

# *Growing Up in Ireland*

National Longitudinal Study of Children

## COHORT '98

### **Growing Up and Developing as an Adult: A Review of the Literature on Selected Topics Pertaining to Cohort '98 at Age 20 Years**

# *Growing Up in Ireland*

National Longitudinal Study of Children

## Growing Up and Developing as an Adult: A Review of the Literature on Selected Topics Pertaining to Cohort '98 at Age 20 Years

Edited by Aisling Murray and Emer Smyth with contributions from Ashling Mangan-Ryan, Eoin McNamara, Desmond O'Mahony, Daráine Murphy and Caoimhe O'Reilly

Name	Title	Institution
Aisling Murray	Senior Research Officer	ESRI
Emer Smyth	Research Professor	ESRI
Ashling Mangan-Ryan		ESRI (Alumna)
Eoin McNamara	Research Analyst	ESRI
Desmond O'Mahony	Research Analyst	ESRI
Daráine Murphy		ESRI (Alumna)
Caoimhe O'Reilly		ESRI (Alumna)

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



## ACKNOWLEDGMENTS

The authors wish to thank various experts who reviewed earlier drafts of sections based on literature in their particular areas and provided very valuable feedback. These were Professor Anne Nolan (ESRI), Professor Helen Russell (ESRI), Professor Trevor Spratt (TCD), Professor Elizabeth Nixon (TCD) and Dr Jo-Hanna Ivers (TCD – nominated by Professor Lina Zgaga, TCD).

The authors also wish to thank the anonymous reviewers and colleagues in the DCEDIY who provided valuable comments on earlier drafts of this review. This report was prepared for publication by Growing Up in Ireland colleagues Caroline Goodwin and Rebecca McClintock.

Copyright © Minister for Children, Equality, Disability, Integration and Youth, December 2020

Department of Children, Equality, Disability, Integration and Youth  
Block 1  
Miesian Plaza  
50-58 Baggot Street Lower  
Dublin 2  
D02 XW14  
Tel: +353 (0)1 647 3000  
E-mail: [contact@equality.gov.ie](mailto:contact@equality.gov.ie)  
Web: <https://www.gov.ie/dcediy>

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

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



## **LIST OF TABLES**

<b>Table 1.1: Examples of characteristics relevant to 20-year-olds in <i>Growing Up in Ireland</i> in each layer of the bioecological model</b> -----	<b>11</b>
---	-----------

## **LIST OF FIGURES**

<b>Figure 1.1: Bronfenbrenner's ecological perspective on child development</b> -----	<b>10</b>
<b>Figure 1.2: Elements of the life-course paradigm</b> -----	<b>13</b>



## Table of Contents

<b>ACKNOWLEDGMENTS</b> .....	<b>2</b>
<b>LIST OF TABLES</b> .....	<b>3</b>
<b>LIST OF FIGURES</b> .....	<b>3</b>
<b>1. INTRODUCTION</b> .....	<b>8</b>
<b>1.1 Introduction</b> .....	<b>8</b>
<b>1.2 Goals of <i>Growing Up in Ireland</i></b> .....	<b>8</b>
<b>1.3 Conceptual framework</b> .....	<b>10</b>
1.3.1 The bioecological model .....	10
1.3.2 Other theoretical perspectives relevant to the transition to adulthood .....	12
<b>1.4 Being 20 years old</b> .....	<b>13</b>
1.4.1 Becoming an adult .....	13
1.4.2 Education, training and employment paths .....	14
<b>1.5 The <i>Growing Up in Ireland</i> data collection at age 20 years, wave 4</b> .....	<b>16</b>
1.5.1 Overview of fieldwork.....	16
1.5.2 Overview of instrumentation.....	16
<b>1.6 About this Report</b> .....	<b>18</b>
<b>2 HEALTH AND PHYSICAL DEVELOPMENT</b> .....	<b>20</b>
<b>2.1 Use of illicit drugs</b> .....	<b>20</b>
2.1.1 Rationale.....	20
2.1.2 Previous waves of <i>Growing Up in Ireland</i> .....	21
2.1.3 Prevalence in other studies .....	22
2.1.4 Risk/Protective factors.....	23
2.1.5 Potential for <i>Growing Up in Ireland</i> .....	26
<b>2.2 Exercise and sports participation</b> .....	<b>26</b>
2.2.1 Rationale.....	26
2.2.2 Findings from previous waves of <i>Growing Up in Ireland</i> .....	27
2.2.3 Research relating to prevalence .....	28
2.2.4 Predictors and correlates.....	29
2.2.5 Potential for this wave of <i>Growing Up in Ireland</i> .....	30
<b>2.3 Use of health services in early adulthood</b> .....	<b>31</b>
2.3.1 Rationale.....	31
2.3.2 Previous waves .....	31
2.3.3 Frequency of health service use .....	32
2.3.4 Mental health service use.....	32
2.3.5 Factors influencing frequency of health service use .....	33
2.3.6 Potential for <i>Growing Up in Ireland</i> :.....	34



<b>3</b>	<b>SOCIO-EMOTIONAL WELL-BEING .....</b>	<b>36</b>
<b>3.1</b>	<b>Changing relationships with parents.....</b>	<b>36</b>
3.1.1	Rationale.....	36
3.1.2	Context/Previous waves of <i>Growing Up in Ireland</i> .....	37
3.1.3	Influencing factors .....	37
3.1.4	Potential for <i>Growing Up in Ireland</i> .....	40
<b>3.2</b>	<b>Predictors of mental health problems and psychological disorders by early adulthood .....</b>	<b>40</b>
3.2.1	Rationale.....	40
3.2.2	Previous <i>Growing Up in Ireland</i> waves .....	42
3.2.3	Prevalence and risk factors for mental health problems in Ireland.....	42
3.2.4	Risk factors for mental health problems – International literature.....	44
3.2.5	Mental health policy .....	48
3.2.6	Potential for <i>Growing Up in Ireland</i> .....	48
<b>3.3</b>	<b>Stress and coping with stress.....</b>	<b>49</b>
3.3.1	Rationale.....	49
3.3.2	Research on stress in the Irish context .....	49
3.3.3	Research on stress in an international context .....	50
3.3.4	Coping styles .....	51
3.3.5	Policy relevance of measuring coping strategies.....	52
3.3.6	Potential for <i>Growing Up in Ireland</i> .....	52
<b>4</b>	<b>EDUCATION AND COGNITIVE ABILITY .....</b>	<b>55</b>
<b>4.1</b>	<b>Reasons for choice of higher education institutions and barriers to choice.....</b>	<b>55</b>
4.1.1	Introduction .....	55
4.1.2	Irish data on transitions .....	56
4.1.3	Individual characteristics .....	57
4.1.4	School experiences .....	58
4.1.5	Characteristics of the institution .....	59
4.1.6	Potential for <i>Growing Up in Ireland</i> .....	59
<b>4.2</b>	<b>Labour market outcomes by level and/or type of education .....</b>	<b>60</b>
4.2.1	Introduction .....	60
4.2.2	The youth labour market in Ireland .....	60
4.2.3	Rates of unemployment .....	61
4.2.4	Relevance of qualifications .....	62
4.2.5	Job stability .....	62
4.2.6	Annual earnings .....	63
4.2.7	Youth migration .....	63
4.2.8	Conclusion.....	64
4.2.9	Potential for <i>Growing Up in Ireland</i> .....	64
<b>4.3</b>	<b>Cognitive ability and its interactions with other aspects of life-course development .....</b>	<b>65</b>
4.3.1	Rationale.....	65
4.3.2	Life-stage perspective on cognitive development .....	65
4.3.3	Physical health and cognitive ability .....	66
4.3.4	Lifestyle factors and cognitive ability.....	67
4.3.5	Socio-emotional health and cognitive ability .....	68
4.3.6	Cognitive ability, educational and labour force outcomes at 20 .....	68
4.3.7	Potential for <i>Growing Up in Ireland</i> .....	69

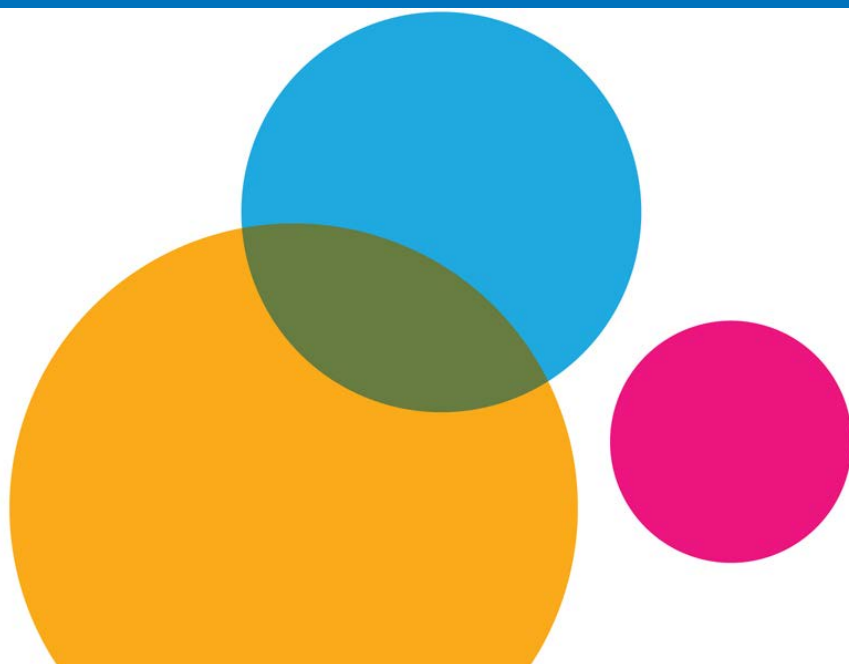


<b>5</b>	<b>CONCLUSION .....</b>	<b>72</b>
<b>6</b>	<b>REFERENCES.....</b>	<b>75</b>



# Chapter 1

## INTRODUCTION







## 1. INTRODUCTION

### 1.1 INTRODUCTION

The goal of this report is to provide research information on selected potential research questions using data collected in interviews with 20-year-olds and their parents. At the time of writing, fieldwork was under way, so the topics of the survey were known but not the outcome of the interviews. The research questions address the central outcomes of the *Growing Up in Ireland* study that contribute to building developmental trajectories from childhood to adulthood: socio-emotional well-being; educational and cognitive development; physical health and growth. Three potential research questions are outlined under each outcome and provide a short supporting review of the national and international literature, followed by a description of the measures in *Growing Up in Ireland* useful in exploring the topic. While there is a wide array of possible research questions with a dataset such as this, the selected topics are those that offer new potential given the measures at this particular wave and/or are particularly salient to this phase of the life-course.

This longitudinal cohort of young adults who are now 20 years of age have been followed in *Growing Up in Ireland* (GUI) since they were 9 years old. The cohort, along with their families and teachers, were interviewed at 9, 13, 17/18 and 20 years of age, following developmental trajectories throughout their late childhood and early adulthood. Information regarding the number of participants at this wave, as well as the retention rates can be found in the technical report on the design and instrumentation of this wave (McNamara, O'Reilly, Murray, O'Mahony, Williams, Murphy, McClintock & Watson, in press). At wave three (17 years) 74 per cent of the original cohort at wave one (age 9) who still lived in Ireland were retained in the sample.

When the children involved were aged nine, the Study Team referred to them as the 'Child Cohort'. Instead, drawing on the year in which most of them were born, this group of young adults will now be referred to as 'Cohort '98'. The remainder of this chapter comprises an overview of the study's conceptual framework; contextual information on 'being 20 years old' and how it applies to this age group; and a brief note on the data collection.

### 1.2 GOALS OF GROWING UP IN IRELAND

The principal aim of *Growing Up in Ireland* is to provide data and analysis to improve our understanding of children and young people, with a view to informing policy to improve the quality of their lives, as detailed in the National Children's Strategy (Government of Ireland, 2000). An essential component of this effort has been the production of a broad-ranging description of the lives of children and young people. This had not previously been possible given the information then available in Ireland.

*Growing Up in Ireland* contributes to all three central goals of the National Children's Strategy:

- to give children an appropriate voice in matters which affect them;
- to improve children's lives through improved understanding; and



- to promote child development through the provision of supports and services.

The project places children and young people at its centre, including their experiences and perspectives on matters which concern them. By raising awareness of the issues and the variations in experiences of children and young people, it draws attention to areas where additional supports, services and interventions may be needed.

***Growing Up in Ireland*** has nine specific objectives:

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

***Growing Up in Ireland*** is a core element of the National Strategy for Research and Data on Children's Lives (Department of Children and Youth Affairs, (DCYA), 2011) and provides a unique scientific framework for the development of Irish policy in this area. Information from all phases of ***Growing Up in Ireland*** featured prominently in Better Outcomes, Brighter Futures, the government's national strategy for children and young people 2014-2020 (DCYA, 2014). ***Growing Up in Ireland*** provides the only large-scale, nationally representative evidence base for this type of work in Ireland.

***Growing Up in Ireland***, and this 20-year phase particularly, has the potential to inform policy development across a large number of government departments and agencies. For some areas, this will mean using the longitudinal data to consider outcomes in early adulthood and look back to see how they were shaped by earlier experiences in primary and secondary school, family dynamics, and socio-economic circumstances, for example. For some policy areas, such as sexual and mental health, diet and exercise, and higher education choices (Blaney and Mulkeen, 2008; Eivers, Flanagan and Morgan, 2002; Moore-Cherry, Quinn and Burroughs, 2015), the up-to-date cross-sectional, as well as



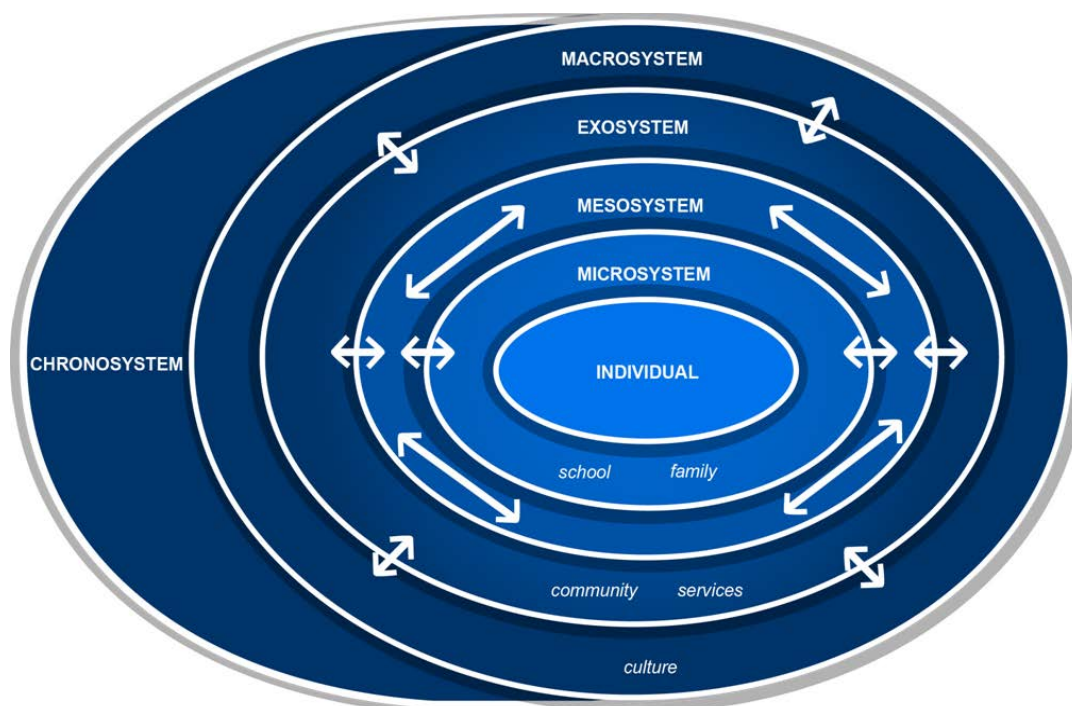
the longitudinal, information will be highly useful. In other areas such as labour market participation, family formation, contributions to society and long-term health, data collected at age 20 years will be an important start towards the monitoring of longer term health and lifestyle outcomes such as the effects of youth unemployment on adult health (McGinnity, Russell, Watson, Kingston and Kelly, 2014).

### 1.3 CONCEPTUAL FRAMEWORK

#### 1.3.1 THE BIOECOLOGICAL MODEL

The conceptual framework underlying *Growing Up in Ireland* is based on Bronfenbrenner and Morris's bioecological model (2006). This framework encompasses several layers of influence on the 20-year-old, as illustrated in Figure 1.1.

Figure 1.1: Bronfenbrenner's ecological perspective on child development



Source: Adapted from Garbarino (1982).

Major changes are expected to occur in the innermost layer of this system (the microsystem) for most individuals at this age; these include changes to relationships with family, school, peers and neighbours. The relationships between the elements of the microsystem – the 'mesosystem' – will also experience change, such as the likely dissolution of a relationship between parents and school, although parental social capital through parent-work and societal relationships may begin to play a larger part at this age, for example in securing internship and employment opportunities through the parental network.



The institutions and settings which indirectly influence the 20-year-old and their microsystem (such as health services, parents' work status and workplace) are contained within the exosystem. Finally, all the actions and interactions of these inner systems take place under the influence of broader societal and global forces such as cultural beliefs, national policies and general economic prosperity, which constitute the macrosystem. The 20-year-old may be more directly affected by governmental policy in areas such as third-level education and employment than at previous life stages and is likely to have far more contact with State institutions as they navigate higher education, welfare and health systems more independently.

Finally, the chronosystem refers to the role of time in the life of the individual. This can involve both the passing of time, including maturation, and the experiences accumulated over time, as well as the timing of specific events and critical transitions in the 20-year-old's life. In particular, primary and secondary school-related experiences may now be seen as distal causes of many current behaviours. It also includes 'cohort' and 'period' effects, for example, the deep economic recession of 2008-2013 and its timing in the early adolescent phase for the participants in *Growing Up in Ireland's* Cohort '98.

Table 1.1 gives examples of family and individual characteristics collected by *Growing Up in Ireland* which are relevant to 20-year-olds in each layer of the bioecological model. Those which are especially relevant or new to this wave are underlined.

**Table 1.1: Examples of characteristics relevant to 20-year-olds in *Growing Up in Ireland* in each layer of the bioecological model**

Model Level	Factors
Characteristics of the 20-year-old	Gender; personality; <u>physical health</u> and development; psychological development; <u>identity</u> ; <u>self-concept</u> ; <u>mental well-being</u> ; <u>cognitive development</u> ; ethnicity.
Microsystem	Family size, composition and structure; <u>new college or work environments</u> ; parental health; parent-child relationship; parental education; <u>new housing arrangements</u> (e.g. with 'flatmates');
Mesosystem	<u>Changes in interactions with parents and community as an 'adult'</u> ; parental marital relationship; <u>balancing college/work/family/friends</u> ; <u>additional responsibilities</u>
Exosystem	Access to healthcare; church and religion; <u>social welfare support for the young person</u> ; availability of and access to public services; <u>labour market opportunities</u>
Macrosystem	Citizenship/nationality; socio-historical setting of current study; <u>economic climate</u> , <u>education</u> and health policies, environmental policies
Chronosystem	Timing of changes in household structure; timing of adverse events (e.g. death of parent); economic 'shocks'; early/late puberty; period effects on the desirability of certain third-level courses (that effect the number of points required)

Note: underlining highlights topics of particular relevance at age 20



At 20 years of age the immediate family and home environment are still of substantial significance to the young adult. However, as they leave their teenage years, young people become increasingly oriented to the world outside the home and more open to a wider range of influences (Arnett, 2000). The roles played by peer and non-family relationships in the university or further education institute, workplace, community and neighbourhood increase substantially. The significance of the school environment and relationships with both teachers and school friends diminish (Arnett, 2007). National, and international, trends in the economy and policies relating to education, welfare and health will have direct and indirect effects on the lives and circumstances of the young adult (Arnett, 2010).

### 1.3.2 OTHER THEORETICAL PERSPECTIVES RELEVANT TO THE TRANSITION TO ADULTHOOD

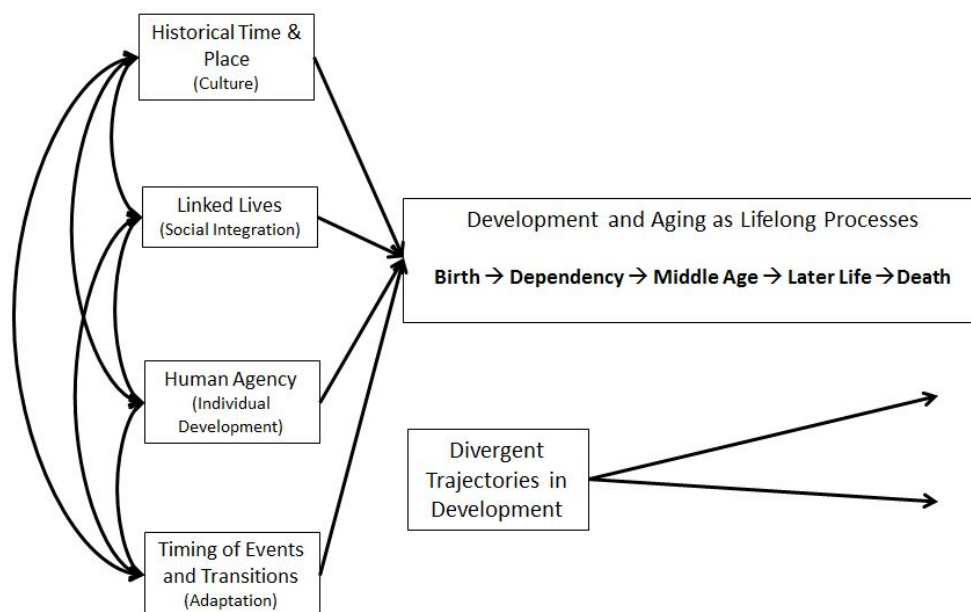
In addition to the bioecological conceptual framework, other theoretical perspectives also address the particular life-stage of 20-year-olds. Researchers in the area often refer to the phase between late adolescence and the late 20s as 'emerging adulthood' (Arnett, 2000). The author proposed that this period is a time of frequent change (in jobs, romantic partners, world views) (Arnett, 2007). This stage has a number of distinctive features: self-exploration, instability, self-focus, a sense of being in-between childhood and adulthood, and an optimistic outlook on the possibilities that lie ahead (Arnett, Zukauskienė and Sugimura, 2014). Though the emerging adulthood concept is not without its critics (Côté, 2014), it serves as a useful division between adolescence and adulthood for the current phase of *Growing Up in Ireland*.

Arnett, Zukauskienė and Sugimura (2014) see accepting responsibility for one's actions as a key criterion for reaching adulthood. The late adolescent/early adulthood period has traditionally been associated with a peak in risk-taking behaviour (Arnett, 2000). However, there are also opportunities for more constructive risk-taking in terms of travel, meeting new people, trying new creative outlets and exploring identity. Grappling with emerging identity may be related to some of the risky behaviour associated with the transition to adulthood. A small study (n=105) by Smith, Bahar, Cleeland and Davis (2014) drew on a wider project employing peer support with young adults at risk of substance misuse and observed an apparent association with feeling 'in-between childhood and adulthood', as measured by the Inventory of Dimensions of Emerging Adulthood (IDEA) scale (Reifman, Arnett and Colwell, 2007), and substance use. The relationship remained predictive even after controlling for demographic variables such as minority status, education and social class.

Other approaches emphasise the role of social, historical, and geographical contexts in shaping the life-course of individuals. For example, Elder and Giele (2009) point to the significance of 'historical time and place' as well as the interconnections between individuals – 'linked lives' - in contributing to diversity in the trajectories and outcomes associated with emerging adulthood (see Figure 1.2). For example, Sawyer, Azzopardi, Wickremarathne and Patton (2018) note that the combination of earlier puberty and a delayed transition beyond education into adult roles has extended 'adolescence' to the extent that it can now be seen to range from about age 10 to age 24; a much longer period (particularly at the earlier end) than originally thought.



Figure 1.2: Elements of the life-course paradigm. Adapted from Elder and Giele, (2009)



The longitudinal nature of the *Growing Up in Ireland* study – with the age 20 year phase being the fourth data collection with this cohort – will allow researchers to consider this phase of the life-course as both the result of an accumulation of earlier experiences and the extent to which the cohort are different or distinctive from earlier ages.

## 1.4 BEING 20 YEARS OLD

### 1.4.1 BECOMING AN ADULT

At 20, most Irish young adults will have left second-level education and begun negotiating their way through increasingly diverse paths to further/higher education or the labour market. The current wave of data collection in *Growing Up in Ireland* (collected in 2018/19) tracks the participants' progress since the final State examinations called the 'Leaving Certificate' which would have been completed by the majority of the participants at the age of 18 years. This examination is a major determinant of future educational opportunities and the transitions observed in the cohort since the end of second-level schooling will be useful for research and policy.

Other transitions of interest at this age include the rate at which young adults leave home, or alternatively, faced with rising rental costs and a shortage of suitable housing in some areas, tend to remain within the parental home. Eurostat (2020) found that the mean age at which young adults in the EU leave home to set up their own households was 26.2 years in 2019, with women tending to leave the parental home on approximately 2 years before men. International research indicates that young adults remaining in the home tend to have higher levels of conflict with parents than those who move out, and that young adults living outside the family home report fewer issues around parental control and monitoring, which can be a source of significant familial stress (Whiteman, McHale and Crouter, 2010).





At this wave (age 20) of *Growing Up in Ireland*, it is expected that most young adults will (at the time of completing the survey in 2018/2019) still be living with their parents as their principal residence, even if they have a second term-time address. The young adults will now have held legal adult status in the State for around two years. They may have exercised voting rights in local/national elections or referenda, participated in a public demonstration, signed a petition or shared political views online, increasing their connection with political structures of the State. Being over 18 means that some of the sample may be exercising adult rights to enter contracts such as the purchase of financial products and/or credit agreements enabling them to accumulate debt, to legally purchase alcohol and cigarettes, to drive and to engage in consensual sexual activity. Patterns of employment, relationships and marital status come to greater prominence at this age as they set the stage for longer-term patterns of adult behaviour that can have wider personal and societal impacts. Data were collected to reflect these changes in the lives of 20-year-olds.

#### 1.4.2 EDUCATION, TRAINING AND EMPLOYMENT PATHS

A perennial decision for young adults is choosing between entering the workforce immediately after secondary school or delaying entry by opting for further/higher education. There may be distinct short-term advantages to seeking employment immediately, such as an extra two to four years of earning an income while not paying tuition fees. Someone gaining early experience may be placed higher on a promotion ladder, which can be based on years of service in some organisations. These shorter-term benefits have typically been shown to be outweighed in the long term by the average higher salaries earned by those completing higher education (Abel and Deitz, 2014).

Globally, these higher education advantages - versus immediate entry to the workforce - for lifetime average salaries have been found to have weakened somewhat from a peak in the 1970s due to a greater penetration of education in developing countries: current research shows a global mean return of 9 per cent for each additional year of education (Psacharopoulos and Patrinos, 2018). The authors also showed in their analysis that despite stagnant wage growth surrounding the global recession, this return has remained relatively stable in developed countries, with the average return of higher education altering from 15 per cent in 2014 to 14 per cent in 2018. These estimated benefits are slightly higher in Ireland, where an average increase in annual earnings of 17 per cent was observed based on completing higher education.

##### Higher Education

A wide range of policy measures are in place in Ireland to ensure school completion and to promote access to third-level education. Ireland has one of the highest proportions of school leavers progressing to higher education. For instance, 231,710 individuals enrolled in a higher education course in the 2016/17 academic year (Higher Education Authority, 2017). These measures include curriculum reform, targeted school funding and back-to-education initiatives such as Youthreach (McCoy, Smyth, Watson and Darmody, 2014). In addition, governmental grant schemes support access to higher and further education, largely through the Student Universal Support Ireland (SUSI) authority which is a central application point for student tuition and maintenance grants, as outlined in the



Student Support Act (Government of Ireland, 2011). Undergraduate students who fall below certain income limits are eligible for a maintenance grant and a waiver of the registration fee, with the level of payment reflecting family income (for those under 23 years of age), whether the family is in receipt of social welfare payments and distance from the higher education institution. It is important to note that the grant system will only pay an individual once for a given academic year (i.e. a student withdrawing from first year will need to pay first year fees in a new course before progressing to receive a grant in their second year). This may present an obstacle to students who find they do not enjoy a course of study and wish to change to something more suitable.

While there are many supports designed to facilitate entry to third-level, student retention remains a significant problem, with high levels of dropout occurring in the first few months of many third-level courses internationally (Blaney and Mulkeen, 2008). In a cross-national comparison (for the year 2004), Ireland had a comparatively high retention rate compared to the UK, the Netherlands, Australia and the US, a difference attributed to differing economic conditions between the third-level systems in the regions (Van Stolk, Tiessen, Clift and Levitt, 2007). Recent figures indicate that among the 2014/15 higher education entry cohort in Ireland, 14 per cent of students had left higher education by the following year, a rate which varied by qualification level and field of study (Liston, Pigott, Frawley and Carroll, 2018). There has been considerable research interest in student retention over the last decade (Blaney and Mulkeen, 2008; Eivers, Flanagan and Morgan, 2002; Moore-Cherry, Quinn and Burroughs, 2015) and research has consistently found, across both qualitative and quantitative studies, that emotional demands, loneliness and difficulties coping away from home play as much of a role in dropout as do prevailing economic conditions. Retention rates are found to be significantly lower among males and those entering with lower Leaving Certificate grades (Liston et al., 2018). More recently, interventions have been implemented aiming to improve student engagement and aid retention (Crowley, Mahon and Strain, 2012).

### Unemployment

Despite an overall trend of economic recovery in Ireland since 2013/14, the recovery in employment prospects has not affected all age groups equally. Research conducted by McGinnity et al. (2014) showed that during the preceding recession years, the numbers of young adults in the age range of 15-19 years who were not in employment, education or training (NEET) remained at a stable 5 per cent while it was 23 per cent for those in the 20-24 age group. The 20-24 group in 2018 may be at a disadvantage when entering the labour market as they will be competing for jobs with those who could not find employment during the previous recession; as well as labour force competition from more experienced/better qualified immigrant workers or women returning to the workforce from





home duties (Smyth, 2008). These combined effects may result in higher proportions of young adults remaining in the NEET category than would otherwise be expected in times of low unemployment.<sup>1</sup>

Unemployment as a 'family legacy' issue, where structural economic inequality or attitudinal issues around engaging with work or training are 'transmitted' across generations, is another important issue. With a proportion of the current sample likely to begin forming their own families from this age onwards, this can be seen as a critical period to intervene with a view to breaking cycles of deprivation seen among families who are headed by those in the NEET category.

## 1.5 THE GROWING UP IN IRELAND DATA COLLECTION AT AGE 20 YEARS, WAVE 4

The detailed description of the survey instrumentation and fieldwork for the age 20-year phase of Cohort '98 is the focus of a separate report (McNamara et al., in press). The following paragraphs provide a brief overview to facilitate an understanding of some of the discussion in subsequent chapters of this report.

### 1.5.1 OVERVIEW OF FIELDWORK

At age 20 years, in contrast to previous waves, the vast majority of the information was collected from the 20-year-old cohort member him/herself. Just one parent was interviewed, in most cases the cohort member's mother. The parental interview was largely confined to information about the parent him/herself and their perception of their relationship with their 20-year-old. In previous waves, when the cohort member was still a minor, much of the information on the study child's health, behaviour, schooling and day-to-day routines was collected from the parent.

Detail on data collection, measurements, and interview procedures can be found in the 20-year design report (McNamara et al., in press), with the now-adult status of the 'Study Child' reflected in a further shift towards the majority of information being collected from them rather than their parents. Two further significant changes from previous waves were (a) that only one parent was interviewed (instead of both the Primary Caregiver and their resident spouse or partner) and (b) a greater percentage of the cohort were no longer living at their parental address full time. Thus, updated procedures allowed for the two respondents in the 'household' to be interviewed at different addresses where necessary.

### 1.5.2 OVERVIEW OF INSTRUMENTATION

The main subject areas in the 20-year-olds' face-to-face interview were:

- Household characteristics (if living outside parental home)
- Activities, identity and becoming an adult

---

<sup>1</sup> The unemployment rate ranged between 5.0% and 5.7% between August 2018 and June 2019 when the data were collected (Central Statistics Office, 2020).



- Attitudes, politics and community
- Health, diet and exercise
- Secondary school
- Month-by-month economic status history since 17/18 years of age
- Further/higher education and training
- Employment
- Income and expenditure

The 20-year-olds' self-complete questionnaire asked about:

- Friends
- Smoking, alcohol and drugs
- Gender identity, intimate relationships and sexual experiences
- Family formation (own children)
- Being a victim of crime or bullying
- Self-perception
- Family relationships
- Mental health
- Contact with the Criminal Justice System
- Internet and technology use

For parents, their main face-to-face interview collected information on:

- Household composition
- Parent's health
- Relationship with 20-year-old and concerns for well-being
- Parent's characteristics – education, employment, personality, political preference
- Household income
- Community



The parent's self-complete questionnaire covered the following topics:

- Marital status
- Parent's use of alcohol, smoking and drugs
- Parent's emotional well-being
- Contact with the Criminal Justice System
- Further questions on their relationship with the 20-year-old

## 1.6 ABOUT THIS REPORT

The three core review chapters of this report (Chapters 2-4) each deal with three possible research questions arising from this phase of *Growing Up in Ireland*. As already noted, each topic has been selected as an example of a policy relevant research avenue that offers new possibilities at this particular wave of data collection and/or is especially salient to this period in the life-course.

*Chapter Two* deals with health and physical development. It examines one topic associated with risk-taking in the emerging adulthood phase – that of illicit drug use – which, according to Arnett's theory (2005), is a period associated with exploration, instability and 'possibilities' and associated with higher rates of substance use. The second topic is a health-promoting behaviour which is prone to decline in the post-school period - exercise and sports participation. The third topic is the use of health services in early adulthood; a period where utilisation might be relatively low given the age of the cohort but where a transition to a new health service (for example, on campus) or the 20-year-old taking full responsibility for their own health could lead to changes in use.

*Chapter Three* focuses on mental health and socio-emotional well-being more generally. The first topic is the parent-child relationship, and particularly how this dynamic evolves in the early adulthood period. The second topic looks at the clinical side of emotional well-being with a review of factors associated with the development of psychiatric and psychological disorders. The final topic is stress and coping methods; while stress is a feature of life at all ages, the period around 20 years is an exceptional one in terms of transitions, new responsibilities as well as exam stress for those in further education or training.

*Chapter Four* reviews three topics related to education and cognitive ability. At the age of 20 years, a consideration of education necessarily broadens beyond just secondary school because of the diversity in pathways in the post-school period. The first section looks at factors that affect choices regarding further and higher education options. The second section then considers how education choices – including the decision to leave education – can affect labour market outcomes. The third and final section discusses how cognitive ability affects, and is affected by, what else is happening in the life of a 20-year-old: physically, emotionally and academically.



# Chapter 2

## HEALTH AND PHYSICAL DEVELOPMENT





## 2 HEALTH AND PHYSICAL DEVELOPMENT

For most of the cohort, this period of their lives should be at or close to peak physical health and development. Diseases which typically increase in risk with age such as hypertension, arthritis and many types of cancers are still some way off for the majority. Physical growth will have matured for many – particularly women – although some features such as muscle mass and fitness remain malleable through diet and exercise.

Behaviourally, age 20 years is an important transition point for the individual's management of their own health. Living away from the parental home, or at least not being as reliant on their parents for health-related decision-making, means that more responsibility rests with the young adults themselves. This review explores three avenues of particular relevance to the period of transition associated with this phase of the life-course. The first section concerns a potential increase in risk through experimentation with illicit drugs. As already noted, risk-taking and exploring new experiences are key features of emerging adulthood; which at age 20 years may be combined with greater exposure to drugs, peer influence and less parental monitoring. However, such experimentation is not without risks to physical (and mental) health.

The second section considers an aspect of lifestyle – exercise and sports participation – that is generally associated with positive health benefits; but previous research indicates it is at risk of decline post-school. For some young adults, losing the routine of secondary school and the possible compulsory aspect of physical education classes may mean a reduction in the amount of physical exercise undertaken. Among other groups, however, a wider choice of sports, classes (e.g. dance) and facilities at college or in bigger cities and towns might mean a continuance – or even an increase - in physical activity. At the current wave, *Growing Up in Ireland* has collected interesting new data on the 'push and pull' factors influencing contemporary exercise engagement.

The third and final section considers utilisation of health services among young adults. Compared to when they were younger, 20-year-olds would be expected to make their own appointments with dentists and doctors; monitor their own health and seek care when needed; and often to pay for their own health care. Twenty-year-olds might also change from a long-standing relationship with a family GP/dentist to a service based in their college or new place of residence. *Growing Up in Ireland* is well-placed to collect information on contemporary health service utilisation and cover via medical card or private health insurance, but also to contrast usage at age 20 years with patterns at previous waves when the access of cohort members was more parent-directed.

### 2.1 USE OF ILLICIT DRUGS

#### 2.1.1 RATIONALE

The use of illicit drugs has been an enduring problem in Irish society; one which has persisted for over a half-century (Butler and Mayock 2005). According to the International Encyclopaedia of the Social and Behavioral Sciences, illicit drugs are “substances that either stimulate (such as cocaine or amphetamines)



or inhibit (such as heroin or sedative-hypnotics) the central nervous system or cause hallucinogenic effects (such as marijuana or LSD) to the effect that their use has been prohibited globally” (Uutela, 2001).<sup>2</sup>

There is a strong body of evidence supporting the link between drug use and mental health problems such as depression (Juon, Fothergill, Green, Doherty and Ensminger, 2011), anxiety (Patton, Coffey, Carlin, Degenhardt et al., 2002), bipolar disorder (Lagerberg, Røstad Kvitland, Aminoff, Aas et al., 2014), schizophrenia (Arseneault, Cannon, Witton and Murray, 2004) and other forms of psychosis (Moore, Zammit, Lingford-Hughes, Barnes et al., 2007). Other research has found drug use to be associated with physical health issues such as cardiovascular problems (Thomas, Kloner and Rezkalla, 2014). More recently, research focussing primarily on cannabis (as it is the most commonly consumed recreational drug (United Nations Office on Drugs and Crime (UNODC), 2018) has highlighted the risks that drug use pose to academic achievement and work-related outcomes (see, for example, Lynskey, Coffey, Degenhardt, Carlon et al., 2003; Zhang, Brook, Leukfield and Brook, 2016; but see also Scholes-Balog, Hemphill, Evans-Whipp, Toumbourou and Patton, 2016). Looking beyond cannabis use, Harder and Chilcoat (2007) have also conducted research highlighting an inverse association between educational achievement and cocaine use.

In addition, drug-related offences accounted for 17,128 crimes in Ireland in 2017 (Central Statistics Office (CSO), 2018a). Thus, there is an obvious rationale for investigating the use of drugs in Irish society; the cost of illicit drug use is substantial – both socially and economically. This has been widely recognised and the Irish Government’s response is outlined in the recent strategy document - Reducing Harm, Supporting Recovery: A health-led response to drug and alcohol use in Ireland 2017 – 2025 (Department of Health (DOH), 2017). Although there has been considerable attention paid to the issue of drug use in recent years, these responses have concentrated mainly on opioids. However, patterns in drug use have changed considerably, particularly in the last decade with the emergence of new psychoactive drugs. Therefore, comprehensive and up-to-date information is required to inform future interventions and policy.

### 2.1.2 PREVIOUS WAVES OF GROWING UP IN IRELAND

With regard to the use of illicit substances, findings from the previous wave of *Growing Up in Ireland* indicated that cannabis was the most commonly used drug, with 31 per cent of 17/18-year-olds reporting

---

<sup>2</sup> Much literature pertaining to illicit drug use includes alcohol consumption (by those under 18 years). However, it was decided not to include alcohol use in this review a) as it relates to young people now legally allowed to consume alcohol and b) alcohol use was covered extensively in the 17-year literature review.



having tried it at least once and 2 per cent claiming to have used it more than once a week (Growing Up in Ireland Study Team, 2016a). Consistent with existing literature (e.g. Lynne-Landsman, Bradshaw and Jalongo, 2010), prevalence rates were higher among males (12% as compared to 7% of females). A total of 9 per cent of 17/18-year-olds reported having ever used other types of illicit substances; at 4 per cent, cocaine and ecstasy were the most commonly used.

### 2.1.3 PREVALENCE IN OTHER STUDIES

Existing research pertaining to the prevalence of drug use (both in Ireland and internationally) has tended mainly to measure drug use in one of two ways - through self-reports of participants having ever used illicit substances or through self-reported drug use in the previous month, year, etc. Based on reports of drug use in 2015, the Ireland Country Drug Report 2018 found that 16.2 per cent of young people aged 15-24 had used cannabis, 6.7 per cent had used MDMA (Methylenedioxy methamphetamine/Ecstasy), 3.2 per cent had used cocaine and 0.5 per cent had used amphetamines in the previous year (Health Research Board (HRB), 2018). To put this in context, when the prevalence of drug use was examined in 30 European countries, Ireland had the second highest rate of opioid and MDMA use, the fifth highest rate of cocaine use and the eighteenth highest rate of amphetamine use among 15-34-year-olds (HRB, 2018).

Previously, the My World Survey (Dooley and Fitzgerald, 2012) utilised the CRAFFT screening test (Knight, Shrier, Bravender, Farrell et al., 1999) to investigate substance misuse in an Irish sample aged 17-25 years (N = 8,221). Scores above 2.0 in this test indicate problematic substance use (Knight et al., 1999). At age 20-21 years, the mean score was 2.4, having increased from 2.0 at ages 18-19 years. However, the screening test included measures of misuse of both drugs and alcohol; thus, it is unclear what proportion of this was accounted for by the problematic use of illicit drugs specifically.

It is widely reported that cannabis is the most commonly used illicit drug (see, for example, UNODC, 2018). Thus, Dooley and Fitzgerald's findings with regard to the prevalence of cannabis use are worth noting. According to the My World Survey, by age 20-21 almost half of young people (49%) have smoked cannabis (Dooley and Fitzgerald, 2012). This figure continues to rise, albeit at a slower rate, until age 24-25 years (the upper end of the age range of participants). With regard to cannabis use specifically, Irish prevalence rates among 15-34-year-olds are the ninth highest in Europe (HRB, 2018). There has been a recent upsurge in the debate around legalising or liberalising cannabis in Ireland (e.g. Cannabis for Medicinal Use Regulation Bill; Government of Ireland, 2016). Nonetheless, evidence suggests that cannabis use can have negative long-term effects. A review of the effects of cannabis by Volkow, Baler, Compton and Weiss (2014) highlighted impaired short-term memory (making learning more difficult) and motor-coordination (increasing risk of vehicle collisions) amongst the short-term effects. The review also noted that in high doses, cannabis can induce paranoia or psychosis. More troublingly, lower IQ has been identified among chronic adolescent consumers of cannabis, due in part to decreased activity in prefrontal brain regions and reduced volume of the hippocampus (Batalla, Bhattacharyya and Yücel, 2013). In contrast, more recent research stemming from the Avon Longitudinal Study of Parents and



Children (Mokrysz et al., 2016) noted that any association between cannabis use and lower IQ or educational performance was attenuated to the point of non-significance when confounders such as cigarette use were adjusted for, calling into question opposing findings from previous epidemiological surveys.

A recent brief report from the European Monitoring Centre for Drug and Drug Addiction (EMCDDA, 2019) suggests that drug use has become more common among the general population aged 15-64 years in Ireland over recent years. In line with other research, a more detailed EMCDDA survey from 2014 confirms that cannabis remains the most commonly used illicit drug in Ireland, with almost a fifth (18%) of young adults (15-34 years) reporting use in the last year. Moreover, cannabis accounted for more than a quarter of new entrants to treatment in 2014 (European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), 2014).

Considering alcohol as the other most commonly consumed recreational drug, research outlines the amplified mental health risks faced by adolescents and young adults with hazardous drinking patterns (Courtney and Polich, 2009). Irish research, such as that of Dooley and Fitzgerald (2012), suggests that overall patterns of drinking among young Irish adults increase for a number of years throughout the early 20s.

Research on the UK National Child Development Study used a propensity score matching approach to show that heavy late adolescent drinking reduces working-class adult males' chances of completing a primary degree by 25 per cent and middle-class adult males' chances of completing a degree by 10 per cent when compared to relevant control participants. There were no comparable effects found for female educational attainment in these data (Staff, Patrick, Loken and Maggs, 2008). These effects were not replicated in the Christchurch Health and Development Study, which was similar in scope, but only considered young adults up to the age of 21 years (Wells, Horwood and Fergusson, 2004). The overall picture of continuous heavy alcohol consumption leading to long-term health problems with associated patterns of decline in physical health is relatively clear (Andreasson, Allebeck and Romelsjo, 1988). Binge drinking has also been linked to neurocognitive deficits in frontal lobe and working memory function when binge drinkers are compared to non-bingeing cohorts (Courtney and Polich, 2009).

#### **2.1.4 RISK/PROTECTIVE FACTORS**

Frisher, Crome, Macleod, Bloor and Hickman (2007) assert that there are four categories of risk factors for illicit drug use. These are (a) biological and psychological individual characteristics, (b) individual behaviours and attitudes, (c) interpersonal relationships, and (d) structural factors relating to economic and environmental characteristics. From their systematic review of 78 papers on 'predictive factors for illicit drug use among young people', Frisher et al. highlight the importance of the young person's family as an influence on the risk of drug use, especially parental discipline and monitoring, and family cohesion. Family structure risk factors noted in the Frisher et al. review include large family size, younger parents





and socio-economic status. Tackling structural factors, for example through policies to support parents or policies to improve the young person's social environment, are key strategies for prevention of drug use. Some individual characteristics associated with drug use in that review were self-esteem, hedonism, mental health, school performance and sports involvement (ibid.).

Some individuals may face multiple risk factors, and there is some evidence that risk factors follow a trajectory from earlier in childhood and/or accumulate risk to some degree. Lynne-Landesman et al. (2010) described a longitudinal study that followed several hundred individuals (mostly African American) from the age of 6 to 21 years. For marijuana use, they noted evidence for a 'progression' from behavioural problems in childhood, leading to peer rejection, subsequent affiliation with 'using' peers and increasing use of marijuana and cigarettes over the high school years. Some of the strongest correlations with marijuana use in the 12th grade were poor academic performance in the third grade, friend substance use in the seventh grade and conduct problems in the eighth grade. When Lynne-Landesman et al. (2010) compared adolescents who were in a class of 'heavy' marijuana use during high school rather than an 'increasing' or 'abstaining' class, they found that individuals who were female or whose parents had higher levels of education were less likely to be among the 'heavy' users. When contrasted in terms of outcomes in young adulthood, the 'increasing' and 'heavy' users were less likely to have graduated from high school and more likely to have problems with mental health and drug use than the 'abstainers'.

Also, in the United States, White, McMorris, Catalano, Fleming, Haggerty and Abbott (2006) focused on risk factors specific to the transition of leaving home and going to college. Just over 300 subjects were interviewed at the end of high school and followed up six months later. White et al. noticed more change in patterns of heavy drinking than in marijuana use; however, protective factors against increasing levels of the latter included fewer 'using' friends, higher parental monitoring and higher religiosity. Elsewhere a small study using MRI to contrast the brains of young adults who engaged in early substance use (alcohol, cigarettes and marijuana) and those who did not noted that the early-user group tended to have less volume in the left frontal cortex of the brain (Weiland, Korycinski, Soules, Zubieta et al. 2014). Behaviourally, externalising problems – previously assessed during adolescence – were correlated with both substance use and lower brain volumes in the left front cortex. While the authors acknowledged the difficulty in asserting that structural brain differences definitely preceded the substance use or externalising problems, the association was robust to controls for lifetime drinking and smoking.

Some risk factors are of particular interest to this wave of *Growing Up in Ireland*, for instance, the use of cannabis in adolescence and post-secondary school trajectories. Often perceived and referred to as a "soft" drug, cannabis has also been described as a "gateway drug",<sup>3</sup> meaning that its use can lead to the

---

<sup>3</sup> See Hall and Lynskey (2005) for an interesting review regarding the gateway hypothesis.



use of more addictive, “harder” drugs. Taylor, Collin, Munafò, MacLeod et al. (2017) used data from the Avon Longitudinal Study of Parents and Children (ALSPAC) to investigate cannabis use during adolescence and its association with the use of other substances in emerging adulthood. They concluded that young people who regularly used cannabis in their teens (from 13 to 15 years) were almost 26 times more likely than their counterparts to use other illicit drugs by age 21.

Whilst the above finding would appear to support the general hypothesis that cannabis can be a “gateway drug”, there is no conclusive evidence to suggest clear causal mechanisms underlying this gateway or whether these causal mechanisms are direct or indirect (Fergusson, Boden and Horwood, 2005). The lessening importance of the gateway theory can be further explained by the emergence of newer, high potency cannabis that carries with it its own increased risk of psychosis (Murray, Quigley, Quattrone, Englund et al., 2016; Di Forti, Marconi, Carra, Fraitetta et al., 2015). Murray et al. (2016) noted that the proportion of THC (the cannabinoid in cannabis most commonly linked with the positive high experience after use) in common herbal cannabis (marijuana/hashish) was about 3 per cent, but this has risen to 15-20 per cent through the advent of high-potency cannabis. They concluded that whilst all forms of cannabis carry with them a risk of mental health issues, increasingly common high-potency cannabis and synthetic cannabinoids carry with them a significantly elevated risk of psychosis.

Through a case-control study, Di Forti et al. (2015) also investigated the risks of cannabis with a high concentration of THC. They found that those people who used high-potency cannabis were three times more likely to suffer from psychosis than those who never smoked cannabis, particularly if they were daily users. With this in mind, the researchers concluded that there is a need to increase public awareness about the dangers of high-potency cannabis.

By age 20 most young people will have left secondary school and will be engaged in further/higher education or training, have joined the workforce or be unemployed (see, for example, CSO, 2018b). In a prospective longitudinal study in the US (Rutgers Health and Human Development Project; n = 547), higher levels of substance use in emerging adulthood were reported by young people who were not in college compared to college students (White, Labouvie and Papadaratsakis, 2005). This finding poses some interesting questions for Irish research: do particular post-secondary school trajectories increase/decrease the likelihood of illicit drug use in Ireland or, alternatively, does the use of illicit substances during adolescence influence post-secondary school trajectories? Economic analyses such as that of French, Maclean, Sindelar and Fang (2011) show that the relationship between alcohol consumption and certain aspects of employment are under-studied, including being fired or laid off, long-term unemployment, and conflict with co-workers and superiors in the workplace. A 10-year follow-up study using a probability survey of 2,000 U.S. college students confirmed that binge drinking while in college poses a significant risk factor for alcohol dependence and abuse, elevated risk of leaving education and less favourable labour market outcomes (Jennison, 2004). A similar issue was previously explored by Ellickson, Martino and Collins (2004). They established four specific trajectories amongst cannabis users by looking at their usage patterns at ages 13 and 23 years; early high users who reduced



their use, stable light users, steady increasers, and occasional light users. They then investigated the associated outcomes for each trajectory; abstainers had the most favourable behavioural, socioeconomic and health outcomes, while early high users had the least favourable outcomes. Links between binge drinking and social or economic consequences are not as easily made.

### 2.1.5 POTENTIAL FOR GROWING UP IN IRELAND

The survey of the *Growing Up in Ireland* child cohort at age 20 years collected information on patterns in drug use. Twenty-year-olds were given a comprehensive list of illicit substances and asked to indicate the frequency with which they have used each one in the last year. There were also more general questions relating to lifetime use of any type of “recreational” or non-prescribed drugs. In addition, parents were asked to indicate if they regularly, occasionally or never take a selection of drugs. Questions regarding drug use were previously asked both at wave two (13 years) and three (17/18 years) of this cohort. In generating such data, and through longitudinal analysis of other data generated in previous waves of *Growing Up in Ireland* (e.g. socio-demographic characteristics), valuable information is collected that might shed light on early risk factors for illicit drug use, such as parental drug use, previous use of cannabis, gender and socioeconomic status. Future waves will enable more conclusive evidence to be gathered with regard to potential outcomes of illicit drug use in emerging adulthood.

There is also a wealth of evidence to be drawn from within the current wave of *Growing Up in Ireland*. For example, comparing rates of prevalence of illicit drug use in various groups – such as college students and those in the labour market – will add significantly to current knowledge regarding illicit drug use at this life stage. Such information will highlight those groups most likely in need of support/intervention in emerging adulthood.

Finally, 20-year-olds were asked about the social and physical settings in which they partake in drug-taking (i.e. in peer/family groups, at home/clubs etc.), their motivations for cannabis use and their feelings (e.g. of guilt or annoyance with those who comment of their drug use). All of this new contextual information will serve to enhance understanding of the social and personal processes that influence the use of drugs among young people at age 20 years and, perhaps, assist in the targeting of intervention schemes.

Thus, in line with risk factors identified in Frischer et al. (2007); biological and psychological individual characteristics; individual behaviours and attitudes; interpersonal relationships; and structural factors relating to economic and environmental characteristics, the rich and extensive variables collected by *Growing Up in Ireland* will enable examination of many risk factors within these domains.

## 2.2 EXERCISE AND SPORTS PARTICIPATION

### 2.2.1 RATIONALE

Emerging adulthood has been identified as a particularly important time in terms of physical activity participation (see, for example, Nelson, Story, Larson, Neumark-Sztainer and Lytle, 2008). This is



primarily due to the fact that rates of physical activity among young people are believed to decline at this time (Corder, Winpenny, Love, Brown et al., 2017). Moreover, emerging adulthood is associated with increased autonomy, new living situations and other important transitions; consequently, it is a time at which many young people begin to form habits that may continue for much, if not all, of their adult lives (Nelson et al., 2008). Exercise, like sports participation, is one of a number of forms of physical activity, defined as activity that is 'planned, structured, repetitive, and purposive' (Caspersen, Powell and Christenson, 1985, p. 128). Beyond exercise, physical activity also includes any participation in non-structured or unplanned moderate-to-vigorous-intensity activity or muscle-strengthening activity.

This section focuses on exercise; for the purpose of this review, other forms of physical activity (such as occupational or transport physical activity) have not been included, as physical activity in these domains is deemed less modifiable and therefore less likely to be influenced by new-found autonomy in adolescence/early adulthood.<sup>4</sup> Higher rates of exercise and involvement in sports have been linked to a range of positive outcomes in multiple spheres, for example, mental health, obesity prevention, wellbeing, long-term physical health, academic performance, occupational productivity, sleep quality and brain function (respectively, Eime, Young, Harvey, Charity and Payne, 2013; Wareham, van Sluijs and Ekelund, 2005; Ussher, Owen, Cook and Whincup, 2007; Reiner, Niermann, Jekauc and Woll, 2013; Singh, Uijtdewilligen, Twisk, van Mechelen and Chinapaw, 2012; von Thiele Schwarz and Hasson, 2011; Wunsch, Kasten and Fuchs, 2017; Hillman, Erickson and Kramer, 2008). An analysis of patterns of physical activity at age 20 will contribute to an understanding of both emerging adults' motivations for participation in sports/exercise and reasons for non-participation or discontinuing participation. Examining such information may enable researchers to highlight potential barriers to participation, as well as those subgroups most at risk of non-participation.

### 2.2.2 FINDINGS FROM PREVIOUS WAVES OF GROWING UP IN IRELAND

Previous waves of *Growing Up in Ireland* have offered insight into patterns of exercise and sports participation in childhood and adolescence, supporting the assertion that physical activity levels decline throughout adolescence. Focussing on *Growing Up in Ireland* Cohort '98, levels of activity reduced from 352 minutes of moderate-to-vigorous physical activity per week at age 9, to 234 minutes at age 13, and to 230 minutes at age 17/18 (McNamara, Murphy, Murray, Smyth and Watson, 2020). This report also indicates that at all waves (i.e. at ages 9, 13 and 17/18 years), boys were significantly more likely than their female counterparts to engage in frequent exercise/physical activity. According to another *Growing Up in Ireland* report, the gender gap for no exercise had disappeared by age 13. At this point, just 2 per

---

<sup>4</sup> Although the term physical activity will continue to be used in the remainder of this section, it is used to refer specifically to exercise and sports participation as the studies reviewed in this literature review relate primarily to physical activity in these domains.



cent of both males and females reported not having engaged in any exercise in the previous two weeks, although infrequent exercise (i.e. on 1-5 days out of 14) was still more common among females (Growing Up in Ireland Study Team, 2012a). However, at age 17/18 the proportion of females not engaging in any exercise was higher (5%) than the corresponding figure for males (3%; Growing Up in Ireland Study Team, 2016b),

At 13 years, those more likely to exercise frequently included young people in higher social classes and those whose parents had higher levels of education, while children from professional/managerial social groups were more likely to participate in organised sporting activities at least once a week (Growing Up in Ireland Study Team, 2012a). At 17/18 years young people were less likely to exercise frequently (and more likely to exercise infrequently) if they were classed as obese (Growing Up in Ireland Study Team, 2016b). The initial associations that have been drawn between exercise and gender, social class and weight status are compelling and worthy of further analysis in the current wave of *Growing Up in Ireland*. In addition, the literature suggests that there are a number of other possible associations, such as residential independence, employment status, relationship status, and parenthood (Bell and Lee, 2005) to name a few, to be explored when examining exercise and sports participation in emerging adulthood.

### 2.2.3 RESEARCH RELATING TO PREVALENCE

According to the World Health Organisation's Global Recommendations on Physical Activity for Health (2010), adults aged 18-64 should engage in moderate physical activity for at least 150 minutes each week (or 75 minutes of vigorous activity). The Irish Sports Monitor Annual Report 2017 found that only 38.8 per cent of males and 36.6 per cent of females aged 20-24 years meet these recommended targets (Sport Ireland and Ipsos MRBI, 2018; see also Ipsos MRBI, 2016). This constitutes an increase of 0.1 per cent for males and 7.8 per cent for females since 2015. The report also notes that in 2017, 78 per cent of males and 70 per cent of females aged 16-19 participated in at least one form of physical activity, but these figures declined to 73 per cent and 54 per cent respectively for those aged 20 to 24 years. The same report also lists exercise (including gym-use; 13%), swimming (8%), running (7%), cycling (5%), soccer (4%) and dancing (3%) as the most popular forms of sport, although age-specific figures are not provided (Sport Ireland and Ipsos MRBI, 2018).

Another report commissioned by Sport Ireland found that 86 per cent of young people who played an individual sport throughout second-level education continued to participate in it after leaving school; this figure dropped to 77 per cent for continued participation in a team sport (Lunn, Kelly and Fitzpatrick, 2013). This report also noted that those who went on to third-level education were more likely to continue playing sports than their peers who became unemployed or entered the work force. Whilst this trend may be partly explained by a superior range of facilities being available in third-level institutes, this is not borne out in research by Lunn et al. (2013); with the exception of swimming, a lack of facilities is not linked to reduced participation in sport.



#### 2.2.4 PREDICTORS AND CORRELATES

Although changes in emerging adulthood are often considered to be less pronounced than in adolescence (Telama and Yang, 2000; Ortega, Konstabel, Pasquali, Ruizl et al., 2013), there is broad agreement in the literature that rates of engagement in moderate-to-vigorous exercise and/or sports participation decline in emerging adulthood (Caspersen, Pereira and Curran, 2000; Gordon-Larsen, Nelson and Popkin, 2004; McPhie and Rawana, 2015; van Mechelen, Twisk, Post, Snel and Kemper, 2000; Ortega et al, 2013). According to the Corder et al. (2017) systematic review and meta-analysis of 49 longitudinal studies, this decline, though significant,<sup>5</sup> is modest, equating to a mean reduction of 5.2 minutes of moderate-vigorous physical activity each day.

There have been mixed findings with regard to the role of gender. Although studies have found greater decreases in physical activity for males as compared with females (Ortega et al., 2013; Telama and Yang, 2000), this has been attributed by some to higher rates of physical activity in adolescent males to start with (van Mechelen et al., 2000); thus, greater declines in physical activity in emerging adulthood do not necessarily imply lower overall levels of physical activity. However, although much of the literature reports higher rates of exercise and sports participation among males in emerging adulthood (e.g. Ortega et al. 2013), this is not always the case. For instance, longitudinal research in Australia concluded that females were more likely as emerging adults to meet recommendations relating to optimum levels of physical activity (Hoare, Dash, Jennings and Kingwell, 2018). Similarly, in a study of Finnish youth, Telama and Yang (2000) found that after the age of 15, more females than males participated regularly in moderate or high-intensity physical activity.

In addition, gender variances in the intensity of physical activity and motivational factors have been noted. For instance, researchers such as Pauline (2013) have indicated that women in the US tend to be motivated by factors related to weight management, appearance and positive health, whereas men are more likely to be motivated by 'performance-oriented factors' such as challenge, competition and social recognition (p. 72).

Multiple studies have attempted to explain variations in physical activity in emerging adulthood. Some have identified personal correlates, such as conscientiousness (Joyner and Loprinzi, 2018), motivation (Farholm, Sørensen, Halvari and Hynnekleiv, 2017) and perceptions of benefits and cues to exercise (King, Vidourek, English, and Merianos, 2014). Other studies, including some Irish research (Lunn, 2007; Lunn

---

<sup>5</sup> In 2017, a Public Health England report highlighted the significant health benefits of engaging in just 10 minutes of brisk walking each day and, in so doing, drew attention to the potential disadvantages of reducing one's physical activity by over five minutes each day (Brannan, Varney, Timpson, Foster and Murphy, 2017).





and Layte, 2008; Lunn, Kelly and Fitzpatrick, 2013; O'Donoghue, Kennedy, Puggina, Aleksovskaja et al., 2018), have highlighted associations between physical activity levels and socio-economic/socio-demographic factors such as level of education, employment status, household income and marital status (variously in Bell and Lee, 2005; Farrell, Hollingsworth, Propper and Shields, 2013; Eaves, Behrens, Dinger, Hines et al., 2017). For instance, using data from the Australian Longitudinal Study on Women's Health (n = 8,545), Bell and Lee (2005) concluded that declines in physical activity in women during emerging adulthood were strongly associated with getting married, entering a co-habiting relationship and becoming a mother. In addition, for women, being in the labour force was negatively associated with being physically active (Bell and Lee, 2005), which might lend support to the notion that decreases in levels of physical activity may be linked to time pressure. Given that these transitions are commonly associated with (although not always experienced in) emerging adulthood, they constitute interesting avenues for investigation in the context of 20-year-olds in Ireland.

As previously stated, exercise and sports participation have been linked to a variety of positive outcomes. Of particular consequence to 20-year-olds might be those findings relating to life satisfaction and mental health. For instance, young people who engage in daily or regular exercise/sporting activities are reportedly more likely to enjoy greater satisfaction with life (Maher, Doerksen, Elavsky, Hyde et al., 2013), higher self-esteem, greater optimism and more happiness in emerging adulthood (Cekin, 2015) than their physically inactive counterparts. It is important to note that both studies cited above acknowledged that the exact nature of this cause-effect relationship could not be confirmed, although the broader mental health benefits of physical activity are well established (Penedo and Dahn, 2005).

Further, findings from a Canadian prospective cohort study (N = 880) suggested that participation in moderate-vigorous physical activity - and perhaps especially team sports - in emerging adulthood (18-24 years) was significantly negatively related to self-reported depressive symptoms (Brunet, Sabiston, Chaiton, Barnett et al., 2013). These findings highlight areas worthy of investigation in the Irish context.

### 2.2.5 POTENTIAL FOR THIS WAVE OF GROWING UP IN IRELAND

At age 20, participants in Cohort '98 were asked to state how many times they have engaged in moderate-intensity activity, vigorous-intensity activity and muscle-strengthening activity in the last 14 days. This information will allow patterns of exercise/sports participation among 20-year-olds to be identified and, when compared to data from previous waves, will test the hypothesis that physical activity levels decline in emerging adulthood. By comparing rates of physical activity with extensive information relating to, for example, socio-demographics, occupational/educational status and measures of mental health, *Growing Up in Ireland* provides excellent opportunities for researchers to investigate some previously identified associations in the context of 20-year-olds in Ireland. Participants were also asked to provide information regarding their motivations for engaging in such physical activity. Examining the nature of emerging adults' motivations – that is, assessing whether young people engage in physical activity for mainly social, health-related or other personal reasons – will add substantially to our knowledge base. Finally, young people who do not participate in sport/other physical activity are asked to state why this is so. Responses



to this question will provide information that may be valuable in the development and improvement of future health-promoting initiatives.

## 2.3 USE OF HEALTH SERVICES IN EARLY ADULTHOOD

### 2.3.1 RATIONALE

According to *Better Outcomes, Brighter Futures: The National Policy Framework for Children and Young People 2014 - 2020*, 'a child's health needs change as they get older and therefore public policy, service provision and practice must accommodate the transitions from child to adolescent to young adult and the associated increase of personal autonomy' (DCYA, 2014, p. 52). In order for health services to continue to cater effectively to emerging adults throughout this period of transition, a clear understanding must exist with regard to how these young people use health services (e.g. how frequently and for what reasons) and, equally, why they do not use health services. Essentially, comprehensive and rigorous research is required to ensure that future policies and practice are evidence-based. The Irish government recently launched Sláintecare programme aims to reform the healthcare system in Ireland (DoH, 2018); among other factors, up-to-date information on utilization patterns is key to the successful implementation of this programme.

### 2.3.2 PREVIOUS WAVES

Previous waves of both cohorts of *Growing Up in Ireland* have been used to analyse patterns of health service use (e.g. GP, emergency department etc.) at a range of ages. These study findings have identified a number of factors that influence health service usage, for example, gender, public healthcare entitlements and socio-economic status.

Insofar as gender is concerned, at age 9 rates of GP visits in the preceding 12 months were found to be higher among girls (1.04) than boys (0.90) in this '98 Cohort (Williams, Greene, Doyle, Harris et al., 2009). On the other hand, in the previous year more boys than girls (15% v. 14%) had attended an Emergency Department and, in their lifetime, more boys than girls (46% v. 40%) had spent a night in hospital. At age 9, girls were more likely to miss dental and medical treatment that was thought to be necessary.

Public health care entitlements were shown to have impacts on the frequency of GP visiting among the Infant Cohort / Cohort '08 (at ages 9 months and 3 years; Nolan and Layte, 2017) and this Cohort '98 (at age 9; Williams et al., 2009). At age 9, children from families with medical cards were more likely to have visited medical specialists in the previous year, but this trend appeared to be due in part to poorer overall health (Williams et al., 2009).

With regard to socio-economic status, Nolan and Layte (2017) reported findings pertaining to Cohort '08 (at ages 9 months and 3 years). They found that, excluding those with full medical or GP cards, those children from the highest income households visited their GPs more frequently than those from the lowest income households (Nolan and Layte, 2017). Findings from this Cohort '98 at age 9 years indicated that the average number of annual GP visits was associated with family income for all 9-year-olds, with





children from the lowest income households having higher numbers of consultations than those from the highest income households (Williams et al., 2009). A similar trend was evident in injuries and Emergency Department attendance. On the other hand, children from lower income households had lower rates of usage when it came to dental services.

Additional *Growing Up in Ireland* findings have highlighted links between poorer maternal health and higher frequency of GP visits (Nolan and Layte, 2017) as well as living in urban areas and Emergency Department attendance (Williams et al., 2009).

In response to questions relating to barriers to health service use, two per cent of mothers reported that their 9-year-old child had not received medical treatment when they had believed it was necessary and the corresponding figure regarding dental treatment was 5 per cent (Williams et al., 2009). Speaking about these children, 52 per cent of mothers said their child did not receive the required medical care because they were still on a waiting list and 43 per cent said the necessary medical care was not available. These reasons – care not available (46%) and on a waiting list (43%) - were also the most commonly given for non-receipt of necessary dental treatment.

### 2.3.3 FREQUENCY OF HEALTH SERVICE USE

By age 20, whether living independently or in the family home, many young people will have assumed responsibility for matters involving their own health. This, along with shifts in their social or financial circumstances, may result in changes in the frequency with which they utilise health services. For example, in their research concerning young adults, Pottick and colleagues found that rates of disengagement with mental health services after leaving high school were high (Pottick, Bilder, Vander Stoep, Warner and Alvarez, 2008). So, what do we know about rates of health care use among emerging adults in Ireland? According to the Healthy Ireland Survey 2018, 58 per cent of 15-34-year-olds visited the dentist, 64 per cent visited a GP and 14 per cent visited an emergency department at least once in the previous 12 months (Ipsos MRBI, 2018). Seven per cent were admitted to hospital as in-patients.

### 2.3.4 MENTAL HEALTH SERVICE USE

Due to the fact that most psychotic and high-prevalence (i.e. mood, anxiety and substance use) disorders generally manifest themselves during adolescence and early adulthood (de Girolamo, Dagani, Purcell, Cocchi and McGorry, 2012), it is of particular importance that patterns of mental health service use among 20-year-olds are investigated. The importance of this issue is magnified by the fact that mental health problems tend to persist through adolescence and into adulthood, with potentially adverse effects on multiple aspects of life (Kessler, Berglund, Demler, Jin, Merikangas and Walters, 2005). This is reflected in previous findings from this *Growing Up in Ireland* Cohort '98, that 40 per cent of those with a higher risk of depression at 13 years also had a higher risk at age 17/18 (Growing Up in Ireland Study Team, 2016c).



A number of university-based studies have found that the apparent need for mental health treatment among young people is far greater than the rate of treatment would suggest. For example, when the 2007 and the 2009 'Healthy Minds' samples were pooled (to include over 13,000 participants across 26 US college campuses), just 36 per cent of those with an apparent mental health problem had, in the previous year, received treatment of any kind (Eisenberg, Hunt, Speer and Zivin, 2011). In a similar study of young adults aged 19-24 years who lived in Canada and suffered with depression/suicidality, 42 per cent/48 per cent (respectively) had not accessed any relevant services (Cheung and Dewa, 2007). Blanco, Okuda, Wright, Hasin et al. (2008, p. 1432) found that college students were 'significantly less likely to receive past-year treatment for alcohol or drug use disorders' than their non-college-attending counterparts, although rates of mental health treatment-seeking were low for young people aged 19-25 years regardless of whether or not they attended college. It is worth noting that alcohol-use disorders were the most prevalent among college students in this study (Blanco et al, 2008). Eisenberg, Hunt and Speer (2012, p. 222) claim that stigma 'can only partially explain the high prevalence of untreated disorders' on college campuses. Finally, it has been suggested that the presence of a 'formal network of mental health clinics' on college campuses increases the likelihood of students availing of mental health services (Sontag-Padilla, Woodbridge, Mendelsohn, D'Amico et al., 2016, p. 890).

### 2.3.5 FACTORS INFLUENCING FREQUENCY OF HEALTH SERVICE USE

Existing research has identified a number of factors that appear to influence rates of health service use more generally. A number of explanatory frameworks have been developed to identify the predictors of healthcare utilization, including the widely cited Behavioural Model of Health Services Use (Andersen, 1995). According to this model, health service utilization can be predicted by predisposing factors, including demographic factors (age and gender, along with education, occupation, ethnicity, family status and cultural norms), enabling factors (including income, wealth, healthcare cost and access, and the availability of health policies), and need factors (including both individual and evaluated perceived need of healthcare).

The most extensively researched of these factors is gender. Across the board, women have been found to use health care services (including medical and mental health services) more frequently than their male counterparts (see, for example, Mackensie, Gekoski and Knox, 2006; Smith, Braunack-Mayer and Wittert, 2006). In Ireland, of those aged 15-44, women were more likely than men to have been admitted to hospital (12% v. 7%) and to have visited the dentist (52% v. 42%) in the previous 12 months (Ipsos MRBI, 2017). Some have attributed such gender imbalances to females being more likely to seek help than males, particularly for mental health issues (Mackensie et al. 2006; Chang, 2007; and in Ireland: Hope, Dring and Dring, 2005). Increased healthcare utilisation amongst women will also presumably be somewhat related to pregnancy and childbirth-related visits. On the other hand, males in Ireland were more likely than females to have ever visited an emergency department (75% v. 66%; Ipsos MRBI, 2017).

Aside from gender, a number of other predictors of health service use have been identified among young adults. These include:



- predictors of mental health service use - prior service use, being Caucasian, having a homosexual/bisexual orientation (Li, Dorstyn and Denson, 2016);
- predictors of reproductive health service use (for women) - age, sexual intercourse experience, recent number of partners, insurance, religious participation, previous gynaecological diagnosis, education, mother's education, childhood family situation, age at menarche and birthplace (Hall, Moreau and Trussell, 2012).

An issue of particular note insofar as 20-year-olds are concerned might be that of private health insurance. According to the Health Insurance Authority's most recent report, 221,000 young people aged 18-29 years were covered by private health insurance (compared with 481,000 children aged 0-17 years; Health Insurance Authority, 2018). At the time of the previous wave of *Growing Up in Ireland*, many adolescents (if under 18) may still have been named dependents on their parents' health policies. In the United States, lack of private health cover has been linked to lower rates of health service utilisation (not including emergency departments; Lau, Adams, Boscardin and Irwin, 2014), suggesting that it can act as a deterrent to accessing such services. This may not translate to the Irish context where private health insurance usually only provides cover for acute hospital care, although it increasingly offers some reimbursement for GP, dental and physiotherapy services (Nolan, Ma and Moore, 2016).

### 2.3.6 POTENTIAL FOR GROWING UP IN IRELAND:

At age 20, participants were asked a number of questions about their use of health services. These included questions pertaining to the number of times they have consulted each of a range of health professionals/services within the previous 12 months, how many nights they had spent in hospital in the previous 12 months and the reasons why they might have received medical attention in an emergency department/clinic since the age of 18. By examining patterns of health service use alongside socio-economic/socio-demographic factors, researchers will be able to determine if previously identified correlates and/or determinants continue to influence health service use among 20-year-olds. Further, such analysis might identify other factors that influence health service use among emerging adults.

Participants were also asked if, in the previous 12 months, they needed to consult a GP, medical specialist, psychologist, psychiatrist, counsellor or other mental health specialist but did not. Those who gave positive responses to these questions were asked to indicate their reasons for not having done so. The data generated in response to these questions will be of fundamental importance as they will help to identify barriers to utilisation of health services. Such information has the potential to inform future policies and initiatives that aim to increase access to these vital services.



# Chapter 3

## SOCIO-EMOTIONAL WELL-BEING





### 3 SOCIO-EMOTIONAL WELL-BEING

Continuing with the theme of emerging adulthood which was introduced in Chapter 1, young adults can be considered to have typically 'left the dependency of childhood and adolescence, and not yet entered the enduring responsibilities that are normative in adulthood' (Arnett, 2000, p. 469). How well individuals cope with change reflects not just current circumstances but also the resources or challenges that were accumulated through life up to this point. Hence, the longitudinal aspect of *Growing Up in Ireland* is important in considering how 20-year-olds are faring now and how well they ultimately negotiate this relatively 'volatile' period of the life-course.

This chapter considers research topics from different elements of the spectrum of socio-emotional wellbeing. The first section focuses on changing relationships with parents. Although there will be stability in some respects, for many families the dynamic is likely to change. As interactions evolve to be between adults rather than the previous adult-child relationship, there is a potential tilting of the power balance towards parity between the parent and young adult. This is a period of adjustment for parents as well as young people and how well they cope with the change could also influence the relationship dynamic contemporaneously and into the future.

The second section reviews broad factors associated with indicators of mental health as well as those associated with formally diagnosed psychological disorders. Although expected to affect a minority of the 20-year-olds in the study at this stage, some diagnoses such as depression have a relatively high prevalence. Other conditions such as eating disorders or schizophrenia will have a much lower prevalence but a potentially highly negative impact on affected individuals. This section illustrates the possibilities of *Growing Up in Ireland's* multi-faceted as well as longitudinal characteristics – which will allow us an insight into causal factors - to explore mental health in early adulthood.

The third section focuses on the topic of stress and coping. Stress is obviously a characteristic of the entire life-course but, as outlined, the number of transitions in the early adult period – and pressures such as exams, limited financial resources, and precarious employment – single it out as a key research area for the age 20 wave. For the first time, *Growing Up in Ireland* includes a specific measure of stress and a new set of questions where young adults can outline how they cope with difficulties.

#### 3.1 CHANGING RELATIONSHIPS WITH PARENTS

##### 3.1.1 RATIONALE

In line with commitments made in Better Outcomes, Brighter Futures – the national policy framework for children and young people 2014-2020, the Department of Children and Youth Affairs developed the High-Level Policy Statement on Supporting Parents and Families ('Parenting and Family Support'). This recognises the fundamental importance of the parent-



child relationship, noting that it is ‘more important for children’s development than the family income or structure’ (DCYA, 2015a, p. 6). Additionally, the National Youth Strategy 2015-2020 aims to support young people aged between 10 and 24 years ‘as they transition from childhood to adulthood’ (DCYA, 2015b, p. 2). Thus, it seems pertinent that attempts are made to develop a more comprehensive understanding of parent-child relationships during this critical period. Holt, Mattanah and Long (2018) reported on two longitudinal studies carried out in the USA and concluded that changes in parent-child relationships during emerging adulthood had implications for young people’s academic, social and emotional functioning, as well as their mental health. For instance, young people who reported that their relationships with their mothers had improved from the beginning to the end of college also reported lower levels of loneliness, better academic and emotional adjustment and fewer symptoms of distress (Holt et al., 2018). Lindell, Campione-Barr and Killoren (2017) also used longitudinal data to find that parent-child relationship quality as well as type of parenting strategy played an important role in the transition by enhancing young people’s feelings of being adults. These findings draw attention to the importance of comprehensive, up-to-date and context-specific research in this area.

### 3.1.2 CONTEXT/PREVIOUS WAVES OF GROWING UP IN IRELAND

*Growing Up in Ireland* participants have, in previous waves, reported positive parent-child relationships overall (see, for example, Growing Up in Ireland Study Team, 2012b; 2016c). For example, just over 80 per cent of 17/18-year-olds reported warmth in mother-child relationships and 71 per cent reported warmth in father-child relationships (as evidenced by parents showing that they liked them; Growing Up in Ireland Study Team, 2016c). Just 30-40 per cent of 17/18-year-olds said they sometimes “disagreed/quarrelled” or got “annoyed/angry” with their parents, with much fewer stating that such events happened often/always (ibid.). Parents were generally considered by young people to be dependable sources of support, with just under 10 per cent often/always feeling otherwise (ibid.). However, with regard to intimacy, almost two-thirds of 17/18-year-olds stated that they never/seldom shared their secrets or private feelings with fathers and over 40 per cent never/seldom did so with their mothers (ibid.).

At the earlier ages of 9 and 13 years, most of the young cohort members rated their relationships with mothers and fathers as high in ‘demandingness’ and ‘responsiveness’; and at 13 years they also reported quite high levels of ‘autonomy-granting’. At that age (13 years), a parent-child relationship that was reported (by the child) to be low in these aspects was associated with a modest, but significant, increase in the risk of socio-emotional difficulties (Williams, Thornton, Morgan, Quail et al. 2018).

### 3.1.3 INFLUENCING FACTORS

International research suggests that, although influenced considerably by the quality of parent-child relationships in adolescence (Aquilino, 1997; Dubas and Petersen, 1996; Noack



& Buhl, 2005), emerging adulthood is a period during which changes tend to occur in the quality of young people's relationships with their parents (Parra, Oliva, del Carmen Reina, 2015). Such changes are often considered to be prompted by the events and transitions that typically accompany emerging adulthood, most notably, leaving the parental home (Whiteman, McHale and Crouter, 2010). For example, using longitudinal data from the National Survey of Families and Households in the United States (n = 1507), Aquilino (1997, p. 679), found that parents of emerging adults who had moved to alternative accommodation reported decreased levels of conflict and control issues, but also lower levels of 'emotional closeness, shared activities and support from children' after their departure. In contrast, Lefkowitz's US study (2005) reported higher levels of closeness, and Masche's German study (2008) identified more frequent discussions, between parents and their offspring who had left the family home. These variations might be explained, at least somewhat, by the fact that the respondents in the former study were the parents and those in the latter two studies were the emerging adults; Aquilino (1999), has previously drawn attention to discrepancies between parents' and young adults' accounts of relationship quality. This highlights the importance of considering both parents' and emerging adults' perspectives. The relationship between home-leaving and parent-child relationship quality may be reciprocal. While there seem to be repercussions for parent-child relationship quality when young people leave home, warm or high-quality parent-child relationships have been shown to have the potential to delay a young person's departure from the home (Goldscheider, Hofferth and Curtin, 2014). In addition, Aquilino (1997) found evidence to suggest that parents experienced increased levels of closeness to their offspring following transitions such as getting married, commencing full-time employment and continuing formal tertiary education (see also Lefkowitz, 2005). Interestingly, lower levels of closeness and increased conflict were reported by parents after their offspring had themselves become parents (a transition that can, however, increase the likelihood of home-leaving; Goldscheider et al., 2014).

Consistent with Bronfenbrenner's bio-ecological model, cultural trends and current national circumstances (at the levels of the macrosystem and the chronosystem) play important roles in dictating norms and this is true of many of the transitions associated with emerging adulthood. For example, young people in Nordic Member States – Sweden, Denmark and Finland – tend to move out of the parental home prior to the age of 22 while this tends to happen later in Irish young people's lives – at 26.8 years on average (Eurostat, 2020). Whether this is due to the high accommodation rental rates and home purchase prices in Ireland at present (see, for example, CSO, 2018c), emerging adults' positive relationships with their parents or a combination of both is unclear.

It is worth considering the impact of youth unemployment as a confounding factor. The same data set (Eurostat, 2020) indicates that the average age of departure in Spain and Italy is approximately 30 years, potentially explained by high youth unemployment in these countries. In 2019, Spain and Italy had youth unemployment levels of 31 per cent and 28 per





cent, respectively, compared with levels of 14 per cent in Ireland and just 11 per cent in Denmark (Organisation for Economic Co-operation and (OECD), 2019). Geographical issues may also play a role here: for example, the distance between the family home and the young person's place of work or education.

In a small American study, Feistman, Jamison, Coleman and Ganong (2016) set out to examine relationships between emerging adults whose parents had divorced (at any point in the emerging adults' childhood/adolescence) and their non-resident fathers. Approximately 64 per cent of emerging adult participants in their study (n = 33) believed that their relationships with fathers had improved during the period in question, attributing the improvements to a variety of factors such as increased communication, fathers 'treating them as adults', lowered expectations of fathers on the part of participants and perceived changes in participant maturity levels (2016, p. 680). These findings suggest that emerging adulthood provides opportunities for parent and offspring power relations to become more comparable and for relationships to become 'more mature or like... friendship[s]' (Lefkowitz, 2005, p. 47).

In a recent detailed review of "continuity and change" in family relationships over the emerging adulthood period, Lindell and Campione-Barr (2017) note three themes in particular. First, that frequency of contact with parents (and siblings) declines in this period and, secondly, that transitions such as moving out of the family home are the main "catalysts" of changes in these relationships. Thirdly, they note that even though changes occur, there is still a good deal of stability in the relationship and most changes appear to be improvements rather than declines. This last conclusion was also echoed in an American study using two waves of longitudinal data collected in the 1980s (n=867) and spanning ages 18 to 23 years for the young adults (children) involved: Thornton, Orbuch and Axinn (1995) noted that parent-child dyads who reported positive relationships when the 'child' was 18 years were likely to report positive relationships again five years later. Furthermore, in keeping with the more recent review (Lindell and Campione-Barr, 2017), changes were likely to be enhancements with greater improvement observed in mother-child rather than father-child relationships. Thornton et al. also concluded that there were passive and active dimensions to the parent-child relationship in early adulthood; with one aspect based on "respect and understanding" and the other on "affection, enjoyment, and communication" (1995 p.560).

Thus, changes in parent-child relationships during emerging adulthood could be instigated by changes in levels of maturity and/or respect (Lefkowitz, 2005), by transitions that have traditionally been associated with emerging adulthood – leaving home, starting university, getting married, etc., or by a combination of these factors. However, in their review Lindell and Campione-Barr (2017) note significant limitations in the existing data on changes to parent-child relationships in the early adulthood period. One of these has been the focus on adult children who have left home to go to college, with relatively little information on stability and change in families who continue living together full-time and/or where the 'child' enters





the labour market. A second, related, limitation is a lack of data on how financial dependence on parents influences the parent-child dynamic. Thirdly, Lindell and Campione-Barr (2017) opine that there has been insufficient examination of gender differences both in terms of sons/daughters and mothers/fathers. *Growing Up in Ireland* is well-placed to address these limitations given the large sample size and the breadth of information collected (such as the financial interdependence between 20-year-olds and their parents).

### 3.1.4 POTENTIAL FOR GROWING UP IN IRELAND

In the current wave of *Growing Up in Ireland* Cohort '98, the young people and their parents were asked questions about how the parent-child relationship changes as the young person adopts an adult identity. Examples of these questions include (for the parent): 'How often... [do] you disagree and quarrel[?]' and 'how often have you spent time with <20-year-old> in leisure activities, working on something together, or just having private talks?'. Exploration of these questions will enable *Growing Up in Ireland* to gain insights into levels of warmth, intimacy, stability and conflict in the young person's evolving relationships with their parents.

By comparing these data with information about these relationships at age 17/18 (and younger) it will be possible to gain a greater understanding of how these relationships change longitudinally over the transition from childhood to adulthood. For instance, data can be analysed to investigate if changes in the parent-child relationship are related more to changes in the young adult's activities and attitudes (civic participation, self-rating of abilities, feelings of autonomy), parental behaviours (monitoring educational/vocational progress), or the young person's life transitions, such as home-leaving or marriage. As already noted, there is scope to address some of the limitations identified within the existing literature in terms of financial dependence, stay-at-home children and gender. In addition, an extremely valuable aspect of this and future waves of *Growing Up in Ireland* will be the creation of opportunities to examine if/how a wide variety of variables (such as academic, social and emotional functioning, mental health, etc.) are connected to the quality of parent-offspring relationships in the Irish context.

## 3.2 PREDICTORS OF MENTAL HEALTH PROBLEMS AND PSYCHOLOGICAL DISORDERS BY EARLY ADULTHOOD

### 3.2.1 RATIONALE

Emerging adulthood and, to a slightly lesser extent, adolescence have been identified as specific time periods during which psychiatric and/or psychological disorders often manifest.



In the United States, for example, Kessler et al., (2005) concluded that three-quarters of all lifetime cases of diagnosed DSM-IV disorders<sup>6</sup> are evident by age 24 years.

In the Irish context, according to the My World Survey (a large cross-sectional study of multiple age groups), the incidence of depressive symptomatology increases significantly throughout adolescence, peaking at ages 20-23 years (Dooley and Fitzgerald, 2012). Based on results from the Depression, Anxiety and Stress Scales (DASS; Henry and Crawford, 2005), symptoms of depression as measured by scores on the scale worsened from a mean of 5.7 among 12/13-year-olds to 10.0 among young adults aged 22-23 years. Similarly, scores on the anxiety subscale were at their highest levels for those in the 18-23 age group: increasing from a mean of 5.6 for 12/13-year-olds to 7.2 for 22/23-year-olds (Dooley and Fitzgerald, 2012).

Despite the fact that not everybody who suffers with a disorder will avail of professional support services, the Report of the Expert Group on Mental Health Policy in 2006 extrapolated that the annual economic costs of poor mental health in the Republic of Ireland were approximately €11 billion (Government of Ireland, 2006). Individuals who suffer with issues such as depression or eating disorders face further risk in terms of physical health and social, occupational, economic and personal status/wellbeing (see, for example, de Graaf, Tuithof, van Dorsselaer and ten Have, 2012; Evans and Wertheim, 1998).

*Growing Up in Ireland* can add nationally representative information about the extent and correlates of mental health problems faced by 20-year-olds in Ireland. In contrast to other valuable work in this area, it has the scope to consider longitudinal trends and to examine the effects (positive or negative) of a wide range of contextual variables than was previously possible. Furthermore, at this wave, for the first time, young people are specifically asked about diagnoses for an extended range of psychological and psychiatric conditions. This information is in addition to diagnoses for depression and anxiety, and scale measures that capture the experience of depressive symptoms. These latter are the Centre for Epidemiological Studies Depression scale (CES-D) (Mohebbi et al., 2018; Radloff, 1977) and the stress subscale of the previously mentioned Depression Anxiety and Stress Scale (DASS 21; Henry and Crawford, 2005). Further detailed information on these and other measures used in this phase of the survey (i.e. age 20) is available in the corresponding technical report (McNamara et al., in press).

---

<sup>6</sup> DSM-IV disorders are those recognised by the American Psychiatric Association (APA), as outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (APA, 1994).



### 3.2.2 PREVIOUS GROWING UP IN IRELAND WAVES

Previous waves of *Growing Up in Ireland* have offered some insight into mental health in adolescence. At age 17/18, just under 10 per cent of adolescents participating in the study reported having received a formal diagnosis of depression or anxiety, with females (13%) being 1.6 times more likely than males (8%) to report such a diagnosis (Growing Up in Ireland Study Team, 2016c). The Short Mood and Feelings Questionnaire (SMFQ) (Angold, Costello, Messer, Pickles, Winder & Silver, 1995) was used to measure depressive symptoms of young people at age 13 and age 17/18. Those in the top 20 per cent (quintile) of scores on the SMFQ can be considered 'at risk' of adolescent or adult mental illness. It was found that those who had previously scored in the top quintile at age 13 were twice as likely to have been diagnosed with depression or anxiety by age 17/18 (Growing Up in Ireland Study Team, 2016c).

### 3.2.3 PREVALENCE AND RISK FACTORS FOR MENTAL HEALTH PROBLEMS IN IRELAND

Previous Irish research has drawn attention to the prevalence of mental health problems in emerging adulthood, with several studies also outlining potential predictors and consequences of these problems. Central Statistics Office Census data (CSO, 2016c) indicated that in 2016, 2.5 per cent of the 15-19 years old age group and 2.9 per cent of the 20-24 years old age group were reported as suffering from an 'emotional or psychological condition'. This information comes from a limited set of questions reported by the head of household which attempt to establish the prevalence and impact of various forms of disability on daily function for members of those households. Emotional or psychological conditions were shown to be very commonly reported alongside other disabilities, with 38.5 per cent of all households reporting that a member suffering from emotional or psychological conditions also had problems 'learning, remembering or concentrating'. Almost half of individuals reporting emotional or psychological conditions (48.2%), also reported high levels of difficulty in important daily functions such as 'working at a job, business or attending school or college'. Additionally, 42 per cent reported high levels of difficulty with participating in leisure and other social activities. Household-level reporting of mental health problems as well as having a single question item nested within a wider list of disabilities are imprecise techniques for gathering information on the mental health status of the Irish population but do provide useful indicators for overall trends by region and age group.

More specific clinical information on disorders can be found in a smaller Irish study by Cannon, Coughlan, Clarke, Harley and Kelleher (2013), who reported initial findings of the Challenging Times Two Study. This was a 'two-stage longitudinal prospective epidemiological study' (n = 212) of psychiatric disorders among adolescents and young adults in Dublin. Using the Structured Clinical Interview for DSM-IV Psychiatric Diagnoses I (SCID-I; First, Spitzer, Gibbon and Williams, 2002), the Challenging Times Two Study found that almost one in five young Irish people aged 19 – 24 (n = 169) were experiencing a mental disorder at the time of data generation, with 56 per cent going on to experience a mental disorder at some point during



their lifetime (Harley, Connor, Clarke, Kelleher et al., 2015). The sample comprised a representative, non-clinical sample from residents living in the North of Dublin city.

The longitudinal nature of this study allowed risk factors for psychiatric disorders to be explored. The largest single predictor of current mental health problems was that of having had a prior psychiatric disorder diagnosis. Cannon et al. (2013) concluded that having a mental disorder in adolescence (i.e. at 12-15 years) significantly increased the likelihood of having a mental disorder in young adulthood (i.e. at 19-24 years). In particular, young people with a mood disorder in adolescence were twice as likely to have a mood disorder, 2.2 times more likely to have a substance-use disorder and 1.2 times more likely to have an alcohol-use disorder in young adulthood. Cannon et al. (2013) also found that young people with an anxiety disorder in adolescence were 1.9 times more likely to have an anxiety disorder and twice as likely to have a mood disorder in young adulthood. Having a diagnosable mood disorder in adolescence increased the risk of developing a diagnosable mood, substance-use or alcohol-use disorder in young adulthood by approximately one-third.

Other risk factors identified by the Challenging Times Two Study (Cannon et al., 2013) were:

- gender (females being more likely than males to suffer from a mood disorder and males being more likely than females to suffer from a substance-use disorder in young adulthood)
- sexual orientation (i.e. 'being gay, lesbian or bisexual')
- stressful life events (such as the death of a family member/friend or 'stress related to health, work or relationships')
- family dysfunction (as perceived by young adults)
- the experience of abusive intimate relationships (including being the victim and/or the perpetrator of physical/psychological abuse).

Another Irish study (n=641) by Richards, Richardson, Timulak, Viganò et al. (2016) used pre-entry screening questionnaires to highlight the predictors of depression severity among a sample of participants who had applied to enter a randomized control intervention aimed at reducing depressive symptoms. Symptoms of depression were measured using the Beck Depression Inventory (BDI-II; Beck, Steer and Brown, 1996), which is a widely validated questionnaire developed to detect the symptoms of depression that closely correspond to those outlined in the diagnostic criteria for depressive disorders in the DSM-IV.

The risk factors for severity of depression outlined by Richards et al. (2016) included: female gender, younger age, unemployment, being single or partnered as opposed to married, previous diagnosis of depression and recent experience of life stressors. The authors concluded that alcohol use, recent losses, knowing a person who had died by suicide,



education level, type of employment and income level were not significant factors in predicting severity of depression, but that is not to say that these factors were not related to incidence of depression.

### 3.2.4 RISK FACTORS FOR MENTAL HEALTH PROBLEMS – INTERNATIONAL LITERATURE

The international literature identifies a variety of physical, economic, social and personal predictors of psychiatric/psychological disorders. What follows is a brief overview of the more prominent themes that could also be explored using *Growing Up in Ireland* data.

**Gender:** The higher prevalence of psychiatric/psychological disorders among women has been well-documented (see, for example, Piccinelli and Wilkinson, 2000; Benjet, Borges, Méndez, Albor et al., 2016). For example, the prevalence of diagnosed depression is considerably higher for women than men (17% vs 9%, Grigoriadis and Robinson, 2007), including in young adulthood. A greater risk for women has also been observed for eating disorders (Keel, Baxter, Heatherton and Joiner, 2007) and anxiety disorders (McLean, Asnaani, Brett and Hofmann, 2011).

However, Van de Velde, Bracke and Levecque (2010) drew attention to the levels of cross-national variation when they compared and contrasted the gender gap in levels of depressive symptoms among adults aged 18-75 years ( $n = 36,752$ ) in 23 European countries (including Ireland). Women reported significantly higher levels of depressive symptoms than men in 20 of the 23 countries, with Ireland, Finland and Slovakia being the exceptions to the general rule. Consistent with findings relating to levels of depression symptoms in young adults in the My World Survey, the gender gap was small – in fact the smallest – in Ireland (Van de Velde et al., 2010).

**Socio-economic status:** For both genders, socio-economic status is a commonly reported predictor of a range of psychiatric/psychological disorders. For example, using data from the Providence National Collaborative Perinatal Project and the subsequent follow-up study ( $n = 1,132$ ), Gilman, Kawachi, Fitzmaurice and Buka (2002) found low SES in childhood almost doubled the risk for a depression diagnosis. However, childhood SES was measured only by parental occupation. Johnson, Cohen, Dohrenwend, Link and Brook (1999) used measures of SES that were more comprehensive (i.e. paternal and maternal years of education, paternal and maternal occupation status and family income;  $n = 736$ ). After controlling for parental psychopathology and offspring IQ, they concluded that low childhood SES increased the risk of developing anxiety disorders as well as depressive, disruptive and personality disorders.

Similarly, in the USA (Evans and Cassells, 2014;  $n = 196$ ) and Australia (Najman, Hayatbakhsh, Clavarino, Bor et al., 2010;  $n = 2,609$ ), longitudinal studies have found that poverty in childhood or adolescence is a significant predictor of elevated symptoms of anxiety and/or depression in young adulthood. Duration and severity of exposure to conditions associated



with poverty led to a significant increase in the child's probability of being in an "at risk group", i.e. the top 10 per cent of anxiety/depression scores. Both studies used the Youth Self Report Inventory (YSR) which is based on the parent reported Child Behaviour Checklist (Achenbach, 1991). These scales are widely used for assessing symptoms of anxiety and depression in non-clinical populations and supporting psychometric and validation research has shown that being in an "at risk" group has a strong link with subsequent clinical diagnosis of an anxiety/depression-related disorder (Boyle and Jones, 1985).

In 1994, Kaplan, Damphousse and Kaplan examined the mental health implications of not having graduated from high school for students in Houston, Texas. Data were first generated when participants (n = 4,141) were in seventh grade and final follow-up interviews occurred 13-16 years later. Kaplan et al. (1994) concluded that failure to graduate from high school increased the likelihood of psychological dysfunction (as measured by feelings of self-derogation, anxiety, cognitive distraction/disorientation and depression) in young adulthood, even after controlling for gender, race, socioeconomic level, and previous psychological functioning. Further analysis suggested that this relationship was stronger for female participants (Kaplan, Damphousse and Kaplan, 1996). More recent studies have reported similar results. For example, Mondri, Reynolds and Ou's (2017) research (comprising a sample of 1,142 primarily African American young people) found that failing to graduate from high school by age 18 increased the likelihood of experiencing depressive symptoms in emerging adulthood. Also, in a follow-up to the Mexican Adolescent Mental Health Survey (n = 1,071), Benjet et al. (2016) concluded that school dropout in adolescence was, indeed, a predictor of the onset of psychiatric disorders in early adulthood.

These and the preceding findings, however, probably warrant consideration in terms of a broader process/model that also includes the initial causes of school dropout, and the role that they subsequently play as moderators of the onset of psychiatric disorders; that is, "the causes of the causes" (Marmot, 2005, p. 6). Similarly, Fryer and Brugha (2013, p.2) noted that "rarely does one factor stand alone as causing illness, least of all mental illness". They also warned that some factors (in this case, early school dropout) may not actually be causes, but instead are early manifestations of what are later identified as mental health issues.

*Inherited/genetic risk:* Having a parent or other close relative with some types of disorder increases the risk for the individual. This has been better established for some diseases than others. For example it is estimated that the inherited component of schizophrenia is in the region of 12.5 per cent (for third-degree relatives) and up to 86 per cent (for monozygotic twins) (Gottesman, 1991; Farmer et al., 1987; Onstad et al., 1991; Cannon et al., 1998 as cited in Tsuang, Stone and Faraone, 2001). Other illnesses, such as depression, also appear to 'run in families'; however, it can be difficult to determine to what extent this connection is due to some sort of inherited gene or a result of growing up in a household with an ill parent (Hiyoshi, Sabet, Sjöqvist, Melinder et al., 2017). Kendler and Prescott's (1999) population-based study





of depression in twins suggests that the inherited component may be in the region of 39 per cent and appears to be stronger for bipolar disorder (ranging from 59% to 93%, Hiyoshi, Kambe, Karasawa and Chaki, 2014) than other forms of depression. An apparent inheritance component has also been noted between depression and schizophrenia with the risk for the former 1.3 times higher where a parent has schizophrenia, but again the precise nature of the cause and effect can be difficult to pin down (Rasic, Hajek, Alda and Uher, 2014).

*Early adverse experiences:* There is a growing literature on the experience of early adverse events as a risk factor for later psychiatric and psychological disorders. Studies of adverse childhood experiences (ACEs) have shown links between experiences such as alcoholism in the family and an increased risk of disorders including alcoholism and depression (Anda, Whitfield, Felitti, Chapman et al., 2002). Adverse childhood experiences (retrospectively reported in adulthood) were associated with a greatly increased risk of being prescribed psychotropic drugs for conditions such as depression, psychosis and bipolar disorders (Anda, Brown, Felitti, Bremner et al., 2007). Among an Irish population of older adults involved in the TILDA longitudinal study, ACEs such as abuse have been associated with increased risks of mental health difficulties such as depression and anxiety (Kamiya, Timonen and Kenny, 2016).

Other links between later disorder and difficulties in early childhood include behavioural problems in childhood (bipolar: Endrass, Vetter, Gamma, Gallo et al., 2007; Bortolato, Köhler, Evangelou, León-Caballero et al. (2017), schizophrenia: Fagel, de Sonneville, van Engeland and Swaab, 2014) and childhood trauma or abuse (eating disorders: Jacobi, Hayward, de Zwaan, Kraemer and Agras, 2004; bipolar: Schudlich, Youngstrom, Martinez, Kogos, Youngstrom et al., 2015; Brietzke, Mansur, Soczynska, Powell and McIntyre, 2012; obsessive compulsive disorder: Lochner, du Toit, Zungu-Dirwayi, Marais et al., 2002; anxiety: Stein, Walker, Anderson and Hazen, 1996). Early life stresses have also been associated with alcoholism later in life (Gondré-Lewis, Warnock, Wang, June et al., 2016). Further evidence of links between adverse experiences in childhood (such as experiences as physical, emotional or sexual abuse, parental separation or divorce, parental substance abuse, death of a family member and witnessing of a crime) is reported by Greif Green, McLaughlin, Berglund, Gruber, Sampson et al., 2010; Korkeila, Vahtera, Nabi, Kivimaki et al., 2010; Mondri et al., 2017; Hoffman, Sportelli, Ziller and Spengler, 2017; Benjet et al., 2016; Bifulco, Moran, Ball, Jacobs et al., 2002; Hooven, Nurius, Logan-Greene and Thompson, 2012; and Lindstrom and Rosvall, 2016.

A pattern of exposure to adverse childhood experiences and increased risk for behavioural problems has already emerged in previous waves of *Growing Up in Ireland*. Among this cohort (Cohort '98) at age 9 years, those children who had already experienced four or more stressful events from a set of 13 (such as death of a close family member, divorce/separation of parents, etc.) were much more likely to have elevated scores on a measure of socio-emotional difficulties (Williams et al. 2009); with a roughly linear trend between the increase in difficulties score and an increase in number of stressful experiences between none and





four-plus. A similar trend was observed among the Infant Cohort (Cohort '08) at age 5 years with children who had experienced two or more events from a similar set of adverse experiences twice as likely to be in the top decile (i.e. worst) on the same measure of socio-emotional difficulties (Growing Up in Ireland Study Team, 2013).

*Contemporary risk factors:* One of the key risk factors of interest to researchers today is the impact of cannabis use in adolescence. While not all cannabis users will go on to develop mental health disorders, research suggests that there may be an interaction between pre-existing vulnerabilities and cannabis use (e.g. bipolar: Leite, Nogueira, Nascimento, Lima et al., 2015; schizophrenia: Degenhardt, Ferrari, Calabria, Hall et al., 2013).

Other factors associated with an increase in the likelihood of being diagnosed with a psychological disorder in emerging adulthood include:

- Prior mental disorders (Benjet et al., 2016);
- Disability (Helseth, Shawel Abebe and Andenaes, 2016);
- Precarious employment/unemployment (Canivet, Boden, Emmelin, Toivanen et al., 2016; Banks and Jackson, 1982);
- Poor school performance (Isohanni, Järvelin, Nieminen, Jones et al., 1998);
- Body dissatisfaction or dissatisfaction with weight (Cooley and Toray, 2001; Izydorczyk and Sitnik-Warchulska, 2018; Portela de Santa, da Costa Ribeiro, Mora Giral and Raich, 2012), or at least dissatisfaction with perceived weight (Roberts and Duong, 2013).

Finally, international longitudinal research has drawn links between levels of physical activity during adolescence and symptoms of psychological distress in emerging adulthood, with physical activity being considered somewhat of a protective factor. For example, Jewett, Sabiston, Brunet, O'Loughlin et al. (2014) found that consistent school participation in sport (among Canadian adolescents; n = 853) significantly predicted lower self-reported depressive symptoms, as measured by the Major Depression Inventory (MDI) (Bech, Rasmussen, Olsen, Noerholm and Abildgaard, 2001). Using single Likert-scaled items, lower levels of perceived stress and higher levels of self-rated mental health were also reported by those who participated in school sports. Jerstad, Boutelle, Ness and Stice (2010) highlighted the apparent reciprocal nature of the relationship between depression and physical activity. Annually across 7 years, a sample of adolescent girls (n = 496) from southwestern United States aged between 11 and 15 at recruitment, completed a set of self-report and interviewer-led measures on mental health and physical activity. A structured clinical interview, The Schedule for Affective Disorders and Schizophrenia for School-Age Children (Lewinsohn, Roberts, Steely, Rohde et al., 1994), was used to identify participants meeting the DSM-IV criteria for



major depressive disorder, or who had minor depression (endorsing sub-clinical levels of disturbance for some depressive symptoms). Physical activity was measured using the Past Year Activity Scale (Aaron, Kriska, Dearwater, Cauley et al., 1995). Jerstad et al. (2010) showed that episodes of depression reduce the likelihood of future participation in physical activity for the participants. The results also showed that increased physical activity reduced the risk of future depressive episodes in the sample. The longitudinal structure of the study allowed the research to move beyond correlational observation and attribute a modest level of bi-directional causality to the physical activity and depressive disorder relationship.

However, in a secondary analysis of a subset (n = 1,293) of the prospective Nicotine Dependence in Teens study (O'Loughlin, Dugas, Brunet and DiFranza et al., 2015), Brunet et al. (2013) concluded that overall physical activity in the past was not as important as current physical activity (i.e. physical activity in emerging adulthood) in predicting current symptoms of depression in teens and young adults. Participation specifically in team sports (either currently or in the past) remained a weakly significant predictor of reduced current depressive symptoms when a wide array of covariates was considered.

### 3.2.5 MENTAL HEALTH POLICY

The issue of mental health has gained increasing attention in Ireland since the passing of the Mental Health Act (2001), the establishment of the Mental Health Commission in 2004 and the publication of *A Vision for Change: Report of the Expert Group on Mental Health Policy* in 2006. More recently, the Mental Health (Amendment) Act 2018 was passed, with the intention of improving mental health service provision and promoting the rights of service users (Government of Ireland, 2018a). In the same month - July 2018 - the *Wellbeing Policy Statement and Framework for Practice 2018 – 2023* was published and the consultation process was initiated for the review and updating of Ireland's National Mental Health Policy (Government of Ireland, 2018b). Mental health/wellbeing has become increasingly recognised as a pressing issue in Irish society.

### 3.2.6 POTENTIAL FOR GROWING UP IN IRELAND

The current wave of *Growing Up in Ireland* generates further data pertaining to young people's self-reported mental health and any diagnosed psychiatric and/or psychological disorders by 20 years of age. Linking such information with the vast array of socio-demographic, social, personal, health-related and education/work-related information collected at this and previous waves of the study, *Growing Up in Ireland* can enhance our understanding of the developmental trajectories of mental health problems in the Irish context.

In particular, longitudinal analysis creates opportunities to identify potential predictors of poor mental health or the onset of a disorder in early adulthood. Identifying such risk factors is valuable for the development of preventative measures. Conversely there is also scope to



explore potential protective factors, such as physical activity. As a whole, the data generated in this wave of *Growing Up in Ireland* will be an important resource for those involved in the development of mental health policy in Ireland.

### 3.3 STRESS AND COPING WITH STRESS

#### 3.3.1 RATIONALE

Emerging adulthood is a period during which many transitions take place. Given that many 20-year-olds will have made steps towards becoming (financially or otherwise) independent and/or have assumed additional responsibilities by this point, it is plausible that emerging adulthood could constitute a particularly stressful time period for these young people.

While anxiety and depression are classed as distinct psychiatric disorders, stress is a broader term that comprises a complex interplay between many factors. Passer, Smith, Holt, Bremner et al. (2009, p. 722) provide a broad definition of stress that will be expanded upon in the current section:

“Stress involves complex interactions among situational (stressor) characteristics, cognitive appraisal processes, physiological responses and behavioural attempts to cope with the situational demands.”

Stress has been identified as a risk factor for poor mental health in emerging adulthood (see, for example, Bovier, Chamot and Perneger, 2004; Dyson and Renk, 2006) and has been linked to unhealthy behaviours such as alcohol use/dependence (Backer-Fulghum, Patock-Peckhan, King, Roufa and Hagen, 2012; Corbin, Farmer and Nolen-Hoekesma, 2013; Jeronimus, Riese, Sanderman and Ormel, 2014). Thus, in enhancing our knowledge of how 20-year-olds cope with stressors and identifying groups that are potentially at risk due to maladaptive coping, *Growing Up in Ireland* has the potential to make a meaningful contribution to future initiatives and policies.

#### 3.3.2 RESEARCH ON STRESS IN THE IRISH CONTEXT

As covered in several sections of this report, the (first) My World Survey (Dooley and Fitzgerald, 2012), is one of the largest cross-sectional studies of the mental health of young people (aged 12-25 years) in Ireland. Participants were separated into two broad groups. The first sample comprised second-level students (aged 12-19 years; M = 14.93), while the second group of young adults (n = 8,221, aged 17-25 years; M = 20.35) comprised those who had completed/left second-level education and are more relevant to the current review.

Using the self-report Depression Stress and Anxiety Scale (DASS; Henry and Crawford, 2005), 70 per cent of the young adult sample were found to be within the normal range for stress, 20 per cent in the mild to moderate range and 10 per cent in the severe to very severe range. In general, women were more likely to be categorised as above the normal range, as were those who were unsure of their sexuality and those who reported receiving very low levels of



support from a 'special adult' (Dooley and Fitzgerald, 2012, p. 68). College, money, work and family (in that order) were the most frequently reported stressors among young adults, with 45 per cent of young people stating that they were often stressed by their financial situations.

The My World survey also found gender differences in coping styles with men more likely to engage in problem-solving ('planned coping'), while women indicated higher levels of 'support-focused' and 'avoidant' coping (Dooley and Fitzgerald, 2012, p. 59). When asked what helped them to cope during difficult times in their lives, participants spoke mostly about friends, talking, music, family and exercise.

The current wave of *Growing Up in Ireland* also uses the seven-item stress subscale of the DASS measure (Henry and Crawford, 2005). Examples of items include "I felt that I was using a lot of nervous energy" and "I found it hard to wind down". A full description of the psychometrics for this scale can be found in the appropriate design report (McNamara et al., in press).

Other large-scale research on stress in Ireland looks at the influence of employment factors. Russell, Maître and Watson (2016) used data from the Quarterly National Household Survey (QNHS) to explore occupational stress as a subsection of a paper on work-related injuries and illnesses. Stressors included long working hours, work with high demands and low autonomy, shift work and precarious employment. The odds of work absenteeism due to stress significantly increased in the presence of any of these risk factors. For instance, participants working in excess of 50 hours per week had three times the risk of missing work due to stress than those working 30 hours or less.

### 3.3.3 RESEARCH ON STRESS IN AN INTERNATIONAL CONTEXT

Using data from the Australian Longitudinal Study on Women's Health (n = 8,749), Bell and Lee (2008) found that women aged 18 – 23 years (M = 20.7 years) reported higher levels of stress when they were:

- single or previously married (as opposed to married or in de facto relationships)
- childless (as opposed to being mothers)
- studying, unemployed or balancing work and study (as opposed to working exclusively or fulfilling duties at home).

At this age, there was no significant difference in stress levels between those women who lived independently and those who continued to reside with their parents. However, when stress was examined in light of transitions (in living arrangements, employment status, relationship status and motherhood status), Bell and Lee (2008) uncovered an interesting trend. Those whose stress levels increased between Survey 1 and Survey 2 (four years later)



tended to have (at least) one of three things in common: 1) transitions involving non-normative changes that might be considered contrary to social expectations (e.g. re-entering the family home), 2) transitions viewed as normative did not occur (e.g. women remained single), or 3) transitions took place and adult status was achieved prior to age 18 – 23 years, which might be considered relatively early (Bell and Lee, 2008). Ultimately, Bell and Lee's findings suggest that 'making "off-time" transitions' (i.e. earlier or later than expected) is associated with higher levels of stress among females at approximately 20 years (2008, p. 287).

There is a significant body of research that demonstrates the link between unemployment, job insecurity and psychological well-being, including longitudinal studies that establish a causal relationship (for reviews, see McKee-Ryan, Song, Wanberg and Kinicki, 2005; Paul and Moser, 2009). As labour market entrants, young people are particularly exposed to labour market uncertainty and experience higher levels of unemployment and insecurity (O'Reilly, Eichhorst, Gábos, Hadjivassiliou et al., 2015). A number of studies have found that while the effect of unemployment on psychological well-being is somewhat weaker for young people than prime-age workers, it is nevertheless significant and substantial (Nordenmark and Strandh 1999; Russell, Leschke and Smith, 2015). The relationship between job insecurity and life satisfaction appears to be as strong for young people as those in older age groups (Smith, Leschke, Russell and Villa, 2018). In addition to the immediate influence of unemployment and insecurity for young people, Strandh, Winefield, Nilsson and Hammarström (2014) found that youth unemployment (experienced between 18 and 21 years) was significantly connected with poorer mental health at ages 21, 30 and 42 years. Similarly, Bell and Blanchflower (2011) find that spells of unemployment in the early career were associated with poorer health status and reduced life satisfaction more than 20 years later.

### 3.3.4 COPING STYLES

How a person copes with life stresses can significantly influence the impact of stressors in the long- and short-term (Lazarus, 1966). Lazarus and Folkman defined coping as 'constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person' (1984, p. 141). A description of every possible coping style is beyond the scope of this review, but some prototypical examples are outlined here. Coping can be emotion-focused, in which dealing with the emotional response to the stressor takes precedence; problem-focused, in which attempts are made to manage or eliminate the source of the stress; appraisal-focused, re-assessing one's assumptions or interpretations of the stressor/stressors; or meaning-focused, seeking secondary benefits that may arise from misfortune such as wisdom or patience (Weiten and Lloyd, 2008; Folkman, 2008). In 2007 a cross-sectional survey of emerging adults (n = 508) in the USA found that maladaptive coping styles – such as denial, self-blaming and substance use - predicted symptoms of anxiety, depression and stress (Mahmoud, Staten, Hall and Lennie, 2012).



Using data from the longitudinal Lives Across Time project, which assessed participants' (n = 970) coping styles at mean ages 17, 24, 29 and 33, Wingo, Baldessarini and Windle (2015) concluded that coping styles become more adaptive with age. That is to say, as participants grew older, lower levels of emotion-oriented and higher levels of task-oriented (i.e. problem-focused) coping styles were evident.

Devotta, Ankita and Vijayabanu (2014), concluded that women were more likely than males to seek guidance and support, while men were more likely to engage in problem-solving, i.e. to make 'cognitive attempts to understand and prepare mentally for a stressor and its consequences'. Devotta et al. (2014) also noted associations between some aspects of temperament and coping methods.

### 3.3.5 POLICY RELEVANCE OF MEASURING COPING STRATEGIES

One of the objectives outlined in *Healthy Ireland – A framework for improved health and wellbeing 2013 – 2025* is that of 'increasing the wellbeing of the population' (DOH, 2013, p. 34). Though not seen in as critical a light as policy around mental illness, an understanding of typical coping styles for Ireland's young adults can provide insights into reactions to the kinds of stressors that lead to occupational burnout or to maladaptive coping mechanisms such as drug taking or alcoholism. To this end, in examining the prevalence of adaptive/healthy and maladaptive/unhealthy coping styles alongside such variables as socio-economic status, employment status, gender, etc., *Growing Up in Ireland* can potentially identify risk factors for developing these maladaptive coping styles.

Public health policy can then be aimed at guiding young adults towards adaptive coping mechanisms, such as communicating with friends and health professionals or exercising, rather than those that may lead to further occupational or health issues in future years. In this way, investment in this kind of public health policy can be seen as pro-active or preventative rather than many mental health treatments and policies that can only react to events that have already passed (Government of Ireland, 2006; Haro, Ayuso-Mateos, Bitter, Demotes-Mainard et al., 2014).

### 3.3.6 POTENTIAL FOR GROWING UP IN IRELAND

It is not possible, or necessarily desirable, to completely eliminate stress from the lives of young adults. Nonetheless, heightened or prolonged experience of stress has the potential to negatively affect both mental and physical well-being. Unhealthy ways of coping with stress – such as cigarettes or alcohol – may exacerbate the harm. While stress and coping may vary a lot between individuals, *Growing Up in Ireland* has the advantage of utilising the same measures across a large sample which facilitates comparison using a common benchmark. Stress was measured using the subscale from the previously described DASS 21 questionnaire. In addition, 20-year-olds answered a set of questions on the strategies they use to cope with stress. These coping strategies were loosely derived from the 'Cope' and 'Brief Cope'



inventories (Carver, 2013; Carver, Scheier and Weintraub, 1989). Full details of the development of the coping scale can be found in the pilot report for this wave (O'Mahony, Murray, Williams, McNamara and O'Reilly, 2020).

Using these and other measures from the *Growing Up in Ireland* data, there are many possibilities for exploring the areas of stress and coping. For example, the review of the literature above suggests there will be gender differences. Systematic reviews have shown strong gender differences in the tendency to speak to others about thoughts and feelings, leading to highly variable help-seeking behaviours among vulnerable populations (Clement, Schauman, Graham, Maggioni et al., 2015). The *Growing Up in Ireland* data at age 20 could help to identify gender patterns in stress and coping, and possible areas of vulnerability, that might inform the targeting of interventions or health promotion materials. For instance, drug-taking, and alcoholism frequently begin as a maladaptive coping strategy to stress (HRB, 2019) but may later lead to contact with the criminal justice system.

Another area of research potential is the experience of stress in the context of transitions at this period in the life-course. A major transition for some 20-year-olds will be the move from education to the labour market. Recent EU-level research has highlighted the fact that workplace stress is a common feature of modern life leading to early ill health, chronic stress related disorders, burnout, and lost productivity in the workplace (Eurofound, 2018). As the *Growing Up in Ireland* young adults enter the workforce, there are many key risk factors for which they may have particular vulnerability. Many early employment positions may have long hours, low pay and emotionally demanding customer-facing jobs. These are all well known risk factors for stress and burnout (Russell, Maître, Watson and Fahey, 2018). An expanded section on labour market experiences in this wave of *Growing Up in Ireland* will facilitate examination of the associations between stress, coping and the world of work for young adult employees (including those balancing study and part-time work). Previous *Growing Up in Ireland* data for this cohort at 17/18 years revealed that a significant proportion of secondary school students, roughly 30 per cent, held a part-time job (Growing Up in Ireland Study Team, 2016d). The percentage in part-time employment is likely to increase between adolescence and young adulthood with the increased financial pressure of third-level study (Houle, 2014).

From a resilience perspective, however, new data on specific coping strategies combined with expanded information on whom (e.g. parents, friends, professionals) young adults can turn to for support has scope to look at 'what works' as well as problematic levels of stress. Such supports and strategies can be viewed in the wider context of the life of a 20-year-old and their daily activities such as commuting, exercise, time with family and friends; the separate time-use diary which is also completed by participants may be particularly useful in this context.





# Chapter 4

## EDUCATION AND COGNITIVE ABILITY





## 4 EDUCATION AND COGNITIVE ABILITY

In contrast to previous waves when most of the cohort would have been in full-time education (typically second-level education), more variability in education and economic status is expected at age 20 years. Ireland typically has a high retention rate to the end of senior cycle in second-level school and after that young people have a number of further and higher education options. Some may also choose to enter the labour market directly. By age 20 years, some young adults may have completed a post-school education option and be either looking to progress their education or find employment with their training ‘under their belt’.

This chapter takes a broad look at education and cognition. In the first section, the focus is on why young adults enter higher education or choose a different post school pathway. It considers individual, school and institutional characteristics that affect choices of post-school options in education. *Growing Up in Ireland’s* ability to capture a wide range of information both cross-sectionally and longitudinally is an important contribution to considering such complex and important decision processes.

In the second section of this chapter, the discussion moves to consider the implications of education choices for labour market outcomes. Such outcomes can be evaluated not just in terms of whether the young adult succeeds in getting an offer of employment but also the quality of that employment in terms of stability and earnings. On top of this, youth unemployment in Ireland is high (Trading Economics, 2019) and a large scale qualitative study on unemployed youth during the last recession found that unemployment had negative effects on well-being and mental health, that many unemployed youths intended to emigrate, and that very few were satisfied with the level of help they received from social welfare services regarding gaining employment (O’Connor, 2010). As Ireland – and the rest of the world – experience a period of economic growth<sup>7</sup> after the recession, this is a particularly time-relevant question for researchers. However, economic clouds such as Brexit also bring uncertainty in terms of the impact on Ireland’s economy. Finally, this chapter broadens its scope away from the education system to examine research on cognitive ability at this stage of the life-course.

### 4.1 REASONS FOR CHOICE OF HIGHER EDUCATION INSTITUTIONS AND BARRIERS TO CHOICE

#### 4.1.1 INTRODUCTION

Higher education has become the dominant post-school pathway among school leavers in Ireland (Smyth, Banks and Calvert, 2011). In addition, further education options in the Irish system have been broadening over the years; both expanding the numbers with post-second

---

<sup>7</sup> This review was written before the COVID-19 pandemic.



level education and providing an alternative pathway to higher education (i.e. bachelor's degree or higher). In Ireland, there are technically no higher education tuition fees for most first-time applicants from within the European Economic Area<sup>8</sup> but with significant 'registration fees' in many cases. On top of that, there are costs associated with attending higher education, especially where the young adult has to pay for accommodation in another location. Hence the extent to which access to higher education is equally accessible to all, based solely on choice and academic merit, is debatable.

There are multiple motivations for a young person to seek to enter higher education (e.g. training for a career, personal development, the experience of living away from their parental home). Two sets of factors have been identified as important in the explanation of young people's decision to continue in education or to enter the labour market: individual and institutional. There has been extensive research looking at individual factors and, in particular, the socio-demographic characteristics of individuals who attend higher education. More recently research is focusing on how factors related to the institution shape individual decision-making regarding higher education. Evidence suggests that many young people are choosing to continue to higher education because it can be difficult to find a job straight after completing second-level education and many jobs now require at least a third-level qualification (Iannelli, 2004).

#### 4.1.2 IRISH DATA ON TRANSITIONS

Results from the 2016 Census showed that of young people aged 20-24, 4 per cent had no formal/primary education, 8 per cent had a lower secondary education, 47 per cent had an upper secondary education, 11 per cent had a third-level 'non-degree', 25 per cent had a degree-level qualification, and 4 per cent had a postgraduate qualification (CSO, 2016b).

Key findings from *Growing Up in Ireland* study at age 17/18 found that 10 per cent of the sample had already progressed to further/higher education: 56 per cent of these individuals were studying in a university or institute of technology and the remainder were completing a Post Leaving Certificate course (PLC). Of the individuals who were still in school, the majority said they were most likely to continue to further/higher education (89%). A slightly higher proportion of females (92%) than males (86%) said they would be most likely to progress to higher/further education (Growing Up in Ireland Study Team, 2016d).

---

<sup>8</sup> "The European Economic Area is an area of free trade and free movement of peoples comprising the member states of the European Union, in addition to Norway, Iceland and Liechtenstein." (Department of Business, Enterprise, and Innovation, n.d.).



### 4.1.3 INDIVIDUAL CHARACTERISTICS

Evidence from both Ireland and abroad shows there are clear social class differences in relation to participation in higher education. Young people from higher income families have a higher probability of attending university (Frenette, 2006; Christofides, Cirello and Hoy, 2001). Similarly, in Ireland young people whose parents have a degree-level education are significantly more likely to attend university (McCoy, Kelly and Watson, 2007). Among those attending higher education, social class differences are evident in the profile of those in universities and institutes of technology. Those with parents from the professional and managerial backgrounds are significantly more likely to attend university while those with parents from the manual and skilled classes are more likely to attend institutes of technology (Higher Education Authority, 2017).

Social class differences were also observed in the *Growing Up in Ireland* at 17/18 years of age (Growing Up in Ireland Study Team, 2016d). A large proportion of 17/18-year-olds whose mother was in the highest education category (degree or more) said they expected to progress to higher education (90% compared to 63%) while young people whose mother had a Junior Certificate or less intended to continue to further education (PLC), 17 per cent compared to 3 per cent (Growing Up in Ireland Study Team, 2016d). In addition, males were found to be more likely to intend to go to an institute of technology in comparison to university (Smyth and Murphy, 2018).

Tuition fees are a direct cost on the individual wishing to participate in education and so higher levels of fees can have a negative impact on participation. Deming and Dynarski (2010) found that financial aid (grants or scholarships) which covers at least part of the cost of college education has a positive effect on the probability of attendance at higher education. McCoy, Byrne, O'Connell, Kelly and Doherty (2010) found that grants for education are particularly important for young people from lower socio-economic classes. However, McCoy et al. (2010) also noted that many young people from lower socio-economic classes are not aware of the financial grants available to them. This is not only in an Irish context; researchers in the USA argue that inequalities in knowledge of the various costs associated with college participation contribute to the stratification within higher education (Grodsky and Jones, 2007). Furthermore, individuals just above the income threshold for grant eligibility have among the lowest higher education participation rates in Ireland (McCoy et al., 2010). The authors suggest a number of reasons for lower participation within this group, including; educational beliefs which affect motivation to pursue higher education; self-belief and aspiration issues emerging as a result of societal inequalities, discrimination; and school policies (McCoy et al., 2010). Furthermore, there is evidence that working-class parents are more likely to view their child as expert on their own educational pathway, and these young people do not feel pushed or pressured by their parents towards a particular educational trajectory (Reay and Ball, 1998).



Individuals from minority groups are often underrepresented in higher education, in particular those with a disability or who are migrants. It has been identified that both attitudinal and environmental barriers, both within and external to higher education, prevent young people with disabilities from attending higher education (Shevlin, Kenny, and McNeela, 2004). Physical access and mobility issues and lack of information and awareness emerged as the main reasons from the Shevlin et al. (2004) study. Students with disabilities in the UK also reported similar difficulties when assessing higher education (Holloway, 2001). Holloway conducted a small-scale study with six students who had a disability attending a university in the United Kingdom. The students identified difficulties with physical mobility around campus, financial costs and the university making an active effort to include individuals with disabilities as influential in determining if students with a disability can access university.

Research has found that children from migrant backgrounds may be underrepresented in higher education as a result of their self-beliefs with regard to proficiency in the language of instruction and perceived academic ability (Lyons, 2010). Furthermore, financial barriers affect this group's participation in higher education; while some groups of migrants may receive grants for third-level education, non-EU nationals must pay college fees which are often substantially higher than EU fees (Darmody, Byrne and McGinnity, 2014).

#### 4.1.4 SCHOOL EXPERIENCES

The proportion of individuals attending higher education varies across second-level schools attended, even taking account of individual background characteristics, suggesting the education process may have a significant impact on higher education participation (Smyth et al., 2011). A combination of factors such as social class mix, teacher expectations, student expectations and level of career guidance impacts on a student's decision to attend higher education (McCoy et al., 2010; McCoy and Byrne, 2011). McCoy and Byrne (2011) found that many young people from lower socio-economic backgrounds who did not progress to higher education had quite negative attitudes to school, were unhappy with the subjects they chose for the Leaving Certificate and felt they did not have the support of their teachers and guidance counsellor if they wished to apply to higher education. The quality of student/teacher interactions is also highly predictive of higher education intentions. Individuals who receive praise or positive feedback have been found to be more likely to plan on attending higher education while those who had been reprimanded by their teachers frequently were less likely to plan to attend higher education (Smyth and Murphy, 2018).

Sá, Florax and Rietveld (2006) found that past school performance and achievement are strongly related to a student's likelihood of continuing on to higher education. A key determinant of higher education entry in Ireland is performance in the Leaving Certificate, with the majority of places awarded on the basis of 'points' achieved in the Leaving Certificate examination, and entry to more prestigious courses dependent on high performance levels (McCoy and Byrne, 2011). Performance in the Leaving Certificate is highly correlated with



socio-economic background. Students from semi/unskilled or unemployed backgrounds score the lowest average points in the Leaving Certificate and those from professional backgrounds score the highest (Smyth et al., 2011).

#### 4.1.5 CHARACTERISTICS OF THE INSTITUTION

Literature on young people's decision-making regarding type of institution is scarce. However, research is now starting to address this question for Ireland using *Growing Up in Ireland* data from Cohort '98 at age 17/18 years (see Smyth and Murphy, 2018). The main reasons influencing choice of a specific higher education institute were; the institute offering the course that the young person wanted and it having a good reputation. Having good transport links with the parental home (75%) and being able to live at home (45%) were also rated as fairly important by the majority of students. When examining factors that could constrain choice of university, wanting to live at home reduced chances of university plans and this limited the horizons of all groups, not just those from socially disadvantaged backgrounds. Institutional reputation played a more important role in enhancing university plans among those from graduate families.

In the United States of America, Kallio (1995) found from looking at students' choice of college or university that the location and the academic environment played a key role in their decision (particularly the reputation and the quality of the institution, its programme, course diversity and size of the institution/department). Similar findings were identified by Hearne (2009), who found that academic programme options, reputation, student life, residential life and facilities were all rated as important in choosing a college to attend.

Frenette (2006), using data from the longitudinal Survey of Labour and Income Dynamics in Canada, found that location was important in students' decisions regarding university: students who lived within commuting distance of a university were more likely to attend in comparison to students who lived out of commuting distance. Cullinan, Flannery, Walsh and McCoy (2013) found in Ireland that generally travel distance did not have an overall impact on the decision to attend higher education; however, it did have a negative impact on participation rates for those from lower social classes and this impact grew stronger as the distance increased.

#### 4.1.6 POTENTIAL FOR GROWING UP IN IRELAND

By this stage, nearly all participants should be finished second-level education and the majority will either be in higher/further education or have entered the workforce. Cross-sectionally and longitudinally, participants who chose to continue to higher education/further education and those who chose to enter the labour force can be compared on potentially salient individual, community and institutional characteristics. For example, choices can be compared on the basis of not just individual exam results, but also on school characteristics and household factors such as parental education or distance from universities. From a



longitudinal perspective, it will be possible to track how attitudes towards school and academic performance at a young age (9 years) impacted on post-school trajectories. In particular, it will be interesting to look at how aspirations (both as children and from parents) and academic self-esteem at earlier stages influence choices in late adolescence and early adulthood. Additionally, it will be possible to examine the circumstances of individuals who start but leave higher education before completion, as information will be collected on all courses started even if unfinished. For example, will less well-off students who started university a long way from home, or who took up a course that was not what they really wanted, be more likely to leave before completion?

## 4.2 LABOUR MARKET OUTCOMES BY LEVEL AND/OR TYPE OF EDUCATION

### 4.2.1 INTRODUCTION

Sooner or later, most young adults will enter the labour market. This might be in the form of a part-time job to supplement their income while in education or as their principal economic status. Labour market outcomes are assessed using different employment variables, most commonly, employment vs unemployment rates and hourly wage but also hours worked, length of time taken to get first stable job and job quality (Ionescu, 2012). Educational attainment has been identified as the most important variable for predicting labour market outcomes from early occupational attainment onwards. Individuals who progress to higher education tend to achieve better labour market outcomes (highly skilled professional jobs) while individuals who leave school early are at risk of poorer labour market outcomes (unemployment, low wage) (Iannelli, 2002; Gangl, 2002).

### 4.2.2 THE YOUTH LABOUR MARKET IN IRELAND

From July 2016 until July 2018, the monthly unemployment rate of all persons aged 15-74 years in Ireland averaged at just under 7 per cent, while the corresponding figure for adolescents and young adults aged 15-24 years stood at just over 14 per cent (CSO, 2018b, 2018d). Although young people aged 15-24 years constituted just 12 per cent of the population in Ireland in July 2017, unemployed people in this age range made up 26 per cent of the entire unemployed population (CSO, 2018b, 2018d; Bergin, Kelly and Redmond, 2020). These statistics indicate that unemployment is disproportionately common among young people aged 15-24 years. In particular, Byrne, McCoy and Watson (2009) found early school leavers are the most economically vulnerable as they have the lowest level of employment.

Key findings from *Growing Up in Ireland* at age 17/18 showed that 84 per cent of Cohort '98 were still in school, 10 per cent were in higher/further education, 2 per cent were working, 2 per cent were training and 2 per cent reported not being engaged in any of these activities. Just under two-thirds of the 6 per cent who were no longer in formal education had completed the Leaving Certificate and just under a half (43%) of them intended to go back to full-time education in the next year. Of the individuals who were still in school (84%), a third had a part-time job; slightly more females had a job in comparison to males and having a part-time job





was less common among students who were in their Leaving Certificate year (Growing Up in Ireland Study Team, 2016d).

#### 4.2.3 RATES OF UNEMPLOYMENT<sup>9</sup>

Even though today's youth are better educated than their older counterparts, high rates of youth unemployment have been observed in many OECD countries, as seen in reports on the labour market by the International Labour Organisation (ILO, 2012) as well as Refrigeri and Aleandi (2013). Rather than being solely related to macroeconomic factors such as aggregate demand, it is due to a variety of factors including young people leaving school without a basic qualification (this varies across countries with the EU average at 10.6% and early school leaving in Ireland at 5.1%), the fact that the skills acquired in education may not be well adapted to labour market requirements, as well as labour market conditions and problems in the functioning of the labour market (Quintini and Martin, 2006).

Educational level is highly predictive of unemployment rates in Ireland: looking at the working population (aged 25-64), 14 per cent of those with a primary-level education or below are unemployed, 10 per cent of individuals with a lower secondary qualification are unemployed and 7 per cent of individuals with an upper secondary qualification are unemployed compared to only 3 per cent of individuals with a higher education qualification (CSO, 2018d). Similar results have been observed in the United States of America (National Center for Education Statistics, 2018). For individuals without a third-level qualification, their employment prospects are much more precarious. In all OECD countries the level of demand for skills and qualifications is rising and individuals without marketable skills or recognised qualifications are finding it increasingly difficult to compete for work (OECD, 2014). Evidence of a systematic relationship between the proportion of lower educated individuals in a country and their likelihood of being unemployed has not been found. For example, young people with low educational attainment in Italy are three times more likely to be unemployed in comparison to low qualified young adults in the Netherlands. However, it has been found that countries in which those with low qualifications suffer the lowest levels of unemployment place a stronger emphasis on young people obtaining recognised vocational qualifications after leaving compulsory schooling (OECD, 2014). In Ireland, individuals who leave school early tend to have poorer labour market outcomes: in particular they have been found to experience long spells of unemployment and limited re-engagement with post-school education and training (Byrne and Smyth, 2010). However, individuals who engage in post-school vocational training may have more employment options (McGuinness, O'Connell and Kelly, 2014).

---

<sup>9</sup> Youth unemployment refers to individuals who are without work, are available for work and have taken active steps to find work in the past four weeks (OECD, 2018).



#### 4.2.4 RELEVANCE OF QUALIFICATIONS

Of individuals who graduated from higher education in Ireland in 2016, 60 per cent were employed in Ireland nine months after graduation; 62 per cent of those who graduated with a honours bachelor degree were in employment and 81 per cent of those who graduated with a Master's/Doctorate degree were in employment (Higher Education Authority, 2016). Education graduates had the highest level of employment (85%) followed by ICT graduates (81%) while arts and humanities graduates had the lowest level of employment (46%). The Higher Education Authority (2016) found that health and welfare, agriculture, forestry, fisheries and veterinary and education Honours Bachelor's Degree graduates reported the highest levels of relevance of their education to their area of employment at 93 per cent, 90 per cent and 88 per cent respectively, while high proportions of arts and humanities Honours Bachelor Degree graduates (50%) rated their education as irrelevant to their employment. Similar results have been found in other countries such as the US where humanities majors have been found to have lower employment prospects in comparison to health and medical science or education majors (American Academy of Arts and Science, 2018). However, in the UK, Kreager (2013) found that humanities graduates had much more varied employment prospects in comparison to other degree areas.

#### 4.2.5 JOB STABILITY

Many young people tend to engage in temporary/part-time work post-education. At a European level, only 53 per cent of school-leavers who were employed one year after graduation held a permanent, full-time position and this decreased to just 31 per cent when looking at individuals who have a lower secondary education (Eurofound, 2014). Temporary employment is not always an issue for young people as it can be the first step on the career ladder (Quintini and Martin, 2006). Many young people actually choose to enter temporary contracts and do more 'job-shopping' at the beginning of their careers as they want to find a job that fits their skills and interests (Quintini, Martin and Sebastien, 2007). However, temporary contracts are known to pay less, offer less on-the-job training, are less satisfying than standard contracts, and result in incomplete contributions to pensions and unemployment benefits (Eurofound, 2014). Recent work on minimum wage workers in Ireland showed that young people on a temporary and/or part-time contract were less likely to progress to higher pay and more likely to exit to unemployment (Redmond, McGuinness and Maître, 2018). Some young people are also "over-educated" for the job they are performing, i.e. young people perform jobs which require much less skills than they have acquired in education. One in five working youth, on average, was defined as over-educated in 2005 (this estimate was based on 15 out of 22 European countries where an estimate could be made) (Quintini and Martin, 2006). Furthermore, young people are sometimes described as having a high level of formal human capital (education) which has little to do with the world of work but lacking informal human capital which comes from work experience, and professional and vocational training (Refrigeri and Aleandi, 2013). Hanushek, Schwerdt, Woessmann and Zhang



(2017) analysed data from the International Adult Literacy Survey in 18 countries (this comprised European countries, including Ireland and the US, New Zealand and Chile). They found young people with a general education qualification<sup>10</sup> faced worse employment prospects initially in comparison to individuals with a vocational education<sup>11</sup> qualification. However, as individuals with a general education qualification gained work experience, this improved their probability of employment as they got older. This was particularly pronounced in European countries such as Denmark, Germany and Switzerland where vocational education is more prevalent.

#### 4.2.6 ANNUAL EARNINGS

Ireland has one of the highest rates of young people claiming unemployment benefit payments across OECD countries (OECD, 2016). The profile of individuals claiming unemployment payments is heavily skewed towards young people who have not completed second-level education. It is not favourable for individuals to remain on welfare payments in the long run as it can be difficult for such individuals to re-enter the labour market (OECD, 2016).

The HEA (2016) reported on the salary of young people who graduated in 2016. A positive correlation was observed between education and salary with 40 per cent of those with an honours bachelor degree earning under €25k in comparison to only 9 per cent for Doctorate graduates. Arts and humanities honours bachelor degree graduates were the least well paid. Overall, ICT, engineering, manufacturing and construction, as well as health and welfare Honours Bachelor Degree graduates were the highest earners. These patterns have also been observed in other countries. In the United States, regardless of age, individuals with a master's or a doctoral degree earn more per week in comparison to individuals with a bachelor degree (regardless of whether they are newly qualified or not) (Bureau of Labor Statistics, 2018).

#### 4.2.7 YOUTH MIGRATION

Although the number of young people leaving Ireland to work abroad is decreasing, many young people are still choosing to move abroad. According to the 2019 estimates from the Central Statistics Office (CSO, 2019 – Table 4), those in the 15-24 year age group were among the most numerous in terms of emigration (the age 25-44 years group had more individuals, but a wider age bracket). Of the individuals who left in 2017, a majority had a university qualification and a high proportion were in the 15-24 age group category (CSO, 2017). While

---

<sup>10</sup> General Education qualification = “concepts based” education is a programme of education intending to develop a person’s knowledge, usually a university qualification.

<sup>11</sup> Vocational qualification= “skills based” education provides the person with knowledge and skills for employment, usually does not lead to a university qualification.



young people are able to gain employment in Ireland, many appear to be leaving the country for a better job opportunity or career advancement abroad, especially in the areas of health care, construction and IT (Glynn, Kelly and MacÉinrí, 2015). While the United Kingdom is the most popular destination, many are going to non-European destinations (namely, Australia, Canada, United States and the Gulf States) (Glynn et al., 2015). According to the Higher Education Authority (2016), graduates of education, engineering, manufacturing and construction, and health and welfare were most likely to leave Ireland to seek employment overseas. One possible 'push' factor is the relative expense of housing in Ireland with large numbers of young people in the rental sector (Norris and Winston, 2013; CSO, 2016d), and rent in Ireland being among the highest in Europe (Catella Group, 2019). Additionally, in Ireland people aged under 25 years get a reduced rate of unemployment payment (Jobseeker's Allowance) unless they meet certain additional criteria<sup>12</sup> (such as having children).

#### 4.2.8 CONCLUSION

Youth transitions to economic independence and adulthood have become increasingly more difficult and protracted (Arnett, 2000). The youth labour market is often characterised by low wages, risk of unemployment, job instability and youth migration (Bivand, 2012). Education has been identified as highly influential in determining young people's trajectories; individuals who have obtained a third-level qualification have better employment prospects (CSO, 2016b). However, this is dependent on the type of qualification obtained, with many young people emigrating abroad in the hope of finding better employment opportunities (Glynn et al., 2015). Individuals who leave school prior to the Leaving Certificate are the most disadvantaged in the labour market, experiencing higher rates of unemployment, job instability and lower wages (with many claiming welfare payments) (Byrne, McCoy and Watson, 2009).

#### 4.2.9 POTENTIAL FOR GROWING UP IN IRELAND

At age 20 years, each *Growing Up in Ireland* (Cohort '98) participant is asked to provide detailed information on work and education status. This includes historical information on education courses completed or started but not finished. Detailed labour market information is collected on current employment and characteristics thereof. In terms of the actual experience of work, 20-year-olds who are currently at work are asked about their perceptions of the job such as how secure they feel in their positions (on a scale of 1-10) and if their current

---

<sup>12</sup>[https://www.citizensinformation.ie/en/social\\_welfare/social\\_welfare\\_payments/unemployed\\_people/younger\\_jobseekers.html](https://www.citizensinformation.ie/en/social_welfare/social_welfare_payments/unemployed_people/younger_jobseekers.html)



employment is one step in a long-term career or merely a “stop gap” – in addition to detail on nature, hours etc.

For the first time in *Growing Up in Ireland*, participants were asked to complete a month-by-month event history of their primary economic status since the last interview at 17/18 years. This information will provide a picture of the number and nature of transitions for different categories of young adults such as early school leavers, those in the labour market and those in full-time education but who seek employment outside term-time.

Longitudinally, current labour market status (and that in future waves) can be compared to the individual’s education and training experiences, to their attitudes to work, such as ‘what they want from their ideal job’, and to their occupational aspirations which were collected from as early as 9 years. Additionally, the labour market status of young adults can be contrasted to those of their parents (and other household members) as recorded in previous waves: for example, research could examine whether being unemployed at age 20 was associated with growing up in a ‘jobless’ household, if early entry to the labour market (instead of continuing in education) was more likely where there were no other earners in the household and/or a history of older siblings entering the labour market early. Taking a wider look at context and pathways, researchers could also consider factors less commonly featured such as school and subject choice, pastimes, personality or peer relationships.

### 4.3 COGNITIVE ABILITY AND ITS INTERACTIONS WITH OTHER ASPECTS OF LIFE-COURSE DEVELOPMENT

#### 4.3.1 RATIONALE

Individual differences in cognitive ability have been of interest since at least the time of Francis Galton in the 19th century and related measures have been included in most of the large longitudinal birth cohort studies. While cognitive ability as a concept is usually connected to academic attainment, it potentially influences (and is influenced by) other aspects of our lives. For example, nutrition and alcohol consumption affect brain health; and possibly individuals with greater capacity to understand and evaluate health-related information will make better choices on behaviours affecting health. For young children, the development of cognition and language go hand-in-hand with socio-emotional development: being able to verbalise needs, label emotions and take the perspective of others all ease interpersonal interaction. Could cognitive ability still affect socio-emotional well-being for 20-year-olds? The following section considers this type of interaction between cognitive ability and other areas of development in early adulthood and beyond.

#### 4.3.2 LIFE-STAGE PERSPECTIVE ON COGNITIVE DEVELOPMENT

Drawing on a lifespan perspective on cognitive ageing, it is likely that the sample of 20-year-olds are at a peak of cognitive ability. Laboratory research from Salthouse (2004) showed that, contrary to popular belief, cognitive decline in terms of reaction speed, abstract reasoning



abilities and memory span begins early in adulthood and proceeds in a nearly linear pattern throughout an individual's life with a steeper drop off in late adulthood (70s and 80s). Counter to this pattern, crystallised abilities, such as a person's accumulated vocabulary, continue to increase across the lifespan, only showing a levelling off period in late adulthood.

Further research shows that there is relatively little between-person variability in the rate or extent of this decline in normally functioning adults across the lifespan. Typically, those who suffer steeper cognitive declines will have significant lifestyle (drug/alcohol abuse) or health-related problems (e.g. acquired brain injuries) that explain significant variation between individuals in terms of the rate of decline (Salthouse, 2011, 2018b).

One issue for measuring individual change in cognition over time is the selection of appropriate measures for different age groups – given the different rates of development of the brain in childhood and adolescence. There is also the potential issue of practice effects once the individual reaches adulthood, potentially repeating the same measure at different time-points. Salthouse (2018a) notes that this may be a problem for longitudinal studies and that variation in study design may affect changes in cognition found.

### 4.3.3 PHYSICAL HEALTH AND COGNITIVE ABILITY

Over the life-course, changes in cardiovascular health, metabolites from gut biota, cumulative damage from oxidative stresses and damage from diseases such as diabetes are all implicated in the acceleration of cognitive ageing (Scientific Advisory Committee on Nutrition (SACN), 2018). Reviews have shown the positive effects of aerobic exercise on brain health, cognitive function and educational attainment from a young age (Biddle and Asare, 2011). Studies focussing on exercise in youth have tended to be cross-sectional or linked to the period covered by primary/secondary schooling. These studies tend to report only small positive effects. While detectable under laboratory conditions from early adulthood (Salthouse, 2004), the majority of exercise/diet-related cognitive ageing effects will not be obvious in daily life at 20 years of age when physical health is unlikely to be a major concern for most participants. For instance, in the previous *Growing Up in Ireland* wave at 17/18 years, 78 per cent of young people reported that their health was 'excellent' or 'very good' (McNamara, Murphy, Murray, Smyth & Watson, 2020).

However, lifestyle choices around diet and exercise made at this age do have links with cognitive changes in later life. A recent Delphi consensus study showed that many biological processes affecting cognitive ageing are modifiable by changes in diet and exercise (Andrade and Radhakrishnan, 2009). A multi-centre clinical trial has been started to test the hypothesis that earlier positive changes in exercise and diet have a greater protective effect against the onset and severity of dementia (Deckers et al., 2015).



A “Mediterranean diet”<sup>13</sup> has been linked with many of these protective effects. Bundy and Minihane (2018) reviewed a number of large cohort studies and randomized control studies showing that a main effect of this diet was preservation of cardiovascular health into later life. This helped to slow the onset and/or severity of clinically significant cognitive decline. Bundy and Minihane (2018) identified a core group of “best designed studies” showing a consistent protective effect of the Mediterranean diet in preserving cognitive function into later adulthood. These centred on the “Predimed” study. Effect sizes ranged from moderate (0.39) to large (1.29) across cognitive domains such as memory, frontal lobe function and global function (Martinez-Lapiscina et al., 2013a, 2013b).

Obesity has been tentatively linked to academic attainment, although much of this research is based on cross-sectional studies. One longitudinal study using nationally representative data found that higher weight status at age 11 was associated with lower academic attainment at ages 11, 13, and 16 for girls but not for boys (Booth, Tomporowski, Boyle, Ness, Joinson, Leary and Reilly, 2014). Although the mechanisms of that relationship (in the study by Booth et al.) were unclear, they did rule out some candidates such as mental health, IQ and age of menarche.

*Growing Up in Ireland* data can add to this body of research owing to the presence of BMI measures, diet and exercise modules, a 24-hour time-use diary that provides a view of rest periods and physical activity, as well as standardised test scores in earlier waves. Use of adult-appropriate cognition measures in this and future waves will allow for longitudinal analysis and contribute to wider cognition and physical health research.

#### 4.3.4 LIFESTYLE FACTORS AND COGNITIVE ABILITY

The most commonly consumed illegal drug is currently cannabis in its various forms. Current trends in Canada have led to the legalization of its sale and use (Task Force on Cannabis Legalization and Regulation, 2016). This has led to calls for similar liberalisation in Ireland, with some changes debated to allow for medical uses (See Cannabis for Medicinal Use Regulation Bill; Government of Ireland 2016). Recreational use of cannabis is seen as harmless by many, but there is considerable evidence for concern around both short-term and long-term uses, particularly among teens and young adults. A review by Volkow, Baler, Compton, and Weiss (2014) showed that in the short-term, cannabis use impairs short-term memory (making learning more difficult), motor-coordination (increasing risk of vehicle collisions), and in high doses can induce paranoia or psychosis. Long-term effects have been linked with addiction

---

<sup>13</sup> A Mediterranean diet is a diet high in fish, unsaturated fats, whole grains, fruits and vegetables, nuts and legumes.





and withdrawal, making stopping or reducing cannabis intake difficult (Volkow, Baler, Compton and Weiss, 2014; Batalla, Bhattacharyya and Yücel, 2013).

Considering alcohol as the other most commonly consumed recreational drug, research outlines the amplified mental health risks faced by adolescents with hazardous drinking patterns (Dooley and Fitzgerald, 2012), and suggests that problematic drinking increases during the early 20s so is therefore of particular concern for the current wave (age 20).

#### 4.3.5 SOCIO-EMOTIONAL HEALTH AND COGNITIVE ABILITY

A wide-ranging review by Castaneda, Tuulio-Henriksson, Marttunen, Suvisaari and Lonnqvist (2008) showed that cognitive impairments are common in young adults with major depression and anxiety. Deficits in attention, executive function, short-term and working memory are evident in major depression. There is a dearth of systematic research focussing on young adults in cases of milder depression, so it is unclear if sufferers incur the same deficits.

Generalised anxiety disorders have a negative impact on episodic memory and executive function, but the profile and nature of deficits seems tied to anxiety subtype or early or late development of the disorder (Airaksinen, Larsson, and Forsell, 2005). A further complicating factor is the issue of co-morbidity, where anxiety tends to co-occur alongside other disorders. Longitudinal studies also reveal that low childhood IQ is a significant risk factor for mental health problems such as schizophrenia in early adulthood (Koenen, Moffitt, Roberts, Martin et al., 2009).

These issues are of obvious public health concern. *Growing Up in Ireland* contains cognitive test data that will provide longitudinal information on development or decline, and over successive waves has collected information on emotional and mental health that could inform research on the risk factors and aetiology of psychological disorders across the lifespan. Starting at age 9 years, it may be possible to determine whether socio-emotional difficulties precede difficulties with cognitive tasks (or vice-versa) or whether an association that is detectable in primary school persists over time. Into the future, *Growing Up in Ireland* has the potential to act as a prospective study – should it be continued into later adulthood - supplying information that will aid development of future clinical practice.

#### 4.3.6 COGNITIVE ABILITY, EDUCATIONAL AND LABOUR FORCE OUTCOMES AT 20

As noted, some aspects of cognitive ability may start to decline as young as the 20s and 30s (Salthouse, 2009). Though the general pattern of decline in cognitive function over time does not appear to be reversible, with relatively little variation in rate of decline in the population at large (Salthouse, 2004, 2018a), a theory of 'cognitive reserve' (Stern, 2012) aims to explain the variation that is seen between individuals across the lifespan. A longitudinal study of cognitive reserve conducted with 7,765 adults over the age of 65 showed protective effects of working in cognitively demanding jobs at baseline (65 years) and in later life (77 years)



(Pool, Wueve, Wilson, Bultmann, Evans, and De Leon, 2016). These effects were seen to be independent of educational history and late-life health and lifestyle factors. One of the strengths of this study was the use of a wider variety of occupational categories, such as homemaking, which is often excluded from similar studies. There remained, however, an implicit assumption that the highest employment category reported was the dominant role assumed for that participant throughout adulthood; which left some unresolved issues such as the contributions of early and mid-adulthood occupations.

A longitudinal study with a wider view on the issue by Kaup, Xia, Launer, Sidney et al. (2018), the 'Coronary Artery Risk Development in Young Adults' (CARDIA) study data, showed that those engaging in cognitively demanding work showed higher cognitive performance later in life along with a slower rate of decline. Moreover, the CARDIA study began at a young age (18-30) for its participants, which allowed changes in employment history, cognition and risk factors to be monitored at two-five year intervals. Kaup et al. (2018) showed that cognitively demanding work, when begun early in adulthood (20s), was related to better cognitive health detectable as early as mid-life (40s-50s). Kaup et al. (2018) expanded on the neurological correlates of cognitive health across the lifespan. They observed that cognitive ageing resulted in a gradual loss of grey matter volume in the brain across participants. However, there was a greater white matter neuronal density exhibited among participants who began cognitively complex occupations at an early age. This manifested in superior processing speed and executive function performance, which are two key measures of cognitive health. The absolute gains and protective effects were modest, indicating that wider lifestyle risk factors play an important role in determining the rate of cognitive ageing. The question as to whether individuals with higher cognitive ability were more likely to take up more cognitively demanding jobs in the first place is something that *Growing Up in Ireland*, with the benefit of measures starting in primary school, is well-placed to examine (now) in terms of third-level education choices and occupational aspirations – and actual occupation in the future.

#### 4.3.7 POTENTIAL FOR GROWING UP IN IRELAND

The findings reviewed above underline how cognitive ability is linked to other characteristics and experiences. It also highlights how cognitive processing follows an expected trajectory, building up through childhood and adolescence, peaking in the early 20s before gradually declining. Other aspects such as the growth of knowledge and vocabulary continue to expand through much of adulthood, however. Cognitive development is affected by both earlier and contemporary contexts such as physical health, lifestyle, education and work.

As noted, a consideration of current and future influences on cognitive development is greatly enhanced by childhood measures of ability and attainment (as is the case in *Growing Up in Ireland*). These 'starting point' data help researchers to understand trajectories and the influence of decisions (such as what type of secondary school to go to, what subjects to take for the Leaving Certificate or whether to enter the labour market directly) have on the



outcomes of different groups of individuals. These outcomes may be considered now in relation to success in third-level education (e.g. the merit of attaining a place on a particular course) and also as milestones on the way to future success (or not). Furthermore, the multi-disciplinary nature of *Growing Up in Ireland* allows for a better understanding of how cognitive ability interacts with other features of the individual's context – such as parental wealth, education and employment – to influence outcomes in education, employment and health.



# Chapter 5

## CONCLUSION





## 5 CONCLUSION

This literature review can inform future policy strategies as well as be considered within the context of Ireland's national policy framework for children and young people, Better Outcomes, Brighter Futures (DCYA, 2014). That report identified five key national outcomes (each with four key aims) to successfully promote and further the wellbeing of children and young people in Ireland. All five outcomes are listed below, along with a guide to the relevant section(s) of this literature review that address each.

### 1. *Active and healthy (physical and mental well-being)*

The enjoyment of play, recreation and sport is cited as a key aim of this first outcome. With this in mind, the importance of physical health is addressed throughout chapter 2 of this review. The physical (and mental) health benefits of exercise and sport are covered in depth in section 2.2 and the association between physical health and cognitive ability is covered in section 4.3. Research suggests that late adolescence tends to coincide with a reduction in sport and exercise participation, a trend which can continue into adulthood.

In terms of positive mental health, another key aim of this outcome, there are sections devoted to predictors of psychiatric and psychological disorders (section 3.2) and coping with stress (section 3.3). The ill-effects of illicit drug use are discussed in section 2.1, particularly the links between drug use and mental health issues. Emerging adulthood is linked with increased risk-taking behaviour, including illicit drug consumption. Cannabis is the most commonly consumed drug at this age and has been linked to a range of negative mental health outcomes. The importance of a positive approach to sexual health (another key aim) is also very briefly discussed in the section (2.3) covering use of health services. In terms of tackling challenges to young people's physical and mental health, a key feature of *Growing Up in Ireland* is the potential to consider the context in which problems arise (or are avoided or overcome). This context may be investigated in terms of mediating or moderating effects, but also to facilitate a more rounded picture of life as a 20-year-old, where risks are part of a package that includes new opportunities for volunteering, civic engagement and autonomy.

### 2. *Achieving in all areas of learning and development (education, learning and development)*

Education and early employment pathways are discussed in detail in this review. Engagement in learning is a key aim of this outcome and is addressed in section 1.2 (education pathways) and section 4.1 (reasons for and barriers to third-level education choices). Another key aim is achievement in education, and the benefits accruing from same, and this is addressed in the sections on youth labour market outcomes, unemployment rates, job stability, earnings and youth migration (4.2). Cognitive development by age 20 years, arguably the peak of ability, is discussed in Section 4.3 which noted the interaction between achievement in this domain and other areas of life. It also considered the importance of ability in relation to life decisions such as education and occupation. Research suggests that educational attainment is the most important predictor of youth labour market outcomes; higher education tends to lead to more



highly skilled professional jobs, while leaving school early increases the risk of experiencing unemployment or low wages.

### 3. *Safe and protected from harm*

Through this third outcome of Better Outcomes, Brighter Futures, the aim is to ensure that young people have a secure and stable home environment, are safe from abuse and neglect, are protected against bullying and discrimination, and safe from crime and anti-social behaviour. This is partly addressed in section 3.1 of this review, where young people's changing relationships with their parents are explored. The parent-child relationship is deemed to be more important for a young person's development than either family income or structure, and can influence their academic, social and emotional functioning. It is usually during emerging adulthood that young people begin leaving the family home. This can lead to a reduction in conflict with parents but reduced emotional closeness and parental monitoring too.

Elsewhere in the review, safety is linked to the section on use of illicit drugs (Section 2.1). Research suggests that there is a complex association between drug use and other risks such as engagement in crime.

### 4. *Economic security and opportunity*

This outcome aims to ensure that children and young people are protected from poverty, can live in youth-friendly sustainable communities, have opportunities for ongoing training and education and can avail of pathways to economic participation. These aims are broadly covered in this report in sections 1.2 and 4.2, which relate to youth employment pathways and labour market outcomes.

Entering higher education remains the most common post-secondary school pathway for young people in Ireland today. This trend might partly be explained by the fact that higher education tuition is usually free. Even so, young people from lower income backgrounds may need financial support (grants, etc.) to meet the associated costs of continued education. Longitudinally, research from earlier waves of ***Growing Up in Ireland*** has consistently pointed to inequalities along socio-economic lines and the apparently enduring negative effects of economic disadvantage emerged as a risk factor for poorer outcomes in several areas of this review: psychological disorder, cannabis use and access to higher education among them.

Whilst many young adults will hope to leave the family home, faced with the current rising rental costs in many areas, they may be obliged to remain at home. Across Europe, the age at which they leave home has risen to 25 years for women and 27 years for men, and even later in Ireland. This, in turn, tends to lead to higher levels of conflict with parents. The changing context of 'being 20 years' and marking the move to adulthood is outlined in chapter 1, in conjunction with the theoretical frameworks relevant to that transition period.



### 5. *Connected, respected and contributing to their world*

This final outcome aims to ensure that young people have their own sense of identity free from discrimination, that they have a positive friend/family/community network, are civically engaged, and aware of their rights and responsibilities. As previously mentioned, this review includes discussion on coping styles in response to stress which may include beneficial social support-seeking behaviours, as well as maladaptive behaviours such as drug-taking, two issues that come under the auspices of this outcome. An over-arching theme of this review at age 20 years is how many decisions that influence outcomes now reside primarily or solely with the young person. Examples include decisions on further education and employment, whether to live independently, the use of health services, exercise, and the use (or not) of drugs. As noted in Chapter 1, the introduction, young adults are now engaging directly with many of the agencies of the State (for example, in relation to housing and welfare) rather than through their parents; and their potential to contribute directly through civic participation and taxation has broadened considerably.

As outlined throughout this literature review, the *Growing Up in Ireland* data are rich and full of valid, reliable, well-researched measures which are collected both cross-sectionally and longitudinally. Furthermore, with the younger cohort having now reached 9 years (the age at first wave of the current older cohort), there are now possibilities for cross-cohort comparisons. This provides a unique opportunity to research causal and directional pathways, and to understand the impact of macro-level factors and period effects through cross-cohort comparisons. This is the only large-scale, longitudinal and nationally representative study on the Irish population that has spanned primary school to age 20 and provides an extremely valuable data set for researchers to investigate developmental questions through childhood, adolescence and the transition to adulthood.





## 6 REFERENCES

- Aaron, D. J., Kriska, A. M., Dearwater, S. R., Cauley, J. A., Metz, K. F., & LaPorte, R. E. (1995). Reproducibility and validity of an epidemiologic questionnaire to assess past year physical activity in adolescents. *American Journal of Epidemiology*, 142(2), 191-201. doi:10.1093/oxfordjournals.aje.a117618
- Abel, J. R. & Deitz, R. (2014). Do the benefits of college still outweigh the costs? *Current Issues in Economics and Finance*, 20(3).
- Achenbach, T. (1991). *Manual for the Youth Self-Report and 1991 Profile*. Burlington, VT: University of Vermont.
- Airaksinen, E., Larsson, M., & Forsell, Y. (2005). Neuropsychological functions in anxiety disorders in population-based samples: evidence of episodic memory dysfunction. *Journal of Psychiatric Research*, 39(2), 207-214. doi: 10.1016/j.jpsychires.2004.06.001
- American Academy of Arts and Science (2018). *The Employment Status of Humanities Majors*. Retrieved from <https://www.humanitiesindicators.org/content/indicatordoc.aspx?i=10919>.
- American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4<sup>th</sup> ed., text rev.). Washington, DC: American Psychiatric Association.
- Amirkhan, J. H. (1990). A factor analytically derived measure of coping: The Coping Strategy Indicator. *Journal of Personality and Social Psychology*, 59(5), 1066-1074. doi:10.1037/0022-3514.59.5.1066
- Anda, R. F., Whitfield, C. L., Felitti, V. J., Chapman, D., Edwards, V. J., Dube, S. R., & Williamson, D. F. (2002). Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression. *Psychiatric services*, 53(8), 1001-1009.
- Anda, R. F., Brown, D. W., Felitti, V. J., Bremner, J. D., Dube, S. R., & Giles, W. H. (2007). Adverse childhood experiences and prescribed psychotropic medications in adults. *American journal of preventive medicine*, 32(5), 389-394.
- Andersen, RM. (1995). Revisiting the behavioural model and access to medical care: does it matter? *Journal of Health and Social Behaviour*, 36(1), 1-10.
- Andrade, C., & Radhakrishnan, R. (2009). The prevention and treatment of cognitive decline and dementia: An overview of recent research on experimental treatments. *Indian journal of psychiatry*, 51(1), 12.
- Andreasson, S., Allebeck, P., & Romelsjo, A. (1988). Alcohol and mortality among young men: longitudinal study of Swedish conscripts. *British Medical Journal*, 296, 1021-1025.
- Angold, A., Costello, E. J., Messer, S. C., Pickles, A., Winder, F., & Silver, D. (1995). Development of a short questionnaire for use in epidemiological studies of depression in children and adolescents. *International Journal Methods in Psychiatric Research*, 5, 237-249.
- Aquilino, W. S. (1997). From adolescent to young adult: A prospective study of parent-child relations during the transition to adulthood. *Journal of Marriage and the Family*, 59(3), 670-686.
- Aquilino, W. S. (1999). Two views of one relationship: Comparing parents' and young adult children's reports of the quality of intergenerational relations. *Journal of Marriage and the Family*, 61(4), 858-870.
- Arnett, J.J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469-480.
- Arnett, J. J. (2005). The developmental context of substance use in emerging adulthood. *Journal of Drug Issues*, 35(2), 235-254.
- Arnett, J. J. (2007). Afterword: Aging out of care – toward realizing the possibilities of emerging adulthood. *New Directions in Youth Development*, 113, 151-161.
- Arnett, J. J. (2010). *Adolescence and emerging adulthood: A cultural approach* (4th ed.). Boston: Prentice Hall.
- Arnett, J. J., Zukauskienė, R. & Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18-29 years: implications for mental. *Lancet Psychiatry*, 1(7), 569-76.
- Arseneault, L., Cannon, M., Witton, J., & Murray, R. M. (2004). Causal association between cannabis and psychosis: Examination of the evidence. *British Journal of Psychiatry*, 184, 110-117.
- Backer-Fulghum, L. M., Patock-Peckham, J. A., King, K. M., Roufa, L., & Hagen, L. (2012). The stress-response dampening hypothesis: How self-esteem and stress act as mechanisms between negative parental bonds and alcohol-related problems in emerging adulthood. *Addictive Behaviors*, 37(4), 477-484.
- Banks, M. H., & Jackson, P. R. (1982). Unemployment and risk of minor psychiatric disorder in young people: Cross-sectional and longitudinal evidence. *Psychological Medicine*, 12(4), 789-798.
- Batalla, A., Bhattacharyya, S., & Yücel, M. (2013). Structural and functional imaging studies in chronic cannabis



- users: a systematic review of adolescent and adult findings. *PLoS One*, 8(2), e55821.
- Bech, P., Rasmussen, N. A., Olsen, L. R., Noerholm, V., & Abildgaard, W. (2001). The sensitivity and specificity of the Major Depression Inventory, using the Present State Examination as the index of diagnostic validity. *Journal of Affective Disorders*, 66(2-3), 159-164. doi:10.1016/s0165-0327(00)00309-8
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the BDI-II*. In. San Antonio, TX: Psychological Corporation.
- Bell, D., & Blanchflower, D.G. (2011). Young people and the Great Recession. *Oxford Review of Economic Policy*, 27(2), 241-267.
- Bell, S. & Lee, C. (2005). Emerging adulthood and patterns of physical activity among young Australian women. *International Journal of Behavioral Medicine*, 12(4), 227-235.
- Bell, S. & Lee, C. (2008). Transitions in emerging adulthood and stress among young Australian women. *International Journal of Behavioral Medicine*, 15(4), 280-288.
- Benjet, C., Borges, G., Méndez, E., Albor, Y., Casanova, L., Orozco, R., ... Medina-Mora, M. E. (2016). Eight-year incidence of psychiatric disorders and service use from adolescence to early adulthood: longitudinal follow-up of the Mexican Adolescent Mental Health Survey. *European Child and Adolescent Psychiatry*, 25, 163-173.
- Bergin, A., Kelly, E. & Redmond, P. (2020) The labor market in Ireland, 2000-2018. *IZA World of Labor* 410, 1-12. 410 doi: 10.15185/izawol.410.v2
- Biddle, S. J., & Asare, M. (2011). Physical activity and mental health in children and adolescents: a review of reviews. *British Journal of Sports Medicine*, 45(11), 886-895. doi: 10.1136/bjsports-2011-090185
- Bifulco, A., Moran, P. M., Ball, C., Jacobs, C., Baines, R., Bunn, A., & Cavagin, J. (2002). Childhood adversity, parental vulnerability and disorder: examining inter-generational transmission of risk. *Journal of Child Psychology and Psychiatry*, 43(8), 1075-1086.
- Bivand, P. (2012) *Generation Lost: Youth Unemployment and the Youth Labour Market*. Trade Union Congress: London.
- Blanco, C., Okuda, M., Wright, C., Hasin, D. S., Grant, B. F., Liu, S.-M, Olfson, M. (2008). Mental health of college students and their non-college-attending peers: Results from the National Epidemiologic Study on Alcohol and Related Conditions. *Archives of General Psychiatry*, 65(12), 1429-1437.
- Blaney, C., & Mulkeen, S. (2008). *Student Retention in a Modular World – A Study of Student Retention UCD Entrants 1999-2007*. Dublin: University College Dublin.
- Booth, J. N., Tomporowski, P. D., Boyle, J. M. E., Ness, A. R., Joinson, C., Leary, S. D., & Reilly, J. J. (2014). Obesity impairs academic attainment in adolescence: findings from ALSPAC, a UK cohort. *International Journal of Obesity*, 38(10), 1335-1342. doi:10.1038/ijo.2014.40
- Bortolato, B., Köhler, C. A., Evangelou, E., León-Caballero, J., Solmi, M., Stubbs, B., . . . Vieta, E. (2017). Systematic assessment of environmental risk factors for bipolar disorder: an umbrella review of systematic reviews and meta-analyses. *Bipolar disorders*, 19(2), 84-96.
- Bovier, P. A., Chamot, E. & Perneger, T. V. (2004). Perceived stress, internal resources, and social support as determinants of mental health among young adults. *Quality of Life Research*, 13(1), 161-170.
- Boyle, M., & Jones, S. J. (1985). Selecting measures of emotional and behavioral disorders of children for use in general populations. *Journal of Clinical Psychology and Psychiatry*, 26, 137-159.
- Brannan, M., Varney, J., Timpson, C., Foster, C., & Murphy, M. (2017). *10 minutes brisk walking each day in mid-life for health benefits and towards achieving physical activity recommendations: Evidence summary*. London: Public Health England publications.
- Brietzke, E., Mansur, R. B., Soczynska, J., Powell, A. M., & McIntyre, R. S. (2012). A theoretical framework informing research about the role of stress in the pathophysiology of bipolar disorder. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 39(1), 1-8.
- Bronfenbrenner, U. & Morris, P. A. (2006). The Bioecological Model of Human Development. In R. M. Lerner & W. Damon (eds.), *Handbook of Child Psychology*, Wiley & Sons.
- Brunet, J., Sabiston, C. M., Chaiton, M., Barnett, T. A., O'Loughlin, E., Low, N. C. P., & O'Loughlin, J. L. (2013). The association between past and current physical activity and depressive symptoms in young adults: A 10-year prospective study. *Annals of Epidemiology*, 23(1), 25-30.
- Bundy, R., & Minihane, A. M. (2018). Diet, exercise and dementia: The potential impact of a Mediterranean diet pattern and physical activity on cognitive health in a UK population. *Nutrition Bulletin*, 43(3), 284-289.



- doi: 10.1111/nbu.12339
- Bureau of Labor Statistics. (2018). *Employment Projections*. Retrieved from: <https://www.bls.gov/emp/chart-unemployment-earnings-education.htm>
- Butler, S. & Mayock, P. (2005). An Irish solution to an Irish problem': harm reduction and ambiguity in the drug policy of the Republic of Ireland. *International Journal of Drug Policy*, 16(6), 415-422.
- Byrne, D., & Smyth, E. (2010). *No way back? The dynamics of early school leaving*. Dublin: The Liffey Press.
- Byrne, D., McCoy, S., & Watson, D. (2009). *School Leavers' Survey Report 2007*. Dublin: ESRI and Department of Education and Science.
- Canivet, C., Boden, T., Emmelin, M., Toivanen, S., Moghaddassi, M., & Östergren, P.O. (2016). Precarious employment is a risk factor for poor mental health in young individuals in Sweden: a cohort study with multiple follow-ups. *BMC Public Health*, 16(687). DOI: 10.1186/s12889-016-3358-5
- Cannon, M., Coughlan, H., Clarke, M., Harley, M., & Kelleher, I. (2013). *The mental health of young people in Ireland: A report of the Psychiatric Epidemiology Research across the Lifespan (PERL) Group*. Dublin: Royal College of Surgeons in Ireland.
- Carver, C. S. (2013). *COPE Inventory. Measurement Instrument Database for the Social Sciences*. Retrieved from: [www.midss.org](http://www.midss.org).
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267-283. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/2926629>
- Caspersen, C. J., Pereira, M. A., & Curran, K. M. (2000). Changes in physical activity patterns in the United States, by sex and cross-sectional age. *Medicine and Science in Sports and Exercise*, 32(9), 1601-1609.
- Caspersen, C. J., Powell, K. E., Christenson, G. M. (1985). Physical activity, exercise, and physical fitness: Definitions and distinctions for health-related research. *Public Health Reports*, 100(2), 126-131.
- Castaneda, A. E., Tuulio-Henriksson, A., Marttunen, M., Suvisaari, J., & Lonnqvist, J. (2008). A review on cognitive impairments in depressive and anxiety disorders with a focus on young adults. *Journal of Affect Disorders*, 106(1-2), 1-27. doi: 10.1016/j.jad.2007.06.006
- Catella Group (2019). *Catella: Rents and sale prices rising in the European housing markets, yields falling*. Retrieved from <https://www.catella.com/en/germany/research/european-residential-market-map-2019>
- Cekin, R. (2015). Psychological benefits of regular physical activity: Evidence from emerging adults. *Universal Journal of Educational Research*, 3(10), 710-717.
- Central Statistics Office (CSO). (2016a). *Census of Population 2016 - Profile 9 Health, Disability and Carers - Types of disability*. Retrieved from: <https://www.cso.ie/en/releasesandpublications/ep/p-cp9hdc/p8hdc/p9tod/>
- Central Statistics Office (CSO). (2016b). *Census of the Population 2016- Profile 10 Education, Skills and the Irish Language*. Retrieved August 17, 2018 from: <https://www.cso.ie/en/releasesandpublications/er/mue/monthlyunemploymentjuly2018/>
- Central Statistics Office (CSO), (2016c). *Vital statistics yearly summary 2016*. (Table 12). Retrieved from: <https://www.cso.ie/en/releasesandpublications/ep/pvsys/vitalstatisticsyearlysummary2016/>
- Central Statistics Office (CSO), (2016d) *Profile 1 Housing in Ireland – Tenure and Rent*. Dublin: Stationery Office. Retrieved from <https://www.cso.ie/en/releasesandpublications/ep/p-cp1hii/cp1hii/tr/>
- Central Statistics Office (CSO). (2017). *Population and Migration Estimates – April 2017*. Retrieved from: [www.cso.ie/en/releasesandpublications/er/pme/populationandmigrationestimatesapril2017/](http://www.cso.ie/en/releasesandpublications/er/pme/populationandmigrationestimatesapril2017/)
- Central Statistics Office (CSO). (2018a). *CJA01: Recorded crime offences under reservation by type of offence and year*. Retrieved from: <https://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/saveselections.asp>
- Central Statistics Office (CSO). (2018b). *Educational Attainment Thematic Report*. Retrieved August 17, 2018 from: <https://www.cso.ie/en/releasesandpublications/er/eda/educationalattainmentthematicreport2017/>
- Central Statistics Office (CSO). (2018c). *Residential property prices rise by 12.3% in the year to December*. Retrieved from: <https://www.cso.ie/en/releasesandpublications/ep/p-rppi/residentialpropertypriceindexdecember2017/>
- Central Statistics Office (CSO). (2018d). *Monthly unemployment*. Retrieved from: <https://www.cso.ie/en/releasesandpublications/er/mue/monthlyunemploymentjuly2018/>
- Central Statistics Office (CSO). (2019). *Population and migration estimates for April 2019*. Retrieved from <https://www.cso.ie/en/releasesandpublications/er/pme/populationandmigrationestimatesapril2019/>.



- Central Statistics Office (CSO). (2020) *Unemployment rate*. Retrieved from <https://statbank.cso.ie/indicators/default.aspx?id=2MUM01>
- Chang, H. (2007). Psychological distress and help-seeking among Taiwanese college students: Role of gender and student status. *British Journal of Guidance and Counselling*, 35(3), 347-355.
- Cheung, A. H., & Dewa, C. S. (2007). Mental health service use among adolescents and young adults with major depressive disorder and suicidality. *The Canadian Journal of Psychiatry*, 52(4), 228-232.
- Christofides, L. N., Cirello, J., & Hoy, M. (2001). Family Income and Postsecondary Education in Canada. *Canadian Journal of Higher Education*, 31(1), 177-2087.
- Clement, S., Schauman, O., Graham, T., Maggioni, F., Evans-Lacko, S., Bezborodovs, N., . . . Thornicroft, G. (2015). What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies. *Psychological Medicine*, 45, 11-27.
- Cooley, E. & Toray, T. (2001). Body image and personality predictors of eating disorder symptoms during the college years. *International Journal of Eating Disorders*, 30(1), 28-36.
- Corbin, W. R., Farmer, N. M. & Nolen-Hoekesma, S. (2013). Relations among stress, coping strategies, coping motives, alcohol consumption and related problems: A mediated moderation model. *Addictive Behaviours*, 38(4), 1912-1919.
- Corder, K., Winpenney, E., Love, R., Brown, H. E., White, M., & van Sluijs, E. (2017). Change in physical activity from adolescence to early adulthood: a systematic review and meta-analysis of longitudinal cohort studies. *British Journal of Sports Medicine*, 1, 1-9.
- Côté, J. E. (2014). The Dangerous Myth of Emerging Adulthood: An Evidence-Based Critique of a Flawed Developmental Theory. *Applied Developmental Science*, 18(4), 177-188.  
doi:10.1080/10888691.2014.954451
- Courtney, K. E., & Polich, J. (2009). Binge drinking in young adults: Data, definitions, and determinants. *Psychological Bulletin*, 135(1), 142-156. doi: 10.1037/a0014414
- Crowley, U., Mahon, C., & Strain, E. (2012). *Progression and non-completion in undergraduate students: Moving from academic disengagement to academic engagement*. Paper presented at the International Conference on Engaging Pedagogy, Dublin, Ireland. Retrieved from [http://eprints.teachingandlearning.ie/2849/1/Mahon%20et%20al%202012%20icpe12\\_submission\\_16%281%29.pdf](http://eprints.teachingandlearning.ie/2849/1/Mahon%20et%20al%202012%20icpe12_submission_16%281%29.pdf)
- Cullinan, J., Flannery, D., Walsh, S., & McCoy, S. (2013). Distance effects, social class and the decision to participate in higher education in Ireland. *The Economic and Social Review*, 44(1, Spring), 19-51.
- Darmody, M., Byrne, D., & McGinnity, F. (2014). Cumulative disadvantage? Educational careers of migrant students in Irish secondary schools. *Race Ethnicity and Education*, 17(1), 129-151.
- Deckers, K., van Boxtel, M. P., Schiepers, O. J., de Vugt, M., Munoz Sanchez, J. L., Anstey, K. J., . . . Kohler, S. (2015). Target risk factors for dementia prevention: a systematic review and Delphi consensus study on the evidence from observational studies. *International Journal of Geriatric Psychiatry*, 30(3), 234-246. doi: 10.1002/gps.4245
- de Girolamo, G., Dagani, J., Purcell, R., Cocchi, A., & McGorry, P. D. (2012). Age of onset of mental disorders and use of mental health services: Needs, opportunities and obstacles. *Epidemiology and Psychiatric Sciences*, 21(1), 47-57.
- De Graaf, R., Tuithof, M., van Dorsselaer, S., & ten Have, M. (2012). Comparing the effects on work performance of mental and physical disorders. *Social Psychiatry and Psychiatric Epidemiology*, 47(11), 1873-1883.
- Degenhardt, L., Ferrari, A. J., Calabria, B., Hall, W. D., Norman, R. E., McGrath, J., . . . Vos, T. (2013). The global epidemiology and contribution of cannabis use and dependence to the global burden of disease: results from the GBD 2010 study. *PLoS one*, 8(10), e76635.
- Deming, D., & Dynarski, S. (2010). *College aid*. In *Targeting investments in children: Fighting poverty when resources are limited* (pp. 283-302). Chicago: University of Chicago Press.
- Department of Children & Youth Affairs. (2011). *National Strategy for Research and Data on Children's Lives 2011 – 2016*. Dublin: Government Publications.
- Department of Children & Youth Affairs. (2014). *Better outcomes, brighter futures: The National Policy Framework for children and young people 2014 – 2020*. Dublin: Government Publications.
- Department of Children & Youth Affairs. (2015a). *High-level policy statement on supporting parents and families ('Parenting and Family Support')*. Dublin: Government Publications.





- Department of Children & Youth Affairs. (2015b). *National Youth Strategy 2015-2020*. Dublin: Government Publications. Available at: [www.dcyia.ie](http://www.dcyia.ie)
- Department of Health. (2013). *Healthy Ireland - A framework for improved health and wellbeing 2013 - 2025*. Dublin: Department of Health.
- Department of Health. (2017). *Reducing Harm, Supporting Recovery: A health-led response to drug and alcohol use in Ireland 2017 - 2025*. Retrieved from: [http://www.drugs.ie/downloadDocs/2017/ReducingHarmSupportingRecovery2017\\_2025.pdf](http://www.drugs.ie/downloadDocs/2017/ReducingHarmSupportingRecovery2017_2025.pdf)
- Department of Health. (2018). *Slaintecare Implementation Strategy*. Retrieved from: <https://www.gov.ie/en/campaigns/slaintecare-implementation-strategy/>
- Devotta, M., Ankita, R., & Vijayabanu, U. (2014). Relationship between temperament and coping among young adults living away from family. *Indian Journal of Health and Wellbeing*, 5(10), 1137-1144.
- Di Forti, M., Marconi, A., Carra, E., Fraitetta, S., Trotta, A., Bonomo, M....Murray, R. M. (2015). Proportion of patients in south London with first-episode psychosis attributable to use of high potency cannabis: a case-control study. *The Lancet Psychiatry*, 2(3), 233-238.
- Dooley, B., & Fitzgerald, A. (2012). *My World Survey: National study of youth mental health in Ireland*. Dublin: Headstrong.
- Dubas, J. S., & Petersen, A. C. (1996). Geographical distance from parents and adjustment during adolescence and young adulthood. *New Directions for Child Development*, 71, 3-19.
- Dyson, R., & Renk, K. (2006). Freshmen adaptation to university life: Depressive symptoms, stress, and coping. *Journal of Clinical Psychology*, 62(10), 1231-1244.
- Eaves, E. R., Behrens, T. K., Dinger, M. K., Hines, L., Brittain, D. R. & Harbour, V. J. (2017). Demographic trends in Utah college students' vigorous physical activity, 2003-2007. *American Journal of Health Behavior*, 41(4), 437-445.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity*, 10(135), 1-21.
- Eisenberg, D., Hunt, J., & Speer, N. (2012). Help seeking for mental health on college campuses: Review of evidence and next steps for research and practice. *Harvard Review of Psychiatry*, 20(4), 222-232.
- Eisenberg, D., Hunt, J., Speer, N., & Zivin, K. (2011). Mental health service utilization among college students in the United States. *Journal of Nervous and Mental Disease*, 199, 301-308.
- Eivers, E., Flanagan, R., & Morgan, M. (2002). *Non-completion in Institutes of Technology: An Investigation of Preparation, Attitudes and Behaviour Among First Year Students*. Dublin: Educational Research Centre.
- Elder, G.H. & Giele, J.Z. (2009). *The Craft of Life Course Research*. New York, Guilford Press.
- Ellickson, P.L., Martino, S.C. & Collins, R.L. (2004). Marijuana use from adolescence to young adulthood: multiple developmental trajectories and their associated outcomes. *Health Psychology*, 23(3), 299-307.
- EMCDDA. (2011). *Drug policy profiles: Portugal*. Luxembourg: European Monitoring Centre for Drugs and Drug Addiction.
- EMCDDA. (2014). *Ireland: 2014 National Report*. Luxembourg: European Monitoring Centre for Drugs and Drug Addiction.
- EMCDDA. (2019). *Ireland: Country Drug Report 2019*. Luxembourg: European Monitoring Centre for Drugs and Drug Addiction.
- Endrass, J., Vetter, S., Gamma, A., Gallo, W. T., Rossegger, A., Urbaniok, F., & Angst, J. (2007). Are behavioral problems in childhood and adolescence associated with bipolar disorder in early adulthood? *European Archives of Psychiatry Clinical Neuroscience*, 257(4), 217-221. doi:10.1007/s00406-006-0710-2
- Eurofound. (2014). *Mapping Youth Transitions in Europe*. Luxembourg: Publications Office of the European Union.
- Eurofound. (2018). *Burnout in the workplace: A review of data and policy responses in the EU*. Luxembourg: Publications Office of the European Union.
- Eurostat. (2018). *Employment rate by educational attainment level*. Retrieved from [https://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=tepsr\\_wc120&language=en](https://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=tepsr_wc120&language=en)
- Eurostat. (2020). *Age of young people leaving their parental home*. Retrieved from <https://ec.europa.eu/eurostat/statistics-explained/pdfscache/87422.pdf>



- Evans, L. & Wertheim, E. H. (1998). Intimacy patterns and relationship satisfaction of women with eating problems and the mediating effects of depression, trait anxiety and social anxiety. *Journal of Psychosomatic Research*, 44(3-4), 355-365.
- Evans, G. W. & Cassells, R. C. (2014). Childhood poverty, cumulative risk exposure, and mental health in emerging adults. *Clinical Psychological Science*, 2(3) 287–296.
- Fagel, S., de Sonnevile, L., van Engeland, H., & Swaab, H. (2014). School-associated problem behavior in childhood and adolescence and development of adult schizotypal symptoms: a follow-up of a clinical cohort. *Journal of abnormal child psychology*, 42(5), 813-823.
- Farholm, A., Sørensen, M., Halvari, H., & Hynnekleiv, T. (2017). Associations between physical activity and motivation, competence, functioning, and apathy in inhabitants with mental illness from a rural municipality: A cross-sectional study. *BMC Psychiatry*, 17(359), 1-11.
- Farrell, L., Hollingsworth, B., Propper, C., & Shields, M. A. (2013). *The socioeconomic gradient in physical inactivity in England* (Working Paper No. 13/311). Retrieved from: <http://www.bristol.ac.uk/media-library/sites/cmpo/migrated/documents/wp311.pdf>
- Feistman, R., Jamison, T., Coleman, M., & Ganong, L. (2016). Renegotiating non-residential father-child relationships during emerging adulthood. *Family Relations*, 65(5), 673-687.
- Fergusson, D.M., Boden, J.M. & Horwood, J. (2005). Cannabis use and other illicit drug use: testing the cannabis gateway hypothesis. *Addiction*, 101(4), 556-569.
- First, M. B., Spitzer, R. L, Gibbon M., & Williams, J. B. W. (2002). *Structured Clinical Interview for DSM-IV-TR Axis I Disorders*. Research Version. Non-patient Edition. (SCID-I/NP). New York: Biometrics Research, New York State Psychiatric Institute.
- Folkman, S. (2008). The case for positive emotions in the stress process. *Anxiety Stress Coping*, 21(1), 3-14. doi:10.1080/10615800701740457
- French, M. T., Maclean, J. C., Sindelar, J. L., & Fang, H. (2011). The morning after: alcohol misuse and employment problems. *Applied Economics*, 43(21), 2705-2720.
- Frenette, M. (2006). Too far to go on? Distance to school and university participation. *Education Economics*, 14(1), 31-58.
- Frisher, M., Crome, I., Macleod, J., Bloor, R., & Hickman, M. (2007). *Predictive factors for illicit drug use among young people: A literature review*. Home Office Online Report 05/07. Retrieved from: <http://dera.ioe.ac.uk/6903/1/rdsolr0507.pdf>
- Fryer, T. & Brugha, T. (2013). Childhood determinants of adult psychiatric disorder. *Clinical Practice Epidemiology Mental Health*, 9, 1-50.
- Gangl, M. (2002). Changing labour markets and early career outcomes: labour market entry in Europe over the past decade. *Work, Employment and Society*, 16(1), 67-90.
- Garbarino, J. (1982). *Children and Families in the Social Environment*. Hawthorne, Aldine de Gruyer; New York.
- Gilman, S. E., Kawachi, I., Fitzmaurice, G. M., & Buka, S. L. (2002). Socioeconomic status in childhood and the lifetime risk of major depression. *International Journal of Epidemiology*, 31, 359-367.
- Glynn, I., Kelly, T., & MacÉinrí, P. (2015). *Irish emigration in an age of austerity*. Cork: Department of Geography & Institute for the Social Sciences in the 21st Century, Cork: University College Cork.
- Goldscheider, F. K., Hofferth, S. L., & Curtin, S. C. (2014). Parenthood and leaving home in young adulthood. *Population Research and Policy Review*, 33(6), 771-796.
- Gondré-Lewis, M. C., Warnock, K. T., Wang, H., June Jr, H. L., Bell, K. A., Rabe, H., . . . June Sr, H. L. (2016). Early life stress is a risk factor for excessive alcohol drinking and impulsivity in adults and is mediated via a CRF/GABAA mechanism. *Stress*, 19(2), 235-247.
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38, 581-586. Retrieved from <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1469-7610.1997.tb01545.x>
- Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of American Academy of Child Adolescent Psychiatry*, 40(11), 1337-1345. doi:10.1097/00004583-200111000-00015
- Gordon-Larsen, P., Nelson, M. C., & Popkin, B. M. (2004). Longitudinal physical activity and sedentary behavior trends: Adolescence to adulthood. *American Journal of Preventive Medicine*, 27(4), 277-283.
- Government of Ireland. (2000). *The National Children's Strategy: Our Children – Their Lives*. Dublin: Stationery Office.



- Government of Ireland. (2006). *A vision for change: Report of the expert group on mental health policy*. Dublin: Stationery Office.
- Government of Ireland. (2011). *Student support act 2011*. Dublin: Stationery Office.
- Government of Ireland. (2016). *Cannabis for medicinal use regulation bill 2016*. Dublin: Stationery Office.
- Government of Ireland. (2018a). *Mental Health (Amendment) Act 2018*. Dublin: Stationery Office.
- Government of Ireland. (2018b). *Wellbeing Policy Statement and Framework for Practice 2018–2023*. Dublin: Department of Education and Skills.
- Greif Green, J., McLaughlin, K. A., Berglund, P. A., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., Kessler, R. C. (2010). Childhood Adversities and Adult Psychiatric Disorders in the National Comorbidity Survey Replication I: Associations with first onset of DSM-IV Disorders. *Archives of General Psychiatry*, 67(2), 113-123.
- Grigoriadis, S. & Robinson, G. E. (2007). Gender Issues in Depression, *Annals of Clinical Psychiatry*, 19(4), 247-255.
- Grodsky, E., & Jones, M. T. (2007). Real and imagined barriers to college entry: Perceptions of cost. *Social Science Research*, 36(2), 745-766.
- Growing Up in Ireland Study Team (2009). *Key findings: 9-year olds, The health of 9-year-olds*. (No.4). Dublin: ESRI/TCD/OMCYA
- Growing Up in Ireland Study Team (2012a). *Key findings: 13-year olds, Physical activity and obesity among 13-year-olds* (No.2). Dublin: ESRI/TCD/DCYA.
- Growing Up in Ireland Study Team (2012b). *Key findings: 13-year olds, The lives of 13-year-olds: Their relationships, feelings and behaviours* (No.4). Dublin: ESRI/TCD/DCYA
- Growing Up in Ireland Study Team (2013). *Key findings: Infant Cohort (at 5 years), Social-emotional well-being of five-year-olds* (No. 2). Dublin: ESRI/TCD/DCYA
- Growing Up in Ireland Study Team. (2016a). *Key findings: Child Cohort at 17/18-years, Risky health behaviours and sexual activity* (No.4). Dublin: ESRI/TCD/DCYA.
- Growing Up in Ireland Study Team. (2016b). *Key findings: Child Cohort at 17/18-years, Health, weight, physical activity and diet* (No.2). Dublin: ESRI/TCD/DCYA.
- Growing Up in Ireland Study Team. (2016c). *Key findings: Child Cohort at 17/18-years, Life satisfaction, relationships and mental health* (No.3). Dublin: ESRI/TCD/DCYA
- Growing Up in Ireland Study Team (2016d). *Key findings: Child Cohort at 17/18-years, Education and early work experiences* (No.1). Dublin: ESRI/TCD/DCYA.
- Hall, K. S., Moreau, C., & Trussell, J. (2012). Determinants of and disparities in reproductive health service use among adolescent and young adult women in the United States, 2002-2008. *American Journal of Public Health*, 102(2), 359-367.
- Hall, W. D., & Lynskey, M. (2005). Is cannabis a gateway drug? Testing hypotheses about the relationship between cannabis use and the use of other illicit drugs. *Drug and Alcohol Review*, 24(1), 39–48.
- Hanushek, E. A., Schwerdt, G., Woessmann, L., & Zhang, L. (2017). General education, vocational education, and labor-market outcomes over the lifecycle. *Journal of Human Resources*, 52(1), 48-87.
- Harder, V. S. & Chilcoat, H. D. (2007). Cocaine use and educational achievement: understanding a changing association over the past 2 decades. *American Journal of Public Health*, 97 (10), 1790-1793.
- Harley, M. E., Connor, D., Clarke, M. C., Kelleher, I., Coughlan, H., Lynch, F., Cannon, M. (2015). Prevalence of Mental Disorder among young adults in Ireland: A population-based study. *Irish Journal of Psychological Medicine*, 32(1), 79–91.
- Haro, J. M., Ayuso-Mateos, J. L., Bitter, I., Demotes-Mainard, J., Leboyer, M., Lewis, S. W., . . . Walker-Tilley, T. (2014). ROAMER: roadmap for mental health research in Europe. *International Journal of Methods Psychiatric Research*, 23 Suppl 1, 1-14. doi:10.1002/mpr.1406
- Health Insurance Authority. (2018). *2017 Annual reports and accounts*. Dublin: Health Insurance Authority.
- Health Research Board. (2018). *Ireland country drug report*. Retrieved from: <http://www.drugs.ie/resourcesfiles/ResearchDocs/Ireland/2018/IrelandCountryDrugReport2018.pdf>
- Health Research Board. (2019). Irish National Focal Point to the European Monitoring Centre for Drugs and Drug Addiction. In *Focal Point Ireland: national report for 2018 – drug policy*. Dublin: Health Research Board.
- Hearne, L. (2009). *Five Great Colleges Want Her. How Will She Decide? A Report on High-Achieving Seniors and the College Decision*. Washington, DC: Lipman Hearne.
- Helseth, S., Shawel Abebe, D., & Andenaes, R. (2016). Mental health problems among individuals with persistent





- health challenges from adolescence to young adulthood: a population-based longitudinal study in Norway. *BMC Public Health*, 16(1), 1-10.
- Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): construct validity and normative data in a large non-clinical sample. *British Journal Clinical Psychology*, 44(Pt 2), 227-239. doi:10.1348/014466505X29657
- Higher Education Authority (2016). *What do Graduates Do? The Class of 2016*. Dublin: Higher Education Authority.
- Higher Education Authority (2017). *Key Facts and Figures 2016/2017*. Dublin: Higher Education Authority.
- Hillman, C. H., Erickson, K. I., & Kramer, A. F. (2008). Be smart, exercise your heart: Exercise effects on brain and cognition. *Nature Reviews Neuroscience*, 9(1), 58-65.
- Hiyoshi, T., Kambe, D., Karasawa, J. I., & Chaki, S. (2014). Differential effects of NMDA receptor antagonists at lower and higher doses on basal gamma band oscillation power in rat cortical electroencephalograms. *Neuropharmacology*, 85, 384-396.
- Hiyoshi, A., Sabet, J. A., Sjöqvist, H., Melinder, C., Brummer, R. J., & Montgomery, S. (2017). Precursors in adolescence of adult-onset bipolar disorder. *Journal of Affective Disorders*, 218, 353-358.
- Hoare, E., Dash, S. R., Jennings, G. L., & Kingwell, B. A. (2018). Sex-specific associations in nutrition and activity-related risk factors for chronic disease: Australian evidence from childhood to emerging adulthood. *International Journal of Environmental Research and Public Health*, 15(2), 214.
- Hoffman, A., Sportelli, V., Ziller, M., & Spengler, D. (2017). Epigenomics of major depressive disorders and schizophrenia: Early life decides. *International Journal of Molecular Sciences*, 18(8), 1711.
- Holloway, S. (2001). The experience of higher education from the perspective of disabled students. *Disability & Society*, 16(4), 597-615.
- Holt, L. J., Mattanah, J. F., & Long, M. W. (2018). Change in parental and peer relationship quality during emerging adulthood: Implications for academic, social, and emotional functioning. *Journal of Social and Personal Relationships*, 35(5), 743-769.
- Hooven, C., Nurius, P. S., Logan-Greene, P., & Thompson, E. A. (2012). Childhood violence exposure: Cumulative and specific effects on adult mental health. *Journal of Family Violence*, 27(6), 511-522.
- Hope, A., Dring, C., & Dring, J. (2005). *College Lifestyle and Attitudinal National (CLAN) Survey*. Dublin: Department of Health and Children.
- Houle, J. (2014). A generation indebted: Young adult debt across three cohorts. *Social Problems*, 61(3), pp. 448-65.
- Iannelli, C. (2002). *Parental education and young people's educational and labour market outcomes: A comparison across Europe*. Mannheim: Mannheim Zentrum für Europäische Sozialforschung.
- Iannelli, C. (2004). School variation in youth transitions in Ireland, Scotland and the Netherlands. *Comparative Education*, 40(3), 401-425.
- International Labour Organisation (2017). *Global Employment Trends for Youth 2015*. Geneva: International Labour Office.
- Ionescu, A. M. (2012). How does education affect labour market outcomes? *Review of Applied Socio- Economic Research*, 4(2), 130-144.
- Ipsos MRBI. (2016). *Healthy Ireland Survey 2016: Summary of findings*. Retrieved from: <https://health.gov.ie/wp-content/uploads/2016/10/Healthy-Ireland-Survey-2016-Summary-Findings.pdf>
- Ipsos MRBI. (2017). *Healthy Ireland Survey 2017: Summary of findings*. Retrieved from: <http://www.healthyireland.ie/wp-content/uploads/2017/10/Healthy-Ireland-Survey-Wave-3-Report-1.pdf>
- Ipsos MRBI. (2018). *Healthy Ireland Survey 2018: Summary of findings*. Retrieved from: <https://health.gov.ie/wp-content/uploads/2018/10/Healthy-Ireland-Survey-2018.pdf>
- Isohanni, I., Järvelin, M.-R., Nieminen, P., Jones, P., Rantakallio, P., Jokelainen, J., & Isohanni, M. (1998). School performance as a predictor of psychiatric hospitalization in adult life: A 28-year follow-up in the Northern Finland 1966 Birth Cohort. *Psychological Medicine*, 28(4), 967-974.
- Izydorczyk, B. & Sitnik-Warchulska, K. (2018). Sociocultural appearance standards and risk factors for eating disorders in adolescents and women of various ages. *Frontiers in Psychology*, 9(429).
- Jacobi, C., Hayward, C., de Zwaan, M., Kraemer, H. C., & Agras, W. S. (2004). Coming to terms with risk factors for eating disorders: application of risk terminology and suggestions for a general taxonomy. *Psychological Bulletin*, 130(1), 19.
- Jennison, K. M. (2004). The short-term effects and unintended long-term consequences of binge drinking in



- college: a 10-year follow-up study. *The American Journal of Drug and Alcohol Abuse*, 30(3), 659-684.
- Jeronimus, B. F., Riese, H., Sanderman, R., & Ormel, J. (2014). Mutual reinforcement between neuroticism and life experiences: A five-wave, 16-year study to test reciprocal causation. *Journal of Personality and Social Psychology*, 107(4), 751-764.
- Jerstad, S. J., Boutelle, K. N., Ness, K. K., Stice, E. (2010). Prospective reciprocal relations between physical activity and depression in female adolescents. *Journal of Consulting and Clinical Psychology*, 78(2), 268-272.
- Jewett, R., Sabiston, C. M., Brunet, J., O'Loughlin, E. K., Scarapicchia, T., & O'Loughlin, J. (2014). School sport participation during adolescence and mental health in early adulthood. *Journal of Adolescent Health*, 55(5), 640-644.
- Johnson, J. G., Cohen, P., Dohrenwend, B. P., Link, B. G., & Brook, J. S. (1999). A longitudinal investigation of social causation and social selection processes involved in the association between socioeconomic status and psychiatric disorders. *Journal of Abnormal Psychology*, 108(3), 490-499.
- Joyner, C., & Loprinzi, P. D. (2018). Longitudinal effects of personality on physical activity among college students: Examining executive function as a potential moderator. *Psychological Reports*, 121(2), 344-355.
- Juon, H. S., Fothergill, K. E., Green, K. M., Doherty, E. E., & Ensminger, M. E. (2011). Antecedents and consequences of marijuana use trajectories over the life course in an African American population. *Drug and Alcohol Dependence*, 118(2-3), 216-223.
- Kallio, R. E. (1995). Factors influencing the college choice decisions of graduate students. *Research in Higher Education*, 36(1), 109-124.
- Kamiya, Y., Timonen, V., & Kenny, R. A. (2016). The impact of childhood sexual abuse on the mental and physical health, and healthcare utilization of older adults. *International psychogeriatrics*, 28(3), 415-422.
- Kaplan, D. S., Damphousse, K. R., & Kaplan, H. B. (1994). Mental Health Implications of Not Graduating from High School. *Journal of Experimental Education*, 62(2), 105-123.
- Kaplan, D. S., Damphousse, K. R., & Kaplan, H. B. (1996). Moderating effects of gender on the relationship between not graduating from high school and psychological dysfunction in young adulthood. *Journal of Educational Psychology*, 88(4), 760-774.
- Karwig, G., Chambers, D., & Murphy, F. (2015). *Reaching Out in College: Help-Seeking at Third Level in Ireland*. In: Dublin: ReachOut Ireland.
- Kaup, A. R., Xia, F., Launer, L. J., Sidney, S., Nasrallah, I., Erus, G., . . . Yaffe, K. (2018). Occupational cognitive complexity in earlier adulthood is associated with brain structure and cognitive health in midlife: The CARDIA study. *Neuropsychology*. doi: 10.1037/neu0000474
- Keel, P. K., Baxter, M. G., Heatherton, T. F. & Joiner, T. E. (2007). A 20-year longitudinal study of body weight, dieting, and eating disorder symptoms. *Journal of Abnormal Psychology*, 116(2), 422-32.
- Kendler, K. S., & Prescott, C. A. (1999). A population-based twin study of lifetime major depression in men and women. *Archives of general psychiatry*, 56(1), 39-44.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(6), 593-602.
- King, K. A., Vidourek, R. A., English, L., & Merianos, A.L. (2014). Vigorous physical activity among college students: Using the health belief model to assess involvement and social support. *Archives of Exercise in Health and Disease*, 4(2), 267-279.
- Knight, J. R., Shrier, L.A., Bravender, T. D., Farrell, M., Vander Bilt, J., & Shaffer, H. J. (1999). A new brief screen for adolescent substance abuse. *Archives of Pediatrics and Adolescent Medicine*, 153(6), 591-596.
- Koenen, K. C., Moffitt, T. E., Roberts, A. L., Martin, L. T., Kubzansky, L., Harrington, H., . . . Caspi, A. (2009). Childhood IQ and adult mental disorders: a test of the cognitive reserve hypothesis. *The American Journal Psychiatry*, 166(1), 50-57. doi: 10.1176/appi.ajp.2008.08030343
- Korkeila, J., Vahtera, J., Nabi, H., Kivimaki, M., Korkeila, K., Sumanen, M. ... Koskenvuo, M. (2010). Childhood adversities, adulthood life events and depression. *Journal of Affective Disorders*, 127(1-3), 130-138.
- Kreager, P. (2013). *Humanities graduates and the British economy: The hidden impact*. University of Oxford: Institute of Human Sciences.
- Lagerberg, T. V., Røstad Kvitland, L. R., Aminoff, S. R., Aas, M., Ringen, P. A., Andreassen, O. A., & Melle, I. (2014). Indications of a dose-response relationship between cannabis use and age at onset in bipolar disorder. *Psychiatry Research*, 215(1), 101-104.



- Lau, J. S., Adams, S. H., Boscardin, W. J., & Irwin, C. E. (2014). Young adults' health care utilization and expenditures prior to the Affordable Care Act. *Journal of Adolescent Health, 54*(6), 663-671.
- Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York: McGraw-Hill.
- Lazarus R. S., & Folkman S. (1984). *Stress, Appraisal and Coping*. New York: Springer.
- Lefkowitz, E. S. (2005). "Things have gotten better": Developmental changes among emerging adults after the transition to university. *Journal of Adolescent Research, 20*(1), 40-63.
- Leite, R. T. P., Nogueira, S. D. O., Nascimento, J. P. R. D., Lima, L. S. D., Nóbrega, T. B. D., Virginio, M. D. S., . . . Sampaio, B. H. B. (2015). The use of cannabis as a predictor of early onset of bipolar disorder and suicide attempts. *Neural plasticity, 2015*.
- Lewinsohn, P. M., Roberts, R. E., Seeley, J. R., Rohde, P., Gotlib, I. H., & Hops, H. (1994). Adolescent psychopathology: II. Psychosocial risk factors for depression. *Journal of Abnormal Psychology, 103*(2), 302-315. doi:10.1037//0021-843x.103.2.302
- Li, W., Dorstyn, D. S., & Denson, L. A. (2016). Predictors of mental health service use by young adults: A systematic review. *Psychiatric Services, 67*(9), 946-956.
- Lindell, A.K. & Campione-Barr, N. (2017). Continuity and change in the family system across the transition from adolescence to early adulthood. *Marriage & Family Review, 53*, 388-416.
- Lindell, A. K., Campione-Barr, N., & Killoren, S. E. (2017). Implications of parent-child relationships for emerging adults' subjective feelings about adulthood. *Journal of Family Psychology, 31*(7), 810.
- Lindstrom, M. & Rosvall, M. (2016). Parental separation in childhood and self-reported psychological health: A population-based study. *Psychiatry Research, 246*, 783-788.
- Liston, M., Pigott, V., Frawley, D. & Carroll, D. (2018). *A study of progression in Irish higher education 2014/15 to 2015/16*. Dublin: Higher Education Authority.
- Lochner, C., du Toit, P. L., Zungu-Dirwayi, N., Marais, A., van Kradenburg, J., Seedat, S., . . . Stein, D. J. (2002). Childhood trauma in obsessive-compulsive disorder, trichotillomania, and controls. *Depression and Anxiety, 15*(2), 66-68.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research Therapy, 33*(3), 335-343. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/7726811>
- Lunn, P. & Layte, R. (2008). *Sporting lives: An analysis of a lifetime of Irish sport* (Research Series Number 2). Dublin: The Economic and Social Research Institute.
- Lunn, P. (2007). *Fair play? Sport and social disadvantage in Ireland*. Dublin: The Economic and Social Research Institute.
- Lunn, P., Kelly, E., & Fitzpatrick, N. (2013). *Keeping them in the game: Taking up and dropping out of sport and exercise in Ireland* (Research Series Number 33). Dublin: The Economic and Social Research Institute.
- Lynne-Landsman, S. D., Bradshaw, C. P., & Lalongo, N. S. (2010). Testing a developmental cascade model of adolescent substance use trajectories and young adult adjustment. *Development and Psychopathology, 22*(4), 933-994.
- Lynskey, M. T., Coffey, C., Degenhardt, L., Carlon, J. B. & Patton, G. (2003). A longitudinal study of the effects of adolescent cannabis use on high school completion. *Addiction, 98*(5), 685-692.
- Lyons, Z. (2010). Articulating a deficit perspective: a survey of the attitudes of post-primary English language support teachers and coordinators. *Irish Educational Studies, 29*(3), 289-303.
- Mackensie, C. S., Gekoski, W. L., & Knox, V. J. (2006). Age, gender, and the underutilization of mental health services: The influence of help-seeking attitudes. *Aging and Mental Health, 10*(6), 574-582.
- Maher, J. P., Doerksen, S. E., Elavsky, S., Hyde, A. L., Pincus, A. L., Ram, N., & Conroy, D. E. (2013). A daily analysis of physical activity and satisfaction with life in emerging adults. *Health Psychology, 32*(6), 647-656.
- Mahmoud, J. S. R., Staten, R. T., Hall, L. A., & Lennie, T. A. (2012). The relationship among young adult college students' depression, anxiety, stress, demographics, life satisfaction, and coping styles. *Issues in Mental Health Nursing, 149, 33*(3), 149-156.
- Marmot, M. (2005). Social determinants of health inequalities. *Lancet, 365*; 1099-1104.
- Martinez-Lapiscina, E. H., Clavero, P., Toledo, E., Estruch, R., Salas-Salvado, J., San Julian, B., . . . Martinez-Gonzalez, M. A. (2013a). Mediterranean diet improves cognition: the PREDIMED-NAVARRA randomised trial. *Journal of Neurology Neurosurgery Psychiatry, 84*(12), 1318-1325. doi: 10.1136/jnnp-2012-304792
- Martinez-Lapiscina, E. H., Clavero, P., Toledo, E., Estruch, R., Salas-Salvado, J., San Julian, B., . . . Martinez-



- Gonzalez, M. A. (2013b). Virgin olive oil-rich Mediterranean diet improves cognition: the PREDIMED-Navarra randomized, prevention trial. *Annals of Nutrition & Metabolism*, 62(36).
- Masche, J. G. (2008). Reciprocal influences between developmental transitions and parent-child relationships in young adulthood. *International Journal of Behavioral Development*, 32(5), 401-411.
- McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender differences in anxiety disorders: prevalence, course of illness, comorbidity and burden of illness. *Journal of Psychiatric Research*, 45(8), 1027-1035. doi:10.1016/j.jpsychires.2011.03.006
- McGuinness, S., O'Connell, P. J., & Kelly, E. (2014). The impact of training programme type and duration on the employment chances of the unemployed in Ireland. *The Economic and Social Review*, 45(3, Autumn), 425-450.
- McCoy, S., Byrne, D., O'Connell, P.J., Kelly, E., & Doherty, C. (2010). *Hidden Disadvantage? A study of the low participation in higher education by the non-manual group*. Dublin; ESRI.
- McCoy, S., & Byrne, D. (2011). 'The sooner the better I could get out of there': barriers to higher education access in Ireland. *Irish Educational Studies*, 30(2), 141-157.
- McCoy, S., Kelly, E., & Watson, D. (2007). *School leavers survey report 2006*. Dublin: Economic and Social Research Institute.
- McCoy, S., Smyth, E., Wason, D., & Darmody, M. (2014). *Leaving school in Ireland: A longitudinal study of post school transitions*. Dublin: The Economic and Social Research Institute.
- McGinnity, F., Russell, H., Williams, J., & Blackwell, S. (2005). *Time-use in Ireland 2005: Survey report*. In. Dublin: ESRI.
- McGinnity, F., Russell, H., Watson, D., Kingston, G. & Kelly, E. (2014). *Winners and Losers? The Equality Impact of the Great Recession in Ireland*. Dublin: Economic and Social Research Institute.
- McKee-Ryan, F.M., Song, Z., Wanberg, C.R. and Kinicki, A.J. (2005). 'Psychological and Physical Well-Being During Unemployment: A Meta-Analytic Review', *Journal of Applied Psychology*, 90(1), pp. 53-76.
- McNamara, E., Murphy, D., Murray, A., Smyth, E. & Watson, D. (2020). *The Lives of 17/18-year-olds – Descriptive report on Cohort '98 of Growing Up in Ireland at 17/18 years old*. Dublin: Economic and Social Research Institute.
- McNamara, E., O'Reilly, C., Murray, A., O'Mahony, D., Williams, J., Murphy, D., McClintock, R., & Watson, D. (In press). *Design, Instrumentation and Procedures for Cohort '98 of Growing Up in Ireland at 20 years old*. Dublin: ESRI/Department of Children and Youth Affairs.
- McPhie, M. L. & Rawana, J. S. (2015). The effect of physical activity on depression in adolescence and emerging adulthood: A growth-curve analysis. *Journal of Adolescence*, 40, 83-92.
- Mohebbi, M., Nguyen, V., McNeil, J. J., Woods, R. L., Nelson, M. R., Shah, R. C., . . . Berk, M. (2018). Psychometric properties of a short form of the Center for Epidemiologic Studies Depression (CES-D-10) scale for screening depressive symptoms in healthy community dwelling older adults. *General Hospital Psychiatry*, 51, 118-125. doi:10.1016/j.genhosppsych.2017.08.002
- Mokrysz, C., Landy, R., Gage, S.H., Munafo, M.R., Roiser, J.P. & Curran, H.V. (2016). Are IQ and educational outcomes in teenagers related to their cannabis use? A prospective cohort study. *J Psychopharmacology*, 30(2), 159-168.
- Mondi, C. F., Reynolds, A. J., & Ou, S. R. (2017). Predictors of depressive symptoms in emerging adulthood in a low-income urban cohort. *Journal of Applied Developmental Psychology*, 50, 45-59.
- Moore, T. H. M., Zammit, S., Lingford-Hughes, A., Barnes, T. R. E., Jones, P. B., Burke, M., Lewis, G. (2007). Cannabis use and risk of psychotic or affective mental health outcomes: A systematic review. *Lancet*, 370, 319-328.
- Moore-Cherry, N., Quinn, S., & Burroughs, E. (2015). *Why Students Leave: Findings from Qualitative Research into Student Non-Completion in Higher Education in Ireland*. Dublin: National forum for the enhancement of teaching and learning in higher education.
- Murray, R. M., Quigley, H., Quattrone, D., Englund, A. & Di Forti, M. (2016). Traditional marijuana, high-potency cannabis and synthetic cannabinoids: increasing risk for psychosis. *World Psychiatry*, 15, 195-204.
- Najman, J. M., Hayatbakhsh, M. R., Clavarino, A., Bor, W., O'Callaghan, M. J., & Williams, G. M. (2010). Family poverty over the early life course and recurrent adolescent and young adult anxiety and depression: A longitudinal study. *American Journal of Public Health*, 100(9), 1719-1723.
- National Center for Education Statistics. (2018). *Unemployment rates of persons 16 to 64 years old, by age group*





- and highest level of educational attainment: Selected years, 1975 through 2017. Retrieved from: [https://nces.ed.gov/programs/digest/d17/tables/dt17\\_501.80.asp](https://nces.ed.gov/programs/digest/d17/tables/dt17_501.80.asp)
- Nelson, M., Story, M., Larson, N. I., Neumark-Sztainer, D., & Lytle, L. A. (2008). Emerging adulthood and college aged youth: An overlooked age for weight-related behaviour change. *Obesity*, 16(10), 2205–2211.
- Noack, P., & Buhl, H. M. (2005). Relations with parents and friends during adolescence and early adulthood. *Marriage & Family Review*, 36(3-4), 31-51.
- Nolan, A. & Layte, R. (2017). *Growing Up in Ireland: Understanding use of general practitioner services among children in Ireland*. Dublin: The Stationery Office.
- Nolan, A., Ma, Y. & Moore, P. (2016). *Changes in public healthcare entitlement and healthcare utilisation among the older population in Ireland*. Dublin: The Irish Longitudinal Study on Ageing (TILDA).
- Nordenmark, M. & Strandh, M. (1999). Towards a Sociological Understanding of Mental Well-Being among the Unemployed: The Role of Economic and Psychosocial Factors. *Sociology*, 33(3), 577-597.
- Norris, M. & Winston, N. (2013) 'Young People's Trajectories through Irish Housing Booms and Busts: headship, housing and labour market access among the under 30s since the late 1960s', pp. 199-216 in R. Forrest and Y. Ngai-Ming, (Eds) *Young People and Housing: Transitions, Trajectories and Generational Fractures*. Oxon: Routledge.
- O'Connor, H. (2010). *Youth unemployment in Ireland - The forgotten generation: The experience of young jobseekers and their interaction & engagement with key state support services*. Dublin: National Youth Council of Ireland. Available from [https://www.youth.ie/wp-content/uploads/2018/11/Youth\\_Unemployment\\_in\\_Ireland\\_web.pdf](https://www.youth.ie/wp-content/uploads/2018/11/Youth_Unemployment_in_Ireland_web.pdf)
- O'Donoghue, G., Kennedy, A., Puggina, A., Aleksovska, K., Buck, C., Burns, C., ...Boccia, S. (2018). Socio-economic determinants of physical activity across the life course: A "DEterminants of Diet and Physical Activity" (DEDIPAC) umbrella literature review. *PLoS ONE*, 13(1), e019073, 1-24.
- O'Loughlin, J., Dugas, E. N., Brunet, J., DiFranza, J., Engert, J. C., Gervais, A., . . . Paradis, G. (2015). Cohort Profile: The Nicotine Dependence in Teens (NDIT) Study. *International Journal of Epidemiology*, 44(5), 1537-1546. doi:10.1093/ije/dyu135
- O'Mahony, D., Murray, A., Williams, J., McNamara, E., & O'Reilly, C. (2020). *Report on Growing Up in Ireland's wave four pilot for cohort '98 (Child Cohort) at 20 years of age*. Dublin: Department of Children and Youth Affairs.
- O'Reilly, J., Eichhorst, W., Gábos, A., Hadjivassiliou, K., Lain, D., Leschke, J., McGuinness, S. Russell, H, Villa, P. (2015). Five Characteristics of Youth Unemployment in Europe: Flexibility, Education, Migration, Family Legacies, and EU Policy. *SAGE Open*. <https://doi.org/10.1177/2158244015574962>
- O'Neill, S., Ennis, E., Corry, C., & Bunting, B. (2018). Factors Associated with Suicide in Four Age Groups: A Population Based Study. *Archives of Suicide Research*, 22(1), 128-138. doi:10.1080/13811118.2017.1283265
- Organisation for Economic Co-operation and Development (OECD) (2014). *OECD Employment Outlook 2014*. Paris: OECD Publishing.
- Organisation for Economic Co-operation and Development (OECD) (2016). *Investing in Youth: Australia*. Paris: OECD Publishing.
- Organisation for Economic Co-operation and Development (OECD) (2018). *OECD Employment Outlook 2018*. Paris: OECD Publishing.
- Organisation for Economic Co-operation and Development (OECD) (2019). *Youth unemployment rate*. Retrieved from <https://data.oecd.org/unemp/youth-unemployment-rate.htm> Retrieved on 19th of November, 2020
- Ortega, F. B., Konstabel, K., Pasquali, E., Ruiz, J. R., Hurtig-Wennlo, A., Mäestu, J., & Sjöström, M. (2013). Objectively measured physical activity and sedentary time during childhood, adolescence and young adulthood: A cohort study. *PLoS One*, 8(4), e60871, 1-8.
- Parra, A., Oliva, A., del Carmen Reina, M. (2015). Family relationships from adolescence to emerging adulthood: A longitudinal study. *Journal of Family Issues*, 36(14), 2002-2020.
- Passer, M., Smith, R., Holt, N., Bremner, A., Sutherland, E., & Vleik, M. (2009). *Psychology. The Science of Mind and Behaviour* (European ed.). UK: Published by McGraw-Hill Education.
- Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *BMJ*, 325, 1195-1198.



- Paul, K.I. & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*, 74(3), 264-282.
- Pauline, J. S. (2013). Physical activity behaviors, motivation, and self-efficacy among college students. *College Student Journal*, 47(1), 64-74.
- Penedo, F. J. & Dahn, J. R. (2005). Exercise and well-being: a review of mental and physical health benefits associated with physical activity. *Current Opinion in Psychiatry*, 18(2): 189-93.
- Piccinelli, M. & Wilkinson, G. (2000). Gender differences in depression: Critical review. *British Journal of Psychiatry*, 177, 486-492.
- Pool, L. R., Weuve, J., Wilson, R. S., Bültmann, U., Evans, D. A., & De Leon, C. F. M. (2016). Occupational cognitive requirements and late-life cognitive aging. *Neurology*, 86(15), 1386-1392.
- Portela de Santa, M. L., da Costa Ribeiro Junior, H., Mora Giral, M., & Raich, R. M. (2012). Epidemiology and risk factors of eating disorder in adolescence: A review. *Nutrición Hospitalaria*, 27(2), 391-401.
- Pottick, K. J., Bilder, S., Vander Stoep, A., Warner, L. A. & Alvarez, M. F. (2008). US patterns of mental health service utilization for transition-age youth and young adults. *The Journal of Behavioral Health Services and Research*, 35(4), 373-389.
- Psacharopoulos, G. & Patrinos, HA. (2018). *Returns to Investment in Education: A Decennial Review of the Global Literature*. Policy Research Working Paper; No. 8402. Washington, DC: World Bank.
- Quintini, G., & Martin, S. (2006). *Starting well or losing their way*. France: OECD.
- Quintini, G., Martin, J. & Sebastien, M. (2007). The changing nature of the school-to-work transition process in OECD countries. *IZA discussion paper No.2582*. Bonn: Institute for the Study of Labor.
- Radloff, L. S. (1977). The CES-D scale: a self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385-401.
- Rasic, D., Hajek, T., Alda, M., & Uher, R. (2014). Risk of mental illness in offspring of parents with schizophrenia, bipolar disorder, and major depressive disorder: a meta-analysis of family high-risk studies. *Schizophrenia bulletin*, 40(1), 28-38.
- Reay, D., & Ball, S. J. (1998). 'Making their Minds Up': family dynamics of school choice. *British Educational Research Journal*, 24(4), 431-448.
- Redmond, P., McGuinness, S., & Maitre, B. (2018). *An Examination of the Labour Market Transitions of Minimum Wage Workers*. Dublin: ESRI.
- Refrigeri, L., & Aleandri, G. (2013). Educational policies and youth unemployment. *Procedia-Social and Behavioural Sciences*, 93, 1263-1268.
- Reifman, A., Arnett, J. J. & Colwell, M. J. (2007). Emerging adulthood: Theory, assessment, and application. *Journal of Youth Development*, 2(1).
- Reiner, M., Niermann, C., Jekauc, D., & Woll, A. (2013). Long-term health benefits of physical activity – A systematic review of longitudinal studies. *BMC Public Health*, 13(1), 1-9.
- Richards, D., Richardson, T., Timulak, L., Viganò, N., Mooney, J., Doherty, G., ... Sharry, J. (2016). Predictors of depression severity in a treatment-seeking sample. *International Journal of Clinical and Health Psychology*, 16(3), 221-229.
- Roberts, R. E., & Duong, H. T. (2013). Perceived weight, not obesity, increases risk for major depression among adolescents. *Journal of Psychiatric Research*, 47(8), 1110–1117.
- Russell, H., Maître, B., Watson, D., & Fahey, E. (2018). *Job Stress and Working Conditions: Ireland in Comparative Perspective*. Dublin: Economic and Social Research institute.
- Russell, H., Leschke, J. & Smith, M. (2015). *Balancing Flexibility and Security in Europe: The Impact on Young People's Insecurity and Subjective Well-being*. STYLE Working Paper WP10.3
- Russell, R., Maître, B., & Watson, D. (2016). *Work-related Musculoskeletal Disorders and Stress, Anxiety and Depression in Ireland: Evidence from the QNHS 2002–2013*. Dublin: Economic and Social Research Institute.
- Sá, C., Florax, R. J., & Rietveld, P. (2006). Does accessibility to higher education matter? Choice behaviour of high school graduates in the Netherlands. *Spatial Economic Analysis*, 1(2), 155-174.
- SACN (Scientific Advisory Committee on Nutrition). (2018). *Statement on diet, cognitive impairment and dementias*. London: Government of United Kingdom Retrieved from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/685153/SACN\\_Statement\\_on\\_Diet\\_\\_Cognitive\\_Impairment\\_and\\_Dementias.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685153/SACN_Statement_on_Diet__Cognitive_Impairment_and_Dementias.pdf)



- Salthouse, T. A. (2004). What and When of Cognitive Aging. *Current directions in psychological science*, 13(4), 140-144.
- Salthouse, T. A. (2009). When does age-related cognitive decline begin? *Neurobiology of aging*, 30(4), 507-514.
- Salthouse, T. A. (2011). What cognitive abilities are involved in trail-making performance? *Intelligence*, 39(4), 222-232. doi: 10.1016/j.intell.2011.03.001
- Salthouse, T. A. (2018a). Trajectories of normal cognitive aging. *Psychology of Aging*. doi: 10.1037/pag0000288
- Salthouse, T. A. (2018b). Why is cognitive change more negative with increased age? *Neuropsychology*, 32(1), 110-120. doi: 10.1037/neu0000397
- Sawyer, S.M., Azzopardi, P.S., Wickremarathne, D. & Patton, G.C. (2018). The age of adolescence. *Lancet Child and Adolescent Health*, 2(3); 223-228.
- Scholes-Balog, K. E., Hemphill, S. A., Evans-Whipp, T. J., Toumbourou, J. W., & Patton, G. C. (2016). Developmental trajectories of adolescent cannabis use and their relationship to young adult social and behavioural adjustment: A longitudinal study of Australian youth. *Addictive Behaviors*, 53, 11-18.
- Schudlich, T. D. R., Youngstrom, E. A., Martinez, M., KogosYoungstrom, J., Scovil, K., Ross, J., . . . Findling, R. L. (2015). Physical and sexual abuse and early-onset bipolar disorder in youths receiving outpatient services: frequent, but not specific. *Journal of abnormal child psychology*, 43(3), 453-463.
- Shevlin, M., Kenny, M., & McNeela, E. (2004). Participation in higher education for students with disabilities: an Irish perspective. *Disability & Society*, 19(1), 15-30.
- Singh, A., Uijtdewilligen, L., Twisk, J. W., van Mechelen, W., & Chinapaw, M. J. (2012). Physical activity and performance at school: A systematic review of the literature including a methodological quality assessment. *Archives of Pediatrics and Adolescent Medicine*, 166(1), 49-55.
- Smith, J. A., Braunack-Mayer, A., & Wittert, G. (2006). What do we know about men's help-seeking and health service use? *The Medical Journal of Australia*, 184(2), 81-83.
- Smith, D. C., Bahar, O. S., Cleeland, L. R., & Davis, J. P. (2014). Self-perceived emerging adult status and substance use. *Psychology of Addictive Behaviors*, 28(3), 935-941.
- Smith, M., Leschke, J., Russell, H., & Villa, P. (2018). 'Stressed Economies, Distressed Policies, and Distraught Young People: European Policies and Outcomes from a Youth Perspective'. In *Youth Labor in Transition*, edited by J. O'Reilly, Leschke et al. New York: Oxford University Press.
- Smyth, E. (2008). Just a phase? Youth unemployment in the Republic of Ireland. *Journal of Youth Studies*, 11(3), 313-329.
- Smyth, E., & Murphy, D., (2018). *Decision-making about higher education: choosing an institution*. Paper to the European Network on Transitions in Youth Annual Workshop.
- Smyth, E., Banks, J., & Calvert, E. (2011). *From Leaving Certificate to Leaving School: A Longitudinal Study of Sixth Year Students*. Dublin: The Liffey Press & ESRI.
- Sontag-Padilla, L., Woodbridge, M. W., Mendelsohn, J., D'Amico, E. J., Chan Osilla, K., Jaycox, L. H., ... Stein, B. D. (2016). Factors affecting mental health service utilization among California public college and university students. *Psychiatric Services*, 67(8), 890-897.
- Sport Ireland & Ipsos MRBI. (2018). *Irish Sports Monitor Annual Report 2017*. Retrieved from: <https://www.sportireland.ie/Research/Irish%20Sports%20Monitor%202017%20-%20Half%20Year%20Report/Irish%20Sports%20Monitor%202017.pdf>
- Staff, J., Patrick, M. E., Loken, E., & Maggs, J. L. (2008). Teenage Alcohol Use and Educational Attainment. *Journal of Studies on Alcohol and Drugs*, 69(6), 848-858. doi: 10.15288/jsad.2008.69.848.
- Stein, M. B., Walker, J. R., Anderson, G., & Hazen, A. L. (1996). Childhood physical and sexual abuse in patients with anxiety disorders and in a community sample. *The American journal of psychiatry*, 153(2), 275.
- Stern, Y. (2012). Cognitive reserve in ageing and Alzheimer's disease. *The Lancet Neurology*, 11(11), 1006-1012. doi: 10.1016/s1474-4422(12)70191-6.
- Strandh, M., Winefield, A., Nilsson, K. & Hammarström, A. (2014). Unemployment and mental health scarring during the life course, *European Journal of Public Health*, 24(3), 440-445.
- Task Force on Cannabis Legalization and Regulation. (2016). *A Framework for the Legalization and Regulation of Cannabis in Canada*. Ottawa: Author.
- Taylor, M., Collin, S. M., Munafò, M. R., MacLeod, J., Hickman, M. & Heron, J. (2017). Patterns of cannabis use during adolescence and their association with harmful substance use behaviour: Findings from a UK birth cohort. *Journal of Epidemiology and Community Health*, 71(8), 764-770.





- Telama, R., & Yang, X. (2000). Decline of physical activity from youth to young adulthood in Finland. *Medicine and Science in Sports and Exercise*, 32(9), 1617-1622.
- Thomas, G., Klöner, R. A., & Rezkalla, S. (2014). Adverse cardiovascular, cerebrovascular, and peripheral vascular effects of marijuana inhalation: What cardiologists need to know. *American Journal of Cardiology*, 113(1), 187-190.
- Thornton, A., Orbuch, T.L. & Axinn, W.G. (1995). Parent-child relationships during the transition to adulthood. *Journal of Family Issues*, 16, 538-564.
- Thornton, M., Williams, J., McCrory, C., Murray, A., & Quail, A. (2011). *Sample design and response in wave one of the nine-year cohort of Growing Up in Ireland*. Dublin: ESRI.
- Trading Economics. (2019). Ireland Youth Unemployment Rate. Retrieved from <https://tradingeconomics.com/ireland/youth-unemployment-rate>
- Tsuang, M. T., Stone, W. S., & Faraone, S. V. (2001). Genes, environment and schizophrenia. *The British journal of psychiatry*, 178(S40), s18-s24.
- United Nations Office on Drugs and Crime (UNODC). (2018). *World Drug Report 2018: Executive summary – Conclusions and policy implications*. Vienna: United Nations. (Sales No. E.18.XI.9).
- Ussher, M. H., Owen, C. G., Cook, D. G., & Whincup, P. H. (2007). The relationship between physical activity, sedentary behaviour and psychological wellbeing among adolescents. *Social Psychiatry and Psychiatric Epidemiology*, 42(10), 851-856.
- Uutela, A. (2001). *Drugs: Illicit use and prevention*. In: International Encyclopaedia of the Social and Behavioral Sciences. Helsinki: National Public Health Institute.
- Van de Velde, S., Bracke, P., & Levecque, K. (2010). Gender differences in depression in 23 European countries. Cross-national variation in the gender gap in depression. *Social Science and Medicine*, 71(2), 305-313.
- Van Mechelen, W., Twisk, J.W., Post, G.B., Snel, J. & Kemper, H.C. (2000). Physical activity of young people: the Amsterdam Longitudinal Growth and Health Study. *Medicine and Science in Sports and Exercise*, 32(9), 1610-6.
- Van Stolk, C., Tiessen, J., Clift, J., & Levitt, R. (2007). *Student retention in higher education courses: International Comparison*. Cambridge, UK: Rand Corp.
- Volkow, N. D., Baler, R. D., Compton, W. M., & Weiss, S. R. (2014). Adverse health effects of marijuana use. *New England Journal of Medicine*, 370(23), 2219-2227. doi: 10.1056/NEJMra1402309
- von Thiele Schwarz, U. & Hasson, H. (2011). Employee self-rated productivity and objective organizational production levels. *Journal of Occupational and Environmental Medicine*, 53(8), 838-844.
- Wareham, N. J., van Sluijs, E. M., & Ekelund, U. (2005). Physical activity and obesity prevention: A review of the current evidence. *Proceedings of the Nutrition Society*, 64(2), 229-247.
- Weiland, B. J., Korycinski, S. T., Soules, M., Zubieta, J. K., Zucker, R. A., Heitzeg, M. M. (2014). Substance abuse risk in emerging adults associated with smaller frontal gray matter volumes and higher externalizing behaviors. *Drug and Alcohol Dependence*, 137, 68-75.
- Weiten, W., & Lloyd, M. A. (2008). *Psychology applied to modern life* (9<sup>th</sup> ed.). Boston, MA: Cengage Learning.
- Wells, J. E., Horwood, L. J., & Fergusson, D. M. (2004). Drinking patterns in mid-adolescence and psychosocial outcomes in late adolescence and early adulthood. *Addiction*, 99(12), 1529-1541. doi: 10.1111/j.1360-0443.2004.00918.x
- White, H. R., Labouvie, E. W., & Papadaratsakis, V. (2005). Changes in substance use during the transition to adulthood: A comparison of college students and their noncollege age peers. *Journal of Drug Issues*, 35(2), 281-306.
- White, H. R., McMorris, B. J., Catalano, R. F., Fleming, C. B., Haggerty, K. P., & Abbott, R. D. (2006). Increases in alcohol and marijuana use during the transition out of high school into emerging adulthood: The effects of leaving home, going to college, and high school protective factors. *Journal of Studies on Alcohol*, 67(6), 810-822.
- Whiteman, S. D., McHale, S. M., & Crouter, A.C. (2010). Family relationships from adolescence to early adulthood: Changes in the family system following firstborns' leaving home. *Journal of Research on Adolescence*, 21(2), 461-474.
- Williams, J., Greene, S., Doyle, E., Harris, E., Layte, R., McCoy, S., ... Thornton, M. (2009). *Growing Up in Ireland: The lives of 9-year-olds*. (Child Cohort Research Report No. 1). Dublin: The Stationery Office.
- Williams, J., Thornton, M., Morgan, M., Quail, A., Smyth, E., Murphy, D., O'Mahony, D. (2018). *Growing Up in*



- Ireland: The Lives of 13-Year-Olds.* (Child Cohort Research Report No. 6). Dublin: The Stationery Office.
- Wingo, A. P., Baldessarini, R. J., & Windle, M. (2015). Coping styles: Longitudinal development from ages 17 to 33 and associations with psychiatric disorders. *Psychiatry Research*, 225(3), 299-304.
- World Health Organization. (2010). *Global Recommendations on Physical Activity for Health*. Geneva: WHO Press.
- Wunsch, K., Kasten, N., & Fuchs, R. (2017). The effect of physical activity on sleep quality, well-being, and affect in academic stress periods. *Nature and Science of Sleep*, 9, 117-126.
- Zhang, C., Brook, J. S., Leukefeld, C. G., & Brook, D. W. (2016). Trajectories of marijuana use from adolescence to adulthood as predictors of unemployment status in the early forties. *The American Journal on Addictions*, 25(3), 203-209.



If you would like further information about *Growing Up in Ireland*, please visit

[www.growingup.ie](http://www.growingup.ie)

e-mail [growingup@esri.ie](mailto:growingup@esri.ie)

or freephone 1800 200 434



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

