two (**pg1statph3**, **pg2statph3).**

6.8.1   Variables derived from the household grid

6.8.1.1   Household type (w3hhtype4)

This is based on whether or not the Parent One is married /cohabiting or is living alone with children and the number of children in the household. Previously the household type has been calculated based on the number of children under the age of 18. However, as a number of the Young People in the sample were aged 18, it was decided to include all children aged 18 and under. Therefore, this fourfold classification gives the number of parents (one or two) and children (< 3; >=3).

6.8.2   Household income and social class

6.8.2.1   Equivalised income (w3equivinc; w3eincquin; w3eincdec)

In order to make meaningful comparisons across households of their income, household size and structure must be taken into account. This is done by creating an 'equivalised' household income. In **Growing Up in Ireland**, an equivalence scale was used to assign a "weight" to each household member. The equivalence scales assigned a weight of 1 to the first adult in the household, 0.66 to each subsequent adult (aged 14+ years living in the household) and 0.33 to each child (aged less than 14 years). The sum of these weights in each household gives the household's equivalised size – the size of the household in adult equivalents. Disposable household income is recorded as total gross household income less statutory deductions of income tax and social insurance contributions. Household equivalised income is calculated as disposable household income divided by equivalised household size. This gives a measure of household disposable income which has been

"equivalised" to account for the differences in size and composition of households in terms of the number of adults and/or children they contain.

Equivalised income is also given in quintiles and deciles in the AMF and RMF.

6.8.2.2 *Household class (hsdclassW3)*

The Social Class of Parent One and Parent Two is derived from their occupation. In the course of their interview, both caregivers (where relevant) were asked to provide details on their occupation, from current, or previous employment outside the home (the latter in situations in which the respondent was unemployed or retired at the time of their interview). On this basis it is possible to generate a social class classification for both Parent One and Two. The classification used was that adopted by the Irish Central Statistics Office (CSO) with 9 categories as follows:

- Professional managers
- Managerial and technical
- Non-manual
- Skilled manual
- Semi-skilled
- Unskilled
- All others gainfully occupied and unknown
- Employment status unknown
- Validly no social class

The "validly no social class" category refers to situations in which Parent One (and Parent Two, if relevant) has had no occupation outside the home and so cannot (by definition) be assigned to a social class code. It does not refer to situations in which the information on occupation is missing or not recorded for any reason.

The household's Social Class (in contrast to Parent One or Parent Two social class) is then taken as the higher Social Class category of both partners in the household (as relevant). This standard procedure of selecting the higher of two class categories is referred to as the dominance criterion.

Social class at age 17/18 was also calculated for the Grandparents of the Young Person (**pcgparclassW3**, **scgparclassW3**), for the Young Person's desired and expected job (**cq3g1aclass, cq3g1bclass**) and the young person's current economic status if they had commenced full-time employment (**cqclassW3**).

6.8.3 Physical measurements – Height, weight and Body Mass Index (BMI)

Height and weight measurements were recorded by the interviewer in the course of the household interview for both Parent One and Parent Two (where applicable) and the Young Person. Weight was recorded using a medically approved weighing scale (SECA 761 flat mechanical scales). Height was recorded using a standard measuring stick (Leicester

portable height measure). Measures of height were standardised – converted to inches and divided by 2.54 – to be recorded in centimetres, while weights were computed into kilograms. The Young Person's systolic and diastolic blood pressure and heart rate was also recorded using an Omron M2 Basic Monitor.

6.8.3.1 Height

The height of the Young Person was recorded by the interviewer electronically on the CAPI programme (**w3intchildcms**). The heights of the Parent One and Parent Two were also recorded at this wave if it had not been recorded previously or if the Parent Two had changed. Otherwise, the heights of both the Parent One and Parent Two were feedforward from wave two (**w3intpcgcms**, **w3intscgcms**).

6.8.3.2 Weight

The weight of the Parent One and Parent Two as well as the Young Person (**w3intpcgkgms, w3intscgkgms and w3intchildkgms**) was recorded electronically on the CAPI programme (by the interviewer). The data collected was edited to remove clearly implausible outliers.

6.8.3.3 BMI

BMI scores for Parent One and Parent Two were derived from the recorded heights and weights (**w3intPCGBMI** and **w3intSCGBMI**). The BMI score was also recoded into the following categories – underweight, healthy, overweight and obese (**w3intPCGBMI_cat** and **w3intSCGBMI_cat**). These correspond to the Garrow-Webster cut-off points.

BMI scores for the Study Child were also derived from the recorded height and weight measures (**w3intchildbmi**) and were recoded into categories – non-overweight, overweight and obese (**w3intchildbmi_CAT**). These categories correspond to the World Obesity Federation cut-of points for children and young people.

6.8.3.4 Blood pressure

The systolic and diastolic blood pressure of the Young Person was recorded electronically on the CAPI programme (**w3intchildsys1, w3intchilddia1, w3intchildsys2, w3intchilddia2**). The Young Person's heart rate was also recorded (**w3intchildHR1, w3intchildHR2**). The data was edited to remove clearly implausible outliers arising from mis-coding.

6.9 Scaled Measures used in the Study

A number of scaled measures were used in *Growing Up in Ireland* and scored by the research team using protocols provided by the authors. These are briefly described below.

6.9.1 Adult Identity Resolution Scale

The Adult Identity Resolution scale measured the extent to which the Young Person considered themselves to be an adult. The scale consisted of three statements rated on a five point scale. The three scores were summed to give a total score for this measure. Higher scores are indicative of greater Adult Identity Resolution (**w3cq_AIRS**).

6.9.2 Belief in the Value of Work

The Belief in the Value of Work scale is a five item measure examining how a person values work and being employed. This scale was adapted by researchers on the ESRC 16-19 Initiative research programme. The scale contained five statements rated on a four point scale. A higher score indicates a belief that employment is important. The scale was self-completed by the Young Person (**w3cq_workbelief**).

6.9.3 Support for Sex Equality

The Support for Sex Equality scale measures gender discrimination. This scale was also adapted by researchers on the ESRC 16-19 Initiative research programme. The scale contains six statements rated on a four point scale. Higher scores are indicative of greater support for sex equality (**w3cq_Sexequality**).

6.9.4 Ten Item Personality Inventory (TIPI)

The Young Person's personality was measured using the Ten Item Personality Inventory (TIPI). The scale was completed by both Parent One and Two about the Young Person. The scale was also self-completed by the Young Person. The scale contained ten items measuring the five aspects of personality- Openness to Experience, Agreeableness, Conscientiousness, Extraversion and Neuroticism. Each personality dimension consisted of two statements with two descriptors for each. Both responses were then added up and divided by two to reveal the score for that measure:

- Agreeableness (**w3cq_agreeable**, **w3pc_agreeable**, **w3sc_agreeable)**
- Conscientiousness (**w3cq_conscientious, w3pc_conscientious, w3sc_conscientious)**
- Extraversion (**w3cq_extravert, w3pc_extravert, w3sc_extravert)**
- Emotional Stability (**w3cq_emotstab, w3pc_emotstab, w3sc_emotstab)**
- Openness (**w3cq_openness, w3pc_openness, w3sc_openness)**

6.9.5 Everyday Discrimination Scale

The Everyday Discrimination Scale recorded how often participants felt they had experienced various forms of interpersonal mistreatment in their day-to-day lives. The

scale contained five items rated on a six point scale. A total discrimination score was generated from the sum of all five items. Higher scores are indicative of more frequent discrimination (**w3cq_EDS**). Follow on questions were asked to ascertain the main reason for any discrimination.

6.9.6 Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987).

The Inventory of Parent and Peer Attachment (IPPA) (Armsden and Greenberg, 1987) was developed in order to assess adolescents' perceptions of the positive and negative affective/cognitive dimensions of their relationships with their parents and close friends – and how well these figures serve as sources of psychological security. The scale that was included at this wave of *Growing Up in Ireland* was self-completed by the 17/18-year-old and focused specifically on peer attachment. The scale comprised of 25 items measured on a five point scale. The scale measured three broad dimensions of attachment: degree of mutual trust; quality of communication; and extent of anger and alienation.

IPPA trust subscale (**w3cq_peeratt_trust**)

IPPA communication subscale (**w3cq_peeratt_communication**)

IPPA alienation subscale (**w3cq_peeratt_alienation**)

Total Peer Attachment score (**w3cq_peer_attachment**)

6.9.7 AUDIT

The AUDIT (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001) is a screening tool developed by the World Health Organization (WHO) to determine if a person's alcohol consumption may be harmful. A total score of the items is calculated to determine the likelihood of hazardous or harmful alcohol consumption, and alcohol dependence (**w3cq_AUDIT_total**). The scale was self-completed by the Young Person.

6.9.8 Adolescent Sexual Activity Index

Adolescent sexual behaviour was measured using an 11-item scale adapted from the Adolescent Sexual Activity Index. The scale is used to measure the spectrum of sexual behaviours typical of adolescents. The items are presented sequentially and there are several points where the section can end depending on the participant's responses (**w3cq_level**).

6.9.9 Eating Disorder Screen for Primary Care

Prevalence of eating disorders was measured using the Eating Disorder Screen for Primary Care. The screening measure consists of five statements which professionals use to screen

for eating disorders. A cut-off of two or more abnormal answers to the five questions is suggestive of an eating disorder (**w3cq_totalESP**).

6.9.10 Rosenberg Self-Esteem Scale (Rosenberg, 1965)

The Young Person's self-esteem was measured using the Rosenberg Self-Esteem scale (Rosenberg, 1965). The Rosenberg Self-Esteem scale contains six items rated on a four point scale. Higher scores are indicative of higher global self-esteem (**w3cq_selfesteem_total**).

6.9.11 Self-Control Scale

The Self-Control scale measures one's abilities to regulate their emotions, thoughts and behaviours in the face of temptations and impulses. The self-control scale consists of ten items rated on a 5-point scale. Higher scores indicate greater self-control. The scale was self-reported by the Young Person (**w3cq_sg2control**).

6.9.12 Opposition to Authority Scale

The Opposition to Authority scale measured the extent to which the Young Person was opposed to authority figures. The scale contained nine items rated on a 4-point scale. This scale was adapted by researchers on the ESRC 16-19 Initiative research programme. Higher scores are indicative of more opposition to authority (**w3cq_authority**).

6.9.13 Self-Efficacy scale

The Self-Efficacy scale measured the Young Person's belief in their ability to succeed in specific situations and to accomplish tasks. The scale used at age 17/18 of ***Growing Up in Ireland*** was adapted by researchers on the ESRC 16-19 Initiative research programme. The adapted version contains items relating to general self-efficacy and social self-efficacy (self-efficacy). The scale contains six items in total rated on a four point scale. Higher scores are indicative of greater self-efficacy (**w3cq_selfefficacy**).

6.9.14 Network of Relationship Inventory with Mother/Father.

Questions on the Young Person's relationship with their mother and father are taken from measures used by the German PAIRFAM study (Thonnissen et al, 2014). The Young Person reported on four dimensions of their relationship with their parents: 'intimacy', 'admiration', 'conflict' and 'reliability'. Each subscale comprised of two items rated on a five-point scale. A fifth dimension, 'fear of love withdrawal' contained three items rated on a five point scale. All questions were asked separately about mothers and fathers (*mother*:   **w3cq_mintimacy,   w3cq3_madmiration,   w3cq3_mconflict**

w3cq3_munreliability, w3cq3_mwithdrawl; *father*: **w3cq3_fintimacy, w3cq3_fadmiration, w3cq3_fconflict, w3cq3_funreliability, w3cq3_fwithdrawl**).

6.9.15 Parental Monitoring and Youth Disclosure

Three subscales from the monitoring and supervision scale were used to measure parental monitoring/control and youth disclosure. Higher scores on each subscale indicate higher levels of monitoring, control and disclosure. The Parental Monitoring and Youth disclosure subscales were included in both the Parent One and Parent Two questionnaires and the Control subscale was included in the Young Person main questionnaire:

- PCG monitoring (**w3TOT_pcmon_PCG**)
- PCG disclosure (**w3TOT_pcdis_PCG**)
- SCG monitoring (**w3TOT_scmon_SCG**)
- SCG disclosure (**w3TOT_scdis_SCG**)
- Young Person report control (**w3TOT_con_YP**)

6.9.16 Short Mood and Feeling Questionnaire

The Short Mood and Feeling Questionnaire (SMFQ) (Angold et al, 1995) is a screening tool for childhood and adolescent low mood. It was self-completed by the Young Person and contained 13 items. The data file contains a total score for this measure (**w3cq_SMFQ_total**).

6.9.17 DASS 21 (Anxiety)

Anxiety at age 17/18 years of *Growing up in Ireland* was measured using the DASS anxiety subscale. The DASS anxiety subscale contained 7 items assessing autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect (**w3cq_DASS_anxiety**).

6.9.18 Coping Strategies Indicator

Three coping strategies were assessed using the Coping Strategy Indicator (Amirkhan, 1990). The three coping strategies were: problem solving, seeking social support, and avoidance coping. The Coping Strategies Indicator contained 15 items and was self-completed by the Young Person at age 17/18 of *Growing Up in Ireland* (**w3cq_CSI_probsolving, w3_cqCSI_support**, **w3cq_CSI_avoidance**).

6.9.19 Internet addiction

Internet addiction was assessed using a scale adapted from the EU Kids Online survey. The scale contained 6 items and was self-reported by the Young Person. Higher scores indicate

troublesome internet use. An individual is considered an internet addict if they answered "very or fairly often" to all six components (**w3cq_internetaddict**).

6.9.20 Locus of control

Locus of control is the extent to which people believe they have control over the outcome of events in their lives. The scale included in the current study was the Rotter locus of control scale (Rotter, 1966). The scale consisted of five items rated on a six point scale. The scale was self-completed by the Young Person. Higher scores are indicative of greater locus of control (**w3cq_ILCtot**).

6.9.21 Strengths and Difficulties Questionnaire

The Young Person's socio-emotional behaviour was measured using the Strengths and Difficulties Questionnaire. The questionnaire was completed by Parent One and Parent Two. It contains 25 items which are divided into four negative and one positive subscale. The four negative subscales sum together to produce a Total Difficulties score:

- Emotional symptoms (**w3pcg_SDQemotional, w3scg_SDQemotional**)
- Conduct problems (**w3pcg_SDQconduct, w3scg_SDQconduct**)
- Hyperactivity/inattention (**w3pcg_SDQhyper, w3scg_SDQhyper**)
- Peer relationship problems (**w3pcg_SDQpeerprobs, w3scg_SDQpeerprobs**)
- Prosocial behaviour (**w3pcg_SDQprosocial, w3scg_SDQprosocial**)
- Total Difficulties (**w3pcg_SDQtotaldiffs, w3scg_SDQtotaldiffs**)

6.9.22 DAS (Dyadic Adjustment scale)

The quality of the couple's relationship was indexed using the short form of the Dyadic Adjustment Scale (DAS-4). This scale contained 4 items and is used as a means of categorising marriages as either distressed or adjusted. A general satisfaction score is generated from the sum of all items and this is given for the Parent One and, if appropriate, the Parent Two (SCG) (**w3pc_DAS, w3sc_DAS**).

6.9.23 Parental stress scale (Berry & Jones, 1995)

Both positive and negative aspects of parenting were measured using the parental stress scale. The Parenting Stress scale was asked of both the Parent One and Parent Two. Higher scores are indicative of a higher level of parental distress:

- PCG Parental Stressor Scale (**W3pc_stress**)
- SCG Parental Stressor Scale (**W3sc_stress**)

6.9.24 CES-D Depression Scale

The Centre for Epidemiological Studies Depression scale (CESD-8) is a widely used self-report measure that was developed specifically as a screening instrument for depression in the general population, as opposed to be a diagnostic tool that measures the presence of clinical depression. ***Growing Up in Ireland*** used the 8-item short version of the CES-D and provides a total score for both the Parent One (PCG) and the Parent Two (SCG) (**w3ces_tot_pcg**; **w3ces_tot_scg**).

Also included in the file are the two variables (**w3cesd_pcg; w3cesd_scg**) which categorised respondents into 'depressed' or 'not depressed'. It is again noted that this is based on the CED-D8 screening tool and does not purport to be a clinical measure.

6.9.25 Hazardous Drinking (FAST Alcohol Screening Test)

The FAST alcohol screening test is a short screening tool for alcohol misuse. It consists of four items and is completed by both the Primary and Secondary Caregivers (slightly different questions are asked – females are asked how often they have six or more drinks on one occasion and males are asked how often they have eight or more drinks).

It produces a total score and a categorisation of 'hazardous' or 'not hazardous':

- PCG drinking class according to FAST (**w3fastclasspcg**)

- PCG total on FAST for males (**w3fastotm**)

- PCG total on FAST for females (**w3fastotf**)

- SCG drinking class according to FAST (**w3fastclassscg**)

- SCG total on FAST for males (**w3fastotm2**)

- SCG total on FAST for females (**w3fastotf2**)

6.10 Coding and Editing

In some situations open questions were needed to capture verbatim responses that would have been difficult to pre-code. Where relevant, these open-ended responses were coded into separate categorical variables after the interview. Other questions did have a pre-defined coding frame but also had an 'other-specify' option for those responses which did not fit into any of the pre-coded categories - again answers were recorded on a verbatim basis by the interviewer. In this instance responses to these questions had to be recoded with additional categories. The newly coded responses for additional codes or variables appear in the RMF dataset. All verbatim text from the original responses has been removed from the AMF and RMF as a safeguard to protecting the respondent's identity. In terms of overall editing of the data, regular checks were carried out on the data as they were returned from the field and inconsistencies dealt with on an on-going basis.

6.10.1 Consistency checks

The CAPI questionnaires principally contained closed questions, with an extensive set of range and cross- variable consistency checks (both hard and soft)[8]. This meant that much of the coding and data checking was effectively dealt with as the interview took place. With a third wave of data there is a possibility of longitudinal inconsistencies, as well cross-sectional consistencies within waves. For some key variables such as marital status these were checked and edited to provide more consistency where appropriate. However, there remains a small number of inconsistencies where it was not possible to make a judgement on an appropriate edit. In such cases the data were recorded on the AMF/RMF as they were returned from the field, with a view to the analyst interpreting any such information as they saw fit, in light of their analysis.

6.11 Forward feed from previous waves

To reduce interview time at Wave 3 some variables were fed forward from Wave 1 and 2 and not asked again in the course of the interview unless, for example, they were missing or a new respondent was completing the interview for the first time. Where the Parent One and Parent Two from wave 2 had swopped roles, the appropriate information was exchanged. A summary of all the variables that were fed forward from Wave 2 and the rules for determining their administration at Wave 3 is provided in table 6.1 below.

Table 6.1: Details on variables forward-fed from Wave 3 (excluding household grid)

Variable name	Variable description	Rules
pc3f12-pc3f13/sc3e12-sc3e13	Citizenship	If not an Irish citizen at Wave 1 or 2, or a new respondent or missing
pc3f14-Pc3f16/ sc3e14-sc3e16	Country of birth and length of time living in Ireland	If new respondent or missing
pc3f1 pc3f2 pc3f3 pc3f4 pc3f5 pc3f6 pc3f7 sc3e1 sc3e2 sc3e3 sc3e4 sc3e5 sc3e6 sc3e7	Education	If new respondent or missing
W3intpcgcms w3intscgcms	Height	If new respondent or missing

6.12 Differences between Anonymised (AMF) & Researcher (RMF) Microdata files.

To protect the anonymity of respondent's names, dates of birth and open text variables were removed from both types of file. In addition, *for the AMF only*, some variables with a higher risk of being disclosive were either removed or had their values banded into larger

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[8] Hard edit consistency checks in a CAPI program refer to cross-variable consistency checks which must be resolved by the interviewer in the field at the time of administration. Until the inconsistency is resolved by the interviewer it will not be possible to continue administering the questionnaire. In contrast, a 'soft' edit consistency check is one which signals an apparent inconsistency or extreme value form a respondent's answer to a question or set of questions. The extreme value may or may not be correct. If the interviewer administering the survey feels that it is a valid value, albeit extreme, s/he can supress the soft check and continue administering the survey.

groups so that frequencies with low cell counts are not visible. In some cases this was achieved by either bottom or top coding (or both) of outlying cases. In others, continuous scores have been grouped into categories. Information particularly likely to be sensitive in nature (i.e. the majority of the variables in the sensitive questionnaire) has been removed from the AMF.

Chapter 7 Ethical Considerations

In undertaking research with families and young people ethical considerations assumed primary importance. Procedures related to child protection were informed by the Children First: National Guidance for the Protection and Welfare of Children (Department of Children and Youth Affairs, 2011) as well as the relevant Acts in Irish legislation. Three acts are of particular relevance for this study: the Data Protection Acts 1998, 2003 and the Statistics Act 1993. All interviewers, as well as other staff working on *Growing Up in Ireland*, were securely vetted by An Garda Síochana (the Irish Police Service).

All work in wave 3 of the child cohort was carried out under ethical approval granted by a dedicated and independent Research Ethics Committee (REC) convened by the Department of Children and Youth Affairs, specifically for the *Growing Up in Ireland* project.

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