Growing Up in Ireland
National Longitudinal Study of Children

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COHORT '98

Design, Instrumentation and Procedures for Cohort '98 (Child Cohort) at Wave 4 (20 years of age)

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Eoin McNamara, Caoimhe O'Reilly, Aisling Murray, Desmond O'Mahony, James Williams, Daráine Murphy, Rebecca McClintock and Dorothy Watson

Name	Title	Institution
Eoin McNamara	Research Analyst	ESRI
Caoimhe O'Reilly	Research Assistant	ESRI (Alumna)
Aisling Murray	Senior Research Officer	ESRI
Desmond O'Mahony	Research Analyst	ESRI
James Williams	Research Professor	ESRI (Alumnus)
Daráine Murphy	Research Assistant	ESRI (Alumna)
Rebecca McClintock	Research Assistant	ESRI
Dorothy Watson	Research Professor	ESRI (Alumna)

ESRI Economic & Social Research Institute

An Roinn Leanaí, Comhionannais, Míchumais, Lánpháirtíochta agus Óige
Department of Children, Equality, Disability, Integration and Youth

Trinity College Dublin
The University of Dublin

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INTRODUCTION

1 INTRODUCTION

1.1 INTRODUCTION

Growing Up in Ireland is the national longitudinal cohort study of children and young people in Ireland. The project began in 2006 and has been following two groups of Irish children, Cohort '98 (formerly called the Child Cohort, most of whom were born in 1998) and Cohort '08 (formerly called the Infant Cohort, most of whom were born in 2008). The principal aim of the study is to examine the factors which shape the development of children and young adults in contemporary Ireland and, through this, to contribute to the setting of responsive policies and to the design of services for them and their families.

Work on Growing Up in Ireland began in 2006, led by the Department of Children, Equality, Disability, Integration and Youth (DCEDIY) and conducted by a consortium of researchers in the Economic and Social Research Institute (ESRI) and Trinity College Dublin (TCD). The Growing Up in Ireland study recruited two cohorts of children: a nine-month-old cohort of approximately 11,100 infants (Cohort '08) and a nine-year-old cohort of 8,568 children (Cohort '98). Cohort '98 was subsequently revisited when the young people were 13, 17/18, and 20 years of age and the Cohort '08 was revisited when the children were 3, 5, and 9 years with a postal survey of primary caregivers at 7 years of age. Each round of data collection is referred to as a 'wave'. The focus of this technical report is on the instrumentation used for data collection among Cohort '98 at Wave 4 when they were aged 20.

Reaching the age of 20 is an important milestone in the life of a young adult as, by this age, the majority of young Irish adults will have completed second-level education and be exploring new opportunities in further/higher education or the labour market. It reflects not just a new stage in the life course in terms of developmental maturity but is important in a broader societal context, as many young adults may be exercising new civil rights and responsibilities conferred since they turned 18 years. These include the right to marry, to enter into contracts (such as getting credit or renting an apartment), to vote, and to apply for social welfare entitlements.

This report is intended to provide a resource for researchers and policymakers to understand the rationale for, and background to, the measures included in the data collection for Growing Up in Ireland's Cohort '98 at age 20. As there were many similarities between this wave and Wave 3 of data collection, this report uses the Wave 3 design report (Murphy et al., 2019) as a basis, adding procedures and questions that were specific to 20-year-olds. It also draws on findings from the report on the pilot exercise for this phase, which is published separately (O'Mahony et al., 2021). Researchers are encouraged to utilize this report in conjunction with the pilot report for a fuller explanation of the rationale for including the measures used at this wave. This chapter begins with a brief description of the background and objectives of Growing Up in Ireland. A summary of the conceptual framework underlying the project is also provided and this report documents how this framework informed the instrumentation for this wave.

1.2 BACKGROUND AND OBJECTIVES

The principal objective of Growing Up in Ireland is to provide national evidence-based research results on the development and well-being of children and young people and the determinants that positively and negatively affect different developmental trajectories. This information is used for policy development and the provision 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, Equality, Disability, Integration and Youth (DCEDIY) and is overseen by DCEDIY in association with the Central Statistics Office. The second phase of the study also received a contribution from the Atlantic Philanthropies.

The study has nine aims as follows:

1. Describe the lives of Irish children; establish what is typical and normal as well as what is atypical and problematic;
2. Chart the development of Irish children over time; examine the progress and wellbeing 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 child 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 SUMMARY OF THE CONCEPTUAL FRAMEWORK

The conceptual framework for Growing Up in Ireland draws heavily on the bio-ecological model developed by Urie Bronfenbrenner (Bronfenbrenner & Morris, 2006). This model and other influences on the GUI study 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 studying development in context, placing the individual at the centre of the model and arguing that an individual's developmental outcomes are influenced by a complex interplay of the biological make-up of the young adult and the environmental setting within which the young adult is embedded (Smith, Cowie & Blades, 2010). Bronfenbrenner proposes that an individual's ecology (context) constitutes a multi-layered set of nested and interconnecting environmental systems which impact upon their development but with varying degrees of directness; these systems are categorised at four levels - the Microsystem, Mesosystem, Exosystem, and Macrosystem.

The structures and the individuals closest to the individual, referred to as the 'microsystem', exert the most influence on them. For young adults, examples of a 'microsystem' include the home environment of parents and siblings, home environment with housemates, the school/college environment with teachers, lecturers, and peers or the work environment with colleagues and managers. At around 17/18 years of age, research indicates a shift within the young adult's microsystems, with young people prioritising their peer group and beginning to develop as individuals, independent of their parents (Brown, 2004; Youniss & Haynie, 1992). By age 20, many young adults will have left their parental home, physically distancing themselves from their parents (Arnett, 2000). The links between the various microsystems in which the young adult directly participates is called the 'mesosystem'. The level of parental involvement in the young adult's education is an example of a 'mesosystem' as parental involvement in education has been shown to play an important role in young adults' academic engagement and educational achievement (Steinberg et al, 1992).

The 'exosystem' is made up of those structures, institutions, and settings that are not in direct contact with the individual but nonetheless exert an important influence on their quality of life; for example, access to funding/college grants may affect a young adult's options for applying to higher education, or parental employment can have an influence on the young adult's motivation to seek employment and on their work values (Johnson, 2002). Finally, the 'macrosystem' consists of the culture-specific ideologies, attitudes and beliefs that shape a society's structures and practices. For example, it is often portrayed in the media that "thin is beautiful", and there is evidence that this may contribute to young people developing body dissatisfaction and, in turn, disordered eating as they attempt to conform to this societal norm (Yamamiya et al, 2005). The macrosystem may be more salient for young people at the age of 20 than at younger ages as they now have the right to vote and consequently may become increasingly aware of broader political and social issues (see the extended literature review for Cohort '98 at age 20 for more information; Murray et al., 2020).

1.3.2 FROM CONCEPTUAL FRAMEWORK TO INSTRUMENTATION FOR THE 20-YEAR-OLD

Growing Up in Ireland has been designed to record an array of factors that are influential in the study participant'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, and health status, as well as the individual's own earlier characteristics, such as their personality, mental and physical health, and cognitive capacities.

Since the cohort was 9 years of age, Growing Up in Ireland has focused on the following outcomes among young people:

- Physical health and development
- Emotional well-being/ Behaviour
- School/ Academic performance

At age 17/18 years, a fourth domain of 'Economic and civic participation' was added to reflect the study participants'[1] transition to adulthood.

As at Wave 3 of the study (17/18 years), the study participant's voice is central to the study at 20 years of age, and so they are the primary source of information across the four key domains covered. At previous waves of the data collection for this cohort, both the primary caregiver and secondary caregiver were invited to be interviewed. This wave is the first in which only one parent (usually but not necessarily the primary caregiver) was interviewed and this was a comparatively shorter interview than previous waves, collecting factual information about the parent him/herself and their perception of their relationship with the Young Adult, and the family context. This provides important contextual information (for example, on household income) as well as capturing the extent to which the parent (the individual described as the primary caregiver at earlier waves) acts as a source of support and to their now-adult son or daughter. In contrast to previous waves, information on the school context was not collected from school principals.

1.4 STRUCTURE OF REPORT

The chapters in the remainder of the report explain how the instrumentation was designed to capture the key outcomes at 20 years of age along with the most important factors influencing continuing development. As will be outlined below, the instrument design process relied on a comprehensive review of the relevant literature (Murray et al., 2020) and input from the Scientific Advisory Group, the International Advisors, the Research Ethics Committee and consultation sessions with young adults. The pilot study findings (see O'Mahony, Murray, Williams, McNamara, O'Reilly & McClintock, 2021) provided additional information on the extent to which certain measures were suitable for 20-year-olds in Ireland and formed the basis for removing or revising some measures.

[1] THE TERM STUDY PARTICIPANT REFERS TO THE PERSON FOR WHOM DATA WAS COLLECTED AT AGE 9, 13 AND 17/18, PREVIOUSLY REFERRED TO IN OTHER REPORTS AS THE STUDY CHILD. AT AGE 20, THEY ARE REFERRED TO AS THE YOUNG ADULT.

Chapter 2 outlines the approach to sample design and the response rates achieved across the waves of the study. Chapter 3 describes how the instruments were developed and the extent to which they drew upon international child cohort studies and inputs from the advisory groups mentioned above and focus groups with young adults. Chapter 4 looks at ethical considerations, in particular the ethical review procedure. Chapter 5 presents a broad overview of the questionnaires and procedures used in the Wave 4 survey of Cohort '98 (at 20 years). Chapter 6 details the questionnaires used with the Primary Caregiver (hereafter referred to as Parent One) while Chapter 7 reviews the instruments used with the 20-year-old. Chapter 8 describes the cognitive test and time-use diary administered to the Young Adult. Chapter 9 looks at physical measurements taken in the study. Finally, a summary is presented in Chapter 10.

Chapter 2

THE SAMPLE AND DATA

2 THE SAMPLE AND DATA

2.1 INTRODUCTION

This chapter considers the methodology and sample design for Wave 4 of Cohort '98 (previously referred to as the Child Cohort) at 20 years of age. Consideration is given to the composition of the longitudinal sample, followed by discussion of the levels of inter-wave attrition and methods used to mitigate it. Procedures for statistically reweighting the data to ensure that they are fully representative of the population are also discussed.

2.2 COMPOSITION OF THE LONGITUDINAL SAMPLE

As noted in Thornton and Williams (2016), Growing Up in Ireland is a longitudinal survey based on a fixed panel design. For Cohort '98, this meant that the children and their families recruited into the study at 9 years of age were re-interviewed at 13, 17/18, and 20 years of age. After the initial sample selection at 9 years of age, no additions were made to the sample. So by 20 years of age the sample represents children/young people (and their families) who were resident in Ireland at 9 years of age in 1998 and who also lived in the country when they were 20 years old. There are, of course, young people who lived in Ireland at 20 years of age but who were not resident at 9 years of age. These new entrants to the country since the recruitment of the sample are 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. A total of 7,525 families participated in the study at this age, giving a response rate of 89 per cent. This calculation is exclusive of 101 13-year-olds (and their families) who no longer lived in Ireland when approached for interview and so were excluded from the target population.

At the third round of interviewing, when the study children were aged 17/18 years, a total of 8,277 families were issued to field interviewers. Families who had been interviewed in the first wave of the study (when the Study Child was 9) but who had not participated in one or more consecutive waves were invited to be interviewed in the 17/18-year wave of fieldwork. The Study Team did not attempt to re-interview families for whom there was no valid address or where the family had explicitly requested not to be approached in subsequent waves of the study. In total there were 6,216 completed households at Wave 3, representing a response rate of 76 per cent. For an additional 215 households, an interview was secured with the parent(s) but not the 17/18-year-old themselves.

For Wave 4 (at age 20) the Study Team approached all previous participants unless the family had previously definitively refused to be contacted in future waves of the study or was not eligible (i.e. the whole family had moved abroad or the young adult was sadly deceased). In total, questionnaires were completed by 5,190 20-year-olds (the main respondents in this wave). This represented 62 per cent of those still presumed eligible at age 20 (i.e. living in Ireland). Excluding those definitively refusing in an

earlier wave or who had moved without a forwarding address before fieldwork, contact details for 7,925 20-year-olds were issued to interviewers in Wave 4.[2] The 5,190 respondents at age 20 represented 65 per cent of the cases issued to interviewers.

2.3 TRACKING STRATEGIES AND DIFFERENTIAL INTER-WAVE ATTRITION

Non-response is 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 and is especially pernicious as it leads to incomplete trajectories for some respondents. As discussed in detail in Thornton and Williams (2016), it may be mitigated by implementing tracing procedures aimed at tracing respondents who change address between successive interviews, to try to keep them included in the sample. Lynn (2009) notes the distinction between forward or proactive tracing methods, on the one hand, and retrospective tracing methods on the other (p. 189). Proactive forward tracing refers to procedures put in place to update contact addresses or other information prior to a round of fieldwork. Retrospective tracing methods are those put in place after fieldwork in the second or subsequent rounds of the survey, after it has been identified (usually by an interviewer) that the participant has changed address since his/her previous interview.

Proactive tracing procedures.

In Growing Up in Ireland a number of proactive procedures were used. In all previous waves, these included recording alternative contact information on at least one of the parent's close friends, family members (outside their own household), or work associates. These were the contact details of someone whom the Study Team could contact at the following round of the Study if it was found that the respondent had moved address between interviews. Due to changes in data protection guidelines between the 17/18 year and 20-year waves, however, this was not implemented in the latter wave.

Retrospective tracing procedures

Retrospective tracing procedures were also adopted in the study. When field interviewers found that a family was no longer resident at the address known to the Study Team, they attempted to obtain information on the new address from the current occupant or neighbours of the respondent's former address. In doing this, the interviewer told the current occupier or neighbour that s/he wished to track the family who had previously participated in a survey, but did not divulge that it was the Growing Up in Ireland study or the nature or content of the project in question. New addresses located in this manner by field interviewers were passed back to Head Office for reallocation to field staff.

[2] THESE WERE IN 7774 HOUSEHOLDS AS THERE WERE 151 TWINS/TRIPLETS.

Where a new address could not be found by the field interviewer, field support staff in Head Office accessed the alternative contact details provided for tracing purposes by the family at the previous interview. These alternative addresses were contacted to secure a current address for the Study Child and this new address was then allocated to a field interviewer.

In addition, at the 17/18-year wave, both the young person and the parents had been asked to provide telephone numbers and email addresses. While the Study Team's preferred protocol is to first re-contact in person, these contact details were used when it was not possible to identify a current address by other means.

Notwithstanding the tracing procedures put in place to minimise inter-wave attrition and non-response, it is unfortunately an unavoidable feature of all longitudinal surveys. Attrition becomes particularly problematic when non-response is systematically associated with some sub-groups more than others.

To assess the extent to which non-response at 20 years was systematically associated with family or other characteristics, Table 2.1 summaries response rates at 20 years of age by a selection of background characteristics when the Study Child was 17/18 years of age (or, for those not responding at age 17/18, the most recent wave available).

Table 2.1: Background characteristics of completed sample at age 20 compared to target sample (those followed from age 9, excluding those deemed ineligible at age 20)

		A. N Cases at 20yrs	B. % of Completed Sample	C. % of Target Population
Young Person Gender	Male	2495	48%	51%
	Female	2695	52%	49%
PCG Education (most recent wave)	Lower 2nd level or less	552	11%	24%
	Upper 2nd level	1868	36%	42%
	Diploma/certificate	1091	21%	16%
	Degree or higher	1679	32%	19%
Household Social Class (most recent wave)	Professional	857	17%	9%
	Managerial / technical	2110	41%	32%
	Other non-manual	1038	20%	21%
	Skilled manual	562	11%	15%
	Lower skilled / never worked	623	12%	22%
Income Quintile (most recent wave)	1st (Lowest)	674	13%	22%
	2nd	817	16%	21%
	3rd	1025	20%	19%
	4th	1156	22%	19%
	5th (Highest)	1475	29%	19%
Family Type	One-parent	757	15%	22%
	Two-parent	4433	85%	78%
Family size at age 9	Only Child	410	8%	10%
	One Brother/sister	1677	32%	32%
	Two Brothers/sisters	1864	36%	32%
	3+ Brothers/sisters	1239	24%	26%
PCG economic status (most recent wave)	Work, Full time	2718	52%	43%
	Work, Part time (20)	883	17%	18%
	Other	1589	31%	39%
SCG economic status, most recent wave	Work	4165	80%	68%
	Other	268	5%	10%
	No SCG present	757	15%	22%
Drumcondra reading score at age 9, quintiles	Lowest	679	13%	21%
	2nd	821	16%	21%
	Middle	997	20%	20%
	4th	1186	23%	19%
	Highest	1402	28%	19%
All 20-year-olds		5190	100%	100%

The completed sample at age 20 years was broadly representative of the overall target sample in terms of gender and family size at age 9. However, substantial disparities are evident in terms of the other background characteristics presented in Table 2.1. In general, those from more advantaged backgrounds are over-represented in the completed sample. For example, 11 per cent of the completed sample were in the lowest PCG education category (lower 2nd level or less) and 32 per cent were in the highest category (degree), whereas the relative percentages in the target population were 24 per cent and 19 per cent, respectively. By definition, 20 per cent of the completed sample should be in each of the income quintile groups; in reality, 13 per cent were in the lowest income quintile and 29 per cent were in the highest income quintile. Also, in the target sample 43 per cent of PCGs and 68 per cent of SCGs were in full-time employment, whereas the respective figures in the completed sample were 52 per cent and 80 per cent. These disparities point to an association between (non-) response and family background characteristics, and highlight the need for reweighting of the data.

These differences between the target and completed samples reflect patterns of attrition and non-response that are not unusual in longitudinal samples. Watson and Wooden (2009) 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. An understanding of these patterns informs the reweighting procedures that statistically adjust the data for systematic non-response or attrition, prior to analysis.

2.4 REWEIGHTING THE DATA

The statistical re-adjustment of the data must take account of the population to which weighting is being carried out, the study's design, as well as response / non-response patterns in successive rounds. With four waves of data now available, analysts can focus on children and families who participated at 9, 13, 17/18, and 20 years of age or 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, 3, and 4 as set out in Table 2.2 below.

These response patterns mean that there are 8,568 children and their families available for analysis in cross-section at 9 years of age. If one is interested in transitions from 9 years to 20 years of age, one can use 5,190 cases for analysis (the combination of subgroups marked A and B above). If the focus of investigation is longitudinal child development tracking observations from 9 years, 13 years, 17/18 years of age and 20 years of age, then 4,729 cases are available for analysis (sub-group B in Table 2.2).

Table 2.2: Breakdown of Study Children/Young people and their families according to participation at 9 years, 13 years, 17/18 years and 20 years of age

File Option	Participated at:	No. of Study Children / Young People
	Responding at age 9 only	807
A	Responding at ages 9 and 20 only	59
	Responding at ages 9 and 17/18 only	89
A	Responding at ages 9, 17/18 and 20 only	88
	Responding at ages 9 and 13 only	1,172
A	Responding at ages 9, 13 and 20 only	314
	Responding at ages 9, 13 and 17/18 only	1,310
B	Responding at ages 9, 13, 17/18 and at age 20	4,729
	Total	8,568

In preparing the Wave 4 data, two sets of weights and grossing factors were calculated. The first set was generated for use in analysis based on the 4,729 Children/Young People and their families who took part in all 4 Waves. The second set of weights and grossing factors was generated for use in analysis of 20-year-olds who were also interviewed at 9 years of age – the slightly larger group of 5,190 cases.[3]

The initial survey weight at wave 1 was designed to take account of non-response at the school and family level and adjust the responses to be representative of the population of 9-year-olds as a whole. This weight took account of 11 child or family characteristics and four school characteristics (because 9-year-olds were sampled in schools) (see GUI Study Team, 2010). Population figures were taken from the Census of Population for child and family characteristics and from Department of Education school listings for school characteristics. In subsequent waves, new weights were derived which were the product of the initial weight and a weight to adjust for differential attrition across groups (see, for example, Thornton et al., 2016). The construction of the analysis weight for the 20-year data consists in carrying forward the earlier weight (which controls for initial non-response and attrition up to the 17/18-year wave) and adjusting it for attrition between the 17/18-year and 20-year waves. The Study Team used the GROSS software, as in previous rounds of Growing Up in Ireland.[4] 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 B of Table 2.1) to population 'control totals' (the figures for the 'Target population' in column C of Table 2.1). An iterative procedure is used, allowing marginals of characteristics that are associated with one another to be fitted simultaneously.

[3] Both sets of weights are used in the descriptive report on 20-year-olds (see McClintock et al., forthcoming).

[4] 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.

The sample weights for the 20-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 weighted sample distribution matches that of the population in terms of the characteristics used in the construction of the weights.

These characteristics were those shown in Table 2.1 above:

- Young person's gender
- Level of education of Parent One
- Family type
- Number of children at age 9 (1-2, 3, 4+)
- Household Social Class
- Household equivalised income quintile
- Work status of Parent One (and Parent Two, where present)
- Young Person's Score (quintiles) on the Drumcondra Reading Test when they were 9 years old

The characteristics were measured at the most recent of the earlier waves of interviewing (usually the 17/18-year wave), apart from number of siblings and Drumcondra Reading score, both of which were measured in the first wave at age 9. 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.[5] The distributions of the weighted samples are within one percentage point of the target population for all the characteristics used in the weighting scheme.

Using the survey weights means that the data are fully representative of the population of young people who were resident in Ireland at nine years of age and were still living there at 20 years of age. By necessity, the results are not generalisable to the group of 20-year-olds who moved to Ireland between the ages of nine and 20 years, as Growing Up in Ireland is based on a fixed panel design and does not supplement the sample between waves. This approach is one commonly taken in longitudinal studies internationally. Weighted data can therefore be used to capture prevalence and patterns in the population of 20-year-olds overall but cannot be used to capture the experience of recent immigrants.

[5] THE WEIGHTS WERE TRUNCATED TO ONE-FIFTH OF THE MEAN AT THE LOWER END AND 5 TIMES THE MEAN AT THE HIGHER END.

Chapter 3

INPUT INTO INSTRUMENTS

3 INPUT INTO INSTRUMENTS

3.1 INTRODUCTION

This chapter describes the various groups of experts and others who had input into the development of the instruments and procedures used in Wave 4 of the Cohort '98 of Growing Up in Ireland. The stakeholders involved included the Scientific Advisory Group (SAG), the International Advisors, the young adult consultative process and a web-based survey of policymakers, members of the Steering Group/Project Team and the Better Outcomes Brighter Futures Steering Group. Other longitudinal studies from which various items have been drawn will also be considered.

3.2 SCIENTIFIC ADVISORY GROUP

The Scientific Advisory Group (SAG) is made up of approximately 50 experts from a range of fields, drawn from many of the third-level and related institutions in Ireland as well as overseas. The Scientific Advisory Group was heavily involved in the development of the questionnaires. Several meetings were held, centring on the four main domains considered up to this point. These meetings considered 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 detail of specific scales and questions.

3.3 INTERNATIONAL ADVISORS

Two international advisors who have extensive experience 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 substantial input into the development of the questionnaires at age 20 of Growing Up in Ireland. Additional input was also 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 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 theoretical and conceptual frameworks; ethical issues; operational procedures; informants; and questionnaire content – domains, topics, scales, and questions.

3.4 THE YOUNG ADULT CONSULTATIVE PROCESS

A series of four focus groups were held with 20-year-olds prior to the study. The following section is taken from the pilot report (O'Mahony et al., 2021). Participants in the focus groups

were recruited from different backgrounds and were at a range of 'life-stages' (e.g. in education or in the labour market). Two focus groups were recruited from students in Trinity College. Two more groups, comprising young adults in further education/training or in the labour market, were recruited with assistance from SOLAS and the City of Dublin Education & Training Board.

Each focus group was led by two researchers from the Study Team in a location convenient for the participants. Each received a small thank-you gift for their help, a €50 'One4All' gift token. Each session was audio recorded, to facilitate the preparation of written notes. Key themes in relation to procedures included:

- The best way to contact 20-year-olds (e.g. through their parents, via email, phone etc.)
- How they see their parents as respondents providing information at this age
- What formats would best engage young adults (e.g. face-to-face versus self-complete)

The discussion in the focus groups revolved around topics such as:

- Political attitudes and activism
- Post-primary education and training
- The world of work
- Health
- Relationships
- Expenditure patterns
- Use of the internet and social media
- Mental health and well-being
- Housing / independent living

The issues of primary importance for the young adults that emerged from the focus groups included:

- School as preparation for adult life
- Planning for the future
- Finances and financial management
- Social media and their role in the life of a 20-year-old
- Having a family or partnership of one's own
- Political awareness, engagement, participation, and concerns about global issues
- Becoming an adult
- Importance or otherwise of community

- The role of sports and hobbies in the life of a 20-year-old
- Health and access to healthcare

After the pilot study, a focus group was conducted involving six participants from the pilot. This considered the content of the survey as well as the operational and other procedures. Several changes were implemented as a result, such as: the street names of illicit drugs were updated; a question on the degree of liberalism versus conservatism was removed as this was deemed 'too binary'; the question on political party preference was altered to incorporate an option to vote for individual candidates rather than political parties. Other changes implemented as a result of the piloting process – such as the debriefing of interviewers – are detailed in the main 20-year pilot report (O'Mahony et al., 2021).

3.5 RESEARCH ETHICS COMMITTEE

This phase of Growing Up in Ireland was carried out under ethical approval granted by a dedicated Research Ethics Committee set up by the Department of Children, Equality, Disability, Integration and Youth. The pilot and main data collection of Wave 4 underwent separate review procedures. Reports on the pilot results were submitted to the Ethics Committee. The committee was very active in its consideration of all of the materials and procedures used in Growing Up in Ireland. All recommendations were acted upon before a final version of all materials and procedures was agreed and implemented.

3.6 OTHER LONGITUDINAL STUDIES

In developing the instrumentation, the Study Team tried to synchronise with contemporary longitudinal child cohort and other related studies, both to draw on the benefits of including items previously used in other studies and to enable later comparison. Where items for Growing Up in Ireland were based primarily on questions used in other studies, the sources have been indicated in the text. Some of the more significant of these studies have been outlined below.

3.6.1 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 which ran from 1994 to 2009. The study's brief was 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 study was run by Statistics Canada. The study website can be accessed through the following link http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=4450.

3.6.2 LIVING IN IRELAND SURVEY

The Living in Ireland survey formed the Irish component of the European Community Household Panel (ECHP), an EU-wide project, co-ordinated by Eurostat, to conduct harmonised longitudinal surveys on the social situation, financial circumstances, and living standards of European adults (classified as people aged 16 and older) and households. Living in Ireland data were collected by the ESRI and ran for eight waves, until 2001.

3.6.3 GERMAN PAIRFAM STUDY

The PAIRFAM ("Panel Analysis of Intimate Relationships and Family Dynamics") is a longitudinal study researching partnership and family dynamics in Germany. The sample contains 12,000 people from three birth cohorts 1971-1973, 1981-1983 and 1991-1993, and also includes their partners, parents and children. The first wave of the study was carried out in 2008 when the sample were aged 15-17, 25-27 and 35-37, since then the original sample and their families have been surveyed annually. The focus of PAIRFAM study is on the processes of partnership formation and development, starting and expanding a family, parenting and child development, and intergenerational relationships. In addition, the study focuses on various issues from other life domains. The PAIRFAM website is http://www.pairfam.de/en/.

3.6.4 AVON LONGITUDINAL STUDY OF PARENTS AND CHILDREN (ALSPAC)

The Avon Longitudinal Study of Parents and Children focuses primarily on health and development. Data collection through questionnaires is supplemented with information from biological samples (hair, etc.), DNA samples, access to medical records and direct assessments. With an initial sample of 14,541 pregnancies, 13,971 infants at age 12 months were involved in the study. All pregnant mothers were resident in the Avon area of south-west England, with an expected delivery date between 1 April 1991 and 31 December 1992. ALSPAC is run by a dedicated team based at the University of Bristol. The ALSPAC website can be accessed at http://www.bristol.ac.uk/alspac/.

3.6.5 EU-SURVEY ON INCOME AND LIVING CONDITIONS (EU-SILC)

The EU-SILC is an 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. Commencing in 2003, it is the successor to the Living in Ireland Survey. Information on social exclusion and housing is collected at the household level, while individuals aged 16 years and over report on their income, labour, education and health information. The study primarily collects cross-sectional data but has a longitudinal component whereby households are observed periodically over a four-year period.

3.6.6 ESRI SURVEY OF SCHOOL AND PLC LEAVERS 2015

This was a study conducted in Ireland by the ESRI with the principal aim of collecting data to inform policy on school and college leavers between 2008 and 2011. Further information about the study can be found at https://www.esri.ie/leavers/survey/.

3.6.7 NATIONAL LONGITUDINAL SURVEY 1997

The National Longitudinal Survey of Youth (NYSL) 1997 interviewed individuals born between 1980 and 1984 in the United States and so far, has completed 17 rounds of interviewing maintaining a remarkably high rate of participants across waves (80%). Topics include employment, education, health, and crime to name a few. Further information about the study can be found at the following link https://www.bls.gov/nls/nlsy97techsamp.pdf.

3.6.8 EUROSTUDENT

The Eurostudent project gathers data on social aspects of third-level education in Europe with the aim of enabling comparisons across countries.

3.6.9 LEAVING SCHOOL IN IRELAND LONGITUDINAL STUDY

The Leaving School in Ireland longitudinal study is a mixed methods study that surveyed and interviewed individuals three to four years post Leaving Certificate completion, allowing the study of post-school transitions. Further information about this study can be found at the following link https://www.esri.ie/publications/leaving-school-in-ireland-a-longitudinal-study-of-post-school-transitions.

3.6.10 GROWING UP IN AUSTRALIA

Growing Up in Australia, also known as the Longitudinal Study of Australian Children (LSAC), is a longitudinal study of children, with two nationally representative cohorts of 5,000 children each. Growing Up in Australia is co-ordinated by the Australian Institute of Family Studies in Melbourne. Their website is http://www.growingupinaustralia.gov.au/index.html.

Chapter 4

ETHICAL CONSIDERATIONS

4 ETHICAL CONSIDERATIONS

4.1 INTRODUCTION

Ethical considerations in research, particularly research involving children and young people, are of critical importance. The Study Team identified a number of ethical issues at age 20 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 parts of legislation and describes the ways in which ethical guidelines were put into practice. The primary concern at all times was the protection of the participants in the study.

Procedures relating to child protection were informed by the Children First: National Guidance 2011 and 2017 published by the (then) Department of Children and Youth Affairs and by the Children First Act 2015 which was commenced in full on 11 December 2017 (Department of Children and Youth Affairs, 2017). Even though all study participants were now adults rather than children, interviewers were still briefed on child protection awareness in the event they encountered, for example, the 20-year-old's younger siblings or even the 20-year-old's own children. In addition to the full module of training provided by Growing Up in Ireland staff, prospective interviewers were requested to complete an online training module developed by Tusla (the State agency with responsibility for child welfare). All interviewers, as well as other staff working on Growing Up in Ireland, were security-vetted by the National Vetting Bureau.

4.2 RELEVANT ACTS

Three Acts are of particular 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; GENERAL DATA PROTECTION REGULATION 2018

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 (General Data Protection Regulation, 2018):

- 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 whom it will be disclosed. (For further discussion, see Section 4.3.1 on informed consent.)
- Specifying the purpose: One may not keep information about people unless it is held for a specific, lawful, and clearly stated purpose.

- 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 one may not divulge the data to a third party, except in ways that are compatible with the specified purpose.
- Security of personal data: Stringent procedures are implemented in both the ESRI and TCD to ensure that security of data is preserved at all times.
- Accurate and up-to-date: One must ensure that the personal information that one keeps is accurate and up to date.
- 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.
- 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.)
- 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 being conducted within the framework of the Statistics Act 1993. This is 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 Office 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 research will be published in aggregate form and all necessary steps will be 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 in the survey (see Appendices A and B). These sheets described the type of information that they would be asked for, what would be involved for participants and the longitudinal nature of the Growing Up in Ireland study, as well as details on the researchers and funding bodies. Separate information sheets

and accompanying letters were posted separately to the 20-year-old and their 'Parent One' (i.e. primary caregiver) from the last wave. All participants were informed of the voluntary nature of their participation and of their right to refuse to answer any questions they did not wish to answer.

Signed consent from the 20-year-old and the parent (see appendices C and D) was required before commencing their respective interviews. In contrast to all previous waves, the 20-year-olds in Wave 4 did not need parental consent to participate: therefore, each individual (parent and 20-year-old) consented to their own participation only. Both information sheets and consent forms were reviewed by the National Adult Literacy Agency and the final versions were approved with the Plain English Mark. While information sheets were sent in advance to households, the interviewer brought the consent form to the household so that they could go through it with respondents, answer any questions, and witness the signature on the form.

4.3.2 REPORTING CONCERNS

Interviewers were instructed to report all events or observations which caused them concern during the course of their work to the Study Team using an Incident Report Form. Interviewers were issued with a 24/7 emergency phone number so they could consult with a senior member of the Study Team about any urgent situations encountered outside office hours. The training emphasised the importance of notifying the Study Team of any concerns about children or other vulnerable persons.

All Child Protection protocols were followed for Wave 4 participants even though the respondents were 20 years old. The Children First Act 2015 (implemented 11 Dec 2017) introduced a 'legal threshold of harm' at which the DLP is obliged to report. All concerns which do not meet the threshold must still be reported where there is 'reasonable concern' for the welfare of the child. Interviewers were educated on the main types of abuse and how to recognise abuse. They were instructed to report on, but not to interrogate individuals about, incidences occurring with regard to the Young Adult or any other individual which they encountered during the interviewing process (including retrospective reports). If there were any immediate concerns about the safety of the Young Adult, or any other individual, interviewers were instructed to phone the Gardaí. All reported incidents were then considered and acted upon as necessary by the Principal Investigator. The Study Team's Designated Liaison Person (DLP) 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. 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 made with appropriate advisors, including social workers. If appropriate, a referral was made to relevant welfare services.

Growing Up in Ireland has also compiled and published its own Child Safeguarding Statement in accordance with the requirements of the Children First Act (2015) as enacted in December 2017. This statement is available on the Growing Up in Ireland website.[6]

4.3.3 INTERVIEWERS ALONE WITH THE YOUNG ADULT

Wave 4 of data collection represented the first time an interviewer could be alone with the main respondent (the 20-year-old) who now had adult status. Nonetheless, the interviewer was instructed to never be alone with underage individuals in any participant's residence during fieldwork. All other child protection guidelines used since the inception of the Growing Up in Ireland study applied to this wave of data collection.

Guidelines were given to interviewers explaining inappropriate behaviours; for example, 'personal' spaces like the participant's bedroom should not be used to conduct interviews, yet sufficient privacy should be ensured for the young person – especially when considering shared accommodation. Health and safety guidelines, to ensure safety while working alone in the field, were given to all interviewers.

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 4.2.2 above), a breach of confidentiality is a criminal offence. At interviewer training it was emphasised that not all breaches of confidentiality may be malicious in nature. Many can arise through thoughtless or careless comments made to third parties after an interview has been completed.

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;

[6] https://www.growingup.ie/pubs/Growing-Up-in-Ireland_Child-Safeguarding-Statement_Feb20.pdf

- 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 is able to see another person's answers, even if that person has recorded details in respect of the individual in question; for example, the parent cannot see answers given by the 20-year-old and vice-versa. A respondent can request to see personal data held about them – i.e. responses provided by them about them. Under General Data Protection Regulation (GDPR), this 'subject access request' must be processed within one calendar month. A participant may also request data to be deleted. This particularly important point was explicitly included in the consent form signed by all respondents 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, potentially sensitive questions 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 for possibly sensitive answers. At this wave, there was a new protocol whereby respondents could write out their medical condition (or the answer to any other question they did not want to say out loud) on a wipe-clean laminated card.

Furthermore, it was made clear to respondents at the outset that they could refuse to answer any particular questions or terminate the interview 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. Every Young Adult participating in the study received an information sheet with helplines and a wallet-sized card with a small selection of helpline numbers and a dedicated line in the ESRI-based field room.

4.3.6 FEEDBACK ON PHYSICAL MEASUREMENTS

As at the previous wave when participants were 17/18 years, three physical measurements were taken: height, weight and blood pressure. At Wave 4, there was an additional waist circumference measure taken by the interviewer. As before, the GUI Study Team – following

discussions with the Steering Group and Research Ethics Committee – decided not to provide any feedback to participants, either positive or negative, on any of these measurements. There were a number of reasons for this, including the fact that interviewers were not trained medical professionals; measurements were not taken in a clinical setting; and the data were collected under the Statistics Act, 1993 and can only be used for statistical purposes (i.e. not to diagnose or provide guidance on potential health issues).

Participants were, however, permitted to view their own measurements as they were being taken. In the case of blood pressure, a separate information sheet was provided showing ranges for low, normal and high readings. The information sheet also made it clear that no feedback would be provided in any circumstance, and that participants should not assume that an absence of feedback equated to a healthy measurement. This information sheet can be found in the Appendices.

Chapter 5

OVERVIEW OF INSTRUMENTS AND PROCEDURES

5 OVERVIEW OF INSTRUMENTS AND PROCEDURES

5.1 INTRODUCTION

Data collection at Wave 4 involved a home-based interview with the young person and one of their parents (frequently, but not necessarily, their mother). Given the now adult-status of the 20-year-olds (formerly referred to as the Study Child, now referred to as the Young Adult), the 20-year-old could be interviewed in a separate household to their parent. In contrast to data collection at age 9, 13, and 17 years, there was no school-based phase for this wave of data collection.

This chapter details the general procedures and instruments used at Wave 4 of Cohort '98. Fieldwork in the home is summarised in section 5.2; procedures for laptop administration are discussed in sections 5.3 and 5.4; administration of the cognitive tests is described in 5.5 and special procedures are described in section 5.6. Minimal details on instruments are provided in this chapter as its purpose is to provide a broad overview of the various levels of instrumentation and their administration, while details of substantive content are provided in subsequent chapters.

5.2 HOUSEHOLD-BASED FIELDWORK AND FAMILY PARTICIPATION

Wave 4 was the first wave that all 20-year-olds were interviewed as independent adults. Before this, their legal status was 'child' in almost all cases (exceptions were those who had already turned 18 at the last wave) and they were accessed through their Primary Caregiver. During the 20-year Wave, the first point of contact with the Young Adult was the address in which they were last interviewed.[7] Cover letters (see appendices E and F) and information sheets were sent to the Young Adult and their parent (the primary caregiver at the last wave of participation) separately. The correspondence with the Young Adult was sent a number of days prior to the parent's letter in an attempt to ensure a young adult focus. Parent and young adult correspondence were similar in content, with slight adaptations.

Mobile phone numbers of the Young Adult were issued to interviewers facilitating direct contact and independent interview schedules.

After the letters were sent to participants, interviewers called to the Young Adult's last known address (generally the parental home). The purpose of this was to obtain consent and to complete the interview and, where possible, to obtain the current address of the Young Adult

[7] EXCEPTIONS TO THIS WERE SITUATIONS WHERE THE STUDY TEAM BECAME AWARE OF A CHANGE OF ADDRESS SINCE THE INTERVIEW AT 17/18 YEARS OF AGE, POSSIBLY THROUGH RECEIPT OF A 'CHANGE OF ADDRESS' CARD FROM THE FAMILY OR YOUNG ADULT FROM THE 17/18-YEAR INTERVIEW.

if they were no longer residing in the parental home. Interviewers were instructed to attempt to make initial contact with the household in person; if this proved unsuccessful, they could attempt to contact the family by phone.

The informants in the home were in all cases 'Parent One' (known as the 'Primary Caregiver' at 9 and 13 years) and the Young Adult. Parent One was self-defined by the family as the person who provided most care to the Young Adult and was most knowledgeable about his/her development. Transitions between those self-identifying as Parent One and Parent Two from Wave 3 to Wave 4 were anticipated (i.e. Parent One at Wave 3 becoming Parent Two at Wave 4, and vice versa) and this had implications for the use of forward feed data. The detailed protocol for dealing with these issues is discussed in Section 6.2.

The main interview with the parent was administered by the interviewer using a Computer-Assisted Personal Interview (CAPI), while more sensitive questions were administered to the respondents on a Computer-Assisted Self Interview (CASI) basis.

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

*These core items were completed for all households.

- * Parent Main Questionnaire – Household composition; parental health; family context; Young Adult's emotional health and well-being; socio-demographics; background characteristics; household income; neighbourhood characteristics.
- * Parent Self-Complete Questionnaire – Reasons for change in the household grid; relationship to Young Adult; marital status; alcohol, smoking and drug use; parental emotional well-being; contact with criminal justice system; parent's relationship with the Young Adult.
- * Young Adult Main Questionnaire –Household composition, identity and becoming an adult; attitudes to politics and society; locality; health; diet and exercise; secondary school; current status; higher education or training; attitudes to work; income and expenditure.
- * Young Adult Self-Complete Questionnaire – Peer relationships; health risk behaviours; gender identity and intimate relationships; sexual experiences, pregnancy, victim of crime/bullying; self-esteem; family relationships; mental health; self-harm; coping and support; contact with the criminal justice system; internet use; reflections on childhood.
- * Young Adult cognitive test – Semantic fluency test
- * One-Day Time-Use Diary – Time-use information on what the 20-year-old did for 24 hours on a nominated day.
- Questionnaire Modules for Twins and Triplets – subset of questions for Parent One used where a twin or triplet was present.

- * Height, weight, blood pressure, and waist circumference of the Young Adult; weight of the parent and also his/her height if not available from previous waves.
- * The Work Assignment Sheet

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

- Chapter 6 – Parent/guardian questionnaires
- Chapter 7 – Young Adult questionnaires
- Chapter 8 – Cognitive test
- Chapter 9 – Physical measurements

5.3 CAPI PROCEDURE

At this Wave, each interviewer was equipped with two laptops to facilitate the 'paralleling' of components of the interview (e.g. the Young Adult could work on their self-complete questionnaire on one laptop while the interviewer used the second laptop to conduct the parent interview). Interviewers administered the main questionnaire to the young person and the parent. Each question appeared on the computer screen 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. 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. These were particularly important for longer lists of options or items in a scale, or when questions were of a sensitive nature. Interviews could be suspended and returned to at a later time according to the requirements of the respondents; for example, if an unexpected visitor called to the house during an interview. Completed interviews were outputted as ASCII files from Blaise and were encrypted and uploaded to a dedicated server in the ESRI using a secure wireless transfer protocol. They were then decrypted and rebuilt to produce an SPSS file for preliminary analysis of the data. As well as encryption of the data in transfer, all individual laptops were encrypted.

5.4 CASI PROCEDURE

At Wave 4, all sensitive questionnaires were self-completed by the participant on CASI (unless otherwise requested by him/her). The interviewer demonstrated to the participant how to answer the different styles of questions and provided them with a card detailing how to skip a question with "don't know" or "refusal". Respondents 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 parent's self-completion questionnaire was finished, it was 'locked

down' so that it could not be accessed by anyone other than the Study Team in Head Office. As the 20-year-old's self-complete questionnaire was longer, it was 'locked down' after every section. Once the self-complete questionnaire had been locked down, the interviewer did not have access to the completed sensitive sections of the questionnaire. The interviewer remained available at all times throughout the survey to give instructions and assistance.

5.5 COGNITIVE TESTS

A cognitive test assessing semantic fluency was administered to the Young Adult in the household. The test (fruit naming task) was a minute-long task where the Young Adult was asked to name as many types of fruit as they could think of. The Young Adult simply named the fruits and the interviewer recorded the responses on a Digital Voice Recorder and on paper. Audio recordings were deleted once checked by Head Office.

5.6 SPECIAL PROCEDURES

Growing Up in Ireland always aims to be as inclusive as possible. Achieving high levels 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 young people's lives and providing an evidence base for the creation of policies and services.

Every effort was made to accommodate people who required special assistance and this was reviewed on a case-by-case basis. For example, individuals with vision problems could complete the main and self-complete questionnaire on a CAPI basis if they wished to do so. In accordance with the Assisted Decision-Making Act, 2015, interviewers were instructed, where possible, to consider whether the young person was capable of independent decision-making and not to rely solely on the assessment from a third party (e.g. assessments reported by parents). Interviewers were given some criteria to follow when making decisions regarding the young person's capability and instructed to adapt communication to each individual's needs.

5.6.1 OTHER LANGUAGES

Where the respondents could not communicate through English or Irish, efforts were made on a case-by-case basis to make acceptable arrangements. No respondents requested non-English questionnaires at Wave 4.

5.6.2 TWINS AND TRIPLETS

In households where there were 20-year-old twins and triplets,[8] the parent respondent completed a main interview on CAPI and answered the young-adult-related questions in respect of one of the twins. They then completed a twin module on CAPI for the second Young Adult; in the case of triplets, a module was also completed on the third Young Adult. The latter modules repeated only the young-adult-related questions, this time to be answered in relation to the second twin or triplet.

Young adults who were 'non-singleton' participants in the study completed a full set of instrumentation, the same as their 'singleton' peers.

5.7 GIFTS TO RESPONDENTS

In contrast to the usual small gifts that were given as tokens of appreciation in previous waves for participation in Growing Up in Ireland, in this Wave participants had a chance to win one of four 32 GB tablets and one of ten 'One-for-all' vouchers. Participants of the post-pilot focus group suggested that the prize draw should be mentioned prior to participation to act as an incentive to participate. Gifts were therefore mentioned in the information sheet and covering letter and the voluntary nature of participation in the study was emphasised.

[8] THREE PER CENT OF YOUNG PEOPLE IN WAVE 4 WERE NON-SINGLETONS.

Chapter 6

PARENT INSTRUMENTS

6 PARENT INSTRUMENTS

6.1 INTRODUCTION

The home-based component of the study involved personally administered interviews with the parent and the 20-year-old him/herself. In this chapter, the Parent Questionnaires will be discussed in detail. The main questionnaire was completed using CAPI, while the sensitive supplementary questionnaire was self-completed on a CASI basis.

The inclusion of items for both parents and young people was based on the key domains identified in the literature as influencing young people's outcomes, input from advisors, stakeholders and young people, and the results of the pilot study carried out prior to the main fieldwork (see O'Mahony et al., 2020). The study team took account of many other factors when deciding to include or exclude a measure including psychometric properties, age appropriateness, usefulness in measuring change and stability in a longitudinal context, and policy relevance. In developing the research instruments, there were trade-offs between the importance and amount of information gathered and the length of the interview. Furthermore, the need to have balance across the four key domains of young adults' lives restricted the extent to which very specific questions could be asked in one domain.

The more detailed rationale for including each of the items comprising the various modules of the Parent Questionnaire is discussed below. Information on scales used in the interview is also included here, along with relevant psychometric information (psychometric information for the scales as recorded in this 20-year wave of fieldwork are included in the statistical appendix at the end of this report). The Parent Main and Self-Complete, and twin questionnaires are provided in Appendices G, H, and I.

6.2 PARENT QUESTIONNAIRE

6.2.1 SECTION A: YOUNG ADULT'S ADDRESS & HOUSEHOLD COMPOSITION.

XA1-XA3 Young Adult's current address

Question XA1 asked the parent if the parental home was still the 20-year-old's main address. If the Young Adult had moved address but was still living in Ireland, their new address was recorded (XA2-XA3).

XA4-XA6 Young Adult's temporary address

If the Young Adult had another part-time address (e.g. student or work address), their living situation in the temporary address was recorded as well as how many nights per week they stayed in the parental home.

A1-A2, A7a-A8c Household relationship grid

A1-A2 recorded personal details in respect of each person resident in the household. The information gathered included the name of any residents, their sex, date of birth, economic status, relationship to Parent, and relationship to the Young Adult. These variables are important for examining family structural and relationship issues that affect the Young Adult (e.g. lone versus dual parent status).

This section was previously completed by 'Parent One' at Wave 3; therefore, to save time, the information captured at Wave 3 was fed forward into the questionnaire. The same individual parent was asked to review the information collected in the previous wave relating to the composition of the household and update any changes or correct any inaccuracies. However, to ensure the confidentiality of the information collected at Wave 3, if the person who completed the grid before was not available to review it on this occasion, the current 'Parent' was asked to complete a new household grid (A7a-A8a).

In real terms, this was the first occasion that the 20-year-old respondent could legitimately be excluded from the household grid in the parental home.

A3a-b New entrants to the household

Any new entrants to the household (e.g. births) or any person inadvertently omitted from the household grid at Wave 4 could be added at question A3b. Information gathered included the name, gender, date of birth, economic status and relationship to the Parent and the 20-year-old of each new entrant. The date they joined the household was also collected.

A4 Number of people living in the household at Wave 4

The total number of people in the household was calculated by subtracting any departures from the household and adding in any new entrants from the number of residents in the household at wave 4. The Parent was then asked to verify that the number of people now regarded as residents was correct.

A5-A6 Identity of Parent at Wave 4

Question A5 asked the respondent who identified themselves as Parent One at Wave 3 if they still regarded themselves as the main Parent at Wave 4. The 'Parent' was self-defined by the family as the person who provided the most care to the Young Adult and who was most knowledgeable about him/her.

If Parent One from Wave 3 was no longer the main Parent at Wave 4, question A6a asked the reason for the change. Question A6b established if the resident spouse/partner of the previous Parent One should be interviewed as the main caregiver on this occasion.

A9a-A9c Other biological children living outside the household

Question A9a sought to establish whether the Young Adult had any other full, half, step, or adoptive brothers or sisters living outside of the parental household. If so, the Parent was asked to provide the sibling's sex, date of birth and relationship to the 20-year-old. These questions were asked to establish the birth order of the Young Adult and to ascertain a more accurate picture of family size.

6.2.2 SECTION B: PARENT'S HEALTH

This section looked at the health of the Parent including general health and presence of chronic conditions. It also asked about medical card and private medical insurance.

B1 General health status

This item was taken from the Short Form Health Survey (SF-36, a 36-item survey that measures perceived physical and emotional health status). The item used in Growing Up in Ireland serves as an outcome measure of general health status. Respondents were asked 'in general, how would you say your current health is?' with responses indicated on a Likert scale ranging from 1 (excellent) to 5 (poor). This question was included at Wave 1, 2, and 3 of Growing Up in Ireland and is commonly used in health surveys. The data will allow researchers to explore the relationship between (changes in) parental health status and outcomes for the Young Adult, including those pertaining to health, education, and socio-emotional development.

B2-B3 Chronic physical or mental health problems, illness or disability

Parents were asked about presence and nature of their own chronic conditions. The latter was then coded to the main ICD-10 categories.

Parental chronic illness has been found to have a significant impact on child functioning, particularly as the child progresses through adolescence and early adulthood (Stoeckel, Weissbrod & Ahrens, 2015; Peary, 2015). Compared with younger children, adolescents and young adults have a better understanding of illness and its implications, an understanding which can result in greater psychological distress (Compas et al, 1994; Stoeckel et al., 2015). Furthermore, young adults may have to assume additional responsibilities within the family as a result of their parent's illness and this care-load may impact on the development of other skills necessary for young adulthood (Stoeckel et al., 2015). However, the extent to which the experience of parental illness affects their offspring's outcomes remains an under-researched phenomenon in contrast to the extensive literature that addresses families' adjustment to child illness (Pedersen & Revenson, 2005).

B4 – B8 Parent and Young Adult medical insurance cover and medical card

Medical insurance utilisation in Ireland has been steadily growing over the past number of decades, irrespective of the fact that public health care is more accessible; the number of private health care users is estimated to be 43 per cent of the population (Money Guide Ireland, 2018). In Ireland, young adults may remain on their parents' policy indefinitely although the reduced young adult rate ceases at age 25 years. In 2015, a new policy aimed at encouraging young people to purchase health insurance was implemented (Lifetime community rating policy) although these incentives are more relevant to those approaching the age of 35. A recent review of health insurance in Ireland noted that there has been a substantial increase in recent years in the number of young adults being added to family private health insurance policies (Health Insurance Authority, 2020). The same review also reported that 'my parents included me on their policy' was the fourth most popular reason for having public health insurance. Parents were asked whether they had private medical insurance, because it was thought that the most likely source of cover for a young adult would be under their parents' policy.

There were a further two questions on whether the private medical insurance covered GP visits (separately for the parent and Young Adult). The parent was also asked if, to their knowledge, the 20-year-old was covered by a 'medical card'. This question was asked of the parent following the pilot phase where interviewers noted that 20-year-olds did not seem aware of what a 'medical card' actually was and might perhaps be confusing it with their private health insurance policy card. In Ireland a medical card is issued to mostly low-income families to allow them to avail of free primary care. Some cards cover the cost of prescriptions as well as GP visits while others only cover the cost of the visit. Those without a medical card have to pay in the region of €60 to visit a GP plus the cost of any prescription. Some private health insurance policies will pay some or all of the costs to GPs or other health professionals, but the more common plan is for hospital care only (Nolan & Layte, 2017).

From a developmental perspective, it is important to track the medical insurance and medical card status of study participants over time (especially potential change as they enter early adulthood) with a view to exploring the effects on long-term health outcomes. The absence of medical insurance or a medical card could then have potential implications, through negative health outcomes, in terms of academic attainment or engagement and progress within the workplace too.

The main reasons Irish people give for opting for private health insurance include fear of not getting into hospital, fear of expense, and to ensure quality of treatment (Harmon & Nolan, 2001). Given that the maximum any Irish citizen can spend on hospital care is 750 euro, and the average cost of health insurance per year is 1858 euro, fear of expense should not be a reason for opting for health insurance, implying there is a lack of education or understanding

with regard to private health insurance in Ireland (Money Guide Ireland, 2018). In the Irish context, socioeconomic differences have been found between those who have and do not have medical insurance. Those with higher income, higher health status, higher education, and those who do not have a medical card are more likely to have medical insurance (Harmon & Nolan, 2001). Medical card holders in Ireland have a higher frequency of GP appointments than private patients (Madden, Nolan, & Nolan, 2005). Those on low incomes without medical-card cover may be particularly vulnerable as GP visits could consume a large proportion of discretionary income.

6.2.3 SECTION C: FAMILY CONTEXT

C1-C2 Parental involvement in education

Parental involvement in their children's education is positively related to young adults' own academic achievement and college aspirations. Educational outcomes are enhanced by parents encouraging their child to study and offering guidance on educational decisions (Carter & Wojtjkiewicz, 2000). Parental involvement differs significantly by a number of background factors, particularly by social class (Rowan-Kenyon, Bell, & Perna, 2008).

Parents were asked whether the 20-year-old was still in education or had completed education in the last six months. If so, they were presented with six statements about their involvement in the Young Adult's education (Question C2). Each item was rated on a five-point scale from 1 (never or hardly ever) to 5 (several times a week).

6.2.4 SECTION D: YOUNG ADULT'S EMOTIONAL HEALTH AND WELL-BEING

Parents may be able to provide key insights into issues affecting the emotional and mental well-being of young adults that they may not perceive themselves. During the ages of 18 to 25, relationships between young adults and parents have been found to be particularly stable and more positive than adolescence (Sun, Bell, Feng, & Avery, 2000; Levitt, Silver, & Santos, 2007). Positive parent-child relationships may act as a protective factor against the onset of mental health issues; for example, closeness with parents has been found to be a protective factor in relation to drug abuse and conduct disorder (Mrazek & Haggerty, 1994). In contrast, a decline in parent-child relationship during young adulthood has been associated with depression and loneliness (Holt, Mattanah, & Long, 2018).

Question D1 presented five statements to the parent regarding concerns about the Young Adult. These questions were also asked at 17/18 years and therefore can be explored cross-sectionally and longitudinally.

Question D2-D3 further explored the Parent-Young Adult relationship in terms of engaging in activities together and disagreements. These questions were all new to the study at 20 years and are based on similar questions used in the (American) National Survey of Families and

Households. The warmth/closeness scale (D2) comprised four items on an eight-point scale ranging from 1 (Almost every day) to 8 (Don't know/No answer) in which respondents rated the amount of time they spent on particular activities with the Young Adult (e.g. had a meal together). The disagreements scale (D3) comprised nine items on an eight-point scale ranging from 1 (Never or rarely) to 6 (Not applicable) in which respondents rated how often they had disagreements with the Young Adult across a range of subjects (e.g. about how they dress, getting a job, and helping around the house).

6.2.5 SECTION E: PARENT'S SOCIO-DEMOGRAPHICS

E1 Nature of accommodation and status of tenure

These questions recorded whether the household was owner-occupied, rented etc. Tenure status has been very widely used in ESRI surveys over several decades and has been linked to measures of wellbeing, independent of covariates. This question was also asked at 9, 13, and 17/18 years, and will highlight stability or change in the nature of tenure status for families over time, which is especially pertinent considering the housing boom, housing shortage, and rental crisis cycles that these young people have grown up through, and what effect this may have on the 20-year-old.

E2-E22 Principal economic status and related variables

Questions E2-E22 asked about the respondent and their partner's work experience and work history. This information is used to assign social class (as used by the Central Statistics Office). These questions were asked at each previous wave of the study. This information is essential for defining and categorising the socio-demographic status of the 20-year-old's family. Over several waves of Growing Up in Ireland, social class differences have emerged in a range of outcomes in health, education and socio-emotional development.

6.2.6 SECTION F: PARENT'S BACKGROUND CHARACTERISTICS.

Section F focused on Parent's education and languages spoken in the home. New questions to this wave include those about their political preferences and self-reported personality traits (the latter using the Ten-Item Personality Inventory (TIPI) scale).

F1- F7 Highest level of education attainment

Parental education has been found to affect many aspects of their offspring's outcomes and thus is an important variable (Davis-Kean, 2005). These questions will allow socio-demographic classification of the Young Adult and their family. These questions were asked at all previous waves and were forward fed from Wave 3 unless any changes occurred, at which point new information was recorded at age 20.

Parental education level is an important factor shaping children's outcomes (Davis-Kean, 2005). Higher parental education has been consistently associated with higher educational attainment. Educational attainment is positively related to job status and income, health, and life satisfaction. Thus, it is important to research areas that influence young adults' participation in education (Melby, Conger, Fang, Wickrama, & Conger, 2008).

F8 Main language of the family

Question F8 asked the Parent what language is spoken most often in the home, with the answer options of English, Irish and Other (specify). Researchers may be interested in exploring educational, labour market or other developmental outcomes according to this variable.

F9 Political party preferences.

Reflecting the importance of the potential engagement of the Young Adult in politics (as a result of new voting rights at age 18), question F9 asked about the parent's political affiliation. The Parent was asked to which party they would give their first preference vote if there was a general election the following day. They could choose one of nine specific political parties in Ireland or 'independents', 'other', 'Vote for a person, not a party', or 'Wouldn't vote'. This question will allow researchers to establish a profile of factors associated with particular voting patterns in Ireland and to examine these preferences within a wider longitudinal context. It was also intended as a proxy for 'left-leaning' and 'right-leaning' attitudes; however, a question in the pilot asking people to describe themselves as 'left' or 'right' of the political spectrum did not function very well as not everybody understood the concept.

F10 Ten Item Personality Inventory (parent self-report)

Question F10 asked about the parent's personality traits using the Ten-item Personality Inventory. The TIPI is a ten-item scale measuring five aspects of personality: openness to experience, agreeableness, conscientiousness, extraversion, and neuroticism. Each personality dimension consists of two statements with two descriptors for each. For example, in the case of extraversion: (a) extraverted, enthusiastic (b) reserved, quiet. Both responses are then added up and divided by two to generate a score for that measure. Each of the ten items was rated on a seven-point scale, with answer categories ranging from 1 (disagree strongly) to 7 (agree strongly). Previously parents were asked to describe the personality of the younger study participants using this scale but the 20-year wave of the study was the first time they were asked to describe themselves.

Psychometric information

This measure of the Big-Five personality is the favoured approach in a study such as Growing Up in Ireland; while it may be inferior to the standard multi-item instrument, it is extremely

brief and has been recommended by Gosling, Rentfrow and Swann (2003) as an appropriate measure when personality is not the main topic of interest. Gosling et al. (2003) noted the scale has good test-retest reliability (r= .72). The authors also report convergent correlations between the TIPI and the Big Five Inventory (BFI) of .87, .70, .75, .81, .65 for Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience. Alpha values are not reported as, with such a small number of items in each dimension, other researchers have pointed out that the use of alphas is often misleading (e.g. Woods & Hampson, 2005)

6.2.7 SECTION G: HOUSEHOLD INCOME

The following section asked respondents about household income, social welfare payments, degree of difficulty making ends meet, indicators of deprivation, and any financial support they give the Young Adult.

G1-G6 Household income

These questions addressed issues related to household income. G1 and G2 recorded the main source of income received by the household. G3-G5 recorded details on the level of household income. The concept used is total household income from all sources and all household members, net of the statutory deductions of income tax and social insurance contributions (PRSI). This is a measure of the household's total disposable income. G3 offered the respondent the opportunity to record an exact figure per week/month/year. If this was not known or not forthcoming, G4 and G5 were then used to record the information using a series of rolling categories. The respondent was first asked to select which of the 10 categories his/her household fell into. This category was subsequently broken into sub-categories in an attempt to record the information on the most disaggregated basis possible. These income questions were used in the Living in Ireland survey, the Irish component of the European Community Household Panel survey (ECHP), which formed the basis for numerous publications on income distribution, poverty and deprivation in Ireland (see for example Whelan et al., 2003). G6 was a single question asking what proportion of the household's total income came from social welfare payments of any kind; to indicate the family's financial reliance on State benefits.

This information was also collected at Wave 1, 2, and 3, therefore facilitating cross-wave analysis of change/stability of income. In Wave 4, many of the parents are nearing retirement age and may have taken early retirement, relying on pensions or State benefit as their main source of income. It will be important to see how 20-year-olds are affected by changes in their family's circumstances.

G7, G9-11 Basic Deprivation Scale

A substantial amount of research into poverty and deprivation, as well as their influence on outcomes across a very wide range of substantive research areas, has been undertaken in Ireland in recent years (for an overview see, for example, Whelan, Maitre, and Nolan, 2007). Fundamental to much of this work has been the development and implementation of a Basic Deprivation scale.

The Basic Deprivation scale (developed by the ESRI) is made up of 11 items relating to the lack of items such as food, clothing, furniture, debt, and minimal participation in social life. Specific scale items include 'does the household keep the home adequately warm?' and 'does the household buy presents for family or friends at least once a year?'. The index can be used on its own as a measure of nonmonetary 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. Using it in this way allows one to obtain a comprehensive picture of the household's command over financial and other resources.

The Basic Deprivation scale has been extremely important in framing Ireland's National Anti-Poverty Strategy as well as in monitoring progress towards achieving national targets. Item loadings on the original Basic Deprivation dimension ranged from 0.55 for going without heating to 0.71 for being able to afford new clothes and eating a roast joint or equivalent (Whelan, Maitre, & Nolan, 2007). Convergent validity was also excellent, with the scale exhibiting high correlations with other measures, including the ECHP eight-item Basic Deprivation index.

G12 Change in financial circumstances since last Wave

Question G12 asked about any changes in family circumstances since the last wave of data collection. Although the national economy had improved since Wave 3, individual families may not have benefited in the same way.

G13-15 Financial interdependence between 20-year-olds and their parents

Questions G13-G14 enquire about the degree to which the Young Adult is financially dependent on the parent(s) such as through paying for education or accommodation costs, as well as direct cash transfer. This is important because young people are taking longer to achieve financial independence; therefore, many parents may still be providing financial assistance to their children. Research demonstrates that young people who are more financially dependent on their parents may be less ambitious and those who were less financially dependent were more independent generally (Rainsford, Rawlings, & Mistry, 2008). In contrast, G15 asked to what extent the parent(s) receive financial support from the 20-year-old.

6.2.8 SECTION H: NEIGHBOURHOOD / COMMUNITY INVOLVEMENT

H1 Length of time living in local area

This question, also used at 9, 13, and 17/18 years, asked how long the respondent had lived in their local area. This may give some indication of stability and possible ties to the community.

H2-H4 Satisfaction with the local area/neighbourhood

The areas in which people live have been found to have an impact on various aspects of family life. Neighbourhood characteristics can influence an individual's development, particularly in relation to their engagement in violence and delinquency (Chung & Steinberg, 2006). The perceived appearance of the neighbourhood and access to green space have also been shown to impact on well-being and, in turn, mental health (Leslie & Cerin, 2008).

Questions H2–H3 asked about the extent to which the respondents agreed with a series of statements about the characteristics of their local area (e.g. 'it is safe for me to walk alone in this area after dark') on a four-point scale, ranging from 1 (very common) to 4 (not at all common) or 1 (strongly agree) to 4 (strongly disagree). H4 asked about the household location with 13 response options varying from 'open country' to 'In a town (3,000-4,999)' to 'Dublin city'. These questions have been routinely used in previous waves of Growing Up in Ireland.

6.3 PARENT SELF-COMPLETE QUESTIONNAIRE

A supplementary questionnaire was completed by the parent in the home as part of the household interview. The questions were considered potentially more sensitive than the questions asked in the main questionnaire and were included in a separate module for the respondent to self-complete on a CASI basis. The content of the questionnaires, the rationale and the measures used are detailed below.

6.3.1 SECTION A: RELATIONSHIP TO 20-YEAR-OLD

S1 – S2 Gender and date of birth of Parent

AS1 - AS3 Household transitions

This question was designed to capture information about transitions out of the household since Wave 3. If the respondent indicated on the household grid that a member of the household at Wave 3 was no longer resident in the household at Wave 4, question AS3-AS4 queried the reason for, and timing of, the departure from the household.

S3-S5 Respondent's relationship to the Young Adult

This question records whether the parent was the biological, adoptive or foster parent of the Young Adult.

6.3.2 SECTION B: PARENTAL MARITAL STATUS

The following section looks at parent's marital and co-habiting status and the quality of their marital relationship, along with their habits regarding drinking, smoking and drugs.

S6a – S8 Parent's marital/co-habiting status.

Research has repeatedly highlighted the association between family structure, changes in structure, and adolescent outcomes. Many studies have documented the increased prevalence of adjustment difficulties among children, young people, and even adults whose parents are separated or divorced. For example, Størksen et al. (2005) found, using a sample of Norwegian adolescents, that parental divorce is associated with an increased risk of anxiety and depression, lowered subjective well-being, lower self-esteem, and school problems in adolescents. However, there has been a good deal of debate about the extent to which the associations found reflect differences in socio-economic resources or a direct effect of the experience of separation or divorce. Longitudinal data from the current study will enable researchers to explore the influence of family structure on Young Adult outcomes, both in the short- and long-term, taking account of a rich array of other background factors and can exploit changes in family structure between waves to provide more precise estimates of any effects.

Question S6a recorded the Parent's legal marital status. S6b noted if the child's other biological parent lives in that household or elsewhere (or deceased). S7 and S8 asked whether the Parent is residing with anyone as a couple, and how long they have been living together.

S9-S10 Quality of the Parent/Couple relationship.

Marital satisfaction is an important factor in family functioning. Quality of life within the family is particularly affected by quality of the husband-wife relationship. Conflict in the marital relationship may lead to problematic child development through its suggested relationship with quality of parent-child relationships (Cummings & Davies, 2010). Some research has found that frequent, intense, and poorly resolved conflict between couples contributes to the likelihood of young people developing symptoms of internalizing problems, including depression and anxiety, as well as externalizing problems and difficulties, including aggression and substance abuse (Lucas-Thompson & George, 2017). Increased family cohesion, in particular parent relationships, has been found to be protective against depression in the transition from secondary school to third-level education (Moreira & Telzer, 2015). Furthermore, marital satisfaction is a key component of adult life satisfaction (Bradbury, Fincham & Beach, 2000).

Questions S9 and S10 focused specifically on parental conflict. The parent was asked how frequently they argued with their partner and how often they used verbal or physical

aggression towards their partner from 1 (almost never/never) to 5 (almost always/always). These questions have been used in all previous waves of the study.

S11-S12 Dyadic Adjustment Scale.

The quality of the couple's relationship was measured using the short four item form of the Dyadic Adjustment Scale (DAS-4) (Sabourin, Valois, & Luisser, 2005). This scale provides an assessment of dyadic satisfaction and is used as a means of categorising marriages as either distressed or adjusted (e.g. 'how often (do) you discuss or consider divorce, separation, or terminating your relationship?'). There is strong evidence from a number of studies that the short form of the DAS, used in Growing Up in Ireland, is less time-consuming for respondents while still retaining the coverage of core areas of the original 32-item DAS (Spanier, 1976). This version and the 7-item version have been used in previous waves of Growing Up in Ireland and so provide longitudinal continuity in measuring the quality of the couple's relationships.

Sabourin et al. (2005) 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 to .92 for non-distressed participants. The traditional standardised alpha for the DAS-4 was .84, and the standardised alphas for the alternative DAS-7 used in previous studies was .85 (Sharpley & Rogers, 1984) 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. In Growing Up in Ireland at the previous 17/18-year Wave, the reliability of the scale at age 17/18 of Growing Up in Ireland was .66 for Parent One and .62 for Parent Two, suggesting that this scale remained useful even as their children enter adulthood.

S13 How well family gets on with each other.

The Parent was asked a single question on how well the members of the household got on with each other. This was a relatively new item, first included at age 17/18 years. Respondents rated their household's collegiality on a 10-point scale from 1 (we don't get on at all) to 10 (we get on very well).

6.3.3 SECTION C: PARENTAL ALCOHOL USE

S14 – S15 Frequency and type of alcohol consumption by Parent

Alcohol consumption is a major risk factor for the burden of disease globally. Alcohol is linked to many disease categories, but has a strong direct effect on alcohol-use disorders, cancer, cardiovascular disease, liver cirrhosis, and injury (Rehm et al., 2009).

Parents having a liberal attitude to alcohol and themselves having higher levels of alcohol consumption have been found to be associated with hazardous levels of adolescent drinking (Murphy et al., 2016). Excessive parental alcohol use can also have an adverse impact on

young people. A study by the ISPCC (2010) found that young people whose parents drank excessively reported experiencing neglect, violence, and abuse, feelings of stigma and shame, and coping difficulties. Conversely, parents who model responsible alcohol use can have a positive influence on their child by promoting appropriate behaviours regarding safe alcohol use (ISPCC, 2010).

Parents were asked how often they drank alcohol – ranging from 'never' to 'every day'. Those who drank at least once a week were asked how much each of beer/cider, wine, spirits or alcopops they consumed in a typical week. Those who drank any more frequently than 'never' were also asked a short screening scale for hazardous alcohol consumption – described in the next section.

S16a – S16e FAST alcohol screening

The FAST alcohol screening test (Hodgson et al., 2002) was developed in the UK as a short screening tool for alcohol misuse. It builds upon work done in a World Health Organisation (WHO) study that resulted in a 10-item questionnaire called the AUDIT (Allen, Litten, Fertig & Babor, 1997). The average administration time of the FAST reported by the test authors was 20 seconds. The scale comprises four items (questions S16a-S16e), but the test authors assert that 50 per cent of people may be classified as 'hazardous' or 'not hazardous' drinkers using the answer to the first item 'How often do you have EIGHT or more drinks on one occasion?' (six drinks are used as the threshold for women). The five answer categories range from never to daily. The remaining questions asked whether the respondent was not able to remember the night before (S16c), failed to do what was normally expected of them (S16d), and whether someone had advised them to cut down on their drinking (S16e). When these items are scored as 0-16, a person is classified as a 'hazardous' drinker if the total score is three or more. Since anyone who answered that they had six or eight drinks on one occasion weekly or more often (question S16a/S16b) is automatically classified as a hazardous drinker, and the rest of the questions are skipped, not everyone will have a continuous score. If a person answered that they 'never' have 6/8 or more alcoholic drinks on one occasion (question S16a/S16b), he or she was not classified as a hazardous drinker and the remaining questions were not asked. If a person answered 'monthly' or 'less than monthly', the other three questions were asked so as to complete the screening for hazardous drinking.

Psychometric information

The FAST scale was developed using 3,000 administrations in over 100 medical settings. Cronbach's alpha for the intercorrelation between items was reported to be 0.77, with one-week test-retest reliability given as 0.81. 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.

6.3.4 SECTION D: PARENTAL SMOKING AND DRUGS

S17-S19 Parental smoking habits and Young Adult's exposure to environmental tobacco smoke

Tobacco use is the leading cause of preventable illness and death in Ireland (Department of Health, 2013). Tobacco kills more than 7 million people each year (for 1 million of whom it is a result of exposure to second-hand smoke) and is the leading cause of cancer. Nine out of ten smokers begin smoking before the age of 18 (WHO, 2020).

Studies have shown that parents who are smokers have a strong influence on their offspring's smoking behaviour (Engels et al., 2004). As well as influencing their smoking behaviour, there is also strong evidence that environmental tobacco smoke (ETS) is deleterious to people's health, contributing to the risk of heart disease, lung cancer, stroke, breast cancer and so on (Celermajer et al., 1996; WHO, 2015).

Questions S17a-b asked the parent whether they currently smoked and if 'daily', how many cigarettes per day. They were asked about e-cigarettes and vaping at S18a-b: if tried and how often used if yes. Although the validity of self-reported smoking has been challenged on the grounds that smokers are inclined to underestimate the amount that they smoke or deny their smoking status, studies have found that misclassification rates tend to be small in the general population (Studts et al., 2006). Moreover Patrick et al.'s (1994) meta-analysis of 51 studies comparing self-reported smoking with direct biochemical measures found high levels of sensitivity (87 per cent) and specificity (89 per cent) for self-report averaged across studies, which reinforces the validity of self-reports, given that alternative techniques (e.g. analysis of urinary cotinine) are not operationally feasible.

These questions on Parent's own smoking were supplemented with an additional question (S19), which asked how many people smoked in the house, being designed as a crude measure of the Young Adult's exposure to environmental tobacco smoke. Similar questions – with the exception of those about e-cigarettes – have been asked at all previous waves, allowing for a longitudinal look at changes in adult smoking habits over a decade.

S20a-b Parental drug-taking

Adolescents are more inclined to experiment with drugs and acquire an accepting attitude towards drug use if their parents are drug users or their parents have a tolerant attitude towards drugs (Bahr, Hoffmann, & Yang, 2005; McDermott, 1984). Research has also shown that young people whose parents use drugs are often left to their own devices and lack parental control; as a result, they exhibit higher rates of delinquency, deviance and criminality (Jackson, 2013).

S20a asked if the respondent is currently using any drugs such as cannabis, marijuana, ecstasy or speed. Separately, they were asked about their own use of drugs such as heroin, methadone, crack or cocaine in S20b. The question on drug use was disaggregated at this Wave as it was felt that users of 'softer' drugs like cannabis might be more comfortable answering in the affirmative if they were not batched with 'harder' drugs like heroin. Response categories on both questions ranged from 1 (regularly) to 3 (not at all).

Although it is likely that drug use may be under-reported to some extent, and possibly more so for more 'heavy' drugs, CASI was used to try to alleviate this problem.

6.3.5 SECTION E: PARENTAL EMOTIONAL WELLBEING

S21 Parental depression – CES-D scale

The impact of parental mental illness on children, adolescents, and emerging adults is a subject of concern for policy makers (Trondsen, 2012; Mechling, 2015; Weissman et al., 1997). Parental mental illness has consistently been linked to offspring mental health problems (Van Loon et al., 2014). Some commentators have suggested that a predisposition to (some) mental health disorders can be inherited (Patel et al., 2007). However, there have been a number of other reasons proposed to explain the link between parental mental illness and psychological difficulties among young adults. The impact of parental depression on the psychosocial development and mental health of young adults has been found to be moderated by other social support available to the young person, severity and length of parental depression, and how well the young person understands the mental illness (Mechling, 2015; Patock-Peckham, Morgan-Lopez, & Rolla, 2009). Research suggests that females are more susceptible to the influence of parental depression than are males (Morris, McGrath, Goldman, & Rottenberg, 2014).

Question S21 comprised the Centre for Epidemiological Studies' Depression Scale (eight-item) (CESD-8), a short self-report screening instrument for depression in the general population. Respondents are asked to rate how frequently within the previous seven days they experienced a number of symptoms of depression, for example 'How often within the last week…did you feel lonely?' Answers are given on a four-point rating scale, ranging from 1 (rarely or none of the time - 0 days) to 4 (most or all of the time - 5-7 days). A composite score is calculated by summing responses across the eight items (range: 0–24). Respondents are categorised according to the recommended criterion for depression, with composite scores of seven or more being classified as 'depressed' and scores below seven defined as 'not depressed'. While a score above or equal to seven suggests a clinically significant level of psychological distress, it does not necessarily mean that the participant has a clinical diagnosis of depression. This measure was also used at the previous three waves of the study and will help to identify parents who had more symptoms of depression (over three waves) or those

who were more symptomatic of depression at one wave only (in the past or currently), and map this to the Young Adult's outcomes.

Psychometric information

Previous validation shows that the CESD-8 has good internal reliability (α = 0.86) and the scale correlates strongly (r = .93) with the original 20-item version of the instrument. Test-retest reliability is r = .83 and .87 for assessment at 6 and 12 months respectively (DiClemente et al., 2005). 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). Furthermore, it has been shown to discriminate depressive disorders from other forms of psychopathology (e.g. Roberts, Andrews, Lewinsohn & Hops, 1990). The scale had good internal reliability at age 17/18 of Growing Up in Ireland (α = .86 for Parent One and α = .83 for Parent Two).

6.3.6 SECTION F: PARENTAL AND RELATIVE'S TROUBLE WITH THE GARDAÍ (POLICE)

S22-S27 Family contact with the criminal justice system.

The intergenerational transmission of criminal activity is one of the oldest findings in criminology (Beaver et al., 2012). Recent evidence has shown that criminal activities tend to cluster within families, with a small number of families being responsible for a considerable proportion of the crimes committed (Flynn, Van Dyke, & Gelb, 2017). The risk of adolescents being imprisoned if their parents have been/are imprisoned is well documented. Dallaire (2007) found that of 1,427 incarcerated parents with an adult child, 21 per cent of mothers and 8.5 per cent of fathers had an adult child who had been in prison. Young adults who have a parent in prison have been found to attain less education (Foster & Hagan, 2009).

Questions S22-S23 asked whether the parent him/herself had ever been in trouble with An Garda Síochána (the Irish police service) – other than for traffic offences - and if they had ever been to prison. Question S24-27 asked the same questions in relation to the Young Adult's siblings (S24-5) and aunts/uncles (S26-7). This information will enable the unpacking of the processes underpinning any intergenerational patterns found, for example, the role of parenting practices or neighbourhood deprivation.

6.3.7 SECTION G: PARENT'S RELATIONSHIP WITH YOUNG ADULT

Families are complex social systems with multifaceted relationships interacting and influencing one another (White & Klein, 2002). Of central importance in family theory are relationships between parent and child. This section considers the quality of the relationship between the Parent and the 20-year-old; how disagreements are handled, how well Parent One and the 20-year-old get on and how the Parent feels about their child's development. The

questions from this section were largely taken from the National Survey of Families and Household and are new to the study at age 20.

S28a-d Dealing with parent-Young Adult conflict

Question S28 assesses how disagreements with the Young Adult are handled and consists of four 'strategies' (e.g. refusing to talk about it) and how frequently they occur.

S29a-h, S31 Quality of parent-Young Adult relationship

Question S29 presents a Likert scale on the quality of the relationship between the Parent and the Young Adult. Scale items included 'He/she is often critical of me' and 'I could talk to him/her if I was unhappy'. Internal consistency for this scale was high ($\alpha = 0.79$), although it was slightly moderated by one particular statement 'I would like more influence over his/her decisions', which was poorly correlated with most other statements. S31 was a single item where the parent was asked to rate the overall quality of their relationship with the 20-year-old, ranging from 0 (really bad) to 10 (absolutely perfect).

S30a-h, S31 Parental satisfaction with Young Adult

Questions S30a-c recorded details on Parents' level of satisfaction with aspects of the 20-year-old's lifecourse, including their performance in school, their boyfriend/girlfriend and their career aspirations.

Chapter 7

YOUNG ADULT INSTRUMENTS

7 YOUNG ADULT INSTRUMENTS

7.1 INTRODUCTION

This chapter details the instruments used with the Young Adult in the home. The Young Adult was asked to complete a Main Questionnaire and a Self-Complete Questionnaire. The main questionnaire was administered to the Young Adult on a CAPI basis and more sensitive questions were self-completed by the Young Adult on a laptop; all as part of the household visit by the interviewer.

The cognitive test was also administered to the Young Adult in the home (these are discussed in detail in Chapter 8). A time-use diary was left in the household to be completed by the Young Adult (see Chapter 9 for more detail).

A detailed discussion of the rationale for inclusion of the items and scales is provided below. The questionnaires are provided in Appendices J and K.

7.2 YOUNG ADULT MAIN QUESTIONNAIRE

7.2.1 SECTION 1: YOUNG ADULT'S ADDRESS & HOUSEHOLD COMPOSITION

The developmental period around the completion of secondary school is often marked by change in residential status (Arnett, 2000). Compared with any other age group, 18-25-year-olds have higher rates of residential mobility (Arnett, 2000). Often, young adults move and live away from their parental home yet may still rely financially on their parent(s), a transitionary period described by the term 'semiautonomy' (Goldschneider & Davanzo, 1986). This may happen when, for example, the Young Adult has moved away for college or travels abroad for cultural experiences.

Another consideration is co-residing; according to Census data, the number of young Irish individuals living in shared accommodation is increasing (Schwanitz & Mulder, 2015). There is a dearth of research examining the effects of this (Clark, Tuffin, Frewin, & Bowker, 2017). Research suggests that co-residing with peers may lead to stronger, more intimate friendships (Wall & Gouveia, 2014 in Schwanitz & Mulder, 2015) and has been described as "a unique aspect of socialisation for young adults" (Wolfe & Barnett, 2001, in Schwanitz & Mulder, 2015, p. 1193). Some young adults may reside in their parental home while working or studying. Other young adults may be financially independent, living outside of their parental home and paying their own rent.

Financial independence has been found to be one of the most important aspects for young adult's perceptions of their self-sufficiency, independence, and adult status (Arnett, 2000). However, financial stress has been found to strongly impact the mental health of young adults (Dooley & Fitzgerald, 2012). Arnett (2000) reasons that the high rates of residential change seen in this age group reflect the exploratory nature of this developmental period. Remaining or leaving the parental home has both positive and negative effects on the parental relationship, moderated by the autonomy the young person is afforded – an aspect discussed further in section 7.3.8.

HC1 Young Adult's current address

Question HC1 asked the Young Adult whether they lived at their parents' residence or an alternative address. If they lived in a non-parental address, they were asked questions HC1b-HC13.

HC1b Address where interview takes place

The interviewer noted whether the interview was taking place in the parental home or an alternative address.

HC2- HC2a Main residential address

This question asked the young person to specify whether they considered their parental or non-parental address to be their main residential address and, if the latter, they were asked what month and year they had left their parental residence.

HC3-HC4 Living arrangements

Question HC3 gave the Young Adult seven options to describe their living arrangements (for example I live alone in a house/flat or I live in a house/flat-sharing arrangement with other adults – at least some not related to me). HC4 asked the young person to record the month and year that they moved to this accommodation.

HC5 Co-residents

This question recorded personal details in respect of each person resident in the household. The information gathered included the name of any residents, their sex, age, economic status, relationship to Parent, relationship to the Young Adult, and whether they shared income with the person.

HC6 Number of people with whom young person shares income

Question HC6 records the number of 'yes' responses to the section regarding whether the young person shared income with co-residents.

HC7 Nature of occupancy

This question provided a list of 15 options to describe the nature of occupancy of the address (for example, Rented from a private landlord who lives elsewhere).

HC8-HC9 Suitability of accommodation

Question HC8 asked the Young Adult whether they felt their residence was suitable for their needs and, if not, question HC9 asked why, giving a range of nine options (for example Not enough bathrooms or Too noisy).

HC10-HC12 Cost of rent

Question HC10 asked what the cost of rent is, whether that cost is per week, month, semester, year, or other (HC11) and finally whether the rent cost is a burden to the Young Adult (HC12).

HC13 Nights spent in parental accommodation

This question asked the Young Adult how many nights they sleep in their parents' home.

7.2.2 SECTION A: ACTIVITIES, IDENTITY AND BECOMING AN ADULT

A1 Leisure pursuits

Question A1 records information on what kinds of leisure pursuits the Young Adult engaged in regularly 'for fun or to relax'. The activities included items such as participating in sport, reading for pleasure, crafts, spending time with friends or with pets. Leisure activities are important for young adults' psychological wellbeing, for the development of new skills, and for the formation of social relationships (Trainor et al., 2010). The World Health Organization emphasises the importance of leisure-time activities (WHO, 2002), seeing participation in varied forms of activity as giving young people opportunities for self-expression, feelings of autonomy, and achievement. Engagement in leisure activities can also help young people to adopt healthy behaviours, including the avoidance of tobacco, alcohol, drugs, and aggression (WHO, 2002), although some research has highlighted an association between sports participation and problematic drinking behaviour (Mays et al., 2010). Being involved in community organisations or groups such as sports clubs or youth clubs has been found to promote a sense of community which in turn fosters a protective sense of support and belonging (Sarason, 1974).

A similar list of activities was presented at 17/18 years but was compressed to answer options of 'yes/no' at the 20-year phase.

A2-A3 Becoming an adult

A number of commentators have pointed to a more prolonged period of transition to adulthood, with research indicating that many young people do not consider themselves adults until their early- to mid-twenties (Piotrowski, Brzezińska, & Luyckx, 2015). This can be partially explained by higher levels of participation in tertiary education and changing economic conditions contributing to increasingly precarious trajectories for young people (Côté, 2002). Furthermore, other aspects of transition such as buying a house, partnership formation, and parenthood are happening at older ages. The prolonged transition into adulthood is associated with a number of negative outcomes. Schwartz et al. (2011) found that young people who considered themselves adults were more likely to avoid risky behaviours, such as drug misuse, risky sexual practices, and driving while intoxicated. Nelson and Barry (2005) also found that individuals who perceived themselves to be adults had a better sense of their own identity and were at less risk of being depressed.

Researchers, such as Arnett, have put forward a theory that the period from 18 to 29 is developmentally distinct and coined the term 'emerging adulthood' to distinguish this age period from young adulthood and adolescence (Arnett & Murray, 2019). Research demonstrates that individuals in their early twenties generally do not consider themselves either adults or not adults but rather a stage in between both (Arnett, 1997, 1998, in Arnett, 2000). The Adult Identity Resolution scale is a subscale of the Identity Resolution Index and has been used in other similar longitudinal studies (such as the Longitudinal Study of Young People in England). The scale consists of three questions scored on a five-point scale from 1 (not at all true) to 5 (entirely true). For Wave 4, one item from this scale was used to assess the degree to which the Young Adult considered themselves to be an adult. The same item was also asked at age 17/18 years, allowing for the possibility of seeing how many individuals felt they had 'grown up' in the intervening period.

Question A3 records the Young Adult's perceptions regarding their responsibilities as an adult relative to their peer group and was taken from the Becoming an Adult National Longitudinal Study of Adolescent Health.

A4 Basic Needs Satisfaction Scale

Question A4 is the 21 item Basic Needs Satisfaction scale. The Young Adult was asked to indicate how true they feel each statement is about their life (for example 'People in my life care about me' and 'I feel pressured in my life') using a 7-point response scale ranging from 1 (Not true at all) to 7 (Very true). High scores represent high satisfaction of needs. This scale was new to the study at 20 years of age. As expressed in the pilot report, this scale has been used frequently in studies measuring needs satisfaction in young adults (Wei et al., 2005; Schiffrin et a.l, 2014; Idan & Margalit, 2014; Britton et al., 2014). Wei et al (2005) found that internal consistency for the scale was r = .69 for the autonomy subscale, r =.71 for competence subscale and r=.86 for relatedness subscale, with the overall Cronbach's alpha for the scale r = .90 (measured amongst a young adult sample). The scale has been found to have good external validity (Johnston & Finney, 2010).

A5 Risk aversion

Question A7 is a one item measure asking the Young Adult to record how prepared s/he is to take risks ranging from 1 (unwilling to take risks) to 10 (fully prepared to take risks). This question is new to the study at 20 years of age and is similar to one used in the Northern Ireland Longitudinal Study of Ageing (NICOLA).[9] Abundant research exists in relation to adolescent risk-taking behaviour; however, research into risk-taking behaviour between 18 and 25 years of age is less common (Arnett, 2000). During these ages, risk-taking behaviours are often used as a strategy for coping with the burden of forming one's identity (Holt, Mattanah, & Long, 2018). Research demonstrates that certain risky

[9] HTTPS://NICOLA.QUB.AC.UK/SITES/NICOLA/

behaviours are most prevalent between 18 and 25 such as risky sexual behaviours, substance use, and driving (speeding and driving while using substances) (Arnett, 1992; Bachman, Johnston, O'Malley, & Schulenberg, 1996, in Arnett, 2000). It has been suggested that gender differences exist as many cultural gender norms encourage/value male risky behaviour (Arnett, 2015). In the Irish context, males were more likely to display risk-taking behaviours (such as alcohol and substance misuse and violence), according to data collected in the My World Survey for young individuals aged 12 - 25 (Dooley & Fitzgerald, 2012).

A6-A9 Religiosity and spirituality

Questions A6-A8 collected information on the religious denomination of the Young Adult and how frequently they attended religious services. These questions should provide important demographic information in an increasingly diverse and secular society and at a time when many young people question their faith (Regnerus & Uecker, 2006). It has been suggested that between the ages of 18 and 25 it becomes important to critically engage with beliefs one has been brought up with and to form one's independent beliefs (Arnett & Jensen, 1999 in Arnett, 2000). Religious beliefs have been found to provide protective benefits for mental health (Nooney, 2005).

Spirituality, however, is a broader concept than religious affiliation and reflects the search for meaning. Therefore, question A9 on whether the 20-year-old would describe themselves as a spiritual person was asked of all participants regardless of their answers to the question on religion. Spirituality has been found to confer protective effects on young adults such as reduced smoking, reduced alcohol and cannabis intake (Nonnemaker, McNeely & Blum, 2003), protection against adverse mental health effects (Nooney, 2005), and better psychological well-being (Kim & Esquivel, 2011).

A10-A11 Citizenship

Information was recorded on the Young Adult's self-reported citizenship. While this information about them was previously recorded from their parents, this gives the Young Adult the opportunity to make their own declaration. Citizenship may also change over the life-course; for example children who came from overseas may have only become Irish citizens recently. In 2018, 120,000 individuals were granted Irish citizenship (Flanagan, 2018).

A12 Language spoken at home

Question A12 asked what the most common language spoken in the home is (English, Irish, or Other). In the case of 'other', respondents were asked for the specific language. Irish language is a minority endangered language; thus it is important to assess the prevalence of Irish speaking in households with young adults. Those who speak Irish as a first language are bilingual in almost all cases (O'Toole & Hickey, 2017). Conflicting evidence has emerged surrounding the advantages and disadvantages of bilingualism. For example, Baumgart and Billick (2018) assert that advantages of bilingualism include better controlled attention and inhibition and better grammar and metalinguistic awareness. In

contrast, in a meta-analysis of executive functioning in adults, Lehtonen and colleagues concluded that bilinguals do not have any cognitive advantages over monolinguals and may have a slight disadvantage in verbal fluency tasks (Lehtonen et al., 2018).

A13 Satisfaction with different life dimensions

Question A13 asked the Young Adult about their satisfaction levels in several areas of their life, including their personal income, dwelling, free time, social life, education and work. This question was adapted from a similar question used in the German socio-economic panel survey.[10] There are six items with answer options ranging from 0 (Completely dissatisfied) to 10 (Completely satisfied). Elsewhere in the questionnaire, participants were also asked for a single global rating of their satisfaction with their lives – a question which was also asked at 17/18 years. However, the additional questions at A13 should allow researchers to tease out differences in specific aspects at this key transition phase. For example, 20-year-olds could be very satisfied with their social lives but very unsatisfied with their income or dwelling.

A14-16 Access to transport

Question A14-15 recorded if the Young Adult had a full or provisional driving licence for a car/van, scooter/moped/motorcycle or a tractor; and if so, whether they had access to a vehicle for personal use. Access to transport is likely to be particularly important in rural areas and could affect access to employment and education opportunities.

Question A16 asked how the Young Adult normally travelled to work or college specifying eight options – private as well as public transport - and an 'other' category. Information on how young adults commute is of interest for equality and environmental reasons as well as transport more generally.

A17 Sources of information and help

Question A17 asked the 20-year-old to indicate typical sources of information on six 'adulting' topics such as finding accommodation, being short of cash or finding out about social welfare entitlements. Respondents can 'tick all that apply' from sources including online, parents, other family and friends.

A18-19 Disability and difficulty with everyday tasks

Long-lasting conditions, such as sensory impairments, intellectual disabilities, or chronic pain, can have negative effects on young adults, including physical difficulties, psychosocial and behavioural

[10] HTTPS://WWW.DIW.DE/EN/SOEP

difficulties (Quittner, Leibach, & Marciel, 2004; Gortmaker, Walker, Weitzman & Soebel, 1990), and poor academic performance (Eide, Showalter, & Goldhaber, 2010).

Questions A18-19 were taken from the Irish Census questionnaire and asked the Young Adult to specify if they had any long-lasting conditions and whether these conditions resulted in difficulties in everyday life in terms of dressing and bathing, going out alone, working or going to college, or participation in other activities such as leisure pursuits.

A20 Ten-item Personality Inventory

Personality includes one's motives, thoughts, feelings and behavioural tendencies (McCrae & John, 1992). The Big Five framework, one of the most widely used and extensively researched models of personality, suggests that individual differences in personality can be classified into five broad, empirically derived domains: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Personality has been widely studied due to its relationship to a number of positive and negative outcomes. Personality has consistently been demonstrated in the literature to be related to mental health; in particular, it has been shown that high neuroticism and low conscientiousness are associated with depression, anxiety, and substance abuse. Low extraversion is also associated with social phobia and depression (Kotov et al., 2010). Prosocial behaviour is strongly related to high agreeableness and conscientiousness (Kanacri et al., 2014; Carlo et al., 2005). Aspects of personality are also linked to temperament as a young child (Caspi & Silva, 1995), as measured in earlier waves of Growing Up in Ireland.

Measure

Personality was measured using the Ten Item Personality Inventory (TIPI). This was the same measure used at age 13 and 17/18 to measure the personality of the study participant. When he/she was aged 13, the Primary Caregiver completed it about them. At age 17/18 years, the scale was completed by the Parent One and the young person themselves (about the 17/18-year-old). At age 20 years, the Young Adult self-reported their personality traits using this measure; and the Parent also self-completed it with reference to themselves but not the Young Adult (see Ch. 6 on Parent Instruments).

The TIPI is a ten-item scale measuring the 'Big Five' aspects of personality, as already noted: Openness to Experience, Agreeableness, Conscientiousness, Extraversion, and Neuroticism. Each personality dimension consists of two statements and each of the ten items was rated on a seven-point scale ranging from 1 (disagree strongly) to 7 (agree strongly). For example, in the case of extraversion the respondent rated themselves on whether they were: (a) extraverted, enthusiastic and, separately, (b) reserved, quiet. Both responses are then combined (using reverse scoring where necessary) and divided by two to reveal the score for that measure.

Psychometric Information

This measure of the Big-Five personality is the favoured approach in a study such as Growing Up in Ireland as, while it may be inferior to the standard multi-item instrument, it is extremely brief and has been recommended by Gosling et al. (2003) as an appropriate measure when personality is not the main topic of interest. Gosling (2003) noted the scale has good test-retest reliability (r= .72). The authors also report convergent correlations between the TIPI and the Big Five Inventory (BFI) (John & Srivastava, 1999) of .87, .70, .75, .81, .65 for Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience. Although alpha values for this measure are lower than desirable (alphas of .68, .40, .50, .73, .45 for Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experience), the measure was not designed with internal consistency in mind as it was developed to measure very broad domains, with only two items per domain (Gosling et al, 2003). The alpha values at age 17/18 of Growing Up in Ireland were .57, .23, .41, .61, .32 for Extraversion, Agreeableness, Consciousness, Emotional Stability, and Openness to Experience. With such a small number of items in each dimension, other researchers have pointed out that the use of alphas is often misleading (e.g. Woods & Hampson, 2005). The results of the pilot study indicated that conscientiousness was associated with lower levels of problem drinking and that agreeableness was negatively associated with anti-social behaviour (O'Mahony et al., 2021).

A21-A23 Volunteering

Volunteering has long been recognised for its significant influence on Irish society and for the important role it plays in the creation of social capital, a more inclusive society, more active citizens, and an improved sense of community (National Youth Council of Ireland, 2011). Volunteering can have a very positive impact on young adults through skills development, career-related benefits, and gaining new experiences (ibid.). Furthermore, volunteer work has been found to influence well-being, with individuals who volunteer being happier, more satisfied with life, having higher self-esteem, and better general health (Thoits & Hewitt, 2001). In the USA, the rate of volunteering for young people between the ages of 16 and 19 was found to be 26.4 per cent, and 18.4 per cent for those between the ages of 20 and 24 – the lowest by age group (United States Bureau of Labor Statistics, 2015). For Ireland specifically, volunteer rates for those between 18 and 22 were 19 per cent, which is higher than rates at all other ages except 23 to 49 (Volunteer Ireland, 2019). Research indicates that those in socio-economically advantaged groups have higher volunteering rates; 44.3 per cent in the professional managerial classes compared with 25.9 per cent for the unskilled/unemployed group (National Report Ireland, 2006).

Question A21-22 asked the Young Adult if they had done any volunteer work in the last six months and, if yes, what type of work that involved. A list of 14 activities was presented to choose from, including coaching a sports team, mentoring, food distribution, fund-raising and serving on a committee. They were also asked what kinds of organisations they had volunteered with (charities, churches, sporting organisations etc). The latter question was adapted from a question asked in the

Irish Census. These questions were more structured than the open-ended volunteering questions asked when the study participants were 17/18 years based on the fact that many individuals had a narrow definition of volunteering (i.e. many did not consider helping a local sports team as volunteering). These questions will allow researchers to ascertain the extent of volunteering in this age group, the sociodemographic characteristics of those who do and do not volunteer; and whether the act of volunteering ultimately has any positive or negative effect on outcomes for young adults.

7.2.3 SECTION B: ATTITUDES TO POLITICS AND SOCIETY

The following section asked about the young person's attitude to politics, societal issues, and State institutions. For the most part, these questions access attitudes rather than factual information and are new to this wave.

B1 Trust in others

Young Adult respondents were asked a single item on whether people could generally be trusted on a scale of 0 (you can't be too careful in dealing with people) to 10 (most people can be trusted). The same question was asked at age 17/18 years. It is intended to reflect the individual's inclination to engage with others at an age when co-operation with a wider variety of people becomes more necessary at work, college, and in society generally.

B3 Trust in State institutions

Trust in State institutions is important for the success of many government policies, programmes, and regulations that depend on the cooperation and compliance of citizens. In Ireland, trust in many State institutions is dwindling, reflecting the impact of scandals within the Catholic Church and political crises (Edelman Trust Barometer, 2017). As with adults, trust among young people is associated with more active involvement in political and civic action (Fahmy, 2006) while low levels of trust are associated with lower rates of social participation and ultimately social exclusion (Alfieri et al., 2015).

For question B3, respondents rated seven categories of State institutions such as 'the Gardaí' and 'the church' plus 'the media/press' on a four-point confidence scale of 1 (a great deal) to 4 (none at all). Similar rating items have been used in other social surveys and were also asked of respondents at 17/18 years.

B2, B4-B9 Political interest and activism

Political engagement is an important act of citizenship. Whilst some research suggests that today's young adults are less likely to be civically engaged than young adults of the late 20th century, potentially due to later onset of adulthood (Flanagan, Levine & Settersten, 2009), increased awareness and involvement from young people in recent years for issues such as the environment, marriage equality and the 'Repeal the 8th' campaign suggest otherwise. Racial, class, and ethnic differences in civic engagement have been found and different institutions such as universities act as central

platforms where political engagement can occur, conferring unequal opportunities for engagement to those who do and do not attend such institutions (Flanagan et al., 2009). This is a key area where policies can intervene to balance such inequalities.

Question B2 was a single item where the Young Adult rated their overall interest in politics from 0 (not interested at all) to 10 (very interested) and was taken from the Irish National Election study (2002). Question B4 was adapted from the TISCH study (Portney & O'Leary, 2007) and asked about different types of political activism that the 20-year-old might have engaged in, such as 'contacted a politician or councillor', 'signed a petition', or 'took part in a public demonstration'. This question was new to the 20-year survey and was adapted based on current trends and feedback from Growing Up in Ireland focus groups with young adults. Political activism in young adults has been associated with a greater sense of self identity, greater maturity through experiences of activism, and community benefits (i.e. social action may be achieved) (Flanagan et al., 2009; Youniss & Levine, 2009).

Questions B5-B7 asked whether the Young Adult was eligible and registered to vote in the 2016 general election, and if yes, whether they did vote. The civic engagement of young adults by voting in elections and referenda is important for determining the future direction of Irish policy-making, especially when it comes to decisions particularly affecting this cohort. Reflecting the importance of the potential engagement of the Young Adult in politics (as a result of new voting rights at age 18), question B8 asked about the respondent's political affiliation, with options to choose one of nine specific political parties in Ireland or 'independents', 'other', 'Vote for a person, not a party', or 'Wouldn't vote'. This question was adapted from the Irish National Election study (2002). The option to vote for a particular individual rather than the candidate from a specific party was included after feedback received on the original version of this question in piloting. Asking for party preferences was asked to give some indication of the left/right or liberal/conservative leanings of the individual. As the parent was asked the same question, it may give some insight to the extent that young adults agree or disagree with their parent's political stance.

Finally question B9 captures the Young Adult's political cynicism by asking them to rate their agreement with two statements (e.g. 'the ordinary person has no influence on politics') on a 7-point scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). Individuals may be less likely to be politically active or vote if they feel helpless in bringing about change. These questions were based on similar questions asked in the Irish Social and Political Attitudes Survey (conducted by the ESRI in 2001).

B10 Concerns about social issues

In question B10, the Young Adults were given a list of national and international political and social issues, including 'terrorism', 'gender inequality' and 'poverty in Ireland', and asked to rate their level of concern regarding each issue ranging from 0 (not at all concerned) to 10 (very concerned). This question will inform policy makers of the most pertinent social and political issues concerning 20-year-

olds. Going forward, it may be interesting to observe shifts in young people's concerns for different social issues as they grow older. This question was new to this wave and was adapted from a similar question asked in the Living in Germany survey.

B11 Factors that help young people to succeed in life

Question B11 asked the young person about factors they perceived as helping them succeed in life. Eight factors were presented including 'who you know', 'your family background', and 'your own effort' and were rated on a 10-point scale from 0 (not at all important) to 10 (very important). This question was included as a result of themes emerging from focus groups, and specific items reflected things the young people saw as obstructing or facilitating goal achievement. This question was new to Wave 4.

7.2.4 SECTION C: LOCALITY

C1 Length of time living in local area

This question asked the Young Adult to specify how long they have been living in their local area. This question was asked of Parent One at the previous two waves of the study and the Young Adult at the last wave. Such information is important for linking information collected in earlier waves regarding location and neighbourhood characteristics to later outcomes.

C2-C3 Satisfaction with, and perception of, the local area

There is increasing recognition that the social ecology and structure of the neighbourhood matter for individual's health and wellbeing (Roux & Mair, 2010). Garbarino explains that socially toxic environments, including presence of crime, physical disorder, drug activity, and violence, can lead to problematic coping and high-risk behaviour in young adults (Garbarino, 1995). Lack of facilities suitable for young people have also been found to be risk factors for substance abuse (Reboussin et al., 2019) and risky behaviour (Sampson et al., 1997 in Reboussin et al., 2019). In addition, perceptions of neighbourhood safety affect physical activity rates – lower perceptions of safety are associated with lower physical activity rates. Similarly, lack of access to suitable facilities is also associated with lower physical activity rates (Humpel, Owen, & Lesllie, 2002).

Questions C2-C3 asked about the extent to which the respondent agreed with a series of statements about their local area (e.g. 'I have lots of family/friends living in this area') on a four-point Likert scale, ranging from 1 (very common) to 4 (not at all common) or 1 (strongly agree) to 4 (strongly disagree). These replicated the questions asked of the Primary Caregiver in earlier waves, and the 17/18-year-old at Wave 3, and are related to the perceived incidence of problems (such as vandalism, drug-taking, graffiti etc.) in the local area, whether the area was considered safe, the perceived adequacy of local facilities, and whether there were family members living locally.

C4-C5 Intention to continue living in Ireland

Question C4 asked the 20-year-old how likely it was that they would be living in Ireland in five years' time. Those who answered that it would be possible or very likely they would be living abroad by then were asked the reasons why at C5. They included possibilities such as the family emigrating, to get a job, or to see the world. The same question had been asked at the previous wave when the study participants were 17/18 years.

It is of significant research and policy interest given the role of emigration in the pathways of young people in Ireland. Growing Up in Ireland will yield new information on the groups of young adults who are actively considering emigration.

7.2.5 SECTION D: HEALTH

Section D included questions on the Young Adult's physical health, long-lasting conditions or difficulties, medical insurance, and health service utilisation. It also included some questions on their sleep patterns and dental health.

D1 General health status

In general, most young adults are considered healthy as defined by traditional measures of health status such as mortality rates and incidence of disease. However, young adulthood is a period of risk. Between the ages of 18 and 25, due to increased freedom from parental restrictions combined with relatively few responsibilities (e.g. no children), many young adults have the freedom to explore health-risking behaviours (Miller & Quick, 2010). This period has been suggested to be a peak time for risk-taking behaviours that can jeopardize health (Miller & Quick, 2010) such as binge drinking (Weitzman & Kawachi, 2000), risky sexual behaviour (Tapert, Aarons, Sedlar, & Brown, 2001), drug use (Shedler & Block, 1990) and smoking (Miller, Burgoon, Grandpre, & Alvaro, 2006).

Self-rated health is a valid and reliable indicator of objectively obtained measures of health status and is the most widely used comprehensive health measurement by the World Health Organisation (Jürges, Avendano, & Mackenbach, 2008). The item used in Growing Up in Ireland, derived from the Short Form Health Survey, serves as an outcome measure of general health status, with responses on a five-point Likert scale ranging from 1 (excellent) to 5 (poor). The same question ('In general, how would you say your current health is?') was previously used with the study participants at 17/18 years. Prior to that, their health had been rated by a parent (the primary caregiver) using a more child-oriented set of answer options (Very healthy, no problems / Healthy, but a few minor problems / Sometimes quite ill / Almost always unwell). As the study participants move into adulthood, they are being asked the same questions their parents were asked (self-report on adult health) since the start of the survey.

D2-D6 Chronic physical or mental health problems, illness, or disability

Chronic diseases are long-term conditions, lasting more than six months, are non-communicable, and may involve some functional impairment or disability. Examples include diabetes, cancer, musculoskeletal conditions, mental disorders, asthma, and so on. Chronic diseases are the leading cause of death and morbidity in developed countries (Department of Health, 2016). In Ireland approximately 27 per cent of the population have a chronic disease (Ibid).

Question D2 asked the participant if they had any on-going physical or mental health problem, illness, or disability and this was followed by an open-ended question on the nature of the problem. For the first time in Growing Up in Ireland, both Parent and Young Adult participants were offered a wipe-clean laminated card on which they could write down their medical condition if others were within earshot at the time. Open-ended responses to this question were subsequently recoded to the ICD-10 classifications.

Chronic conditions affect young people in different ways. Young people with chronic conditions often face more difficulties negotiating the tasks of young adulthood in comparison to their healthy peers. While most young people with a chronic condition cope well with the emotional aspect of the illness, they tend to have increased risk of lower levels of psychological well-being than their healthy peers (Yeo & Sawyer, 2005). Furthermore, young people with chronic conditions often report a sense of alienation from their peers due to the requirements of managing their condition and also because they may be unable to participate in recreational and sporting activities (Yeo & Sawyer, 2005).

Questions D4-D6 explored the duration, diagnosis, and impact of illness/disability on the Young Adult. The questions in this subsection were largely derived from the European Community Household Panel (ECHP/Living in Ireland survey 1994-2001) and are the same as asked of parent respondents about their own, and the study participant's, health since the start of the study.

D7 Nights in hospital

Question D7 recorded the number of nights the Young Adult had spent in hospital in the last twelve months. Higher use of secondary health care, particularly the number of nights spent in hospital, is a marker for ill-health. The number of nights spent in hospital is possibly a more objective indicator of the Young Adult's health in comparison to the self-rated question at D1, although a hospital stay might also be associated with an acute incident such as a car accident as well as chronic conditions. Similar questions were asked in the European Health Literacy Survey.

D8 Incidents requiring emergency medical attention

Question D8 asked participants whether they had experienced any of six specific incidences (including 'other') which necessitated medical attention. These were selected as being of potentially greater risk among this young adult age group and included road accidents, sports injuries, assaults and drug/alcohol intoxication. This was a new question for Wave 4.

D9 Frequency of contact with healthcare professionals

The importance of private health care and the extent of fee-paying in Irish healthcare have led some to argue that the system is not available to all on the basis of need alone but rather personal circumstances determine the availability, extent and speed of treatment (Layte & Nolan, 2004).

Question D9 was originally adapted from the National Longitudinal Survey of Children and Youth and recorded how often the Young Adult used healthcare services in the past year, including GP and other professional services. The list has been expanded over time: in this iteration, 'physiotherapist' was added as an explicit option following a relatively high number featuring among the 'other specify' option at 17/18 years. Other additions included private emergency clinics, health helplines, out-of-hours GP services, alternative therapists, and the separation of psychiatrists from psychologists/counsellors. The data will allow researchers to look at the types of healthcare services used most frequently by young adults, both as an indicator of health-need but also to determine whether there are socio-economic differences in healthcare utilisation over and above health status.

D10-D13 Unmet healthcare needs

Related to the previous question of actual utilisation (D9), questions D10 and D12 asked the 20-year-old if there had been any time in the past 12 months when they had needed to consult a GP (D10) or medical specialist (D12) but did not. If yes, there was a follow-up question as to the main reason for not seeing the GP (D11) or specialist (D13). Respondents were asked for the 'main reason' but were allowed to select more than one answer option from a list of eight that included 'not being able to afford it', 'not being able to take time off', 'being too far to travel', and 'couldn't get an appointment'.

D14-D17 Cover by medical card or private medical insurance

This section asked the Young Adult whether they have a medical card and/or are covered by private medical insurance (not just travel insurance). If they did have private insurance, there were follow-up questions on whether this was their own policy or their parents' and if the policy included the cost of GP visits. The parent of the 20-year-old was also asked questions about the Young Adult's medical insurance cover as the pilot indicated that the young person may not realise that they were covered by their parent's insurance policy.

D18-D21 Sleep

Inadequate sleep and poor-quality sleep have been found to have inhibitory negative effects on executive functioning (Zimmerman, 2008), immunity, metabolism (and therefore indirectly adversely affecting BMI; Taheri, 2006), and academic achievement (Wolfson & Carskadon, 2003). Although still being investigated, evidence seems to suggest a relationship between media use and sleep problems (Zimmerman, 2008).

Questions D18-D19 collected information on times for going to bed and getting up while D20 asked the Young Adult to estimate their duration of actual sleep in hours and minutes. Question D21 asked about sleep difficulties with a simple three-choice answer of 'a lot', 'some' or 'no'.

D22-D23 Dental health

Despite a reduction in the prevalence of dental caries in Ireland, the mean number of decayed, missing, or filled teeth for those aged 16-24 is 4.9 (Whelton et al., 2007). Research points to social class differences in oral health, with individuals from deprived backgrounds experiencing more decay (ibid).

Tooth decay in young adults is of concern because it is painful for the individual, treatment is challenging, and it may impact on self-esteem and physical appearance (Health Service Executive, 2009). The long-term effects of poor oral health are also very serious. Poor oral health is linked to acute and chronic disease such as cardiovascular disease, diabetes, cancer, and chronic obstructive pulmonary disease (Humphrey, et al., 2008). On a national level, adults living in areas where fluoride is added to the water supply have much better oral health and experience less dental caries and teeth extractions (Whelton et al., 2007).

Questions D22 asked the Young Adult to rate their dental health on a five-point scale from 'excellent' to 'poor'. The following question asked how regularly they visit the dentist with options ranging from 1 (twice a year or more often) to 6 (never/almost never). This will provide useful information from a public health perspective, identifying the use of dental health services and any potential social inequalities in such use.

7.2.6 SECTION E: DIET AND EXERCISE

Section E focused on the Young Adult's dietary profile and diet, use of supplements, and exercise.

E1 Young Adult's dietary profile

The adapted food frequency questionnaire (E1) was designed to obtain information on the Young Adult's dietary intake over a 24-hour period. Some of the items were derived from Growing Up in Australia, which were in turn adapted from the Sallis-Amherst Food Frequency Questionnaire (2001); other items were added following consultation with the expert panel set up by the Growing Up in Ireland study team. This set of items provides a semi-quantitative measure of the Young Adult's dietary intake along a number of dimensions: fruit and vegetable consumption, protein, carbohydrates, calcium, fats, and sugars. This is of interest in terms of general health and because Ireland has one of the highest rates of obesity and excess weight in Europe (WHO, 2013). Studies suggest that the mismatch between energy intake and energy expenditure is a major contributory factor (Livingstone, 2001).

E2 Number of cups of tea and coffee

Heavy caffeine use is considered to be more than 500-600mg a day (a typical cup contains around 100mg) and can have adverse side effects on health, such as high blood pressure, anxiety, gastrointestinal disturbances, and tremors (Mayo Clinic, 2017). Caffeine has been found to interfere with sleep, in turn increasing the likelihood of daytime sleepiness which has been found to impact on academic performance (James et al., 2011).

Question E2 recorded the number of cups of tea and coffee the Young Adult consumes on a daily basis.

E3 Vegetarian diet

Vegetarianism is becoming an increasingly popular lifestyle choice among young people (Dunham & Kollar, 2006). Bord Bia estimates that 8 per cent of Irish citizens are vegetarians (Harford, 2018). A 2016 opinion poll conducted in the USA - on behalf of the Vegetarian Resource Group - estimated that 3 per cent of that population were vegetarian (defined as 'never' eating meat, fish, seafood or poultry); but it was more common among the 18-34 age group (5.3%) than older adults (e.g. just 1.8% of 65 years plus). Young adults decide to become a vegetarian for a number of reasons such as animal rights, environmental concerns, and health benefits. Studies have shown that children and adolescents who follow a vegetarian diet have a lower intake of saturated fat, and a higher intake of fruit, vegetables, and fibre than their non-vegetarian counterparts (Dunham, & Kollar, 2006).

Question E3 asked the Young Adult if they followed a vegetarian, vegan, or pescatarian (fish but not meat) diet. A similar question was asked at age 17/18 years. Parents were also asked about their child's vegetarian diet at age 9 years. This information could be used to explore the long-term benefits of different diets, and the likelihood that young adults from various backgrounds (based on family characteristics) would choose a certain diet.

E4 Supplements

The dietary supplement industry is now a multi-billion dollar industry (Dorsch & Bell, 2005). The prevalence rate for supplement use in the US (Kantor, Rehm, & Du, 2016) and Denmark (Skeie et al., 2009) is approximately 50 per cent of the entire population although other countries have rates as low as .5 per cent (Greece). The most commonly cited reasons for usage are as follows: to maintain or improve health, to increase energy, to build muscle or increase weight, to increase athletic ability, to help heal injury or illness, or because of an inadequate diet (Dorsch & Bell, 2005). However, there are concerns about the use of dietary supplements when they are not required, including accidental poisoning and illness (American Cancer Society, 2015).

Question E4 listed a number of common food-based supplements, such as multi-vitamins and protein powders, and asked the Young Adult to record if they used any of them. Respondents who answered 'individual vitamins or minerals' were asked to specify which ones. A similar question was asked at

17/18 years. Using this information, the potential negative effects of supplement use (either at one particular wave or over a sustained period of time) could be explored in the future.

E5-E6 Knowledge of recommended calorie intake

Questions E5 and E6 asked the respondent to indicate what they think the recommended daily calorie (technically kilocalorie) intake for adult males (E5) and females (E6) is. In the context of recent policies to encourage food outlets to display the calorie 'value' of foods on menus, with a view to helping the public make healthier eating choices, it will be useful to know whether 20-year-olds are aware of the daily target they should be aiming for. This information could then be explored in the context of the Young Adult's physical health, and whether an awareness of recommended calorie consumption is linked to obesity or any other chronic illness.

E7-E9 Physical exercise

According to the World Health Organisation, adults should be doing at least 30 minutes of moderate to vigorous physical exercise at least five days per week.[11] Physical exercise for more than 60 minutes provides additional health benefits. Physical exercise is important for a number of reasons. Obesity is a major public health concern in Ireland. The less active people are, the more at risk they are of being overweight. Regular physical exercise also reduces the risk of chronic diseases, such as coronary heart disease, type 2 diabetes, stroke, cancer, osteoporosis, and depression (Department of Health and Children, 2009).

Questions E7-E9 were adapted from the Irish Sports Monitor survey and asked the Young Adult to rate how frequently they had engaged in at least 30 minutes of moderate, vigorous and muscle strengthening exercise in the past 14 days. These questions were amended from those used at 17/18 years (from 20 minutes to 30 minutes) to be in line with the international guidelines developed by the World Health Organization and cited in Get Ireland Active, allowing researchers to identify which young adults are partaking of enough physical activity. While most previous waves have asked about moderate and vigorous exercise, the question on muscle-strengthening activities is new to the questionnaire at this wave.

E10-E11 Reasons for exercising or not

These questions asked the Young Adult reasons why they choose to (E10), or not to (E11), partake in sport or physical activity. and were taken from the Irish Sports Monitor questionnaire (2013). For E10, participants were given seven options (including 'other'); for example, 'to control my weight'. For E11, participants chose from four options (including 'other'); for example, 'don't have enough time'. Such questions will provide insight into motivators and barriers to exercise at this stage in the life-course

[11] HTTPS://WWW.WHO.INT/NEWS-ROOM/FACT-SHEETS/DETAIL/PHYSICAL-ACTIVITY

to inform policies and interventions aiming to increase physical activity rates in young people. Previous research has noted that the transition from secondary school to college or work is a particularly 'risky' time for a drop in physical activity levels (Corder et al., 2017).

These questions were developed by the Study Team and are new to this Wave.

7.2.7 SECTION F: SECONDARY SCHOOL

This section contained questions on choice and experience of the senior cycle programme and participation in the Transition Year programme.

F1-F5 Details of senior cycle of secondary school.

Questions F1-F5 recorded details on the Young Adult's final years in school - when they left school, the name of the school, what Leaving Certificate programme they took in school and their satisfaction or otherwise with that programme.

The year you leave school can potentially affect subsequent opportunities – for example, if a student sits the Leaving Cert and applies for further/higher education in a year with a large cohort of students then there will be greater competition for places in further/higher education institutes. While most students take the Established ('regular') Leaving Cert programme, other options are available to better facilitate individuals who prefer a less academic track; for example, Leaving Cert Applied which may be more engaging and keep those vulnerable to early school leaving in school; but this has consequences, including higher unemployment rates (Banks, Byrne, McCoy, & Smyth, 2010).

There are three types of senior cycle programme: the Established Leaving Certificate, the Leaving Certificate Applied and the Leaving Certificate Vocational Programme. Access to the programmes varies across schools.

- The Established Leaving Certificate exam is taken at the end of second-level education. Students usually take six or eight subjects for a two-year period and they are (mostly) assessed through a terminal exam. Most students who sit the Established Leaving Certificate progress onto further or higher education.
- The Leaving Certificate Vocational Programme (LCVP) is not a stand-alone programme, but is taken as part of the Established Leaving Certificate. It was designed to give the Leaving Certificate a vocational aspect. Students take at least five subjects, along with the two compulsory LCVP link modules.
- The Leaving Certificate Applied programme is a separate stand-alone programme of two years duration, with a particular emphasis on preparing students for adult and working life. It caters for students who prefer the practical approach over the purely academic approach. However, the Leaving Certificate Applied programme limits access to third-level education and can put young people at greater risk of unemployment in the immediate post-school period (Banks et al., 2010).

F6 – F7 Self-rating of ability and perceived importance of Leaving Certificate

Questions F6 asked the Young Adult to rate how academically able they were in three subjects (Irish, English, Maths). They rated their perceived ability relative to their peers on a five-point scale from 1 (above average) to 6 (below average). Perceived ability in school subjects may influence later education choices as well as affecting self-esteem. Question F7 asked how important it was to the Young Adult that they did well in their Leaving Certificate examination. Answers to this question could reflect both motivation and an awareness of the importance attached to the exam by family and community.

F8-F16 Leaving Certificate results

The results achieved in the Leaving Certificate have an important influence on access to further education, training, and even employment (Smyth & McCoy, 2009). No single factor has been found to be predictive of Leaving Certificate performance; rather it is the interplay of a number of factors including gender, maternal education, prior cognitive ability, academic self-esteem, etc.

The information collected on Leaving Certificate performance at this Wave of Growing Up in Ireland can be used to examine, cross-sectionally and longitudinally, the factors that influence performance and also the short-term implications of Leaving Certificate achievement.

F8-13 asked the Young Adult whether they did the Leaving Cert exams, in what year, which points system[12] (old or new) applied to them, how many subjects they did, and how many points they received. Question F13 listed all subjects on the Established Leaving Certificate syllabus and asked the Young Adult to identify what subjects and level they did and what grade they got. Question F14 asked what grade the Young Adult got in LCVP modules. Question F15-F16 listed all modules on the Leaving Certificate Applied course and asked the Young Adult to specify their grade and which subjects they did. Respondents only answered the questions related to their particular Leaving Cert programme.

F17-F21 Early school leavers

The last two years of a young adult's secondary education are a critical time for his/her future well-being and occupational mobility (Hampden-Thompson & Galindo, 2015). Despite significant increases in the number of students staying in school to complete second-level education, a small minority still leave school early. Early school-leaving in an Irish context is defined as "leaving full-time second-level education before completion of the Leaving Certificate (Leaving Certificate Established, Leaving Certificate Vocational Programme, or Leaving Certificate Applied Programme) examination" (Byrne & Smyth, 2010, pp.3). From a societal perspective, early school leaving is a concern as it is associated

[12] THE LEAVING CERTIFICATE SYSTEM IS A POINTS-BASED SYSTEM ALLOCATING A CERTAIN NUMBER OF POINTS (MAXIMUM 100) FOR A PARTICULAR GRADE. EACH STUDENT'S HIGHEST 6 GRADES ARE CONVERTED TO POINTS AND THESE POINTS ARE USED TO DETERMINE ENTRY TO HIGHER EDUCATION COURSES.

with a higher risk of number of negative outcomes, including increased demand on social services, foregone national income and tax revenues, poorer levels of health, and unfulfilled human capacity (Freeney & O'Connell, 2012).

Questions F17-F21 were only asked of respondents who left school prior to the Leaving Certificate. They asked the Young Adult what age they were when they left school, what influenced them to leave school early, and if any friends or siblings had left school early.

F22-F25 Private tuition

Private tuition outside school hours, or 'grinds' as they are termed in Ireland, are taken by a large number of young people in their second-level exam years. Students who take grinds have been found to perform better in the Leaving Certificate in comparison to those who do not take grinds. However, some research suggests that this pattern may reflect the greater take-up of grinds among middle-class students who intend to go on to higher education, so there is little net impact once these socio-demographic differences are taken into account (Smyth et al., 2011).

Questions F22-25 asked the Young Adult if they took grinds, how frequently, and whether they found them useful. Similar questions were asked at 17/18 years.

F26-F30 Extra help in school

As at age 17/18 years, questions F26-F30 were used to identify those who were receiving extra tuition in school. This measure may be linked to school performance and can be used to ascertain if individuals with difficulties in core subjects such as English, Maths, and Irish are being identified and targeted for support within the school system. This has important implications for their experience of school, future outcomes in the labour market, and other areas of life. This question was taken from the Post-Primary Longitudinal Study.

F31 Attitudes towards school

Young people who have more positive attitudes towards school have been shown to have greater self-efficacy, positive relations with teachers, and better general well-being (Tian, Chen & Huebner, 2014; Huebner & Gilman, 2006). Smyth et al. (2011) found that individuals who were more satisfied with school did better academically in comparison to those who were not as satisfied with school.

Question F31 contained three statements regarding the Young Adult's attitudes towards school and teachers. The respondent was asked to rate each statement from 1 (strongly agree) to 4 (strongly disagree). These were a subset of items previously used at 17/18 years and were adapted from ones used in the Leaving School in Ireland Study.

F32-34 Work experience placement

These questions asked whether the Young Adult had any work experience placement during school, if they found this experience useful and why (open-ended). As more schools offer Transition Year, there is an increasing likelihood of work experience placements being offered in schools. On the other hand, as awareness and obligations regarding child protection increase, potential employers might become less generous about supervising young people on such placements. Therefore, it would be useful to know if students ultimately find them useful. Although similar questions were asked at the previous phase, it may be only in the light of subsequent choices and experiences that the individual might judge it to have been useful or not.

F35-F36 Consulting others about post-school options

These questions collected details on individuals and other resources that the Young Adult consulted when deciding about post-school choices. F35 asked the 20-year-old about the importance of people such as guidance counsellors, teachers, friends, and family. F36 was a simple yes/no option to a list of other potential sources of information such as university websites, open days, work placements, and career talks at schools. Knowing where young people go to collect information on their options is useful for policymakers in terms of channelling correct and up-to-date information at this important life-stage.

F37 Perceived benefits of secondary education

These questions asked about the Young Adult's perceptions of the benefits of second-level education in relation to 16 different aspects of life and development with answer options ranging from 1 (yes, a lot) to 3 (no help). They included potential benefits such as 'increasing self-confidence', 'being able to talk and communicate with others', 'knowing how to acquire a new skill', 'preparing you for the world of work', and 'reading and writing skills'. A similar set of questions was asked at 17/18 years. There has been some debate in recent years as to how successful school has been in providing young people with transferable skills beyond the rote-learning of academic information (Gleeson et al., 2014). These questions will allow researchers to access young people's own views on their acquired skills.

F38 – F39 Regrets about Leaving Certificate subject choice

Question F38-F39 asked whether the respondent has any regrets in relation to subject choice and if so, why. Knowing the reasons for dissatisfaction with subjects could usefully inform career guidance at school, for example. Possible reasons for regrets include not realising a particular subject was necessary for entry into their desired college course until it was too late, or finding a subject more difficult or intensive than they expected. This information could be examined in the context of the further/higher education choices and career progress of these young adults.

7.2.8 SECTION G: CURRENT STATUS / EVENT HISTORY

G1-G2 Event history grid

This section (G1) tracked the Young Adult's principal economic status as being in education, employed, at work, or other, month-by-month since January 2016. Each of the five broader categories were disaggregated into a total of 14 different statuses. Question G2 asked the Young Adult to clarify their current status.

More information on trajectories in principal economic status, especially in the post-school period, is potentially useful for examining, for example, how many people take a gap-year before entering third-level education. For those who go directly into the labour market after school, it provides information on how many short-term jobs individuals have or how long they are unemployed before finding more stable employment. Past and current (at the point of data collection) principal economic status is important contextual information for almost all research regarding the Young Adult.

7.2.9 SECTION H: QUESTIONS FOR THOSE CURRENTLY IN FURTHER / HIGHER EDUCATION OR TRAINING

Young adults face an important decision regarding joining the workforce or continuing with education after secondary school. Joining the workforce immediately may have short term monetary benefits; however, when considering earnings throughout the lifespan, higher earning potential as a result of higher education has been found to outweigh any short-term benefit of immediate entry into the workforce (Abel & Deitz, 2014).

Equality of school completion in Ireland is seen as a critical goal and many policies are in place to ensure school completion and advancement to further education across socio-demographic groups. Examples include changes to curriculum, targeted school funding, and back to education initiatives such as Youthreach, and grant schemes (McCoy, Smyth, Wason, & Darmody, 2014; Student Support Act, 2011).

Although the number of students entering third-level education is rising (Universities and Colleges Admissions Service, 2018), drop-out rates are high during the first year of tertiary education internationally (Blaney & Mulkeen, 2008). Ireland's student retention rate is relatively high at 78 per cent compared to 54 per cent in the US, largely due to systematic differences between institutions in the US and Ireland (Van Stolk, Tiessen, Clift, & Levitt, 2007).

At the time of the survey, Ireland had experienced a pattern of economic growth since the 2007 recession, including higher employment rates. These higher employment rates, however, are not universally beneficial, according to research by McGinnity and colleagues, and some groups were more affected by the economic recession (McGinnity, Russell, Watson, Kingston, & Kelly, 2014). They found high unemployment rates for the under 25 age group after the recession along with difficulty entering the labour market. This may have long-term consequences for the young people in question

as early career unemployment can have long-term negative effects on future employment, health, and wellbeing (McGinnity et al., 2014).

Section H has been divided up into two areas reflecting different patterns of activity. Participants are routed into an appropriate section based on their answers to the activity grid in section G.

Section H1 refers to Participants in Education and section H2 refers to Participants in Employment.

Section H1: Application to third-level education

Third-level education has become the dominant post-school pathway among young people in Ireland. Choice of course and institution have been found to reflect the complex interplay of student characteristics (such as gender and social class), prior educational achievement, the characteristics of the school attended, and the guidance received (McCoy & Byrne, 2011).

H1-H6 Details of current course

Question H1 provided 15 further/higher education and training options, for example 'Honours Bachelor Degree' or 'Apprenticeship' and asked the Young Adult, for each type of course, whether they had made an application, received an offer, registered, to how many, and whether they completed the course (H1a1-H1a5). If the young person had not registered for a course (H1a3) they were asked to specify the main reason why not (H1a4). If the young person did not complete a course, they were asked to specify their reasons from a list of 11 options including 'I failed my exams' (H1a6).

Questions H2-H6 asked the Young Adult to provide details on the name and address of the institution where they did their course or apprenticeship (H2), the name of the course (H3), whether the course was full-time (H4), when the course started (H5), and the expected duration of the course in years and months (H6).

H7 Influences on post-school choices

Question H7 asked the Young Adult to clarify the degree to which a list of 11 items influenced their post-secondary school choice of educational institution ranging from 1 (Very important) to 4 (Not at all important) including items such as 'It had a good reputation'. This question was new to the study for relevant participants at 17/18 years and was constructed by the Study Team to provide insight into the additional structural and personal factors that influence choice of institution.

H8-H9 Special educational needs and post-school learning

Question H8 asked about special educational needs and if present, whether the respondent receives extra educational supports, in what form, and whether these supports are useful.

H10-H11 Funding for further/higher education

Question H10 asked whether the Young Adult receives a grant or scholarship. Question H11 was a 'tick all that apply' question on other sources of funding for post-school education with nine options such as 'money from family', 'earnings from employment', and 'bank loan'. These questions were constructed by the Study Team and are relevant to concerns about equality of access to education (i.e. financial barriers/facilitators and future debt).

H12-H14 Engagement with further/higher education course

Question H12-H13 asked the Young Adult to rate their degree of satisfaction regarding their course choice (H12), how much they like their course (H13), and their degree of compliance with the requirements of the course (H14) with answers ranging from 1 (not at all) to 10 (Extremely/very much). These were new questions at this wave constructed by the Study Team to gain insight into how engaged the study participants were with their course of study.

H15-H21 Work placements and apprenticeships

Question H15-H17 asked whether the Young Adult has completed a work placement or is currently completing a work placement as part of their college course. Not all courses offer such a placement and longitudinally it will be interesting to examine whether it contributes to employment success post-college.

Young adults undertaking an apprenticeship will typically have on-the-job experience as a core feature of their training. Study participants currently doing an apprenticeship were asked to name and describe their work (H18), whether they were a member of a trade union (H19), how many hours they worked (H20), and their average weekly earnings (H21).

H22-H27 Part-time paid work during term-time

Despite the abolition of tuition fees, registration fees are higher in Ireland than tuition fees in almost all European countries (except England) and significant costs are involved in attending higher education (including accommodation, transport, living expenses etc.). A significant proportion of students receive State maintenance grants, but the value of these grants has declined relative to income levels over time and students are highly reliant on financial support from their parents and on income from part-time jobs (Smyth et al., 2011; Higher Education Authority, 2014). Term-time employment while at third-level education can be an important source of funding for educational resources and social activities. It can also assist in young people becoming financially independent from their parent, although it may also have a negative effect on their studies.

Questions H22 – H27 asked about part-time, paid employment among students and trainees during term-time. Respondents were asked to exclude holiday-only work, work placements, or voluntary work from this category. The information collected includes when they started the job (H23), a

description of the job (H24), whether they worked evenings, weekends, or both (H25), working hours per week (H26), and income (H27).

H28 Permission to access CAO records

The Central Applications Office (CAO) is the body that co-ordinates the allocation of course places in the Irish higher education system. H28 a and b were operational questions which recorded the consent or otherwise of the 20-year-old to ask the CAO for information on their application. This will be used to investigate what kind of courses young people applied to and what course on their list of preferences they were offered. This information would allow researchers to explore differences in long-term academic attainment based on whether or not students received their first offer for further education.

Section H2: Employment History

The following section asked the Young Adult about employment. It was expected that, by age 20, a proportion of young adults would have joined the work force. The questions in this section were largely constructed by the Study Team but reflect question structures that are typical of employment-related surveys (e.g. Census, Quarterly National Household Survey, UK Household Longitudinal Study). Question H29a recorded whether the individual is currently in paid employment and, if not, whether they had ever been in paid employment. This was a key routing question for the remainder of this section of the questionnaire.

H30 – H35, H43-45 Details of current employment

For those study participants currently in paid employment, question H30 captured the nature of their employment status, including options for 'regular, full-time [employment]' and 'zero-hour contract' to cover the variety of statuses in the current labour market. Further details were captured in H32 (open-ended description of the work done, e.g. accounts technician) and H33 (employee or self-employed). Details on hours worked (H34) and gross and net weekly income (H35) were also recorded.

Questions H44 and H45 collected data on whether the employment is for a business owned or run by a family member as this may be a distinct working experience, which in turn may confer different advantages or disadvantages on the Young Adult. Question H43 recorded whether the 20-year-old was a member of a trade union.

H36-H37, H42 Perceptions of current employment

These questions asked the young person about their perceptions of their current employment. Questions H36 and H37 asked the 20-year-old to rate how much they liked their job and how secure it was. Both questions gave answer options ranging from 1 (not at all) and 10 (very much). H42 asked

the Young Adult to describe their current job as a 'stop gap' or 'start to a long-term career'. These questions were mainly new to the study at 20 years.

H38-H41 Training and skills compatibility

Question H38 asked the young person whether they had undergone any training or education during employment, including options such as 'evening classes', and 'distance learning'. Skill development through training and working simultaneously may be important for future prospects as well as current job satisfaction. H39 and H41 asked the 20-year-old about their perceptions of their own skills and knowledge in relation to the job requirements. As 20-year-olds are likely to have little job experience, question H40 was included to access feelings of being underqualified. A review of youth employment from both employee and employer perspectives by Oxenbridge and Evesson (2012) noted issues such as a mismatch on whether young people actually possessed the skills necessary for the workplace, and employers' unrealistic expectations for novice workers given their limited experience. Question H41 assessed the young person's perceptions of the education level most appropriate for their work. These questions were mainly new to the study at 20 years.

7.2.10 SECTION J: ATTITUDES TO WORK AND PERCEIVED SKILLS

The following questions on attitudes to work and current skills and competencies were asked of all 20-year-olds regardless of their employment/education status.

J1 Future expectations

Question J1 asked the participant to rate ten categories of milestones (such as having their own home, be in their dream job, have a child etc) they would like to have achieved by the time they are 30 years, with response options ranging from 1 (not at all important) to 10 (very important).

J2-J5 Career aspirations

Question J2 asked the Young Adult what job they would really like to get by the time they are 30 and whether they expect to have that job by 30 (J3). J4 was an open-ended question on 'why not?' if they didn't expect to have the job they would like by then. From a lifecourse theory perspective, career aspirations are instrumental in guiding future career developments (Fouad, 2007). Career aspirations have been found to be influenced by parental education status, parental expectations, academic performance, and socioeconomic status (Fouad, 2007). There appears to be a consistent gender difference in career aspirations. Males may be less inclined to aspire to careers in nursing, social work, and education (Universities and Colleges Admissions Service, 2018). Females may be less inclined to aspire to careers such as science, maths, engineering, technology (STEM) (Dasgupta, McManus Scircle, & Hunsinger, 2015) and often those with intentions to pursue STEM careers change career path and career aspirations after experiencing a number of semesters (Dasgupta et al., 2015; Robertson, Smeets, Lubinski, & Benbow, 2010) As this question was also asked at 17/18 years, this allows for a

longitudinal comparison of career aspiration change and may provide key insight into the impact of gender stereotypes in particular careers.

Choice of career is an important decision that requires caution and serious consideration. People's career choice is influenced by a variety of factors; some people have intrinsic reasons for choosing a job, such as meaningfulness of the work, while others have extrinsic reasons, such as job security or high income. Intrinsic work values in young adulthood have been found to be predictive of intrinsic values in adulthood as well as greater career and life satisfaction (Chow et al., 2017). Question J5 listed 13 factors a person may consider when choosing a job; examples included 'high income', 'an interesting job', 'useful to society or helps others'. The Young Adult was asked to rate these answers from 1 (Not important at all) to 10 (Very important). A similar question was asked at 17/18 years but in a different format.

J6 Self-rated skills

Research suggests that during young adulthood self-perceptions may become more negative (Conley et al., 2015). Question J6 was new to the study at Wave 4, adapted from similar questions in other surveys, and asked participants their perceptions of their own competency on a range of skills from 1 (not at all) to 10 (to a great extent). The list of skills included a mix of competencies likely to be relevant to the workplace such as 'good written communication skills', 'ability to work well with others' including some more practical skills such as 'using tools' and 'caring for others'.

7.2.11 SECTION K: INCOME AND EXPENDITURE

The final section in the Young Adult Main Questionnaire looked at the Young Adult's income, expenditure, financial problems, rent, and their ability to save. There was a preliminary question at K0 to determine if the 20-year-old shared income with a resident spouse/partner. If yes, some subsequent questions effectively referred to their 'household' income; otherwise the reference was the Young Adult's personal income only.

K1 Welfare dependency

Welfare dependency can be used as a marker of socio-economic disadvantage. Question K1 asked the Young Adult what percentage of their total income is from social welfare payments. Longitudinally, this question will enable analysis of welfare receipt and transitions over time and their impact on the Young Adult's development.

K2 – K4 Difficulty making ends meet and indebtedness

Importantly, financial stress was heavily associated with Young Adults' well-being and mental health (Dooley & Fitzgerald, 2012). Question K2 recorded the degree of ease or difficulty the Young Adult has in making ends meet. Previously, this question has been asked of the study participants' parents at every wave and has been an extremely useful indicator of economic strain.

Questions K3-K4 asked if the Young Adult was currently having any difficulty repaying a loan or debt and what kind of loan/debt they were having difficult repaying. This was a new set of questions for this wave. Now that the study participant is legally an adult, he/she can enter into credit arrangements, and therefore get into debt. Question K4 lists a wide range of possible creditors, including loans from financial institutions, owing rent, borrowings from family or friends, and loans from moneylenders.

K5 – K6 Disposable income and household bills

Question K5 asked the Young Adult to record the average monthly income at their disposal from each income source. The potential sources included a job, student grant, family, and social welfare. This question was taken from the EuroStudent survey, allowing for comparison with other European countries, and provides important information on how young adults fund their living expenses, and proportionally how dependent different groups of people are on particular sources. Question K6 asked the young person to estimate how much (in euro) they pay each month for essentials (i.e. accommodation, food, and electricity). This will help to calculate how much income is available for other spending.

K7 – K11 Funding for living and study costs, and saving

Question K7 was taken from the ESRI Survey of School and PLC Leavers and asked how specific living costs such as rent, utility bills, food, health care, transport, and social activities were funded by the 20-year-old. For each of 10 items, they were asked if they paid towards them personally (or with a spouse/partner where relevant) and/or if their parents helped to pay for them. This question will help to estimate the type of financial support young adults receive from their parents. Question K8 followed a similar structure but listed four specific study-related costs such as fees, books, training costs (such as work wear), and 'other'. This question was based on the EuroStudent study.

Question K9 asked the 20-year-old if difficulty in finding or affording accommodation had limited their choices for work or education. Answers were on a four-point scale from 1 (not at all) to 4 (a lot). This is a particularly policy-relevant question in the context of rising pressure on housing availability in large urban centres at the time of the survey (2018/19).

Question K10 collected information on whether the 20-year-old was able to save on a regular basis (yes or no). The following question, K11, asked how the Young Adult would fund an unexpected expense of €250. There were seven answer options, on a 'tick all that apply' basis, that included cutting back, borrowing from family friends, and using savings or a credit card; plus a 'could not deal with it' option. These questions are useful indicators of the Young Adult's financial security. All of these questions (K7-K11) were new to this wave.

K12 – K14 Reasons for continuing to live in parental home

Questions K12 – K14 were asked of the Young Adults whose main address was their parental home. K12 asked whether the Young Adult preferred living at home or at their own address. K13 asked to what extent living at home was due to financial reasons. K14 presented the Young Adult with a list of 13 advantages and disadvantages of living with parents (e.g. 'I don't have to cook or shop for groceries' and 'I don't have enough privacy') with answer options of 'yes' or 'no'. These were also new questions at this wave.

Remaining or leaving the parental home has been found to have both positive and negative effects on the parental relationship. In Europe, studies have found that young adults living at home have supportive relationships with their parents. In contrast, studies in the US found that remaining at home may increase conflict within the parent-child relationship (Dubas & Petersen, 1996; Chisholm & Hurrelmann, 1995). Chisholm and Hurrelmann suggest that living at home's effect on parent-child relationships is moderated by the autonomy the young person is afforded (Chisholm & Hurrelmann, 1995).

7.3 YOUNG ADULT SELF-COMPLETE

The Young Adult Self-Complete questionnaire was completed by the 20-year-old on a CASI basis. This questionnaire covered more sensitive issues than the Young Adult Main Questionnaire such as adverse life events, smoking, alcohol and drugs, sex and relationships, and mental health. The content of the questionnaire, rationale and the measures used are detailed below. The Young Adult Self-Complete Questionnaire can be found in Appendix K.

X1 & X2 Gender and date of birth

Date of birth and gender were forward fed from the last wave of data collection; however, interviewers had the opportunity to change or correct this if necessary.

7.3.1 SECTION A: PEER RELATIONSHIPS

This section explored friendship networks. It included details on number of friends, close friends, and ideal romantic partners.

A1-A3 Friends.

During young adulthood, young people become less dependent on their parents and spend more time with their peers or become involved in more intimate romantic relationships (Holt et al., 2016). It has been suggested that peer relationships or romantic relationships may replace the role of family support (Arnett, 2015). Young adults have been found to place greater emphasis on the expectations and opinions of their peers, and the influence of peers on young people's attitudes and behaviours can be greater than that of parents: for example, in relation to deviant behaviour (Mann et al., 2016).

The presence of close friendships in young adults' lives has been found to be psychologically protective – those with numerous high quality close friendships were found to be happier (Demir, 2008; Demir & Wayne, 2007), and those with an absence of close friendship were at greater risk for depression and social withdrawal (Chango, Allen, Swedo & Schad, 2015). Young adults (ages 19-29) spend more time alone than any other age group except the elderly (Larsons, 1990 in Arnett, 2000).

Questions A1-A3 asked the Young Adult questions about their friendship group, including the number, how many are considered as close friends, and whether these friends can be counted on. The first two questions were also asked at age 13 and 17/18 years but A3 – being able to count on friends – was new at age 20.

A4 Desired characteristics for an 'ideal long-term partner'.

Question A4 asked the respondent to rate the importance of three characteristics in describing their ideal romantic partner ranging from 1 (very unimportant) to 7 (Very important). These were 'personality', 'looks' and 'money'. This question was constructed by the Study Team to explore how young adults might evaluate other individuals as potential partners at a time when they might be considering intimate relationships as longer-term rather than short-term engagements (Arnett, 2000). Traditionally literature for adults in this area would predict that women seeking men would prioritise personality and financial stability whereas men seeking women would emphasise physical appearance (e.g. Harrison & Saeed, 1977). However, given the evolving status of women relative to men in financial independence and a change in ways of selecting and evaluating potential partners through dating apps (e.g. Tinder), these patterns are changing. Results of more recent studies suggest that financial security is an important aspect for the majority of both males and females (Manning, Giordano, Longmore, & Hocevar, 2009).

7.3.2 SECTION B: HEALTH RISK BEHAVIOUR

This section looked at adolescent health risk behaviours, including smoking, alcohol consumption, and drug use. Emerging adulthood (ages 18-25) is said to be "the peak age period for many behaviors most societies try to discourage, such as binge drinking, illegal drug use, and risky sexual behavior" (Arnett, 2007, p. 73).

B1-B6 Smoking

While considerable progress has been made in reducing the number of people who smoke in Ireland, smoking still remains relatively high among young adults (Healthy Ireland, 2016). Those who begin smoking during adolescence are far more likely to smoke in later life (Saddleson et al, 2016). Smoking is of concern in young adults due to the health implications (Johnson & Richter, 2002). Tobacco use is one of the chief preventable causes of death in the world. The World Health Organisation (WHO) has attributed approximately 4.9 million deaths a year to tobacco use, and that figure is expected to

double by 2030. Furthermore, smoking is associated with other health risk behaviours such as alcohol misuse, drug use, and deviant behaviour (Costello et al., 2008).

The Young Adult was asked whether they had ever smoked a cigarette, and if so, how old they were when they commenced smoking. Current smokers were asked how often they smoke, how many cigarettes they smoke in an average week and whether they had ever tried to give up smoking but could not (B1-B5). The same set of questions were previously asked at the 17/18-year wave, while the study participant was also asked if (and how much) they smoked at age 13 years.

Question B6 was a new question on what the Young Adult's most important reason for smoking is. It included options such as 'I enjoy it', 'helps me to cope with stress' and 'because my friends smoke'. This question (and similar ones in relation to alcohol and drug consumption) were constructed by the Study Team in response to a request from members of the review panel.

B7-B8 E-cigarettes

E-cigarettes are battery-powered smoking devices that emit doses of vaporised nicotine. There has been an increase in recent years in the number of adolescents and young adults using e-cigarettes (Grana, Benowitz & Glantz, 2014). However, as e-cigarettes are relatively new to the market, the long-term positive and negative health impacts are unknown (Bold, Krishnan-Sarin, & Stoney, 2018). Many individuals use e-cigarettes as aids to cease smoking. Research has yielded inconclusive results with some studies finding that e-cigarettes hinder smoke cessation attempts (Pearson et al., 2015 in Bold, Krishnan-Sarin, & Stoney, 2018) while others found no differences (Brose, Hitchman, Brown, West, & McNeill, 2015 in Bold, Krishnan-Sarin, & Stoney, 2018) or increased success (Biener & Hargraves, 2015 in Bold, Krishnan-Sarin, & Stoney, 2018). These is some evidence to suggest that they may have harmful effects on health and increase the risk of indoor air pollution, though the evidence is not conclusive (Bold, Krishnan-Sarin, & Stoney, 2018; Yamin, Bitton & Bates, 2010).

Questions B7-B8 asked the Young Adult whether they had ever tried an e-cigarette and if so, how often they use one. Question B8 was taken from the e-cigarette online study (Brose et al., 2015). At 17/18 years the study participant was asked if they had ever tried an e-cigarette. There were no questions about e-cigarettes at 13 years, a reflection of the fact that they were not widely available at the time of the interview.

B9-B25 Alcohol consumption

Alcohol consumption is the third highest risk factor for premature death and ill-health in the European Union. In the UK, alcohol is the leading cause of death among people aged 15 to 49 (Burton et al., 2016). Alcohol consumption is associated with a range of negative health and social outcomes. Strong relationships have been observed between alcohol consumption and numerous illnesses and conditions, in particular, cancers of the oral cavity and pharynx, liver cirrhosis, coronary heart disease,

mental health problems, and suicidal ideation (Corrao et al., 2004; Bagnardi et al., 2001). Furthermore, alcohol consumption is linked to injuries, accidents, violence, and public safety issues (Hope, 2014).

Research consistently shows that alcohol consumption is greatest when young adults are in their late teens and early twenties (Kuntsche & Gmel, 2013). Alcohol consumption during this period is of concern because the brain is still developing and it has been found that excessive drinking may lead to lifelong impairments in brain functioning, in relation to memory, impulse control, motor skills, and co-ordination (Hiller-Sturmhofel & Swartzwelder, 2004). Binge drinking (heavy alcohol consumption over a short period of time) has been evident among Irish young adults and in a 2012 study of over 8000 young adults 61 per cent demonstrated problem drinking behaviours (Dooley & Fitzgerald, 2012). Binge drinking is associated with increased risk of alcohol dependence, crime and violence, and risky sexual behaviour (Guo el al., 2002; Chassin, Pitts, & Prost, 2002; Hill et al., 2000).

It is important to establish the frequency of problem drinking among young people in Ireland at age 20. The information can also be used to investigate, longitudinally, key predictors of problem drinking in adolescence, and whether the early onset of drinking has an impact on outcomes in later adolescence.

Questions at B9-B20 asked the 20-year-old about when they started drinking alcohol, how often they have an alcoholic drink and how many units they typically consume on a day when they drink. For this last question (B12), respondents were provided with a 'drinkogram' card showing typical units for popular drinks such as pint of beer or glass of wine to help them estimate unit consumption.

AUDIT measure

Alcohol consumption of participants was measured using the AUDIT scale (B10 – B20). The AUDIT (World Health Organization, 2001) is a 10-item screening tool developed by the World Health Organisation (WHO) to determine if a person's alcohol consumption may be harmful. Questions B13–15 deal with alcohol consumption (e.g. 'how often during the last year have you found that you were not able to stop drinking once you had started?', B16-18 relate to alcohol dependence (e.g. 'how often during the last year have you had a feeling of guilt or remorse after drinking?') and B19-20 consider alcohol-related problems (e.g. 'have you or somebody else been injured as a result of your drinking?'). Responses to questions 13-18 are reported on a 5-point scale while questions 19 and 20 are on a 3-point scale. Scores can be used to indicate the likelihood of hazardous or harmful alcohol consumption, and alcohol dependence. A score of 20 or more is suggestive of alcohol dependence (although some authors quote scores of more than 13 in women and 15 in men as indicating likely dependence), and scores of 8 or more have been used to indicate a strong likelihood of harmful alcohol consumption (Cassidy, Schmitz, & Malla, 2008). WHO proposes the following interpretation of AUDIT scores in an intervention context: scores 8-15 warrant advice on the reduction of hazardous drinking; scores 16-19 suggest counselling and monitoring, and scores above 20 warrant further

diagnostic evaluation and intervention for alcohol dependence. The AUDIT was also administered at age 17/18 years, with some questions on first consumption of alcohol also featuring at 13 years.

Psychometric information

The AUDIT has good validity and correlates with other self-report alcohol-use measures, e.g. the CAGE alcohol screening measure (Hays, Merz, & Nicholas, 1995). It demonstrated good reliability (0.83) among 832 hazardous drinkers (Hays et al., 1995) and also in a sample comprised of non-hazardous drinkers, cocaine users, and alcoholics (0.86; Sinclair, McRee & Babor, 1992). The internal consistency for the AUDIT at age 17/18 of GUI was $\alpha = .76$.

B21-B22, B25 Context for alcohol consumption

At the request of the expert panel, the Study Team constructed new questions aimed at collecting more information on the context and motivations for young adults' drinking behaviours. Questions B21 and B22 asked where (e.g. home, pub) and with whom (e.g. friends, alone) the 20-year-old usually drank. Question B25 asked for the most important reason for drinking alcohol (similar to the one constructed for smoking) which included options such as 'I enjoy it' and 'it gives me confidence in company'.

B23-B24 Attempts to reduce alcohol consumption

As some individuals will have already been drinking alcohol for several years by the age of 20, new questions were asked about whether the Young Adult had ever tried to give up or reduce their drinking and whether they were successful. Potentially, young adults may have noticed the ill effects of excessive alcohol consumption such as missing college or work, consider it too expensive given other living expenses, or become aware of campaigns about the dangers of drinking. It may be a cause for concern for policymakers and health professionals if many 20-year-olds have tried but failed to reduce their drinking.

B26-B40 Drug use

Drug use among young Irish people has reached worrying levels, among the highest in Europe according to a recent report (European Monitoring Centre for Drugs and Drug Addiction, 2017). The consequences of illegal drug use include physical health problems, such as kidney, liver, and heart damage, loss of memory and concentration, the transmission of viruses through sharing needles, as well as psychological and physical addiction (European Monitoring Centre for Drugs and Drug Addiction, 2017). There is extensive literature on the link between drug use and mental health outcomes in adolescence; cannabis, for example, has been found to trigger acute psychotic episodes where a predisposition exists and may worsen outcomes in established psychosis (Patton et al., 2002). Exposure to drugs in early adolescence has also been linked to substance dependency and crime as the young adult progresses into adulthood (Odgers et al, 2008).

Questions B26-B40 recorded details on the Young Adult's drug use and incorporated a modified version of the CAGE questionnaire.

B26-30 Cannabis use

Questions B26-B30 asked about frequency of cannabis use, where and with whom cannabis was smoked, and the most important reason for using cannabis. As noted, these new questions on context and motivation (B28-30) were constructed by the Study Team at the request of the expert review panel.

B31 – 36 Use of other illicit drugs

Question B31 asked about the frequency of inhaling or sniffing glue, aerosols, or solvents. In addition, a list of illicit and non-prescribed drugs (e.g. cocaine, heroin, benzodiazepines, steroids) was provided and the Young Adult was asked if they had ever taken or used any, if so where and with whom (B32-33). During the pilot study focus group, it was mentioned that the street names provided for drugs were outdated. The Study Team were subsequently provided with an up-to-date list by the Drugs and Organised Crime Division at the Department of Justice and Equality. The same set of questions regarding drug use were previously asked of the Young Adult at age 17/18 years, while they were asked more generally about cannabis, aerosol/glue and other drugs at age 13 years.

Steroid use is a recent phenomenon which deserves attention as there is a dearth of research in this area. As steroid use only became prevalent around the 1990s (Kanayama, Hudson & Pope Jr, 2007), lifetime adverse effects are difficult to quantify as there has not been a complete life cycle of steroid users. Studies conducted across the USA, Australia, and the UK suggest that 30 per cent of steroid users will develop substance dependence (Pope Jr et al., 2014). Anabolic steroid use is associated with a range of adverse effects, including cardiovascular issues and psychiatric disorders (Kanayama, Hudson & Pope Jr, 2010). The data collected regarding steroid use will allow for critical research of these issues in this understudied area.

The new questions on context for drug use (where and with whom) appeared at B34-35 and B36 was a specific question on using prescription drugs for "recreational use".

CAGE (modified, B36-40)

At this wave the questions on drug use were extended to include the CAGE questionnaire. The questions focus on Cutting down, Annoyance by criticism, Guilty feeling and Easing of withdrawal symptoms (CAGE). Answers options include binary 'yes/no' options. Higher scores indicate problematic drug use. A total score greater than 2 or more is considered clinically significant.

Psychometric Information

The CAGE was developed (in 1968) to detect problematic drinking behaviours and can be modified to detect drug use. According to a meta-analysis by Shields and Caruso (2004), the internal consistency reliability for CAGE alcohol was .74 (range .52 - .90). The test-retest reliability was found to be between .8 and .95 (Dhalla & Kopec, 2007). The modified drug use version of the scale was used previously in a young adult population (Smart & Studuto, 2010) and has good internal consistency (α=.78) (Meneses-Gaya et al, 2010).

This information will provide details on the prevalence of illicit drug use among young people in Ireland and will allow the researchers to longitudinally examine what factors act as predictors of adolescent drug use, and furthermore the impact of drug use on adolescent outcomes, such as education, mental health and anti-social behaviour.

B41 – B43 Gambling

The prevalence of gambling in Ireland is increasing (Subramanian, 2014). Developments in online gambling opportunities mean that young people are faced with the possibility of gambling 24/7. Gambling addiction has been linked to mental health issues, depression, anxiety, and increased suicide risk (Dooley & Fitzgerald, 2012; Frank et al., 1991). On top of this, gambling addiction has macro-level societal consequences, impacting crime rates, unemployment rates, and bankruptcy (Lesieur, 1998). It has been suggested that the tendency to focus on the drinking and drug use problem in Ireland has led to a neglect in researching and tackling gambling issues; thus, it is a particularly critical area in need of further research (Fulton, 2015). These questions were adapted from the National Longitudinal Study of Adolescent Health and ask the Young Adult about frequency of buying lottery tickets/scratch cards, frequency of playing casino tables or video games for money and whether they had ever played any other games for money.

7.3.3 SECTION C: GENDER IDENTITY AND INTIMATE RELATIONSHIPS

This section referred specifically to the Young Adult's sexuality and sexual experiences, including the first time s/he had sexual intercourse.

C1 Age of menarche

Question C1 asked women what age they were when they had their first period.

C2-C4 Sexual orientation and gender identity

In recent years, more young people are 'coming out' (a process whereby an individual realises they are lesbian, gay, bisexual, transgender, queer/questioning (LGBTQ) and discloses this aspect of their identity to others) and are living openly with the support of their family and friends (GLEN, 2016). However, despite this acceptance, many young people in the LGBTQ community suffer victimisation, prejudice, and discrimination. In particular, many LGBTQ students feel unsafe in schools as they are

subjected to both bullying and homophobia (Noone, 2017). As a result, the mental health and well-being of LGBTQ youths is compromised and many are at risk of mood disorders, anxiety, substance use disorder, and suicidal ideation (Russell & Fish, 2016). Recently Ireland became the first country in the world to publish a national, cross-Government strategy for LGBTQ youth (LGBTI+ Youth Strategy 2018-2020, Department of Children and Youth Affairs).

Questions C2-C4 recorded the Young Adult's sexual orientation and self-defined gender, including a direct question on transgender identification. This will fill a significant gap in Ireland by providing data on sexual orientation and identity among young adults, and its association with other aspects of their well-being. The question was also asked at the 17/18-year wave.

C5 – C12 Relationship with a 'significant other'

Romantic relationships are an important marker in adolescent and young adult development. Young adolescents have more affiliative, companionate relationships within friend groups, while older adolescents tend to have more committed, loving, and supportive couple relationships (Meier & Allen, 2009, Arnett, 2000). These romantic relationships can have both a positive and negative impact on psychosocial development; for example, studies from the US indicate that as high as one fifth of young adults feel that their partner tries to control them but in contrast the majority of young adults report that romantic partners help them achieve their career goals (Manning, Giordano, Longmore, & Hocevar, 2009). Those who have a positive experience of a romantic relationship may think of themselves as an attractive partner, while those who have a more negative experience may have much less self-confidence (Furman & Shaffer, 2003). Conflict arises during this life stage as individuals struggle to simultaneously form their identity through their career path but align their own goals and needs with the plans of their partner (Shulman & Connolly, 2013). Giordano et al. (2008) found that romantic relationships can influence academic achievement; for example, those who had a romantic partner with higher grades were more likely to earn higher grades themselves (Manning, Giordano, Longmore, & Hocevar, 2009).

By the age of 20 years, the study participants could be legally married to a spouse although marriage at such a young age would be relatively unusual in Ireland. According to the CSO statistics for 2017, the average age of grooms and brides in Ireland was 36.1 years and 34.1 years respectively (opposite sex marriages[13]). The same report shows that there were just 220 marriages registered in Ireland in 2017 where the bride was 20 years of age or younger (Table 8, CSO Statistical Release March 2018).

[13] For same-sex weddings, the average age was even older at 40.3 years for men and 40.5 for women, although this likely reflects a degree of 'catching up' for the relevant population given that same-sex marriage has only been available for a couple of years. There was just 1 same-sex marriage recorded in 2017 where the younger partner was under 20 and 33 where he/she was aged between 20 and 24 years (Table 8A).

Question C5-C7 asked the Young Adult about their current relationship status, including whether they were currently living with their romantic partner and, if so, for how long. Questions C8 and C9 collected basic information on the gender and age of that person. C10 asked the 20-year-old to predict their likely relationship with this person in five years' time (effectively the same status, progressed to cohabiting/marriage or dissolved). This could provide an interesting insight into whether the Young Adult sees their current relationship as longer-term and how this status might affect other life decisions in terms of education, work, family formation, and where to live. These questions are mostly new to the study at age 20 years (at 17/18 years, participants were asked if they were currently in a relationship and how many relationships they were in in the previous twelve months) and were constructed by the Study Team, although similar questions are asked in other studies.

Question C11 was taken from the PAIRFAM study and looks at the quality of the Young Adult's relationship with their romantic partner. Question C10 presented the Young Adult with seven statements with answers ranging from 1 (Never) to 5 (Always) regarding how often six behaviours occur in their relationship including 'You tell him/her, what you're thinking', 'You are annoyed and angry with each other'; 'You disagree and quarrel'.

Question C12 collected information on how many relationships (as in girlfriend/boyfriend/partner) the Young Adult has had in the past year.

7.3.4 SECTION D: SEXUAL EXPERIENCES

Adolescence and young adulthood represent critical time periods for sexual health development (Blom, Hogberg, Olofsson, & Danielsson, 2016). Risky sexual behaviour is the second highest threat to global health worldwide (Burke, Nic Gabhainn, & Young, 2015). Almost 50 per cent of sexually transmitted diseases occur during adolescence and young adulthood (Bersamin, Paschall, Saltz, & Zamboanga, 2012). In Ireland, there was a 300 per cent increase in STI diagnosis between 1994 and 2006 and a large proportion of diagnoses in Ireland occur between the ages of 20 and 24 (37.4%) (Burke, Nic Gabhainn, & Young, 2015).

Young adults are particularly susceptible to STIs due to increased likelihood of engaging in sexual risk behaviours (DiClemente, Salazar, & Crosby, 2007). Studies have demonstrated that those who have sexual intercourse with people they have just met are at increased risk of sexually transmitted diseases (Tanfer, Cubbins, & Billy, 1995 in Bersamin, Paschall, saltz, & Zamboanga, 2012), depression (Grello, Welsh, & Harper, 2006), and low self-esteem (Paul, McManus, & Hayes, 2000). Conversely, romantic sexual relationships have been found to be protective.

Alcohol consumption has been found to have a direct association with risky sexual activity, for example unsafe condom use practices or engaging in 'casual' sex with a stranger (Leigh & Schafer, 1993; LaBrie, Earleywine, Schiffman, Pedersen, & Marriot, 2005).

Sex with multiple partners has been associated with negative outcomes such as emotional distress (Cooper, 2002), unplanned or crisis pregnancy (Exner-Cortens, Eckenrode, & Rothman, 2013), and increased risk of negative sexual health (Fenton et al., 2005).

It is important to note that the focus of research on youth sexual behaviours tends to be on negative factors but being sexually active at age 20 is not inherently negative. Healthy sexual behaviour is a positive and normal occurrence during this age period (Boislard, van de Bongart, & Blais, 2016) and may positively influence body self-esteem for males and increased well-being for males and females (Vasilenko, Ram, & Lefkowitz, 2012; Långström & Hanson, 2006 in Boislard, van de Bongart, & Blais, 2016). Research agendas need to consider both normative and risky sexual behaviours. Thus, gaining insights into young people's normative and risky sexual experiences and behaviour is imperative for informing policy and intervention in relation to sexual health.

D1-D6 First sexual intercourse

Questions D1-D6 recorded details on the Young Adult's first sexual intercourse, including the sex of the person involved, their relationship status with the person involved; whether they used any form of contraception; whether they experienced regret following the encounter; and if they are still in an intimate relationship with the person in question. Questions about first sexual intercourse were only asked of Young Adults who had not reported intercourse at the time of the 17/18-year wave (and answered in the affirmative at D1 – have you had sex). Apart from D1, they are the same questions as asked of relevant individuals at the previous Wave.

D7-D12 Sexual health and contraception use

Question D7-D8 asked about the number of people in total with whom the Young Adult has had sexual intercourse and their frequency of condom use during sexual intercourse. Question D9 asked about frequency of contraceptive use and D10 asked whether the 20-year-old had ever had a sexually transmitted disease. These questions were the same as those asked at the 17/18-year wave. The following questions at D11 and D12, however, adapted from the National Longitudinal Survey of Youth 1997, were new questions that aimed to assess the Young Adult's knowledge of sexual health: specifically, when in the female menstrual cycle pregnancy is most likely and effective methods for preventing STIs.

The information collected in Section D will provide details on the sexual practices of young people in Ireland. Furthermore, from a longitudinal perspective, it will look at what contributes to healthy or risky sexual experiences, and how such behaviour can affect later outcomes.

7.3.5 SECTION E: PREGNANCY

Early engagement in sexual intercourse is associated with a greatly increased risk of experiencing a crisis pregnancy. Teenage pregnancy and resulting births pose many personal and societal challenges, including early school leaving, poorer academic achievement, social isolation, economic disadvantage,

and increased welfare dependency (Irvine et al., 1997). A substantial percentage of births that occur in Ireland to mothers between the ages of 18 and 25 are crisis pregnancies (36.7%) (Bourke et al., 2014). Nonetheless, the majority of pregnancies in this age category are not crisis pregnancies. In Ireland there has been a decrease in the number of births to teenage mothers over the last decade. In 2018, the CSO reported that there were just 1,101 births to women under 20 in 2016 – a drop of over 50 per cent since the 2006 figure of 2,335.

Question E1 asked the 20-year-old whether they have any children. Questions E2 and E3 only applied to men and asked about getting a woman pregnant, and if yes, how many pregnancies. Questions E4 –E6 asked female participants about their pregnancy history, including if they were currently pregnant. Questions E7-E8 collected information on the outcome of each pregnancy (live birth, miscarriage, etc) and the weight of the baby for any live births; and were asked of all applicable male and female respondents. Question E9-E10 asked women who had given birth whether the baby was breast-fed and up until what age. This information may be used by researchers to look at the predictors of young parenthood and the impact of early parenthood, miscarriage, stillbirth, or termination on physical, emotional, and educational outcomes. Even though it is anticipated that just a small proportion of the cohort will be parents themselves by age 20, where it does apply it is important to collect information such as birthweight and breastfeeding as contemporaneously as possible.

Finally, all participants (regardless of sexual experience) were asked how many children they would like to have – including adoption and long-term fostering (question E11). This question gives an indication of the longer-term plans of 20-year-olds with regards to family formation.

This section on pregnancy was largely new to this wave and included mainly questions constructed by the Study Team, although similar questions appear in other surveys.

7.3.6 SECTION F: VICTIM OF CRIME AND BULLYING

F1-F2 Victim of crime

Questions F1-F2 were new questions that asked about the 20-year-old's experience of being a victim of crime in the last two years (i.e. since they were 18). In terms of the type of crime experienced, a shortlist, such as having something stolen from home, being assaulted/threatened with assault and online fraud, was included, as well as a 'something else' option (not specified). Experiencing a crime can result in loss of finances or personal items but can also be upsetting even without a personal confrontation (e.g. Chung et al., 2014). However, experiencing violence, in particular, is associated with a range of possible adverse effects on young adults - both physical and psychological - including self-esteem issues, depression, and self-harm (UNICEF, 2015).

F3-F4 Recent experience of bullying

Bullying can take many forms, including verbal, physical, emotional, and, more recently, cyberbullying. Many studies suggest 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 be involved in indirect forms of bullying (Tsitsika et al., 2014). It is important to investigate bullying during young adulthood as research indicates that being a victim to bullying in young adulthood is associated with mental health problems and academic difficulties (Knack et al., 2014) as well as "heart problems, bone/joint problems, chest pain, and high blood pressure" (Knack, Gomez, & Jensen-Campbell, 2010 in Knack et al., 2014, p. 115). Quality of friendship may be protective against bullying through its effect on stress responses (Knack et al., 2014).

Questions F3 and F4 asked the Young Adult about their experience of being bullied in the last three months, in terms of type and frequency. Related – although not identical - questions were asked at 17/18 years and 13 years. The study participants were asked about 'being picked on' as 9-year-olds.

7.3.7 SECTION G: SELF-ESTEEM, CONCEPT, AND LIFE SATISFACTION.

The measures in Section G concerned the Young Adult's view of themselves, their self-esteem, and life satisfaction.

G1 Rosenberg self-esteem scale

Global self-esteem refers to the general value that a person places on him- or herself and should be distinguished from appraisals of specific traits or abilities (such as academic self-concept). Researchers across a range of disciplines have highlighted the impact of global self-esteem on motivation, career aspirations, educational success, job satisfaction, and mental and physical health (e.g., Baumeister, Campbell, Krueger, & Vohs, 2003). Because of its apparent connection to many important outcomes, global self-esteem is one of the most extensively studied attributes.

Self-esteem was measured using the Rosenberg Self-Esteem scale (Rosenberg, 1965). The RSE is the most widely-used and well-validated measure of global self-esteem (Robins, Hendin & Trzesniewski, 2001). The original ten item Rosenberg Self-Esteem scale was reduced to six items rated on a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). Items included 'on the whole, I am satisfied with myself' and 'I certainly feel useless at times'. This scale was previously used in this format at 17/18 years.

Psychometric information

The scale was originally designed to measure the self-esteem of high school students; however, since its development the scale has been successfully used with a variety of groups, including adults. The RSE has good concurrent validity with other measures of self-esteem, such as the Coopersmith Self-Esteem Inventory and Harter's Self-Perception Profile for Adolescents (Hagborg, 1993). The measure

also demonstrates good internal consistency (α = .88) (Roth, Decker Herzberg, & Brähler, 2008) and α = .79 (age 17/18 years in Growing Up in Ireland).

G2 Weight self-perception

Negative weight perceptions are increasing consistently, especially in the western world. This is no longer a phenomenon affecting a small minority; research suggests that up to 62 per cent of females and 39 per cent of males experience body dissatisfaction (Al Sabbah et al., 2009) – a "normative discontent" (Moore, 1984, in Jansson-Boyd & Zawisza, 2016).

Research strongly supports the positive association between media consumption and body image dissatisfaction (Barlett, Vowels, & Saucier, 2008). Developments in technology over the past decade allow 24/7 access to media content and young adults spend huge proportions of time accessing media in different forms and spend more time on media use than any other pursuit (Coyne, Padilla-Waalker, & Howard, 2016). Use of techniques to present bodies in altered ways (airbrushing, digital alteration etc.) has potentially expanded the unachievable body portrayal by the media (Bell, 2012). As information on media usage and body image perceptions are collected at this wave, this will allow researchers to explore this association in Irish young adults.

Question G2 asked the Young Adult about their perception of their weight, with responses ranging from very underweight to very overweight. The same question was asked at 17/18 years and related questions were also used at 9 and 13 years, allowing the tracking of change over time in individuals' self-perceptions.

G3 Satisfaction with life

Life satisfaction reflects a global appraisal of contentment with life as a whole (Suldo & Huebner, 2006). Young people who are more satisfied with life have better psychological well-being and are more able to cope with stressful life events (Suldo & Huebner, 2004). Question G3 asked the Young Adult to rate their level of satisfaction with life from 0 (extremely unsatisfied) to 10 (extremely satisfied). This information can be used to explore the potential influence of life satisfaction on other socio-emotional and mental health outcomes, as well as over the transition to adulthood, given that it had also been included in the questionnaire at 17/18 years.

7.3.8 SECTION H: FAMILY RELATIONSHIPS

This section focused on family relationships, particularly the Young Adult's relationship with his or her mother and father.

H1-H6 Network of Relationships Inventory with mother/father

As adolescents progress into adulthood, their relationships with their parents change and an increasing similarity of life experiences can yield a more equal relationship (Aquilino, 1997; 2006). At the same time, increasing independence among young people may serve as a source of change within

the parent-child relationship which has, in turn, been found to impact academic, social, and emotional functioning, as well as mental health (Holt, Mattanah, & Long, 2018). For example, moving out of the parental home has been found to influence the parent-child relationship. In the US, remaining at home can increase conflict within the parent-child relationship. An analysis of public discourse in this area shows that physical separation from parents, and financial independence in particular, are considered strong indicators of success in the transition to adulthood (Mitchell and Lennox, 2020). Whereas in Europe, those young adults who remain at home report supportive relationships with their parents (Filus, Schwarz, Mylonas, Sam and Boski, 2018; Dubas & Petersen, 1996; Chisholm & Hurrelmann, 1995). It is suggested that the difference may be as a result of autonomy, young adults in Europe having more autonomy when living with their parents (Arnett, 2014; Chisholm & Hurrelmann, 1995).

Questions on the relationship with mother and father are taken from measures used by the German PAIRFAM study (Thonnissen et al., 2014). The Young Adult reported on four dimensions of their relationship with their parents: 'intimacy', 'admiration', 'conflict', and 'reliability'. Each subscale comprises two items rated on a five-point Likert scale that goes from 'never' to 'always'. Sample items include 'you tell your mother what you're thinking' and 'your mother shows recognition for the things you do'.

Psychometric Information

The Network of Relationships Inventory was originally developed by Furman and Buhrmester (1985) and the questions used in this study were adapted from the behavioural systems version (Buhrmester & Furman, 2008). The authors report high internal consistency, moderate inter-rater reliability, and moderately high test-retest reliability over time (see Furman & Buhrmester, 2009 for details). Internal reliability for this subscale at age 17/18 of Growing Up in Ireland for mothers were as follows: intimacy α= .82, admiration α= .80, conflict α= .84, reliability=.57 and fear of love withdrawal α= .65. For fathers, internal reliability for the subscales were as follows: intimacy α= .83, admiration α= .85, conflict α= .87, and reliability=.63. This will provide useful information on the extent to which relationships with parents act as a resource in the transition to adulthood or as a source of stress to young people. These are a subset of the items previously used at age 17/18 years. The number of items was reduced with a view to streamlining the overall length of the Young Adult self-complete questionnaire while retaining some key aspects regarding their relationship to parents.

H7 Other adults the 20-year-old turns to for advice

It is important for individuals to have someone to turn to for advice and guidance. Research has shown that having an adult mentor reduces the likelihood of a young adult engaging in risky behaviours and contributes to a young adult's resilience as they have a source of support (Greenberger, Chen & Beam, 1998). Findings from the My World Survey (Dooley & Fitzgerald, 2012) showed that young people were most likely to go to a friend for support, followed by a parent or a relative. Individuals who did not have someone to support them were more likely to suffer from depression, anxiety, and stress.

The concept of 'one good adult' had a lot of 'traction' in the public arena at the time of the survey, including an Irish advertising campaign by a supermarket in conjunction with a youth mental health charity[14] and a 'be the mate you'd want' campaign running on an UK-based TV station that broadcasts in Ireland.[15]

Question H7 asked the Young Adult if there is someone in their life they can turn to for help and guidance. This will help identify groups of young people who have no such support as a basis for possible policy intervention, and the information can be used longitudinally to explore the impact of supports on later outcomes. This question was previously asked at age 17/18 years.

H8 Relationship with family members

While no family is "perfect", a cohesive family environment is important for each family member's well-being. Studies have shown that a non-supportive family environment is associated with greater psychological distress in adolescence (Johnson et al., 2001; Repetti, Taylor & Seeman, 2002). Question H8 recorded the Young Adult's perception of how well their family gets on. As with the other measures of family relationships, the information can be used to identify the predictors of family discord as well as the consequences for later outcomes. The same question was asked at age 17/18 years and a similar question is answered by the Young Adult's parent.

H9-H12 Caring for another family member

It is likely that some young adults will have responsibilities relating to the care of a family member who is chronically ill, has a disability, or is elderly; and this may increase as the study participants' own parents and grandparents get older. Growing Up in Ireland first asked a question on caring for an elderly or ill relative at 9 and 13 years of age but more detailed data were first collected at 17/18 years. At that point, and at the 20-year wave, the emphasis was on regular care such as helping a family member to wash or dress, cooking for them, ensuring they take medication etc. Research suggests that caring for another family member can impact both physical and mental health (Mrazek & Heggarty, 1994). The effect of caring for another on one's health is moderated by one's social support network. Research has found that successful interventions include "group support, information, and the availability of someone they trust to answer questions when they need help" (Mrazek & Heggarty, 1994, p. 140).

Questions H9-H12 recorded whether the Young Adult has regular caring responsibilities in respect of a family member; and if so, how they were related to that person and how much time the care took up (e.g. 'a large amount of my time'). If the 20-year-old indicated they regularly cared for a younger

[14] LIDL AND JIGSAW - HTTPS://WWW.ABETTERTOMORROW-LIDL.IE/ONE-GOOD-ADULT/ (JANUARY 2019)
[15] DAVE AND CALM - HTTPS://WWW.CAMPAIGNLIVE.CO.UK/ARTICLE/DAVE-CALM-BE-MATE-YOUD-WANT-UKTV-CREATIVE/1519596 (NOVEMBER 2018)

sibling, they were asked to clarify if that was 'just' baby-sitting or more wide-ranging care (H11). Respondents were also instructed not to include care of their own children in this section unless those children needed "extra help".

7.3.9 SECTION J: MENTAL HEALTH

This section looked at the Young Adult's mental health, including diagnosis of depression or anxiety. This information can be used to identify the factors associated with mental health difficulties at 20 years of age. It could also be used to examine the extent to which difficulties are related to the transition process (such as adapting to further/higher education or the labour market, exam-related stress, money stress etc.), and the degree to which young people with such difficulties receive medical or other support. While this section focuses more on difficulties, it complements more rounded measures such as self-esteem collected elsewhere in the questionnaire and incorporates some new questions on 'wellness'.

J1 Centre for Epidemiological Studies Depression scale (CES-D)

While people can experience mental health problems at any stage of their life, international evidence suggests that the onset of mental health disorders peaks during adolescence and into early adulthood (Kessler et al., 2005). At the age of 20 years, young people are exposed to a number of stressful life events which may contribute to the onset of a mental health disorder such as potentially leaving home for the first time, making choices about the future, the transition to higher education or the labour market, and financial stress (Dooley & Fitzgerald, 2012). Anxiety and depression are the most frequently experienced mental health disorders among young people in Ireland (Cannon et al., 2013). If untreated, depression can result in academic failure, poor peer relationships, conflict with parents and other authority figures, self-harm and suicidal ideation, and substance abuse (Cook, Peterson & Sheldon, 2009).

There is considerable evidence demonstrating that the onset of mental health issues, especially depression, anxiety, and stress, often occurs during third-level education (Castillo & Schwartz, 2013). As stated, negative mental health may interfere with academic achievement (Conley, Durlak, & Kirsch, 2015). It has also been found that most students suffering from mental health issues do not avail of available interventions and services (Conley, Durlak, & Kirsch, 2015), an aspect in need of policy focus. As mentioned, depression has a strong role to play in suicide (Hass, Endin, & Mann, 2003 in Lee & Dik, 2017) and suicide is the second highest cause of death during third-level education (Floyd, Mimms, & Yielding, 2007 in Lee & Dik, 2017). Thus, it is critical to research risk and protective factors in relation to depression.

For the first time in Growing Up in Ireland, the respondents completed the CES-D measure of depression. At 13 and 17/18 years, they had completed the Short Mood and Feelings Questionnaire which was more appropriate for younger respondents. However, at age 20 years it was decided to move to the CES-D measure, which has been used with other adult (i.e. parent) respondents at all

waves since the very start of the project. Although this means some discontinuity from the adolescent period, the Study Team felt that this was an appropriate juncture to switch to an adult-focused measure that can be continued into future waves.

For information on scoring and psychometrics, see section 6.3.5, S21 Parental depression – CES-D scale.

J2 Stress

Adolescence is a time of physiological and psychological change, with young people at increased risk of developing mental health disorders. Findings indicate that 30 per cent of young adults in Ireland are above of the 'normal' range for stress (Dooley & Fitzgerald, 2012). Stress affects individuals differently depending on their stage of brain development. At age 20 (during young adulthood) certain brain regions (frontal cortex, amygdala, and hippocampus) are particularly vulnerable to the effects of stress (Lupien, McEwen, Gunnar, & Heim, 2009). Higher stress levels are associated with increased alcohol consumption, negative self-esteem, and satisfaction with life (Dooley & Fitzgerald, 2012).

Stress at age 20 years of Growing Up in Ireland was measured using the DASS stress subscale. The DASS is a set of three self-report scales designed to measure the negative emotional states of depression, anxiety and stress. The DASS stress subscale contains seven items and is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient (Henry & Crawford, 2005). Items referred to how the Young Adult felt during the last week; for example, 'I found it hard to wind down' and 'I found it difficult to relax'. The items are rated on a four-point scale, with responses of 'Did not apply to me at all', 'Applied to me to some degree', 'Applied to me a considerable degree' and 'Applied to me very much'. Scores are summed to give the total score for stress. Scores can also be categorised into Normal (0-7), Mild (8-9), Moderate (10-14), Severe (15-19), and Extremely Severe (20+).

While previous waves of Growing Up in Ireland have featured other subscales of the DASS (depression, anxiety), this is the first time the specific stress subscale has been used. In the piloting phase, both the anxiety and stress subscales were used but the anxiety items were dropped (in favour of retaining specific information on stress), given feedback from external reviewers on the need to shorten the Young Adult's self-complete questionnaire and have increased emphasis on factors supporting mental health.

Psychometric Information

The scales of the DASS have been shown to yield meaningful discriminations in a variety of settings, and to have high internal consistency (α=.80, Dooley & Fitzgerald, 2012).

J3-J8 Diagnosis/treatment for depression, anxiety or psychological disorders

Questions J3-J5 recorded if the Young Adult had ever been diagnosed with depression or anxiety and if they received treatment. These questions were also administered at the 17/18-year wave and at age 20 years there was an additional question about being on the waiting list for treatment (J6).

Questions J7-J8 asked whether the Young Adult has been diagnosed with another psychological or psychiatric illness (apart from depression or anxiety) and what it was. An abbreviated list of disorders taken from the current DSM was provided with additional options for 'other disorder including experience of hallucinations or delusions' and 'other'. These new questions were included at the request of reviewers who wished to see the list of psychological diagnoses expanded from depression and anxiety; and which may not have been recorded under current chronic conditions in the health section of the main questionnaire.

This information will help to identify the prevalence of diagnosed mental health disorders among young adults in the sample, and the cross-sectional and longitudinal factors – such as self-reported, psychotic-like symptoms at 13 and 17/18 years - associated with a diagnosis at age 20 years.

J9-J10 Unmet need for mental health care services

Similar to questions asked in the main questionnaire in relation to overall unmet health needs, questions J9-J10 asked the Young Adult whether they have ever needed to consult a mental health professional but did not, and the main reason why they did not seek help. Answer options included inability to pay, being afraid to go to the doctor, difficulty with transport and being unable to get an appointment. Asking specifically for reasons for unmet need on mental health services is new to the study at this wave.

J11 'Energy and Vitality Index'

Four positively-toned items on feelings of wellness were included at the request of the DCEDIY's Steering Group. They ask about feeling 'full of life', having 'a lot of energy' and being 'a happy person'. The answer option for each item is a six-point frequency scale ranging from all of the time to none of the time.

These new items had recently been used in an Irish national study of health among adults, 'Healthy Ireland', and in the Healthy Ireland report for 2016 (Department of Health/Ipsos MRBI). Two items ('Did you feel full of life', 'did you have a lot of energy') were from the energy/fatigue subscale previously used in Healthy Ireland (originally from the RAND Medical Outcomes Study SF36 questionnaire[16]) and the remaining two items were from the emotional well-being subscale. The items

[16] https://www.rand.org/health-care/surveys_tools/mos/36-item-short-form.html

- with one wording change - originated as part of the RAND 36-Item Short Form Survey Instrument. Scores of zero represent the lowest possible score on each scale and scores of 100 represent the highest score. Answering 1 (all of the time) gets a score of 100, 2 (most of the time) scores 80, 3 (a good bit of the time) scores 60, and so on in increments of 20 less. Each answer is then averaged to give a total score.

Psychometric Information

The reliability of the Energy and Vitality index has been found to be moderate (McDowell & Newell, 1996 in Lehtinen, Sohlman, & Kovess-Masfety, 2005). Cronbach's alpha values have ranged from .62 to .90 (Lehtinen, Sohlman, & Kovess-Masfety, 2005). This scale has been recommended for use as a mental health measure by the European Commission funded project "Establishment of a Set of Mental Health Indicators for European Union" (Lehtinen, 2004 in Lehtinen, Sohlman, & Kovess-Masfety, 2005).

7.3.10 SECTION K: SELF-HARM

Self-harm refers to intentional self-poisoning or self-injury, irrespective of the motive or the extent of suicidal intent. Estimates of the number of young people that self-harm varies greatly. Young, Van Beinum, Sweeting, and West (2012) found that self-harm has a prevalence of around 7.1 per cent in young adults, with no gender difference. The My World Survey found 21 per cent of young adults had ever self-harmed; a quarter of whom had done so in the past year. The highest rate of self-harm in Ireland occurred for males during the 20 to 24-year period and for females during the 15 to 19-year period (National Suicide Research Foundation, 2015) – thus the current wave at age 20 represents the most vulnerable age at risk of self-harming. Self-harm is important to investigate from a policy perspective as a history of self-harm is the largest risk factor for suicide (McMahon et al, 2010).

A number of risk factors for self-harm have been identified including psychological factors (mental disorder, drug and alcohol misuse), negative life events (bullying, parental divorce or separation) and sociodemographic factors (low socio-economic status, LGBTQ). In most cases, self-harm behaviour in adolescence ceases by early adulthood; however, repeated self-harm during adolescence is associated with persistence into adulthood (Hawton, Saunders & Connor, 2012). The same questions about self-harm were asked at 17/18 years, thus allowing longitudinal assessment of trends in incidence.

Section K assessed whether the 20-year-old had 'hurt [themselves] on purpose in the last 12 months' and if they did, the frequency and method (K2-K3).

7.3.11 SECTION L: COPING AND SUPPORT

L1 Coping mechanisms

Coping mechanisms are the methods a person uses to deal with stresses or unanticipated problematic situations (Folkman & Lazarus, 1988). Some people listen to music or take exercise, while others have rituals or routines that they use to keep their mind off the situation (Dooley & Fitzgerald, 2012). Coping

mechanisms can have both positive and negative outcomes depending on the approach taken. Individuals who use maladaptive coping strategies, such as avoidant coping, are at risk of depression, anxiety, and stress (Mahmoud et al, 2012). In extreme cases, inability to cope with particularly stressful situations can contribute to suicidal ideation (Eisenbarth, Champeau, & Donatelle, 2013). In contrast, people who use positive coping strategies, such as discussing the problem with others, accepting the problem and listening to music or exercising, are not only more resilient but have greater life satisfaction (Dooley & Fitzgerald, 2012).

This scale, which was constructed by the study team, was used to assess coping mechanisms utilised by the Young Adult and was based on a strategy-based inventory scale. At Wave 3 (17/18 years) of data collection, the focus was on style of coping rather than strategies of coping. For this wave the Study Team felt that it was important (a) to include a wider range of coping strategies, (b) to include strategies and/or phrasing that would be particularly applicable to young adults in Ireland and (c) to assess the usefulness of individual strategies in terms of practical applications or advice. The 20-year-olds were asked how often (often / sometimes / rarely / never) they employed a range of different coping strategies, including talking to family or friends, consulting a professional, exercising, or trying to 'look on the bright side'.

Psychometric Information

The newly constructed scale was tested in the piloting phase. This process is detailed in the parallel report on the pilot work for the age 20-year phase but to summarise, to determine whether the new scale could be reduced, items which were rarely used were reviewed. Based on a factor analysis of the scale, it was concluded that the scale could be summarised and still be both empirically supported and partially supported by the Cronbach's alpha values associated with the sample. Further details of this analysis are provided in the report on the pilot phase of the 20-year wave (O'Mahony et al., 2021).

L2 Supports for the Young Adult

Question L2 asked the Young Adult whom they talk to 'about personal thoughts and feelings, or about things you wouldn't tell just anyone'. As with coping mechanisms, this will provide crucial information on the supports to which young people have access and their willingness to seek out help.

The question was new to the 20-year phase and was adapted from a similar question used in the Living in Germany 2016 survey. It expanded on an earlier, previously used question on whether the Young Adult had anyone to turn to by asking respondents to indicate all 'categories' of support from a list of nine. The list included mother, father, sibling, friend plus a tenth 'no one [to talk to]' option.

7.3.12 SECTION M: CONTACT WITH CRIMINAL JUSTICE SYSTEM

This section recorded details regarding the Young Adult's involvement in anti-social behaviour, being in trouble with the Police (Gardaí), and friends' anti-social behaviour.

M1 Reactive-Proactive Aggression Questionnaire (Raine et al. 2006)

A new measure, a scale called the Reactive-Proactive Aggression Questionnaire (RPQ), was included for the first time at age 20 years. This scale has 23 items which can be used to calculate 'proactive aggression' (organised, initiated by the 20-year-old, e.g. 'used physical force to get others to do what you want') and 'reactive aggression' (responding aggressively to some kind of provocation or frustration, e.g. 'yelled at others when they have annoyed you'). Subscale scores can be combined for a total aggression score. Aggressive behaviour has significant adverse effects on both the perpetrator and the victim including isolation and absence from work for the former (WHO, 2007 in Brugman et al., 2017) and depression, anxiety, posttraumatic stress, and even suicide for the latter (Krug, Mercy, Dahlberg, & Zwi, 2002). Violence/aggression has been found to be one of the main causes of death for individuals aged 15 to 44 (WHO, 2007) and therefore is of high policy relevance.

Psychometric Information

The RPQ questionnaire dates from 2006 (Raine et al., 2006) and has been used extensively since its development. The scale was psychometrically validated with a sample of children and adolescents by its authors and was most recently validated by Brugman et al. (2017) using an adult sample. Results of this study demonstrated good internal reliability with a Cronbach's alpha of .851 for proactive aggression, and .847 for reactive aggression for the scale when used with an adult sample, supporting the two factor (proactive/reactive) model.

M2-M4 Trouble with the Gardaí (Irish Police)

Some researchers draw a distinction between what has been termed 'adolescent-limited delinquency' - almost a 'normal' part of teenage rebellion - and anti-social behaviours that continue into criminality in adulthood (Moffitt, 2001). There are many proposed causes of anti-social behaviour in young adulthood including: socio-economic status (Piotrowska et al., 2015), school problems, family structure (Amato, 2005), parenting style (Perrone et al, 2004), peer influences (Vitaro, Brendgen & Tremblay, 2002), and neighbourhood characteristics (Thornton & Williams, 2016).

Contact with the criminal justice system, because of criminal activity or association with it (intentionally or otherwise), is important to investigate because of its impact on wider society as well as implications for the Young Adult in terms of their well-being and loss of future opportunities (such as being excluded from employment or travel because of a criminal record). Question M2b-M4 asked the Young Adult about their involvement with the Gardaí and the criminal justice system. The contact 'scale' ranged from being stopped and questioned by the Gardaí to spending time in a prison or juvenile detention centre. This is a significant extension of previous questions on this issue. Question M3 was a new, follow-on question - for anyone whose contact with the Gardaí had been at the level of receiving a formal warning or more serious - on what type of incident they had got into trouble for. There were five 'common' crimes such as damage to property or road traffic offence plus a 'something else' option (not specified).

There were two policy-related questions specific to Irish youth included at 20 years at the request of the Steering Group. These were M2a (new question) on whether the Young Adult had ever attended a crime prevention talk by Gardaí (which does not imply any wrongdoing); and M4 on if they had ever participated in a 'Garda Juvenile/Youth Diversion Project[17]' also asked at age 17/18 years.

7.3.13 SECTION N: LEISURE ACTIVITIES AND INTERNET USE

N1-N2 Screen-Time

Screen time refers to the amount of time an individual spends in front of an electronic screen such as a television, computer, or smart phone. A moderate amount of screen time can be useful for education or leisure. However, excessive amounts of screen time can be harmful as it has been linked to lack of physical exercise, sleep problems, obesity, reduced academic performance, and psychological health issues such as withdrawal and reduced time with family and friends (Hale & Guan, 2015; Melkevik, et al, 2010; American College of Paediatricians, 2016).

Question N1 asked the Young Adult to estimate their screen time during the week and at the weekend; separately for online, watching TV/films and playing video games. Question N2 asked how often they 'multi-screen' (i.e. using more than one device at a time). The same questions were asked at the 17/18-year wave, except that for the current wave question N1 had a wider range of answer categories.

N3-N7: What the Young Adult uses the internet for

The internet is now an integral part of the everyday lives for many people in Ireland. One poll of Irish people aged 15 and over found that 64 per cent had a Facebook account and three-quarters of those used it daily (collected in January 2017 by Ipsos MRBI and cited in March 2017 by McGarrity/Octave Digital). Question N3 asked the Young Adult what they used the internet for and included a wide range of activities such as social media, entertainment, dating, education, work, and gambling. The same question was asked at age 17/18 years, although the list of potential answer categories was more extensive in the current wave, reflecting changes in the technology.

Question N4 captured more detailed information on the type of social media applications (apps) used by 20-year-olds. Respondents were asked whether they had an account with a particular site and if so, whether they had a public profile, if they were frequent users, and whether they knew how to change their privacy settings. Seven types of social media app were listed (e.g. Twitter, Instagram) and the list was based on relative popularity statistics for Ireland (Ipsos MRBI, ibid.). If a respondent indicated at question N3 that they did not use social media, they were asked a follow-up question at

[17] THE GARDA JUVENILE/YOUTH DIVERSION PROJECT IS AN INTERVENTION FOR DEALING WITH INDIVIDUALS UNDER 18 WHO HAVE COMMITTED A CRIME; THE INDIVIDUAL IS CAUTIONED RATHER THAN APPEARING BEFORE COURT AND IS NOT CONVICTED.

N6 on whether they had ever had an account. Questions N4 and N5 were new to the study at the current wave, again reflecting changes in internet-related technology, behaviour and trends.

Question N5 asked respondents who answered 'yes' to question N3a about privacy on social networking sites, such as removing their name from photos that have 'tagged' them or if they had ever regretted sharing things online. The question at N7 was a yes/no item on meeting someone that you first met online face-to-face (in the last year). These questions were similar to ones used in an American survey of teenagers conducted by the Pew Research Centre – in that study (conducted in 2012), 45 per cent of 12-17-year-olds who used Facebook had 'removed their name from photos that have been tagged to identify them', 19 per cent had later regretted a post they had shared online and 53 per cent had deleted a comment someone else had posted on their account (Madden et al. 2013).

7.3.14 SECTION O: REFLECTIONS ON CHILDHOOD

These questions were new to the study at 20 years of age and asked the Young Adult whether they felt their childhood (01) and teenage years (O2) had been happy. These were constructed by the Study Team to give some qualitative reflection on the 20-year-olds' early years. From an analytical perspective, it will be interesting to see how the perception will match against more 'objective' measures recorded at 9, 13, and 17/18 years. Going forward, it will be interesting to see whether future decisions and well-being are linked to one's perception of childhood compared to earlier, contemporary measures of development.

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 Young Adult and asked him/her to fill it out on a specified day,[18] for return to the Study Team by post in a prepaid envelope. The purpose of the time-use diary was to record what the Young Adult did for each 15-minute slot during the reference day for the diary from 12 midnight to 12 midnight.[19] This information will allow researchers to examine how young adults use their time, variation in the characteristics of young adults and time use, and most importantly the relationship between different time-use activities and key socio-emotional, educational and health outcomes.

A worked example of the time-use diary was explained by the interviewer and left with the respondent. A specified date for filling out the diary was filled in 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 given in Appendix L.

[18] The day for completion was provided on the interviewer's Work Assignment Sheet. This was transferred to the diary by the interviewer.

[19] The structure, format, and implementation of the diary was taken from a national study carried out by the ESRI; see McGinnity, Russell, Williams and Blackwell (2005).

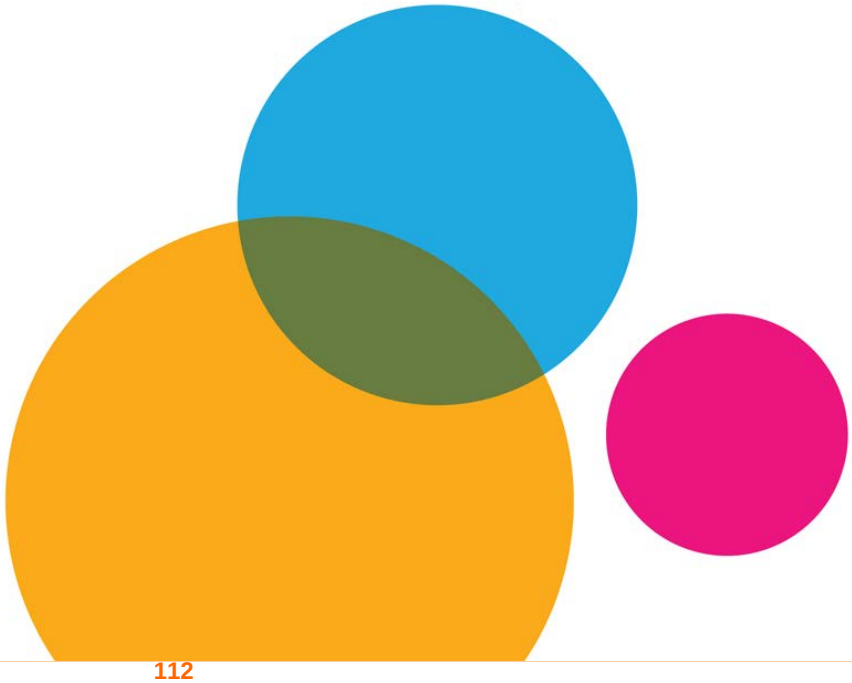
The time-use diary used at this phase was similar in form and content to that used in Waves 1 and 2 but with some alterations in the form of new categories for Wave 3 which were maintained at Wave 4 (such as an 'at work' activity) to account for the stage in the life-course.

There was a total of 25 activities used in the time use diary:

- Sleeping/Resting (including time to get to sleep, trying to get up)
- Personal care or getting ready (showering, washing, dressing, brushing teeth or hair, doing make-up, getting changed or ready for school, for training, for going out or for going to bed)
- Eating (breakfast, lunch, dinner, tea)
- Travelling (to or from school or elsewhere)
- At school/College
- At work
- Doing homework or study
- Just hanging around with friends (outside or inside)
- Spending time with family
- Playing with or exercising a pet
- At the gym, playing sport or doing physical exercise (training, matches)
- Attending a sports event
- Using the Internet / emailing (including social networking, browsing, etc.)
- Playing computer games (e.g. PlayStation, PSP, X-Box or Wii)
- Talking on the phone or texting
- Music lessons (or practising music), drama, classes, etc.
- Watching TV, films, videos, or DVDs
- Listening to music
- Reading for pleasure or interest (not for school/college/study)
- Housework (preparing food, tidying bedroom, feeding pets)
- Hobbies and other leisure activities
- Out shopping to buy things (groceries, clothes etc.)
- Going to discos or bars etc.
- Going to party or other social event (in people's houses)
- Other

Chapter 8

COGNITIVE TEST



8 COGNITIVE TEST

8.1 INTRODUCTION

A direct measure of cognitive ability has been included in all previous waves of this Growing Up in Ireland cohort (9, 13, and 17/18 years). At age 20 years, with a significantly extended questionnaire time for the Young Adult, the review process concluded that any direct assessment at this Wave should minimise respondent burden. Having given due consideration to the advantages of longitudinal continuity, practical administration, valid measurement as well as minimal burden, it was ultimately decided to repeat the semantic fluency test first used at 17/18 years. Although a simple test (name as many fruits as you can in one minute), it draws on key cognitive skills such as attention, crystallised knowledge, and processing. To minimise possible practice effects from a repeat test, the target category at the current wave was changed from 'animals' to 'fruit'. The 'fruit naming' task was piloted in conjunction with a more conventional cognitive test as part of the development phase of this wave and was found to correlate well with other measures related to cognitive development (O'Mahony et al., 2021).

8.2 SEMANTIC FLUENCY TEST (FRUIT NAMING TASK)

The Semantic Fluency Test, aka the Fruit Naming Task (and previously the animal naming task), involved the participant naming as many types of fruit as they could think of in one minute. This type of test draws on general knowledge in long-term memory and requires use of executive function to access that knowledge and self-monitor responses for repetitions, acceptable items etc. According to Tombaugh, Kozak, and Rees (1999), this type of task features as part of many wider batteries of cognitive function and usually people are asked to name animals, fruit, colours etc. Although often associated with testing among older people or those suspected of some cognitive impairment, there are now norms (for animal naming) for cognitively healthy individuals ranging in age from 16 to 95 years (Tombaugh et al., 1999). Tombaugh et al. (1999) found variation in performance on this semantic fluency task by both years of education and age using the category 'animals'. The 'animal naming' task has been used successfully by the Irish Longitudinal Study of Aging (TILDA) as well as in the 17/18-year Wave of Growing Up in Ireland.

Administration

Interviewers asked respondents to name as many fruit as they could in one minute. A generous interpretation of 'fruit' was allowed: multiple varieties of fruit (e.g. Granny Smith and Golden Delicious apples could be counted separately); nuts; foods that are technically vegetables but thought of as fruit (such as rhubarb); as well as foods that are technically fruits but commonly thought of as vegetables (such as cucumbers). Repetitions were not allowed, neither were fruit distinguished only by an adjective (e.g. 'big' apple and 'small' apple).

The interviewer wrote down answers as called out by the Young Adult. The test was also audio-recorded so that the interviewer could check the written list and fill in any missed answers. The audio recordings were also used by the Study Team to periodically check that individual interviewers were administering the test correctly (i.e. correct amount of time, no hints etc.), and feedback was provided at an early stage where necessary.

When the interviewer was satisfied that all answers had been noted, they added up all the correct answers – excluding repetitions – to give a total score.

Psychometric Information

At 17/18 years, the animal naming version of the semantic fluency task displayed a normal distribution with minimal skewness (Murphy et al., 2019). The mean number of correct animals named was 21.5 (SD=5.7). There were some modest socio-demographic differences in favour of males and young adults from higher income families (ibid). Scores on the semantic fluency test at 17/18 years were significantly positively, but modestly, correlated ($r=.32$, $p<.001$) with a more conventional English vocabulary test administered at the same time. They were also correlated with self-reported grades on the Junior Certificate exams (English, Maths, and Science), and with scores on previous direct assessments of reading and numerical ability conducted at 9 and 13 years. These correlations were, however, more modest than those observed between these other tests and the standard vocabulary measure administered at 17/18 years (ibid).

Chapter 9

PHYSICAL MEASUREMENTS

9 PHYSICAL MEASUREMENTS

Direct assessment of physical dimensions is an important advantage of conducting interviews in person rather than over the phone/online. Given ongoing debate nationally and internationally on the issue of rising obesity levels, Growing Up in Ireland is an important resource for nationally representative data that can be examined longitudinally and in context.

All equipment used is medically approved and all interviewers receive detailed instruction on the correct way to take measurements. This includes video demonstrations which can be accessed online after training for refreshment prior and during fieldwork.

All measurements are entered into the laptop as part of the CAPI process. The program incorporates basic range checks to assist in reducing data errors.

The following section was taken from the pilot report (O'Mahony et al., 2021).

9.1 HEIGHT

The 20-year-old and parent's height were measured using the same type of stadiometer (measuring stick) as used in all previous waves of Growing Up in Ireland. This was a medically approved instrument and the brand and model number were SECA 213. Parent height was only recorded if missing from the previous wave or if there was a new respondent. All 20-year-olds were asked to participate in a height measurement.

Respondents were instructed to remove shoes and hat/high ponytails etc. before their height was measured. Interviewers were trained in how to guide the person into the correct position on the equipment before taking the measurement.

9.2 WEIGHT

The 20-year-old and parent's weight were recorded using the same type of analogue (mechanical) scales as were previously used with this cohort – the medically approved SECA 7617019009. All respondents were asked to participate in a current weight measurement. Respondents were asked to remove their shoes and any heavy or outdoor clothing before being weighed.

9.3 BODY MASS INDEX (BMI)

As in previous waves of the child cohort, BMI was calculated using the height and weight measurements, with a view to establishing levels of overweight and obesity in the cohort. BMI can be used to classify participants according to their weight status (based on adult IOTF guidelines).[20]

[20] HTTPS://WWW.WORLDOBESITY.ORG/ABOUT/ABOUT-OBESITY/OBESITY-CLASSIFICATION

9.4 WAIST CIRCUMFERENCE

Waist circumference was recorded in this cohort, the first time this measurement was taken in the study using the ergonomic perimeter measure (medically approved SECA 2011717009 waist tape) which was a retractable soft measuring tape with a 'lock in place' feature. This measurement allows for classification of risk of cardiovascular and metabolic disease and can be compared to gender-specific World Health Organization guidelines' norms. Waist circumference provides an independent prediction of risk of disease, based on the measurement of abdominal adipose tissue. It can predict cardio-vascular disease risk in the absence of an elevated BMI (Janssen, Katzmarzyk, & Ross, 2004).

Interviewers were provided with two tapes and a laminated instruction card to help them demonstrate the correct position of the measurement tape. The 20-year-old was asked to locate their bottom rib and the top of the hip bone (iliac crest) then to position the tape between these two points. Once in the correct position, the respondent tightened and fixed the tape with a button press; thus allowing the interviewer to read the measurement from the tape with minimal physical contact. The measurement tape was placed over one layer of light clothing rather than bare skin. The interviewer demonstrated this procedure on themselves using one tape while the 20-year-old used the second tape.

9.5 BLOOD PRESSURE AND HEART RATE

Blood pressure and heart rate can be an important indicator of cardiovascular health. Although usually more prevalent in the older population, cardiovascular disease is Ireland's number one cause of death among the population as a whole, accounting for 33 per cent of all deaths and 13 per cent of premature deaths (i.e. under age 65 years).[21] Obesity and overweight are major risk factors for poor cardiovascular health and are strongly correlated with hypertension (i.e. high blood pressure) in children and adolescents (Riley & Bluhm, 2012[22]), as well as adults, and has been flagged as "a growing health problem that is often overlooked by physicians" (ibid). Hypertension may also indicate an underlying condition (i.e. 'secondary' as opposed to 'primary' hypertension) such as kidney disease.

Measuring blood pressure from adolescence and tracking health parameters into adulthood could potentially help identify the long-term cardiovascular implications of childhood/adolescent hypertension for young Irish adults.

Blood pressure was recorded from the Young Adult (only) using an automated Omron blood pressure monitor (medically approved – sn20150609892vg). The interviewer assisted the 20-year-old to correctly position the cuff on the upper arm (over bare skin or very light clothing). Two cuffs (regular

[21] SOURCE: IRISH HEART FOUNDATION - HTTP://WWW.IRISHHEART.IE/IOPEN24/FACTS-HEART-DISEASE-STROKE-T-7_18.HTML

[22] RILEY, M. & BLUHM, B. (2012). HIGH BLOOD PRESSURE IN CHILDREN AND ADOLESCENTS. AMERICAN FAMILY PHYSICIAN, 85, 7, 693-700.

and large) were provided to each interviewer so that all body sizes could be accommodated. The monitor automatically tightened the cuff and displayed the systolic, diastolic, and heart rate measurements on a single button press by the interviewer.

Interviewers asked respondents not to talk, move, or cross their legs while the measurement was being taken. In addition, interviewers were instructed to be mindful of recent coffee or food consumption, illness, or recent exercise by respondents at the time of the measurement. To assist with this, and to standardise the point in the interview at which the measurement was taken, interviewers attempted to measure blood pressure after the main interview and before the semantic fluency test or self-complete questionnaire where possible. Two measurements were taken on the same occasion with a one-minute interval between. The measurements were recorded on the laptop as part of the CAPI program, which included basic range checks to improve accuracy.

The study participants' blood pressure and heart rate had also been recorded at age 17/18 years. There was a small change in procedure between waves such that at age 20 there was only a one-minute gap between the first and second measurement. This was compared to two measurements at different points of the interview previously.

Respondents were provided with a general information sheet (see appendix M) on blood pressure, including what were healthy and unhealthy readings, but no feedback on their individual results (although they could view the monitor as the reading was taking place if they wished to do so). They were informed in advance that no feedback on blood pressure readings – positive or negative – would be provided by the interviewer. Any respondents who desired further feedback on their own blood pressure readings were advised to contact their doctor.

Chapter 10

SUMMARY

10 SUMMARY

10.1 INTRODUCTION

Growing Up in Ireland continues to play a key role in informing child and family policy. It is the only large-scale quantitative longitudinal study of children and young people in Ireland. With data available on the Cohort '98 Study Children/Young People at 9, 13, 17, and 20 years of age, it is possible to describe and analyse their lives in truly longitudinal terms to further our understanding of the processes which have influenced their development from middle childhood.

The multi-disciplinary nature of the study is one of its many strengths. It provides information across a broad range of variables and characteristics which impact on the growth of young people as they mature into early adulthood at 20 years of age. As noted in Chapter 1, the main areas of attention in Growing Up in Ireland were on the child's physical health and development, emotional well-being/ behaviour, and school/academic performance at 9 and 13 years of age. At 17/18 and 20 years of age, a further focus of their development was added, in the area of economic and civic participation and their emergence into adulthood. Aspects of all four domains, individually and through intra-domain interactions, can both affect and describe the lives of young people at the centre of Growing Up in Ireland.

Equally important to an understanding of developmental processes are details on the background characteristics of the child or young adult. Their family, school, and community contexts, for example, as well as the policy environments within which they grow are all critically important in shaping their outcomes. Accordingly, in addition to recording substantial detail in the four domains outlined above, Growing Up in Ireland also records a large amount of information on the family, social, and economic contexts of the developing child or young adult. This grouping of background characteristics is critical for a full understanding of child/young adult outcomes and the processes shaping them. The recording of this wealth of detail in the four substantive domains as well as the background characteristics facilitates analysis within the bio-ecological model which underlies the project. It allows analysts to investigate the child's or young adult's development in the many contexts within which s/he lives and with which s/he interacts. Further, the longitudinal nature of the study (with the current wave representing the fourth round of data collection for this cohort) enables a better understanding of developmental trajectories and the pathways underlying different outcomes. Understanding these pathways, along with predictors, barriers, mediators and moderating factors, is vital to informing the development of effective policies and services to aid the development of young people.

The Study Team remains conscious of its responsibility to ensure that Growing Up in Ireland is conducted to the highest technical and ethical standards. All of the instruments, tests, and measurements discussed in detail in the previous chapters in this report were informed by existing international research on children and young people and were developed in consultation with national and international experts and stakeholders and other contributors (Chapter 3). The instruments were

further refined after the pilot study (O'Mahony et al., 2021). All stages of the project have been subject to international peer review and rigorous ethical appraisal.[23] Overall, 5,190 families were interviewed in Wave 4 when the Young Adult was 20 years old, a retention rate of 62 per cent of the original cohort of 9-year-olds. Information was collected at this stage from the Young Adult and one of their parent(s) (in most cases the individual previously in the role of 'primary caregiver'). All data have been reweighted to take account of differential non-response.

10.2 SUMMARY OF CROSS WAVE MEASURES

The completion of interviews when the young people were 20 years of age means that data are now available in Ireland spanning middle childhood to late adolescence and early adulthood for a single cohort. The tables below summarise the broad categories of information which have been collected from participants in the study over the first four waves of data collection with the Child Cohort (Cohort '98). These tables indicate the nature of the information in question, in which waves it was collected, and from whom it was recorded (from the Primary/Secondary Caregivers/Parent or from the Young Adult him/herself). When the Study Child was 9 and 13 years of age, a greater proportion of information was recorded from his/her primary and secondary caregivers. By the interview at 17/18 years of age, a much greater proportion of the information was recorded from the young person him/herself. By age 20, no information was collected from secondary caregivers or schools, and much less information was collected from the parent (primary caregiver).

10.2.1 SUMMARY OF PHYSICAL HEALTH AND DEVELOPMENT

Table 10.1 summarises the types of information recorded in the broad developmental outcome of physical health and well-being. This covers all aspects of current general health, illness and disability; hospital and emergency medical attention; contact with healthcare professionals; health insurance; mental health.

From Table 10.1, it is clear that although some of the health-related information was recorded from the Primary Caregiver/Parent, a very sizeable proportion was also recorded directly from the 20-year-old him/herself.

[23] THE STUDY TEAM WOULD LIKE TO TAKE THE OPPORTUNITY TO EXPRESS ITS APPRECIATION TO THE RESEARCH ETHICS COMMITTEE (REC) FOR ITS ENORMOUS INPUT TO ENSURING THAT THE STUDY IS SUBJECT TO RIGOROUS SCRUTINY AT EVERY STAGE OF ITS ROLLOUT.

Table 10.1: Young Adult's Physical Health and Well-Being

STUDY CHILD / YOUNG ADULT'S HEALTH	Source	9yrs	13yrs	17/18yrs	20yrs
General health status	Parent	x	x	x	
	SC / YA			x	x
Current chronic illness	Parent	x	x	x	
	SC / YA	x		x	x
Respiratory Problems	Parent		x	x	
Accidents in previous years	Parent	x	x		
	YA				x
Young Adult exposure to tobacco in the home	Parent	x	x	x	x[a]
Young Adult conditions/disabilities	Parent	x	x	x	
	YA				x
Diagnoses	Parent	x	x	x	
	YA			x	x
Medication	Parent	x	x	x	
	YA			x	
School supports for physical health / well-being	Parent		x	x	
	YA			x	
Other supports	Parent		x	x	
Adequacy of supports	Parent		x		
Knowledge of sexual health	YA				x
Pregnancy	YA				x
Energy and vitality	YA				x
HEALTHCARE UTILISATION					
Nights (of Young Adult) in hospital in last year	Parent	x	x		
	YA			x	x
Medical insurance	Parent	x	x	x	x
	YA				x
Contact with health professional	Parent	x	x		
	YA			x	x
Reason for non-receipt of medical treatment	Parent	x	x	x	
	YA				x
Reason for non-receipt of dental treatment	Parent	x	x		
Medical card holder	Parent	x	x	x	x
	YA				x
Rating of dental health	YA				x
Frequency of dental visits	Parent	x	x		
	YA			x	x
Teeth pulled or filled	Parent	x	x	x	
Orthodontic treatment	YA			x	
Treatment for sight problems	Parent	x			
Treatment for hearing problems	Parent	x			
Mobility support	Parent	x			
Handedness	Parent	x			

STUDY CHILD / YOUNG ADULT'S HEALTH YOUNG ADULT'S DIET AND EXERCISE	Source	9yrs	13yrs	17/18yrs	20yrs
Eating breakfast before school	Parent	x	x		
	YA		x	x	
Brief food frequency questionnaire	Parent	x			
	YA		x	x	x
Special diet	Parent	x			
	YA				x
Perception of Young Adult's weight	Parent	x	x		
	YA		x	x	x
Young Adult's dieting behaviour	YA		x	x	
Young Adult's frequency of exercise	Parent	x			
	YA	x	x	x	x
Reasons for/not exercising	YA				x
Mode of transport to school/college	Parent	x	x		
	YA				x
Sleep	YA			x	x
Skin type	YA			x	
HEALTH COMPROMISING BEHAVIOURS					
Smoking frequency	SC / YA		x	x	x
Smoking behaviours/e cigarettes	SC / YA		x	x	x
Young Adult E-cigarette usage	YA			x	x
Alcohol consumption	SC / YA		x	x	x
Where and with whom alcohol is consumed	YA				x
Problematic alcohol consumption	SC / YA		x	x	x
Attempts to reduce alcohol intake	YA				x
Use of illicit drugs	YA		x	x	x
Use of cannabis	YA		x	x	x
Where and with whom alcohol is consumed	YA				x

Note: YA = Young Adult, SC = study child, a = if the 20-year-old lived with in the parental home

In addition to the survey information on the 20-year-old, direct measures of their height, weight, waist circumference and blood pressure were also taken and recorded by the interviewer (not on a self-assessed basis) in the course of their visit to the respondent's home. Waist circumference was recorded for the first time at 20 years of age. Height and weight were recorded in all previous three rounds of data collection and blood pressure was recorded at Wave 3. All measurements were recorded on medically approved equipment.

10.2.2 SUMMARY OF YOUNG ADULT'S SOCIO-EMOTIONAL WELL-BEING, BEHAVIOURS, AND RELATIONSHIPS

Table 10.2 summarises the main measures recorded in the broad developmental outcome of socio-emotional well-being and behaviours, including relationships (parental, peer, and romantic). It includes coverage of various activities engaged in by the Young Adult such as hobbies, volunteering,

and social media activity. Note that while the same concept may have been recorded at multiple waves, the actual scale/measure may have changed (e.g. to a more age-appropriate one).

Table 10.2: Young Adult's Socio-Emotional Well-Being, Behaviours and Relationships

STUDY CHILD / YOUNG ADULT'S SOCIO-EMOTIONAL AND BEHAVIOUR	Source	9yrs	13yrs	17/18yrs	20yrs
Emotional and behavioural health: Scale: Strengths and Difficulties Questionnaire	Parent	x	x	x	
Personality scale: Ten Item Personality Inventory	Parent		x	x	x
	YA			x	x
Anti-social behaviour	SC / YA		x	x	x
Depression/depressive symptoms	SC / YA		x	x	x
Self-harm	YA			x	x
Anxiety	YA			x	
Self-esteem/self-concept	SC / YA	x	x	x	x
Eating disorder	YA			x	
Maturation	SC / YA		x	x	
Presence of psychotic symptoms	SC / YA		x	x	
Diagnosis of psychological/psychiatric disorder specifically	YA				x
Basic need for satisfaction	YA				x
Risk aversion	YA				x
Stress	YA				x
STUDY CHILD / YOUNG ADULT'S PEER RELATIONSHIPS					
Number of close friends	SC / YA	x	x	x	x
Age of friends	SC / YA		x	x	
Inventory of Peer Attachment	SC / YA		x	x	
Bullying	Parent	x	x		
	SC / YA	x	x	x	x
FAMILY CONTEXT /PARENTING /PARENT-CHILD RELATIONSHIPS					
Network of relationship inventory: Mother	YA			x	x
Network of relationship inventory: Father	YA			x	x
Parental monitoring: Scale: Sub-scale from Stattin & Kerr Monitoring & Supervision Scale	Parent		x	x	
Youth disclosure: Scale: Sub-scale from Stattin & Kerr Monitoring & Supervision Scale	Parent		x	x	
Parental control: Scale: Sub-scale from Stattin and Kerr Monitoring and Supervision Scale	SC / YA		x	x	
Parental knowledge of child smoking, alcohol or drug use	Parent		x	x	
Adverse life events	Parent	x	x		
	YA			x	x
Concerns about Young Adult	Parent			x	x
Family collegiality	Parent				x
Relationship with Young Adult	Parent	x	x		x

STUDY CHILD / YOUNG ADULT'S SOCIO-EMOTIONAL AND BEHAVIOUR	Source	9yrs	13yrs	17/18yrs	20yrs
Reflections on childhood	YA				x
STUDY CHILD / YOUNG ADULT'S ACTIVITIES					
Hobbies	SC / YA	x		x	x
Activities for fun	Parent	x			
	SC / YA	x	x	x	x
Chores	SC / YA	x	x		
Mobile phone ownership	SC	x	x		
Computer in the home	SC	x	x		
Access to the internet	SC	x	x		
Pocket money/ allowance	SC / YA		x	x	x
Participation in sports and activities	Parent	x			
	SC / YA		x	x	x
Social media	YA			x	x

Note: YA = Young Adult, SC = study child

10.2.3 SUMMARY OF YOUNG ADULT'S COGNITIVE DEVELOPMENT, SCHOOL EXPERIENCE AND PERFORMANCE

Table 10.3 summarises some of the top-level information recorded in the developmental outcome of educational performance, cognitive development, and experience of further education. In the two most recent waves, a large proportion of this information was related to the 20-year-old's performance in State Examinations: the Junior Certificate and the final exams of secondary school, the Leaving Certificate.

A direct assessment of the Young Adult's cognitive development was administered at every wave. However, the actual test varied to ensure it was age-appropriate and, at age 20, to ensure it was short enough to include with a very lengthy interview.

Table 10.3: Young Adult's Cognitive Development, School Experience and Performance

YOUNG ADULT'S COGNITIVE DEVELOPMENT, SCHOOL EXPERIENCE AND PERFORMANCE	Source	9yrs	13yrs	17/18yrs	20yrs
ATTITUDES TO AND PERFORMANCE IN SECOND-LEVEL EDUCATION					
Current class in school	Parent		x		
	SC / YA		x	x	
Junior Certificate results	YA			x	
Transition Year participation	YA			x	
Leaving Certificate subjects	YA			x	x
Leaving Certificate results	YA			x	x
Early school leaving	YA			x	x
Parental involvement in education	Parent	x	x	x	
Perception of ability	YA			x	x
Extra tuition	SC / YA		x	x	x

YOUNG ADULT'S COGNITIVE DEVELOPMENT, SCHOOL EXPERIENCE AND PERFORMANCE	Source	9yrs	13yrs	17/18yrs	20yrs
Parental expectation of how far Young Adult will go in education	Parent	x	x	x	
Number of books in the household	Parent	x	x		
Attitudes towards school	SC / YA	x	x	x	x
Relationship and Sexuality Education	SC / YA		x	x	
BEYOND SECONDARY SCHOOL					
Current course	YA			x	x
Perceptions of further education	YA				x
Perceptions of employment	YA				x
Perception of skills and competencies	YA				x
COGNITIVE TESTS					
Drumcondra Reading Test	SC	x			
Drumcondra Mathematics Test	SC	x			
Drumcondra Verbal Reasoning Test	SC		x		
Drumcondra Numerical Reasoning Test	SC		x		
BAS Matrices	SC		x		
Animal/Fruit Naming Task	YA			x	x
Vocabulary Test	YA			x	
Financial Numeracy questions	YA			x	

10.2.4 SUMMARY OF YOUNG ADULT'S ECONOMIC & CIVIC PARTICIPATION AND EMERGENCE AS A YOUNG ADULT

Table 10.4 summarises the information recorded in this outcome. It was largely a new research area from the 17/18-year wave. Particularly for the most recent wave, it included issues around the 20-year-old's employment experience. Other areas in this domain included sense of adult identity, volunteering and political activism, and trust in State institutions.

Table 10.4: Economic and Civic Participation / Emerging Adulthood

ECONOMIC & CIVIC PARTICIPATION / EMERGING ADULTHOOD	Source	9yrs	13yrs	17/18yrs	20yrs
Young Adult's employment history	YA			x	x
Occupational aspirations	SC / YA	x	x	x	x
Adult identity	YA			x	x
Sense of discrimination	YA			x	
Importance of areas of lives – family; partners; health; religion	YA			x	x
Belief in value of work / being employed	YA			x	
Volunteering				x	x
Support for gender equality	YA			x	
Concerns about social issues					x
Trust in other people	YA			x	x
Trust in State and other institutions	YA			x	x

ECONOMIC & CIVIC PARTICIPATION / EMERGING ADULTHOOD	Source	9yrs	13yrs	17/18yrs	20yrs
Political interest and activism	YA				x
Voting preference	YA				x
Factors that help one succeed	YA				x
Political cynicism	YA				x
Opposition to authority	YA			x	
Internal locus of control	YA			x	

10.2.5 SUMMARY OF YOUNG ADULT'S BACKGROUND, FAMILY AND CONTEXTUAL CHARACTERISTICS

To understand the growth and development of the children and young people, it is essential to understand the family circumstances, background characteristics, and other contexts of their development. These include characteristics relating to household income, employment, social welfare receipt, parental education, housing, poverty and are summarised in Table 10.5.

Table 10.5: Background, Family and Contextual Characteristics

BACKGROUND CHARACTERISTICS HOUSEHOLD COMPOSITION	Source	9yrs	13yrs	17/18yrs	20yrs
Demographic information in respect of each household member	Parent	x	x	x	x
	YA				x
New entrants to the household	Parent		x	x	x
Departures from the household	Parent		x	x	x
No. of people living in the household	Parent	x	x	x	x
	YA				x
MENTAL WELL-BEING					
Depression	Parent	x	x	x	x
	YA				x
Work-life balance	Parent	x	x	x	
Parent's own personality perception	Parent				x
Support systems	YA				x
PHYSICAL HEALTH					
Parental health and lifestyle					
General health status	Parent	x	x	x	x
Current chronic illness	Parent	x	x	x	x
Pregnancy status	Parent	x	x	x	
HEALTH COMPROMISING BEHAVIOURS					
Smoking behaviours	Parent	x	x	x	x
Alcohol consumption	Parent	x	x	x	x
Drug use	Parent		x	x	x
MARITAL/PARTNER RELATIONSHIP					
Marital status	Parent	x	x	x	x
Marital history	Parent	x	x	x	x
Current relationship status	Parent	x	x	x	x

BACKGROUND CHARACTERISTICS	Source	9yrs	13yrs	17/18yrs	20yrs
	YA				x
Marital conflict	Parent	x	x	x	x
Parental relationship: Scale: Dyadic Adjustment Scale	Parent	x	x	x	x
Details on non-resident parent	Parent	x	x	x	
SOCIO-DEMOGRAPHIC INFORMATION AND HOUSEHOLD INCOME					
Parental employment / occupational status	Parent	x	x	x	x
Household income	Parent	x	x	x	x
	YA				x
Household deprivation	Parent	x	x	x	x
Intergenerational deprivation/social mobility	Parent	x		x	
Welfare dependency	Parent	x	x	x	x
	YA				x
Housing status	Parent	x	x	x	x
	YA				x
Reasons for remaining in parental home	YA				x
Accommodation type	Parent	x	x	x	x
	YA				x
Access to garden/common space	Parent	x	x		
Receipt of mortgage supplement	Parent	x	x		
Car ownership	Parent	x	x	x	
Parental educational attainment	Parent	x	x	x	x
Main language spoken in the home	Parent	x	x	x	x
	YA				x
Parental literacy and numeracy	Parent	x	x		
Religious denomination	Parent	x	x	x	
Nationality and citizenship	Parent	x	x	x	
	YA				x
Ethnicity	Parent	x	x	x	
Difficulty making ends meet and loans	Parent	x	x	x	x
	YA				x
Funding for living expenses	YA				x
Money transfers between Young Adult and parents	Parent			x	x
QUALITY AND PERCEPTIONS OF NEIGHBOURHOOD					
Length of time resident in local area	Parent	x	x	x	x
	YA			x	x
Physical condition of the neighbourhood	Parent	x	x	x	x
	YA			x	x
Safety of the neighbourhood	Parent	x	x	x	x
	YA			x	x
Concern about criminal activity	Parent			x	
Intention to continue living in Ireland	Parent	x	x	x	
	YA			x	x

10.3 CONCLUSIONS

The focus of data collection has clearly shifted with the 20-year-olds, both in terms of the nature of the information recorded as well as the main source or respondent for most of the details collected. At 17/18 years of age, the Young Adult became more centrally involved in providing the information him/herself than in the previous two rounds of interviews with this cohort at 9 and 13 years of age. At age 20 this was even more pronounced. Notwithstanding this change in emphasis and focus, the objectives originally set out for Growing Up in Ireland continue to be met through the collection of age-appropriate and policy relevant data. All of the information which is recorded in the study is being made available on an anonymised basis to policymakers, researchers and other analysts to provide the only large-scale quantitative scientific framework for analysis of the development of children and young people in Ireland today.

With four waves of anonymised data from the older Child Cohort now available, it is possible to build a more complete picture of children's development as they move from middle childhood through adolescence and into early adulthood. With potentially further rounds of data from the study, it will be possible to move to an increasing degree from investigating relationships and undertaking correlational analysis to a more thorough-going causal analysis of the processes underlying developmental trajectories, and their impact on key outcomes throughout adulthood.

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Chapter 12

STATISTICAL APPENDIX

12 STATISTICAL APPENDIX

Note: Statistics in this appendix are based on unweighted data

Table 12.1: PARENT COMPLETED SCALES

Name of Scale	Questionnaire	Subscale name	Mean (SD)	Range	Cronbach's alpha
Parent Ten-Item Personality Inventory on self	PCG Main questionnaire F10	Extraversion	4.66 (1.45)	1-7	.520*
		Agreeableness	5.62 (1.05)	1-7	.204*
		Conscientiousness	5.97 (1.06)	1-7	.295*
		Emotional Stability	5.06 (1.31)	1-7	.473*
		Openness to Experience	5.20 (1.21)	1-7	.359*
Dyadic Adjustment Scale	PCG Self complete questionnaire S11-S12	DAS	16.43 (3.16)	0-21	.700
Fast alcohol screening test (FAST)	PCG Self complete questionnaire S16a–S16e	Male parent FAST	1.19 (1.52)	0-12	NA
		Female parent FAST	1.04 (1.34)	0-10	NA
Centre for Epidemiological Studies Depression scale (CES-D)	PCG Self complete questionnaire S21	Parent CES-D	2.59 (3.29)	0-24	.840

***Subscales with small numbers of items (2-3 items) do not produce reliable Cronbach's alpha figures. These scores should be viewed with caution. Suggest correlation with related measures be used for your own validation purposes.**

Table 12.2: YOUNG ADULT COMPLETED SCALES

Name of Scale	Questionnaire	Subscale name	Mean (SD)	Range	Cronbach's alpha
Young Adult Ten-Item Personality Inventory on self	YA Main Questionnaire A20	Extraversion	4.83 (1.40)	1-7	.656*
		Agreeableness	4.97 (1.07)	1-7	.244*
		Conscientiousness	5.21 (1.19)	1-7	.444*
		Emotional Stability	4.73 (1.40)	1-7	.656*
		Openness to Experience	5.44 (1.03)	1-7	.281*
AUDIT questionnaire	YA Self complete Questionnaire B9-B25	AUDIT	10.29 (5.15)	1-34	.765
CAGE questionnaire	YA Self complete Questionnaire B36-B40	CAGE	0.76 (1.11)	0-4	.692

Name of Scale	Questionnaire	Subscale name	Mean (SD)	Range	Cronbach's alpha
Rosenberg Self-Esteem Scale	YA Self complete Questionnaire G1	Self esteem	11.65 (3.47)	0-18	.854
Network of Relationships Inventory	YA Self complete Questionnaire H1-H6	YA – Mother intimacy	6.25 (1.99)	2-10	.843
		YA – Mother Admiration	8.37 (1.62)	2-10	.810
		YA – Mother Conflict	5.18 (1.51)	2-10	.846
		YA – Father intimacy	5.24 (1.95)	2-10	.834
		YA – Father Admiration	7.94 (1.85)	2-10	.842
		YA – Father Conflict	4.85 (1.64)	2-10	.882
Centre for Epidemiological Studies Depression scale (CES-D)	YA Self complete Questionnaire J1	YA CES-D	4.55 (4.75)	0-24	.885
Depression and Stress Scale (DASS) - stress subscale	YA Self complete Questionnaire J2	DASS stress	5.12 (4.30)	0-21	.881
Energy and Vitality Index	YA Self complete Questionnaire J11	Energy Fatigue	61.62 (20.57)	0-100	.784*
		Emotional Well being	65.04 (19.47)	0-100	.796*
GUI developed Coping mechanisms scale	YA Self complete Questionnaire L1	Social	9.89 (1.59)	3-12	.423*
		Medical	2.77 (1.22)	2-8	.519*
		Stimulant	3.21 (1.54)	2-8	.666*
		Avoidant	4.74 (1.66)	2-8	.557*
		Self-care	5.92 (1.50)	2-8	.425*
		Strategize	9.59 (2.01)	3-12	.771*
Reactive-Proactive Aggression Questionnaire (RPQ)	YA Self complete Questionnaire M1	Proactive regression	0.88 (1.87)	0-23	.790**
		Reactive aggression	4.74 (3.34)	0-22	.813
		Overall aggression	5.62 (4.65)	0-42	.858**
Semantic Fluency	YA Cognitive test phase	Test scores	14.66 (3.83)	1-33	NA

***Subscales with small numbers of items (2-3 items) do not produce reliable Cronbach's alpha figures. These scores should be viewed with caution. Suggest correlation with related measures be used for your own validation purposes.**

**** In the RPQ aggression scale, the Proactive aggression scores had a notably low average. This means than many variables (Starting physical fights on purpose etc.) were almost universally answered as 'Never' leading to a lack of variability on some items. This can cause problems with calculation of Cronbach's alpha despite the scale working as intended. Alpha values should be treated with caution.**

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An Roinn Leanaí, Comhionannais, Míchumais, Lánpháirtíochta agus Óige
Department of Children, Equality, Disability, Integration and Youth

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