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# Growing Up in Ireland

National Longitudinal Study of Children

## Background and Conceptual Framework



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## BACKGROUND AND CONCEPTUAL FRAMEWORK

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# Chapter 1

## BACKGROUND AND OBJECTIVES





## 1.1 Introduction

The principal objective of ***Growing Up in Ireland – the National Longitudinal Study of Children*** is to describe the lives of Irish children, to establish what is typical and normal, as well as what is atypical and problematic, in order to improve Irish policy and services. The study will focus on a broad range of internationally recognised child outcomes with a view to documenting how well children in Ireland are developing. In so doing, it will facilitate comparison with findings from similar international studies of children, as well as establishing typical patterns for children within Ireland. Being longitudinal in nature, the study will also clearly address developmental trajectories over time and will explore the factors which most impact on those trajectories and on the life chances of children in Ireland today. By providing comprehensive data on a representative national sample of Irish children, the study will inform and contribute to the setting of responsive policies and the design of services for children and their families.

The study will focus on two cohorts of children: a nine-month-old cohort of 11,000 children and a nine-year-old cohort of 8,500<sup>1</sup>. The first phase of the project will extend over seven years and will involve two longitudinal sweeps of data collection from a nationally representative sample of children in both cohorts. The quantitative data will be supplemented by two nested qualitative studies, one from each cohort. Further information on study design and the qualitative studies is given later in this document.

The ***Growing Up in Ireland*** study was commissioned by the Irish Government and funded by the Department of Health and Children through the Office of the Minister for Children and Youth Affairs (OMCYA) in association with the Department of Social Protection and the Central Statistics Office. Detailed recommendations for the design of a National Longitudinal Children's Study were presented in a paper entitled *Design of the National Children's Strategy Longitudinal Study of Children* (Greene, Hyland, Kelleher, *et al*, 2001). The current study stems from a Request for Tender which was issued by the National Children's Office of the Department of Health and Children and the Department of Social and Family Affairs (at it was then called) in December 2004. After an assessment and evaluation process throughout 2005 and early 2006, a research consortium led by the Economic and Social Research Institute (ESRI) and Trinity College, Dublin (TCD) began work on the project in April 2006.

The commitment to establish ***Growing Up in Ireland*** was made as part of the National Children's Strategy published in 2000. The National Children's Strategy has three main goals, as follows:

- Children will have a voice in matters which affect them and their views will be given due weight in accordance with their age and maturity.
- Children's lives will be better understood; their lives will benefit from evaluation, research and information on their needs, rights and the effectiveness of services.
- Children will receive quality supports and services to promote all aspects of their development.

Central to achieving these goals is a 'whole child' or holistic perspective on child development and experience, which recognises the child as an active agent in his/her environment.

The principles espoused by the National Children's Strategy are an integral part of ***Growing Up in Ireland*** and ensure that in both its conception and planning it is a study of children, with

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<sup>1</sup> Hereafter referred to as the Child Cohort and the Infant Cohort.



children, and for children. It aims to chart the development of two samples of children in Ireland, aged nine months and nine years – in all their multifaceted variation and diversity.

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

1. to describe the lives of children in Ireland in the relevant age categories, 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

Given these objectives, the study will focus on two cohorts of children in Ireland with a view to furthering our understanding of the broad spectrum of experiences and circumstances of children in 21<sup>st</sup> century Ireland. Greene *et al*, 2001 outlined the project's nine objectives as being those cited above and noted that a single cohort selected at birth and re-interviewed at regular intervals over the next 20 to 30 years was the classic form of cohort design (p.14). It was pointed out, however, that the main disadvantage of this approach was that information on policy-critical stages in children's lives, and on important transitions between stages, only became available after some decades (p.14). Accordingly, the consortium of experts who developed the Design Brief considered a number of different models, in addition to the single cohort model. Upon review of a range of options, it recommended a design based on an Infant Cohort along with a cohort starting from age nine years. The inclusion of the nine-year-olds was considered highly desirable given the number of transitions around or shortly after that age, including, for example, puberty, the move to a peer-group focused social environment, and the move to secondary school (Greene *et al*, p.15). The use of the two cohort approach was further recommended on the basis that it would yield data in a much more timely fashion on a wider range of topics (especially policy relevant topics) than would be forthcoming from an Infant Cohort in isolation. Sample sizes of 8,500 older children and 11,000 infants were set out. These were largely driven by considerations of statistical confidence, the potential for disaggregated analysis, and the problem of attrition which is inherent in all longitudinal studies. The final Request for Tender issued in respect of the study included almost all of the recommendations of the Design Brief. In addition, the Request for Tender mandated that children be involved in the oversight of the study through the establishment of a Children's Advisory Forum.

Being longitudinal in nature, the study will focus, in particular, on the changes which occur in key developmental outcomes between data sweeps. It will identify and describe the changes across time in child development and well-being. (At the same time it must be recognised that

the full value of such longitudinal data can only be realised where there are at least three data collection waves and that, at this stage, only two data collection waves are planned for each cohort.) In the current design and time frame the study will establish hitherto unknown population estimates for normality, borderline problematic, and problematic status of children at key stages from infancy through to middle childhood and early adolescence, by combining data from the two cohorts, which together stretch across the ages nine months to 13 years. Such data will be invaluable in developing policy interventions and supports to ensure the best possible outcomes for all children in Ireland. If extended, the study holds the potential to examine and elucidate the main drivers of trajectories, turning points and transitions across child and adolescent development and into adulthood, further strengthening the evidence-base for policy. For example, revisiting the Infant Cohort at age five years would see these children just starting school. Hypothetically, the Study Team could record how well each child was coping with the new school environment and attempt to link school-readiness with information recorded in the earlier two waves (e.g. developmental status), and record contemporary information about the earliest school environment for use in possible subsequent waves. Similarly, the nine-year-old cohort could be revisited at age 18 years, now officially adults, possibly living independently and having made important decisions about future education or careers. Information on, for example, primary and early secondary schooling, parenting styles in childhood and adolescence, collected in the earlier waves could be examined against academic achievement, self-concept and feelings about the future. Extending data collection from the Infant Cohort to age nine years would facilitate interesting analyses of the period effect of being born in the late 1990s versus the late 2000s via a comparison of the two cohorts at this point in the lifecycle.

With particular relevance to the Infant Cohort, but assisted by some retrospective data gathered from the older cohort, the study will attempt to identify what factors and circumstances in early childhood predict good or poor outcomes at the later stages,<sup>2</sup> and the factors that optimise conditions in the early environment and that serve to enhance positive development by middle childhood and beyond. Early parenting practices and early out-of-home childcare experiences, for example, will be related to positive or negative outcomes in middle childhood. A particularly important aspect of the study will be the identification of the extent to which it is possible to predict outcomes from infancy to later childhood, and to identify and understand the reasons for discontinuity in this trajectory.

Notwithstanding the consideration given to the 'typical' or 'average' characteristics of children (in all their diversity) in the study, a clearly important aspect is the identification of those risk factors which are associated with negative outcomes for children, and also those protective factors which seem to be associated with resilience in difficult circumstances or which buffer children against adversity. This work is feasible when longitudinal data are available. The identification of factors or combinations of factors that predict specific types of negative or positive outcomes, or pathways to (and away from) those outcomes, is clearly of significance to policy-makers and others in their understanding of child development and life trajectories through childhood.

***Growing Up in Ireland*** will allow children's views to be elicited through questions amenable to quantitative analysis but also, importantly, through a selection of open-ended questions that give expression to children's voices and allow children to give their views and record details on their own experiences. In order to capture the richness of children's experience of their worlds, the study incorporates a qualitative component with a particular focus on the use

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<sup>2</sup> Research from the Infant Cohort will clearly allow one greater accuracy in studying perinatal and early childhood influences on developmental growth paths, as it will be possible to record the relevant information on developmental status as well as ecological changes on an on-going and more generally contemporaneous basis with successive longitudinal waves of the project. (It should be noted, however, that the current study encompasses a nine-month and a three-year data wave for the Infant Cohort and that, as mentioned in the text, optimal value for longitudinal data requires at least three data collection points.) Constraints are more pronounced for the nine-year-old cohort as much of the relevant information will be subject to problems of recall for the respondent. Some of the more salient details such as early educational experience, changes in family structures, and health problems in early childhood may be recorded with greater or lesser degrees of accuracy.

of methods that can elicit children's experience, perspectives and voices (see Section 1.7 below). This combination will allow us to identify in quantitative and qualitative terms what children think are the important issues in their lives, their experience of family life and of the key institutions that impinge on their daily lives – school, neighbourhood, etc. The qualitative components of the study will complement the quantitative and will be informed by the quantitative data from the current data wave while feeding information forward into the design and content of the next quantitative data wave.

## 1.2 Research into Children and their Families in Ireland

*Growing Up in Ireland* is clearly the most important and substantial research initiative ever undertaken with children in Ireland. Nothing of its nature, scale or complexity has ever been previously attempted. In Ireland, most studies to date have been small in scale and/or focused on particular categories of children, often those who are marginalised or in difficulty.

There have been very few in-depth studies of the Irish family since Hannan's work on the rural family in the 1970s (Hannan and Katsiaouni, 1977; Hannan, 1979) and Humphreys' research on the urban family of the late 1940s (Humphreys, 1966). There is a rich tradition of ethnographic research on the family, largely stimulated by Arensberg and Kimball's classic study in Co Clare in the 1930s (Arensberg and Kimball, 1940). Some of this research has commented on the position of children (Humphreys 1966; Newman, 1964; Messenger, 1969; Scheper-Hughes, 1979). These early studies were largely qualitative and anthropological in perspective. They focused on the impact of urbanisation and industrialisation on patterns of Irish family life and the social and demographic consequences of Ireland's inheritance system in an agricultural environment. Even though the ethnographic nature of this early work is quite different to the quantitative approach applied in more recent studies, it did provide an early indication of the powerful influence of the proximal and wider environment on an individual's life path.

In the 1980s, Greene and colleagues began a small (n=200) longitudinal study following up children born in an inner city Dublin hospital from the third trimester of their mothers' pregnancies until age 17 years (e.g. Greene, Nugent and Wieczorek-Deering, 1995; Gaffney, Greene, Wieczorek-Deering and Nugent, 2000). This study collected a wide range of information relating to mother and child including psychological, sociodemographic and medical information. The results highlighted the importance of including measures of child agency and collecting data at multiple time points: for example, unmarried mothers were found to have a higher incidence of depression prenatally but not postnatally, and infant characteristics (such as temperament) were a greater determinant of differences in mother-infant interactions than the mother's own characteristics (such as age) (Nugent, Greene, Wieczorek-Deering *et al*, 1993).

In 2004, Cleary *et al*, published a report on a cohort of 185 young adults and their mothers who were initially interviewed when the young adults were children in 1990 (Cleary, Fitzgerald, and Nixon, 2004). The purpose of the study was to examine social and psychological outcomes of this cohort and to investigate if factors such as psychiatric history, IQ and socioeconomic background influenced these outcomes. They found that behavioural deviancy in childhood impacted on subsequent educational achievement, as did economic factors and individual IQ. The effect of psychiatric problems observed in 1990 did not seem to be long lasting. This cohort of 185 were a subset of a much larger group of urban school children (over 2,000) who were assessed for intellectual status and behavioural difficulties by Fitzgerald and Jeffers (1994).

Overall, however, there have been relatively few longitudinal studies of children or families in Ireland and none that is as large in scale and nationally representative as *Growing Up in Ireland*. There is a significant body of sociological, educational and psychological research on aspects of children's lives, but this has, in the main, consisted of small-scale, cross-sectional

studies on minority populations (e.g. children from the Traveller Community, children who have recovered from cancer, refugee children, the children of drug addicts, and early school leavers) rather than comprehensive studies of the mainstream of Irish children.<sup>3</sup> There have been some large-scale, cross-sectional and nationally representative studies of Irish children including the OECD Programme for International Student Assessment (PISA) and the European School Project on Alcohol and Other Drugs (ESPAD). One major source of data on Irish children comes from the World Health Organisation's survey of Health Behaviour in School-Aged Children. HBSC Ireland is co-ordinated from the Centre for Health Promotion at NUI Galway (see [www.nuigalway.ie/hbsc](http://www.nuigalway.ie/hbsc)). This survey is run every four years in 41 countries, focusing on children aged 11, 13 and 15 years, thus providing not just national data but useful international comparisons as well. While primarily focusing on health, it includes some measures of relationship quality and happiness. Data from the HBSC form a core part of an important collation of information on Irish children, published as the *State of the Nation's Children – Ireland 2008* (Office of the Minister for Children and Youth Affairs, 2008).

There is a growing recognition in Ireland of the strengths of a longitudinal design, and several recent studies have incorporated more than one data wave, with the aim of examining change in children's lives over time (e.g. a study of 900 secondary school students – Smyth *et al*, 2007); young people's homeless pathways – Mayock, Corr and O'Sullivan, 2008; motor proficiency – McCobb, Greene, O'Mahony and Nugent, 2005). While the various aforementioned studies indicate the level of research interest in children's issues and experience, a review of Irish research on children also highlights the requirement for a study that is large-scale, wide-ranging, longitudinal, and is conducted with a nationally representative sample.

### 1.3 The International Experience of Longitudinal Studies of Children

The concept of *Growing Up in Ireland* follows a relatively long-established tradition set by a number of international longitudinal studies of child development. Several of the earlier studies focused primarily on health, for example the UK's Perinatal Mortality Survey, first conducted in 1946. These were followed by the National Child Development Study (1958) and the 1970 British Cohort Study. The Avon Longitudinal Study of Parents and Children, begun in 1992, is also a primarily health-focused study of children.

The *Growing Up in Ireland* study is an example of more recent child cohort studies that have sought to study a wider range of factors additional to health so as to provide more insights into the developmental process across a range of outcomes. Among these more recent cohort studies are the Millennium Cohort Study in the UK (including Northern Ireland), the Longitudinal Study of Australian Children (LSAC), the National Longitudinal Survey of Children and Youth (NLSCY) in Canada, and the Early Childhood Longitudinal Study (ECLS) in the US.

Table A in the Appendix provides a breakdown of a selection of cohort studies undertaken since 1946 and lists the country, date, sample characteristics, periodicity, and the focus of the study. The table does not seek to be exhaustive. Instead, it simply attempts to show the variety of ages and sample strategies, periodicity, and analytic focus which have been adopted across countries.

### 1.4 Timeliness of *Growing Up in Ireland*

A child cohort study in Ireland was first mooted in the Final Report of the *Task Force on Child Care Services* (Department of Health, 1980). That report noted that a research project comparable to Britain's NCDS 1970 "... would be most useful, given the present scarcity of

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<sup>3</sup> See, for example, the papers in Cleary, Nic Ghiolla Phádraig and Quin, 2001a, b, the publication list of the Children's Research Centre ([www.tcd.ie/childrensresearchcentre](http://www.tcd.ie/childrensresearchcentre)) and the review by Hennessy & Hogan (2000).



information concerning (i) the development of the normal child in this country, (ii) children experiencing mental, physical, emotional or social problems and (iii) the efficiency of existing children's services" (p.42). The case for a longitudinal study was further advanced in subsequent studies and task force reports, finding a particularly clear articulation in the 1998 Report of the Commission on the Family, *Strengthening Families for Life* (Part 7, Commission on the Family, 1998). In addition, a strong case for an Irish longitudinal study of children was put forward in a report published by Treoir in 1998 (Morris, 1998).

It is most appropriate that *Growing Up in Ireland* in its present form and scale should have been initiated at this time. Since the early 1990s there have been unprecedented changes in Ireland's economy, sociodemography, culture, society, value systems, etc. Ireland has been unusual in international terms in the degree of its economic and demographic vitality of recent years. It has experienced high levels of economic growth complemented by an increasingly secular and multicultural society. There has been a very rapid growth in national income with Gross National Income per capita increasing by some 58% over the period 1995 to 2004. Despite this increase in national wellbeing there are pockets of poverty in some segments of society – not least among children – with over 10% of children aged 14 years and under living in consistent poverty in 2005 (Central Statistics Office, 2006a). Affluence may also bring changes that are not compatible with the wellbeing of children, such as more consumption of food (often high energy) outside the home, more time spent in cars and more sedentary forms of entertainment (Anderson and Butcher, 2006). A longitudinal study such as *Growing Up in Ireland* provides much-needed data on the extent to which these changes affect child development, how many children are affected by them, and how negative effects may be offset. In 2007 we saw the beginning of a relative downturn in the state of the economy, which raises the prospect of being able to contrast the two cohorts: one of whom was born into a time of high prosperity and the second who will be born into a less affluent period of Irish economic history.

General population size has changed substantially in the last decade, from 3.6 million in 1996 to 4.2 million in 2006 – an increase of over 16%. There have been major changes in the number of births and, most significantly, in family structures over the period. The overall number of annual births has increased from 48,530 in 1995 to 70,620 in 2007 – a growth of some 46%. The fertility rate has also increased from 13.5 births per thousand population in 1995 to 16.3 in 2007 (Central Statistics Office, 2008). The extent of change in family structure in recent years can be gauged from the proportion of total births that occur outside marriage. Trends in these figures indicate a quite dramatic change. In 1980, approximately 5% of births were outside marriage. This increased progressively and stands at 33% in 2007 (Central Statistics Office, 2008). Changes in family structures are further reflected in the number of lone-parent families in the country. Census figures indicate that these increased from 68,500 in 1995 to 122,000 in 2005 (Central Statistics Office, 2005). Although the number of male lone-parent families increased quite substantially (by 20%) over this period, the increase in female lone-parent families rose much more steeply (by as much as 86%).

Unemployment fell from a level of approximately 12% in the mid-1990s to just over 4% in 2006. However recent figures for unemployment in September 2010 (Central Statistics Office, 2010) show an increase to 13.7%. The period in question has also seen very important increases in female labour force participation rates – from 43.3% in 1996 to 58% in 2005 (Central Statistics Office, 2005). These changes have other implications for family life and childhood, apart from increasing economic prosperity. For example, they result in increasing numbers of children being minded for long periods in settings outside the family unit. As noted by Greene and Moane (2000), this situation results in significant numbers of children being exposed to the caregiving and socialisation priorities of adults other than their parents and immediate family. Figures from 2005 indicate that approximately 21% of families with children of primary school age used some form of non-parental childcare arrangements. Approximately 9% of families with primary school children used some form of childcare arrangements other than parent/guardian or paid/unpaid relatives (Central Statistics Office, 2006b). Part of the trend in increased female labour force participation has been influenced



by financial necessities imposed on parents by increasingly high house prices – even in an era of historically low interest rates. For some families, higher property prices have meant living further away from work and school, with subsequent increases in commuting times and the problem of arranging suitable care for children who start or finish school at times that are incompatible with the timetables their parents must keep in their careers.

Levels of immigration increased substantially over the period in question, rising from an annual level of 46,000 immigrants in 1998 to almost 87,000 in 2006. This has resulted in increasing cultural diversity, which is now a common characteristic of life in Ireland, and has significant implications for education and other important aspects of the lives of children of all ages.

While the above trends and figures indicate the scale of change that has been experienced in population size and structures, as well as traditional family structures, over the last two decades, the implications of these changes for children and childhood are still little understood. There is, for example, still a very incomplete understanding of what it means to children to grow up in Ireland without a father or how children cope with the breakdown of their parents' marriage or partnership. A beginning has been made in exploring such questions but only with small samples (e.g. Hogan, Halpenny, and Greene, 2002). At this point the extent to which changes in family structures and increasing pressures facing parents and children have given rise to the 'hurried child', as proposed by Elkind (1988) – children who are growing up 'too fast' and 'too soon' – can only be summarised. Parents who are time-poor and over-stressed by the pressures of work outside the home and by the time they spend commuting daily may simply not have the time or energy to devote to the appropriate parenting and support of their children. Clearly the country is experiencing a period of rapid change with inevitably significant consequences for families. ***Growing Up in Ireland*** will allow us to address much of this information deficit using a large nationally representative sample of the national population.

Aside from economic turbulence and family structure change, there have been other important social and cultural transformations over the last few decades. We have witnessed the development of an increasingly secular, pluralist and multi-racial society, which is much more accepting of external views, standards and mores. The role of women and the perception of women in society and within the workplace have changed dramatically.

The structure of the family unit has undergone a radical transformation; 33% of births are now to non-married women (Central Statistics Office, 2008). Until recent years children's lives were largely circumscribed in traditional ways: modal family size was five children and childhood expressiveness was accorded little value. Traditional, conservative attitudes to child rearing practices were the norm. Although many of the social and cultural changes had their roots in the 1970s, a number of them developed and continued in recent decades (see for example Inglis (1998), Fahey (1999) and Hug (1999)).

It is highly probable that the life experience of children in Ireland and child outcomes have changed as a result of these recent socioeconomic changes. A good picture of the current position of Irish children has been outlined in the recent publication, *State of the Nation's Children* (Office of the Minister for Children and Youth Affairs, 2008), along with an additional government publication, *A social portrait of children in Ireland* published in 2007, by the Office of Social Inclusion (Dunne, Fahey, Maître *et al*, 2007). *State of the Nation's Children* presents indicators of child outcomes in relation to education, health, and social, emotional and behavioural outcomes compiled from a range of data sources that include the Census and the Annual Garda Report. The 2008 report is the second report in what is intended to be a biennial series. Such cross-sectional data will complement the longitudinal data generated by ***Growing Up in Ireland***.

However, an important advantage of ***Growing Up in Ireland*** in relation to other existing sources of data is that a wide range of information is collected about the same individuals,

allowing more links between variables to be identified, and information on particular topics, such as health, to be considered in the wider context. The Bronfenbrenner (1972) bioecological model emphasises the importance of including direct and indirect environmental influences in any consideration of developmental processes and outcomes. For example, considering the issue of a child's mental health needs a broader approach than just diagnosis and symptoms. The child's own coping resources, how family acts as a source of support (or stress), whether the school environment is equipped to provide optimal learning support, whether the child is able to access the appropriate health services, and the attitudes of the community and wider society to mental health issues are all important direct and indirect influences on the child's wellbeing and future outcome. A further important advantage of ***Growing Up in Ireland*** relative to existing sources, which is also a key feature of the Bronfenbrenner model, is the capacity to examine processes over time by returning to the same individuals at different points rather than using a sequence of cross-sectional samples.

A matter of some interest is the extent to which Irish childhoods and Irish child outcomes are comparable with those in other jurisdictions. By the 1990s the culture of family and childhood in Ireland had, in many ways, become indistinguishable from that of other countries in Europe and, to some extent, in North America (Greene, 1994a). ***Growing Up in Ireland*** will help us to establish whether, in the early 21<sup>st</sup> century, there are features of life as an Irish child that are still distinctive in international terms. It has, for example, been argued that children in Ireland benefit from the persistence of a strong sense of family and close family connections (Greene, 1994a; Hogan *et al*, 2002). Data from the HBSC indicate that Irish children aged 11, 13 and 15 are first on the list of 15 WHO countries in relation to the number of friends they claim to have (Kelleher, Nic Gabhainn, Friel *et al*, 2003). Empirical studies have suggested that there is a high level of secure emotional attachment to their mothers in Irish infants in comparison to comparable international findings (Greene, 1999). On the other hand, there is extensive use of corporal punishment (Greene, 1994b), although the use of corporal punishment seems to be declining in Ireland, as in other similar jurisdictions (Halpenny *et al*, 2010). As Shulruf, Morton, Goodyear-Smith *et al* note, "A new longitudinal study should capture the uniqueness of the culture and social characteristics of its country of origin while connecting with important robust, international studies" (2007, p.225). ***Growing Up in Ireland*** will attempt to fulfil this brief by, initially, outlining a comprehensive picture of both middle childhood and infancy in Ireland today and drawing comparisons with similar cohort study data from other jurisdictions.

The distinctive patterns of change across all areas of life within a relatively short period mean that there is much to be learned and understood about the nature of childhood and family life in the Ireland of today. ***Growing Up in Ireland*** has a major contribution to make to our understanding of Irish society, how it is evolving and how those developments can be influenced to produce more beneficial outcomes for the next generation through informed and effective policies.

### 1.5 The Longitudinal Nature of the Study

***Growing Up in Ireland*** is, by definition, longitudinal in nature. Its design involves interviewing a nationally representative sample of children (one group aged nine months and the other aged nine years) and their parents in the first wave of data collection, and subsequently returning to the same set of children and their families for a second interview a few years later. The inter-wave interval for the Child Cohort will be four years, and three years for the infants.<sup>4</sup>

A longitudinal survey is the optimal vehicle for recording information on change in the population (Magnusson, 2000, Magnusson and Bergman, 2000). The longitudinal approach

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<sup>4</sup> Funding is allocated for the first two waves of data collection. Whether the nine-year-old cohort will be re-interviewed for subsequent waves of data collection is, as yet, undecided.

greatly enhances the analytical potential of the project. It has two main advantages over cross-sectional studies. First, it allows for the examination of change at the micro-level of the study child and his/her family and to consider the impact of changes which are specific to the individual child and family on developmental and other outcomes. The measurement and analysis of dynamic relationships over time can be achieved only by using good-quality longitudinal data. For example, longitudinal data and analysis allow better analysis of causal processes (as cause precedes effect) and can identify effects that are immediate, sequential, lagged or latent. Secondly, the longitudinal design facilitates control of unobserved characteristics of the child and his/her family and environments that do not change over time. As will be clear from Chapter 2 on our conceptual framework, examining the effects of different levels of influence across different domains, contexts and times, is a particularly important aspect of *Growing Up in Ireland*. The move towards a more complex, interactive view of development over the life-course has been facilitated by "... enormous advances in quantitative statistical approaches, arguably especially in the longitudinal methods required to appraise the changing relations in the developmental system between the individual and the context" (Lerner, 2006 p.5). Although many of the advantages of the longitudinal approach will mature only after the third and subsequent waves of data collection, *Growing Up in Ireland* represents a major advance on what has hitherto been available in research into children and childhood in Ireland.

In relation to the Child Cohort, a longitudinal focus will allow us to analyse and interpret changes taking place at this particularly important developmental phase in the lives of the study children as they make the transition to early adolescence, with all the physical, emotional, psychological and institutional changes<sup>5</sup> involved in that particular period of their lives. The longitudinal approach is equally valuable in regard to the Infant Cohort. We will be capturing details of the most important influences in their first year of life, and will be able to track the consequences of those first beginnings through early childhood. Again it must be stated that the value of these longitudinal data will only be fully realised if the study is extended beyond two data waves for each cohort. After two waves of both the Child and Infant Cohorts it should be possible to comment on transitions such as changes in family structure, household income/employment status and child health (whether these be positive or negative), and how such transitions may be associated with changes in other aspects of the child's life.

## 1.6 On the Path to Outcomes: Considering Resilience, Risk and Protective Factors

### 1.6.1 Child outcomes

Child outcomes are clearly central to the study. In designing the project we defined an outcome in terms very similar to those of, for example, Sanson *et al* (2005) who note that "... an outcome is an attribute of the child at a particular point in time" (p.5). Child outcomes will generally be influenced by a range of inputs which might include parenting, health and social services, educational services and natural developmental processes – to name but a few. Furthermore, children's own behaviour and attributes can serve as influences on later outcomes. Although often closely related, developmental outcomes are not synonymous with the measures which policy-makers and others use to gauge children's wellbeing. For example, poverty is not a child 'outcome' – though it clearly impacts on the child's wellbeing and may well influence the child's development in areas such as education, socialisation, physical health, emotional and behavioural development and so on. Increases in the number of children living in poverty are a cause for concern and are likely to be the target for interventions given the negative impact of poverty both on a child's current status and their

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<sup>5</sup> The institutional changes in question principally refer to the education system as the children make their transition to second level.



future development. In contrast, health status, child's self-esteem and level of educational attainment are all examples of outcomes.

The term 'outcome' generally refers to an individual or family whereas 'output' refers to some statistical indicator, such as the number of children who drop out of school (Lerner, 2006). Outcomes may be considered from different perspectives: at the level of the individual child, in terms of family outcomes, or in terms of society in general. Given the child-centred nature of *Growing Up in Ireland* our focus is clearly on child outcomes and their development over time, although outcomes for the family are also of relevance. Much in line with LSAC, the NLSCY and *State of the Nation's Children* (OMCYA, 2008) we consider outcomes in the following three broad domains:

- Physical health and development
- Social/emotional/behavioural wellbeing
- Educational achievement and intellectual capacity.

Within these areas we can differentiate between two types of outcomes: developmental outcomes and performance outcomes (or assessments). Developmental outcomes (such as intellectual capacity) are cumulative and involve gains and losses over time. Performance outcomes, on the other hand, are the specific levels attained during assessments within the study.

Being longitudinal, the Study focuses on the developmental trajectory of the child. This is plotted by linking his/her outcomes over time in the three domains outlined above. It is worth noting that outcomes can also function as inputs. For example, ill health may be considered an outcome, but it may also be an input with regard to the child's later emotional or economic wellbeing. It depends on the particular analytical context at any given point in time. This perspective on the nature of causal relationships in child development is central to the systemic perspective adopted by *Growing Up in Ireland*. Such complexity can easily be accommodated within the conceptual framework underlying the Study, as discussed in Chapter 2 below.

### 1.6.2 Risk factors, protective factors and resilience

As a discipline, child development has always been concerned with outlining what can be considered as normal development. This is very evident since the time of Gesell, who spent most of his career assessing babies and children and describing the parameters of normal development (Gesell, 1933). Paediatricians shared this interest in charting normal development in the physical domain. However, the literature on children and young people contains many studies that focus on children's abnormality and deviance and, in the area of policy, the detection, treatment and prevention of pathology has been a major concern. This is understandable from an historical perspective. In Ireland, for example, children's physical and psychological development was largely seen as the responsibility of the child's parents. Only when things went wrong was the State confronted with the challenge of sorting out the problem, whether it was children who needed to be taken into care or children who were creating public order problems on the streets.

This study adopts a 'bioecological' model (Bronfenbrenner and Morris, 2006), implying that development outcomes are seen as the result of a complex interplay between a large number of factors including the biology and makeup of the child, their immediate environment such as home, family and school, and wider influences such as the community and society. The child is seen as participating in a complex system in which influences are multiple, interactive and reciprocal.

Within this complex of factors, some increase the risk of poor outcomes whereas others are protective. Indeed, the same factor can be both protective and risk-inducing depending on the outcome examined and the temporal period. As an example, the model hypothesises that

processes contributing to a dysfunctional outcome will have more impact in a disadvantaged context, whereas processes contributing to an outcome of competence will have more impact in an advantaged or stable environment. In simple terms, a negative variable would be more likely to worsen a situation that is already quite bad, and a positive variable would improve a situation that is already quite good. Risk-inducing and protective factors can thus be cumulative in nature with each factor increasing or decreasing the probability of a specific outcome in an additive or exponential fashion (c.f. Layte and Whelan, 2002). So, for example, being the child of a single mother might be considered a risk factor on its own, but the chances of a poor outcome for that child are increased by the presence of other risk factors such as poverty or substance misuse.

A protective factor refers to something that has "... an effect that operates only (or mainly) as a resistance against a risk factor" (Rutter, 2006, p.20). For example, participation in an after-school homework club might help protect a child who is left to fend for himself/herself for hours after school from delinquency or school failure. For children who return to a responsible adult and a supportive home environment after school, participation in a homework club may make no difference to his/her risk of delinquency.

It is important to remember that even when a risk factor is present, it is far from determined that a poor outcome will result. Even though the statistics may indicate a strong relationship between a given risk factor and a poor outcome, they can mask the huge variability in individual circumstances. For example, although Garmezy and Rutter's (1983) research on children growing up in poverty found that they had a higher probability of becoming poor themselves in adulthood than children who did not grow up in poverty, around half did not repeat this pattern in their adult lives. Such research has led to growing interest in moving beyond the identification of risk factors in leading to poor outcomes to an examination of the 'protective' factors, those "traits, conditions, situations and episodes, that appear to alter, or even reverse, predictions of negative outcomes and enable individuals to circumvent life stressors" (Garmezy, 1991). This research is often termed the study of 'resilience'.

There is still a great deal of debate about the nature of resilience and the factors that promote it. Nonetheless, recent research on resilience has converged on two insights that are widely accepted (Luthar, 2003). They are: (a) that resilience can be defined broadly as positive development despite adversity and (b) that resilience is not the property of the child alone but of the child and his or her context. This latter insight should readily fit into a conceptual framework that is both ecological and systemic. Child characteristics are still seen to play an important part in increasing the likelihood of resilient outcomes but they form only part of the picture in relation to resilience as an outcome.

Benard (1991) has outlined four non-cognitive characteristics of children which have been found to contribute to resilience: social competence, problem-solving skills, autonomy, and a sense of purpose and future. However, he also pinpoints a range of external supports known to play a part in promoting children's resilience and identifies three important characteristics of the family that act as protective factors: a caring, supportive and affectionate environment; high expectations; and encouragement of children's participation. Similarly, within the school, resilience can be provided through a caring, supportive environment (perhaps with a favourite teacher providing a positive role model), high expectations for pupils, and the active involvement of pupils within the school (Benard, 1991). Benard also identifies high levels of support and high expectations as key aspects of the community that foster resilience.

Gilligan (2000) emphasises the importance of positive school experiences in promoting resilience in children in adverse circumstances and also emphasises the importance of spare-time activities. These activities can include cultural pursuits, sport, caring for pets, and voluntary and part-time work. Success in these areas can build self-esteem and a sense of self-efficacy. Resilience can also be built up through the extension of the child's social network, fostering a sense of belonging and mattering, providing a sense of purpose,



introducing children to adults who may adopt a mentoring role, and, in some instances, promoting the child's physical fitness.

While it is unlikely that any one characteristic of individual, family or community will be identified as conferring all-encompassing resilience in children, the investigation of risk and protective factors and the conditions leading to resilient outcomes does at least offer the possibility of identifying and informing policy interventions. To be successful, such policies need to be based on research that has considered the broad spectrum of child experiences and contexts. A principal aim of a study such as *Growing Up in Ireland* is to identify risk and protective factors and, in so doing, to assist in the development of effective policies which help to maximise the welfare of all children and their families in Ireland in the future.

## 1.7 The Importance of Adding a Qualitative Perspective

The sample of nine-month-old and nine-year-old children, approx. 11,100 and 8,500 respectively, will provide a large amount of coded, quantitative information. This is crucial for reaching the primary objective of the *Growing Up in Ireland* project, viz. "... to describe the lives of Irish children, to establish what is typical and normal as well as what is atypical and problematic". The project also aims to provide more interpretative and qualitative insights into the lives of children in Ireland, and to this end, 120 families from each of the Child and Infant Cohorts will participate in qualitative studies. This is a small sample in terms of quantitative studies, but quite substantial by the standards of most qualitative studies. The sample selected will be drawn from the samples forming the two cohorts and will be selected with reference to the characteristics of the achieved sample for the main study. The samples will be purposive and stratified according to socioeconomic status, gender, urban/rural location, and family type. The qualitative studies will be carried out as close as possible in time to the main data collection and two data sweeps of each cohort will be made over the timeframe of the study.

Having a qualitative dimension in the study is important since this can allow participants to describe their life experience in a way that reflects the uniqueness and complexity of that experience. The approach is particularly useful when the topic under investigation is complex, novel or under-researched, and where there is a particular interest in process (Orford, 1995; Smith and Dunworth, 2003). Greene and Hogan suggest that qualitative research can capture children's lived experiences of the world and the meanings they attach to those experiences from their own perspective (Greene and Hogan, 2005).

Understanding the meanings children ascribe to events and how they interpret them and feel about them is arguably central to understanding why they behave as they do (Greene and Hill, 2004). An increasing recognition of the importance of meaning, and of the individual's central interpretive role in the process of development and behavioural change, has afforded increasing prominence to an interest in qualitative methods, including consideration of the ways in which quantitative and qualitative methods may be used in a complementary way. In *Growing Up in Ireland* the qualitative and quantitative aspects of the study will combine to give a picture of the development of children in Ireland that has not been possible before.

### 1.7.1 Methodological considerations

Qualitative research methods can include observations, interviews, focus groups, and more imaginative methodologies such as role play, games, exercises, writing, drawing, audio and visual images (Lewis and Lindsay, 2000). The qualitative researchers on the *Growing Up in Ireland* team will design a schedule that optimises how children's perspectives on important issues and events can be elicited, and will allow the children to describe the meanings they assign to their experience.



It is anticipated that the child's role as a social agent and active role in constructing his/her own life story will be highlighted in the responses to the qualitative interview. For example, the nine-year-old children will be asked to talk about the extent to which they can negotiate with their parents about household rules, and they will be asked about how they see their own personality and what they like and dislike about themselves. They will also discuss their expectations about their lives as 13-year-olds.

In order to ensure that a child-centred research approach is adopted that facilitates the children participating in a meaningful way, children will have a key role in advising us on the suitability of different qualitative and quantitative techniques through the Children's Advisory Forum (CAF). The 12 schools participating in the CAF were selected so as to reflect the experience of typical nine-year-olds in Ireland. Participating schools, both single sex and mixed sex, have pupils from different socioeconomic backgrounds, located in both urban and rural settings, with a mix of ability levels. The CAF, which is comprised of 84 nine-year-olds, will pilot a number of quantitative and qualitative techniques and provide feedback on the effectiveness of each method in engaging children and capturing the relevant data.

There will be reports on the findings of the two data waves for each cohort. These are the agreed deliverables. However, it will be important to link the qualitative findings to the quantitative findings. This implies further reports or that a section dealing with such issues should be incorporated in the specified deliverables, as is appropriate and as is feasible, given the timing of the publication of the reports. More detailed information on the nested qualitative studies will be available in separate publications.



# Chapter 2

## CONCEPTUAL FRAMEWORK





## 2.1 Introduction

A broad spectrum of cross-disciplinary research has identified a range of influences on children's developmental outcomes. These include individual and family characteristics and the economic, social and physical environments in which children are raised. Deriving an understanding of how this multitude of factors is interconnected and how they contribute to wellbeing requires an integrated conceptual framework that is informed by the insights of a variety of disciplines. There are in fact remarkable parallels in conceptual development across a range of disciplines that allow a holistic conceptual framework to be developed within which the factors influencing children's development can be understood.<sup>6</sup>

The first of these 'parallel insights' is the understanding that individual outcomes can only be understood within a larger 'ecological' context. From this perspective, a child's growth and development is intimately tied up with both the proximate and distal context in which they live. Immediate family and friends are seen to be important, but so are the local community and the wider sociocultural environment.

The second insight could be referred to as 'dynamic connectedness', in that processes in the different layers of this ecological context may well effect changes in all other levels. Layers are interconnected such that the developmental path that any one individual will take is determined by the interaction of factors at a number of levels. This perspective also assumes that the individual is an active agent influencing his/her own outcomes through interaction with the environment.

The third insight is that of 'probabilism' (Lerner, Dowling and Chaudhuri, 2005): that, because of the evolving reciprocal nature of systems of change, relations among variables may change over time and, to a certain extent, cannot be repeated. The implication of this perspective is that we should not look for static, universal laws but attempt, instead, to understand the 'trajectory' or 'developmental pathway' along which the person has travelled.<sup>7</sup> This perspective also suggests that causation is multi-factorial and, although cross-sectional research using correlations between predictors often points to 'vicious circle' processes where poor outcomes are predetermined, some longitudinal research indicates that multiple and cumulative disadvantage may be less common than has been suggested (Layte and Whelan, 2002). Problems or dysfunctionality are only some of the possible outcomes from a wide range of effects arising from any interaction between individual characteristics and the environment in which they develop (Lerner, 2006). The implication of this perspective is that relationships between variables can only be understood probabilistically, and that understanding possible developmental pathways and crucial points of transition is more important than understanding the correlation between dependent and independent variables.

The fourth insight is derived from the third and is related to the 'period' of events. The developmental pathways along which people travel occur in a specific historical time and this leads to differential outcomes and specific 'period' effects. This means that almost identical processes occurring at different historical times can have different outcomes. For example, the impact of a given health condition on a person's life trajectory will vary greatly depending on whether or not they are born before or during a time when a particular condition is readily treatable. Similarly attitudes to race, and the consequences of this, vary from one historical period to another.

The fifth insight is the role of agency and, in particular, the active role of the child in the developmental process. Across a number of disciplines there has been a move toward seeing individual agency and predisposition as important, and this has been marked in research on the active role of the child in shaping outcomes (Greene, 2006).

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<sup>6</sup> This chapter draws heavily on the work of Lerner (2006).

<sup>7</sup> As noted above this becomes feasible after three or more longitudinal observations.

These five insights can be found across a range of disciplines, including developmental psychology, educational development, sociology, public health and epidemiology, and form the conceptual backbone of what has come to be known as ‘developmental science’ (Lerner *et al*, 2005). Below we examine the contributions of these different disciplines to an overall conceptual structure and how this guides the choice of issues that should be addressed.

## 2.2 Combining Insights from Different Disciplines

It is interesting that all of the conceptual insights listed above occurred across a range of disciplines in the two decades after 1970. The synchronicity of these developments is in large part due to the cross-fertilisation that occurred between disciplines as useful ideas percolated between them. For example, until the mid-1970s, developmental psychology was dominated by an emphasis on the intra-psychic and on proximal influences on behaviour. However, at this point, ideas from sociologists and demographers dealing with the family and life-course (culture/ethnicity) broadened the conceptual vision and sensitised psychologists to the importance of the wider context of behaviour (Greene, 1999). Similarly, throughout much of the 20<sup>th</sup> century public health physicians and epidemiologists had viewed differential health among adults as largely due to differences in health behaviour or occupational exposure. This was radically changed in the late 1970s by the revelation that health behaviours provided only a partial explanation and that health outcomes were in fact highly determined by the wider social and economic context in which the individual lived (Marmot, Rose, Shipley and Hamilton, 1978; Townsend and Davidson, 1982). This insight was followed in the 1980s by a movement toward a ‘life-course’ approach which saw adult health as the outcome of complicated developmental pathways which began in childhood if not before (Kuh and Ben-Shlomo, 1997; Barker, 1994; Bartley, Blane, and Montgomery, 1997).

Similar developments occurred in social policy research into poverty. In the 1970s, research on poverty tended to use a narrow range of indicators and was undertaken using cross-sectional data. This led to an overemphasis on what were taken to be small sub-populations, with specific characteristics, that were observed as poor at a particular point in time. In the 1980s, however, more general research on disadvantage shifted the focus away from poverty *per se* to social inclusion and exclusion (Paugam, 1996; Layte and Whelan, 2002). The key factors distinguishing the latter approach are an emphasis on multi-dimensionality, dynamics, agency, and a focus on multi-tiered contexts. A focus on dynamics allows social inclusion research to identify the pathways leading to and from disadvantage and the key events and experiences that influenced it. It has also sensitised researchers to the important role of individuals and households in determining outcomes through the decisions and strategies that they use. An emphasis on agency recognises the fact that individuals are not passive recipients of their social circumstances. Individuals employ active coping strategies in drawing on the range of personal, social and economic resources available to them.

Social psychologists, in developing their notions of the stress process, have come to emphasise the mediating role of factors such as social support and locus of control, and have explored the respective role of life events and broader institutional factors in distinguishing between acute and chronic stress (Whelan, 1992; Whelan, 1994). For example, it is now generally accepted that the level of stress that people exhibit cannot be entirely predicted from the intensity of the objective sources of stress. Instead, individuals typically confront potentially stress-provoking situations with a variety of behaviours, perceptions and evaluations that are often capable of mediating the objective conditions (Pearlin, Meneghan, Lieberman and Mullan, 1981). Among the factors that have a crucial role in the stress process are those that people can invoke in their own defence. These can include both interpersonal resources, such as mechanisms of social support, and intra-psychic factors such as a sense of mastery and control. Social support may have direct effects through enhancing the perception that others will provide aid in the event of stressful experiences. Thus, regularised social interaction may contribute to feelings of self-esteem (Thoits, 1995). Alternatively, it may

serve a buffering function by providing the resources that enable one to redefine the situation and/or augment one's ability to cope with increased demands (Cohen and Syme, 1985; Kessler and McLeod, 1985).

In evaluating how such processes operate it is important to distinguish between the impact of acute stressors associated with, for example, particular life-events and chronic stressors arising, for example, from sustained socioeconomic disadvantage (Whelan, 1993). As outlined earlier, a continuing interest in the field of childhood research has been the factors that enable some children to be resilient in the face of adversity (Rutter and Garmezy, 1983). Although it is the case that children's contexts and social networks may be more or less supportive, research on resilience also draws attention to the characteristics of the child, and how they influence the likelihood of succumbing to life stressors and adverse conditions or thriving despite them (Luthar, 2003; Gilligan, 2009).

Below we use the five insights: ecology, dynamic connectedness, probabilism, period effects, and the active role of the child in the developmental process. These are concerns of different disciplines and they provide an overall conceptual framework that can guide us in choosing research questions, indicators and methodologies for *Growing Up in Ireland*.

### 2.3 The Importance of Ecological Context

The paradigm shift in developmental psychology, which occurred in the late 1970s, can be traced to a number of researchers, but its most effective formulation is evident in the work of Urie Bronfenbrenner (1979; 1993). This offered a reconceptualisation of the child's ecology as a multi-layered set of nested and interconnecting environmental systems, all of which influence the developing child, but with varying degrees of directness (Greene, 1994b). The child is seen as being influenced not only by his/her most immediate environment (termed the 'microsystem'), usually comprising school and the family, but by the wider community and circumstances ('exosystem' and 'macrosystem') that affect the child either directly or through effects on the microsystem ('mesosystem'). For example, a poor economic climate could inhibit the family's ability to provide food and clothing for the child due to unemployment. This broader cross-disciplinary approach was influenced by research on the family and the life course that emerged in sociology in the 1970s, which linked, conceptually and empirically, differential outcomes in children to family relationships, cultural attitudes, key relationships outside the family, and the interaction of the socioeconomic status of the family with the labour market and the economy. Sociology had seen a resurgence in interest in the 'structure/agency' problem of the early 1970s as a corrective to the dual development of micro and macro flavours of sociology in the post-war period, and this unified conceptual structure informed empirical research across a range of sociological areas. The sociological perspective was brought into psychology in the form of a new interest in the context of behaviour, and emerged as a 'developmental systems' perspective.

Among the distinguishing features of the theories within the developmental systems perspective is a rejection of the traditional division of components such as nature *and* nurture in favour of the integration of the different levels in the ecological context, and the mutually influential interactions between those levels and between the individual and the context (Lerner, 2006). There are a number of theories which fall into the dynamic systems perspective, one of the most enduring being Bronfenbrenner's model. This model has evolved since its early inception, and today it acknowledges the role of biology in the overall development of the person, hence the model is now referred to as the bioecological model (Bronfenbrenner and Morris, 2006).



### 2.3.1 Overview of the bioecological model

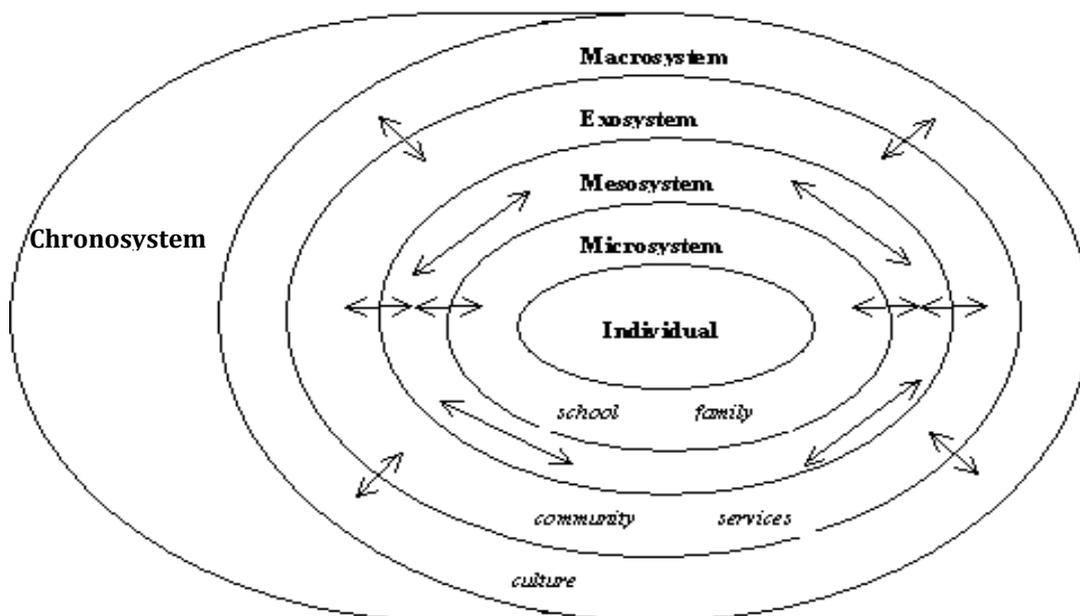
There are four defining properties of the bioecological model: *Process*, *Person*, *Context* and *Time*. Human development is hypothesised to take place primarily through *proximal processes*: interactions between the developing person and his/her environment, including other people in that environment. These interactions become increasingly complex, and to be influential must occur on a reasonably regular basis over extended periods of time. Examples include a mother's comforting of her infant, the young child's play with siblings, and the oldest child's interaction with books and technology. The form, power, content and direction of the proximal processes are influenced by the characteristics of the individual person and the environment in which they are taking place.

The model identifies three characteristics of the *person* that impact on proximal processes: *Dispositions*, *Resources* and *Demands*. *Dispositions* influence what processes are put in motion and how they are sustained. They can be positive, such as a readiness to defer gratification to achieve long-term goals rather than indulging immediate gratification, or negative, such as fear of novelty. *Resources* are the biopsychological characteristics that affect a person's ability to make the most of proximal processes. They can be liabilities, such as genetic defects, or assets such as abilities and skills. *Demands* are the characteristics of a person that can invite or discourage reactions from others that can in turn promote or disrupt development. Examples include different parental reaction to an easy or difficult baby, or a pretty or plain child. Characteristics of *age*, *gender*, and *ethnicity* are highly influential, as these characteristics often determine an individual's status and role in a particular environment.

The property of *Context* acknowledges that the developing person is influenced by his/her interactions with objects and places as well as people; and that the environmental context can influence proximal processes, for example the effect of family instability on the development of relationships. The influence of *Time* has been accorded increasing weight as the bioecological model has evolved (Bronfenbrenner and Morris, 2006). *Time* is important as an historical context for a person's development as well as in the effect of the timing of certain events in a person's life, for example the death of one's mother. *Time* is also relevant when considering the length of episodes of interaction (*microtime*), the frequency of these interactions over days and weeks (*mesotime*) and changes in attitudes and expectations in wider society over time (*macrotime*).

Within the bioecological approach, the relationship between parent and child is part of a larger set of interactive systems that compose the ecology of human life (Bronfenbrenner, 1979). The parent and child dyad is enmeshed in relationships within the household, but parents and children also have relationships outside the household, in school and in the workplace, that connect the household to the wider community (see diagram in Figure 2.1). To Bronfenbrenner this illustrates the intimate relationship between the *microsystem*, the face-to-face interactions that the child experiences, and the *mesosystem* that encompasses the links between the different actors in the microsystem, for example the relationship between parents, between home and school or between close family and extended kin.

Outside the mesosystem in Bronfenbrenner's model sits the *exosystem*. In Bronfenbrenner's schema this comprises the structures, institutions and settings that, whilst not in direct contact with the child, exert an important influence upon his/her quality of life and outcomes. Examples of determinants within the exosystem would be the community in which the family lives and the extent to which that community may be a source of support or stress to the child's parents. The last ring of Bronfenbrenner's schema is the *macrosystem*, which consists of the culture-specific ideologies, attitudes and beliefs that shape the society's structures and practices. Together these four levels provide a taxonomy of factors that may influence the experiences and wellbeing of a child as he/she develops from birth to adulthood.

**Figure 2.1: Bronfenbrenner's Ecological Perspective on Child Development**

Source: Adapted from Garbarino (1982)

Bronfenbrenner's framework is primarily a psychological framework that can usefully be supplemented by work from other disciplines, which take as their main focus the effect of social structures on individual outcomes. The impact of the social, structural and institutional context on individual outcomes is the primary concern of a large amount of work within educational research, health services research, sociology and social policy (c.f. Shavit and Müller, 1998; Fouarge and Layte, 2005). From a sociological life-course perspective, for example, social change is seen to arise out of interaction between social structure and the specific circumstances of the individual and his/her situation. Social background and biography and, thus, the resources he/she can access, also mediate the impact of social change on the individual. Family strategies concerning the use and distribution of resources aimed at protecting or improving the wellbeing of the family are viewed as central. Such strategies may be explicit or implicit; the latter are often rooted in group traditions, norms or values that underline the importance of social structure. Social institutions are, therefore, important determinants of the process of cumulative advantage and disadvantage in which initial inequalities combined with opportunities and historical circumstances combine and determine an individual's ability to accumulate resources over the lifetime.<sup>8</sup>

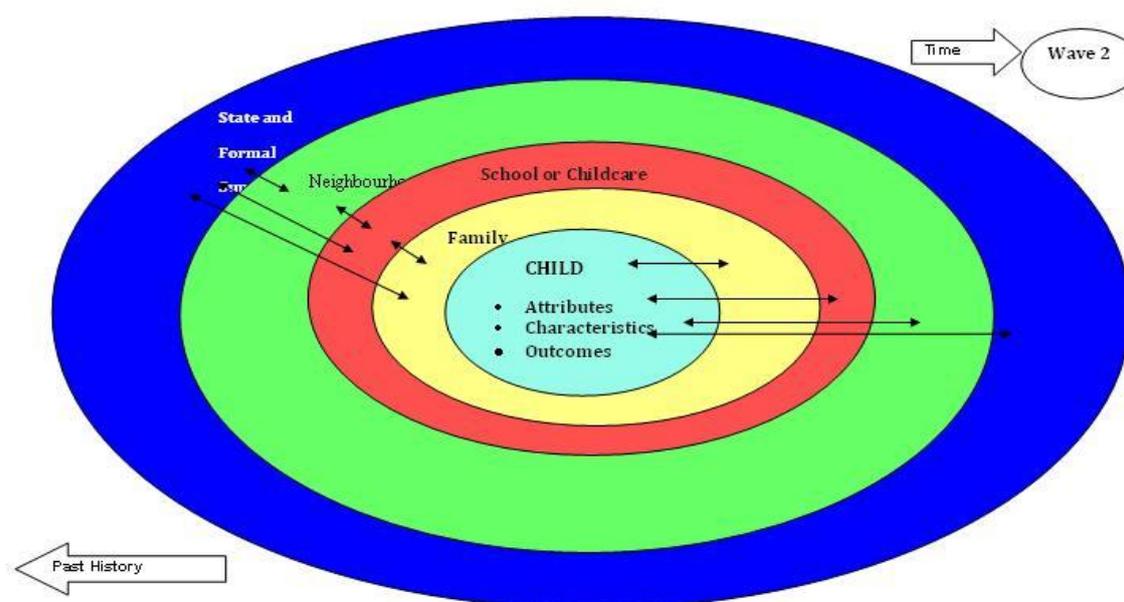
Figure 2.2 summarises, schematically, our overall view of the complex multidirectional and recursive relationships between the child and the people in the various environments within which he/she operates. This graphic is derived from the work of Bronfenbrenner and Morris (2006) but emphasises the information that will be specifically collected within ***Growing Up in Ireland***; for example, although cultural and religious values are an important part of the macrosystem, detailed information on these elements is not a focus of this study. The study does, however, record information on nationality, ethnicity and religious denomination (if any) to facilitate commentary in relation to information on culture and religion derived from other sources.

<sup>8</sup> The Study Team for GUI consists of psychologists, sociologists, economists, medical practitioners and others, all of whom can bring insights from their own disciplines to bear on the approach adopted for the study.



Figure 2.2 provides a basic indication of the complex web that can characterise the relationships between the child, his/her family, the neighbourhood and the wider social structure. The data collected as part of the *Growing Up in Ireland* project will allow analyses of dimensions of each of these levels to varying extents. For example, the study will be able to examine the manner in which the child's health is influenced by family circumstances and the neighbourhood and national economy and the influence of this on individual family functioning and outcomes, for example, the effects of long-term chronic illness. The nature of the different spheres and their relationships will, of course, vary substantially and the graphic makes no attempt to account for all combinations but simply lays out possible indicative relationships. To fully use and operationalise all aspects of the bioecological model represents a challenge to researchers, as has been pointed out by commentators such as Tudge & his colleagues (Tudge *et al*, 2009).

**Figure 2.2: Hypothesised relationships between child characteristics, child outcomes and contextual variables in *Growing Up in Ireland***



Child characteristics and outcomes	School/ Childcare Characteristics and Child's relationships within School or Childcare	State and Formal Structures Children's contact with these structures/services/institutions
Family Characteristics and Child's Close Relationships	Neighbourhood characteristics and Child/Family's interaction with neighbourhood	



## 2.4 The Dynamic Relationship between Ecological Layers

One of the most important conceptual insights across a number of disciplines has been the understanding that different layers of the ecological context may well effect changes in all other levels – the notion of ‘dynamic connectedness’. Changes in relationships between different levels of determinants are the basic drivers of development and change. Levels of analysis from the biological to the sociocultural can change in reciprocal relation to each other; and change in one level may have impacts on all others, which themselves may feedback to the initial focus of change. The dynamism of these relations means that levels of analysis within any human ecological setting have to be seen as units with developmental trajectories of their own and not as fixed variables that do not change. This understanding of development has huge implications for methodology, as changes in all levels of analysis need to be indexed in order to fully understand a process.

One particularly important implication of dynamic connectedness is that individuals must be seen as active participants in their own development and trajectories rather than as passive targets of external influences. In sociology and social policy, for example, the development of a rational action perspective has been important in changing the nature of research into areas such as educational attainment and social exclusion. In educational attainment, for instance, the decisions of working-class children not to pursue higher education used to be seen as a non-rational, cultural choice, whereas more recent research has tried to show how this reflects a rational decision-making process on the part of working-class individuals. In aggregate, however, such decisions shape the social class mix of higher education and the extent of social mobility in the society (Schizzerotto, 1997; Goldthorpe, 2002). Similarly, cross-sectional poverty research in the 1960s and 1970s often concentrated on studying the hopelessness of groups with multiple disadvantages, but this changed in the 1980s as researchers developed longitudinal measures and a new conceptual framework that emphasised the active role of the individual in overcoming poverty and social exclusion (Leisering and Leibfried, 1999; Layte and Whelan, 2002).

In developmental psychology Bronfenbrenner has focused on the child as an active agent in his or her own development, that is, “... a growing, dynamic entity that progressively moves into and restructures the environment in which it resides” (Bronfenbrenner 1979, p.21). An example of this is the impact of the child’s temperament. This will have a direct bearing on outcomes where, for example, a temperamentally difficult child may make less educational or social progress because of personality problems, but temperament can also impact indirectly through its effect on parenting and the relationship between parent and child (Smart and Sanson, 2001).

## 2.5 Understanding Dynamic Processes Probabilistically

Dynamic connectedness automatically implies dynamic relations between enmeshed systems and this leads to another of the conceptual developments that have occurred across a number of disciplines, and have implications for *Growing Up in Ireland*. ‘Probabilism’ posits the idea that understanding ‘lifepaths’ or ‘trajectories’ is more useful than identifying laws or delineating a sequence of fixed stages. This indicates that relationships between variables can only be understood probabilistically and that relations between the person and the context should be the focus of research. A good example of the move to probabilism was seen in sociology when researchers moved away from the concept of the life cycle toward the more fluid, indeed, probabilistic notion of the ‘life-course’. This perspective saw differentiation and heterogeneity as integral features of an individual’s life and focused attention on the study of events, transitions and trajectories in a multi-dimensional perspective.

From a life-course perspective, families develop strategies within the constraints of social, economic and cultural resources to advance their wellbeing, and thus play an active role in both their own outcomes and overall social change. An individual’s life-course can take multiple paths that are mediated by the makeup and social background of the individual, the resources to which they have access via their household and social network, and the historical period in which they live (see issues of ‘timing’ below). Another element that contributes to the radical unpredictability of the life-course of any individual is the



occurrence of chance events. As the work of Clarke and Clarke (1984) and Rutter (1989) illustrates, chance events can serve to deflect children from otherwise good trajectories and turn children on poor trajectories towards more positive ones. Social institutions are also important here, as health, welfare and education services are a resource that individuals and households can draw upon when navigating individual trajectories, but individuals may be more or less proficient at doing so. Thus, there may be significant educational or social class differences in the extent to which institutional resources are taken up or successful outcomes realised.

A crucial implication of probabilism is that, although social science may uncover multiple risk factors, processes are almost never deterministic. Even among variables that have what is considered to be very substantial correlation in the social sciences, an analysis of the pathways that individuals take shows that there is considerable heterogeneity, and that the main determinants can explain but a small proportion of any outcome or any variance between outcomes. This is because, even where the pattern of associations is high, the context in which processes occur always makes individual outcomes a good deal less predetermined than is sometimes imagined (Lipset and Bendix, 1959; Layte and Whelan, 2002). For example, a significant level of correlation between parents' and children's educational achievement will have substantially less consequence for the destiny of the individual child in the context of rapidly expanding educational participation. Life events can intervene to make an apparently risky trajectory into a more normal or positive one. By pursuing a dynamic and multi-dimensional strategy in this study, we can make clear that, notwithstanding the existence of such forms of disadvantage, many 'high risk' children do not develop intractable problems in childhood or later life. A focus on early risk factors alone is an inadequate foundation for policy and for intervention (O'Mahony, 2009).

## 2.6 Personal Time, Historical Time

The fourth insight, which we see across a number of different social science disciplines, is an increasing recognition that the 'timing' of events matters. The developmental pathways that individuals navigate occur within a specific social, economic and cultural milieu through which individual events are experienced and negotiated. This historical specificity means that the interrelationship between factors alters continually, so the experiences of different cohorts will vary even in essentially the same set of conditions. A good example of this is the impact of non-marital fertility on both the mother and child. Before the 1970s in Ireland, non-marital sex was disapproved of strongly, contraception was unavailable, and single mothers could not avail of social welfare. In this situation, children born outside marriage were unlikely to stay with their mothers and were often taken into religious institutions. The liberty of the mother was also sometimes at risk, particularly for working-class women. In contrast, in 2008 around one-third of all births were to non-married women, and under age 20 nearly all births were to unmarried women. Thus the experience of being a child born to an unmarried mother was totally different in 2008 to what it would have been in 1957. The change in outcomes is directly related to the social, cultural and economic changes in the latter half of the 20<sup>th</sup> century.

Such 'period' effects bring home the importance of what is common among children in the same cohort in explaining the normative outcome, as well as what is different. Those children born in the same historical period share a similar educational, socioeconomic and cultural environment (although family characteristics such as family structure and size, household living standards and ethnic background will vary greatly between individual families), and this has been shown to be very important for the outcomes of these children. Richard Easterlin (1980), for example, showed that children born in a 'baby-boom' generation are less likely to reach higher occupational positions, will have a lower living standard, are more likely to divorce, and will die earlier than children born into a relatively small birth cohort. The number of births per year rose steadily throughout the 1970s in Ireland and reached a peak in 1980 (72,000), and this baby-boom cohort are now at childbearing age themselves. This has led to a rise in first births to their highest levels in Irish history, implying that the children born currently will have very different experiences to children born five to ten years ago (Central Statistics Office, 2009). While some comparison of period effects between the two cohorts in this study may be possible in relation to, for example, the information collected on birth, pregnancy and breastfeeding (these data are collected



retrospectively for the older cohort), the most interesting comparisons may emerge if the Infant Cohort members are also followed to nine years and 13 years.

As well as historical time, the timing of events in the life of an individual is also important. The concept of events occurring 'on time' or 'off time', that is, whether an event occurs at the societally expected point in the life span, has been termed the 'social clock' (Bertrand and Lachman, 2003, citing Helson, 1984). There is an implication that the impact of significant life events is exacerbated if they are 'out of sync' with the prevailing norms. Examples of the 'off timing' of events that have been considered in the literature are death of a parent during or before adolescence (Tyson-Rawson, 2004), leaving home early (Tyler, 2004), early or late puberty (Sorenson Goodson and Jamison, 1987), and early grandparenthood (Timberlake and Chipungu, 1992).

## 2.7 Taking Account of the Child's Own Contribution

As noted earlier, developmentalists no longer see the child as the passive recipient of either environmental or genetic determinants. The child's contribution to his/her own development can be conceptualised in a number of ways. It is possible to distinguish between characteristics of the child that elicit certain responses from the social environment (the *demands of the person* property in Bronfenbrenner's model) and the child's role as an active agent, busily interpreting his or her world and acting accordingly. In relation to child qualities and dispositions, there is a renewed interest in recent years in the effect of the child's genetic makeup on the course of his/her development. The biological aspect of the bioecological model acknowledges the role that biology plays in influencing a person's characteristics and the limits and/or imperatives that biology and evolution impose on development (Bronfenbrenner and Morris, 2006). Many of the claimed connections between parent and child personalities and achievement are seen to be less the consequence of parental behaviour and more the result of shared genetic material. The nature/nurture debate has evolved into a consideration of the interaction between genes and environment rather than an either/or divide.

For example, a child with a difficult temperament may well cause parents to be much more coercive than they might be with a child with an easy temperament. Likewise, a child genetically disposed to shyness might not get much attention from teachers, and suffer from neglect in the classroom and in their involvement with peers. Evidence for the heritability of temperament comes from twin studies indicating that identical twins are more similar than fraternal twins (e.g. meta-analysis by Goldsmith, Buss, and Lemery, 1997). Similarly, other child characteristics such as gender and attractiveness which are (largely) biologically determined will evoke different responses from people in the child's ecological context. The child's cognitive abilities, which are influenced both by genetics and the environment, will affect their capacity to cope with the problems that arise in life. Interest in gene/environment interaction and child development has in recent years extended to consideration of what has been termed *epigenetics*, that is, the extent to which an individual's genes are or are not expressed according to the characteristics of the early environment (Rutter, 2006). At this stage of the study, genetic material will not be collected as part of *Growing Up in Ireland*, so examining genetic processes at the molecular level is not a possibility. However, collecting genetic material is a possibility at a later stage in the study.

The growing awareness of the child's agency has been accompanied by a renewed interest in children's perspectives and children's experiences, which in turn has been reinforced by a contemporaneous awakening of interest in children's right to be considered as full persons, not just as adults in the making. Researchers from both developmental psychology and sociology have responded to this new perspective on children by developing a range of suitable methods, many of them qualitative, which can elicit and capture children's perspectives, beliefs and experiences (Greene and Hogan, 2005).



## 2.8 Summary

***Growing Up in Ireland*** is a longitudinal study of children, which has been commissioned by the Office of the Minister for Children and Youth Affairs (OMCYA) in association with the Department of Social Protection and the Central Statistics Office. The OMCYA is a crosscutting office operating under the aegis of the Department of Health and Children. Its mission is to improve the quality of life of Ireland's children by leading and supporting the implementation of the National Children's Strategy (2000).

***Growing Up in Ireland*** is a key element in the second goal of the strategy, which is that *Children will be better understood; their lives will benefit from evaluation, research and information on their needs, rights and the effectiveness of services* (Department of Health and Children, 2000).

***Growing Up in Ireland*** includes a Child and Infant Cohort, one of nine-year-olds and the other of nine-month-olds. There will be a large quantitative sample of approximately 8,500 and 11,100 children respectively, which will be supplemented by a nested qualitative study for both cohorts. There will be two waves of data collection in the first seven years of the project.

As noted, one of the nine stated aims of the ***Growing Up in Ireland*** project is the provision of evidence for the creation of effective policies for children and families. This expectation has been built into the structure of the project. Core deliverables that focus on policy-relevant findings and their implications are scheduled for delivery to the Office of the Minister for Children and Youth Affairs less than a year after the finalisation of main fieldwork in each wave. As well as this Background and Conceptual Framework report, the first deliverables from the project are a review of the literature pertaining to the Child Cohort a review of the literature pertaining to the Infant Cohort and a design, instrumentation and procedures (Child Cohort) report. Reports detailing the cross-sectional results of the Child Cohort follow soon after, as do similar reports on the Infant Cohort less than a year after the completion of the fieldwork for this sample.

The study adopts a dynamic systems perspective founded upon five multidisciplinary insights from different disciplines: ecology, dynamic connectedness, probabilism, period effects and the active role or agency of the child in the developmental process. The bioecological model of Urie Bronfenbrenner is a key tool in constructing this conceptual framework. The Study Team for ***Growing Up in Ireland*** will, therefore, take full account of the multiple, interacting and bidirectional factors that influence children's outcomes and children's lives. ***Growing Up in Ireland*** aims to determine the factors that promote or undermine the wellbeing of children in contemporary Irish families and, in this way, contribute to the development of effective and responsive policies and services for children and their families.

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## Appendix A: Summary Details of Selected International Longitudinal Child/Youth Cohort Studies

**Table A: Summary of Other Cohort Studies**

Name	Country	Date started	Sample characteristics	Age at first contact	Periodicity	Focus	Website
<b>UK</b>							
National Survey of Health and Development	Great Britain	1946	Initially all 16,500 births in GB in one week in March 1946, but reduced to 5,362 for follow-up	Birth	21 times up to most recent at age 53	Health and development	<a href="http://www.nshd.mrc.ac.uk/">http://www.nshd.mrc.ac.uk/</a>
National Child Development Study (started as Perinatal Mortality Survey)	Great Britain	1958	ca. 17,500 born in GB in one week in March 1958	Birth	Age 7 years, 11, 16, 23, 33, 41 +	First wave on factors leading to early infant death but widened to physical, educational, social and economic development.	<a href="http://www.cls.ioe.ac.uk/studies.asp?section=000100020003">http://www.cls.ioe.ac.uk/studies.asp?section=000100020003</a>
British Cohort Study 1970 (BCS70)	Great Britain	1970	17,000 born in GB in one week in April 1970	Birth	Age 5 years, 10, 16, 26, 29 +	Medical initially but has widened	<a href="http://www.cls.ioe.ac.uk/studies.asp?section=0001000200020010">http://www.cls.ioe.ac.uk/studies.asp?section=0001000200020010</a>
Avon Longitudinal Study of Parents and Children (ALSPAC)	England	1991/92	14,541 pregnant women in the Avon area; 13,971 infants at 12 months	Pregnancy then 12 months	Postal questionnaires every quarter (more often in early years)  physical assessment once a year	Effect of interaction of physical and social environment with genetic inheritance on child health behaviour and development	<a href="http://www.alspac.bristol.ac.uk/">http://www.alspac.bristol.ac.uk/</a>
Isle of Wight Birth Cohort Study	Isle of Wight	1989/90	All 1,456 babies born on the Isle of Wight 1989/90	Birth	1 yr, 2, 4, 10, 17	Asthma and allergic diseases	<a href="http://www.cls.ioe.ac.uk/text.asp?section=00010001000500090006">http://www.cls.ioe.ac.uk/text.asp?section=00010001000500090006</a>
Millennium Cohort Study (MCS)	UK	2001	18,819 infants born in UK (incl. Northern Ireland)	9 months	Age 3 yrs and age 5 yrs, follow-up so far every 2 years	Multi-disciplinary	<a href="http://www.cls.ioe.ac.uk/mcs">www.cls.ioe.ac.uk/mcs</a>
Growing Up in	Scotland	2005	Two cohorts. Birth: 5,000	Birth: 10.5	Annually until age 6 yrs, then at key	Multi-disciplinary with emphasis on service	<a href="http://www.crfr.ac.uk/gus/index.h">http://www.crfr.ac.uk/gus/index.h</a>

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Scotland			born 2004/05 Toddler: 3,000 born 2002/03	months Toddler: 34.5 months	stages	provision and use	tml
Born in Bradford	Bradford, UK	2006/7-2009	All pregnant women attending a single hospital 2007-2009, ca. 10,000	Pregnancy then birth	10 days, 6 weeks, 6 months, 8/9 months, 12 months +	Health, special interest in South Asian origins (ca. 50%); parallel project planned in Pakistan	<a href="http://www.cls.ioe.ac.uk/text.asp?section=00010001000500090013">http://www.cls.ioe.ac.uk/text.asp?section=00010001000500090013</a>
<b><u>Rest of Europe and Scandinavia</u></b>							
Danish National Birth Cohort	Denmark	1996-2002	101,042 pregnant women; 96,986 resultant children	Pregnancy then age 6 months	Questionnaires at 18 months, 7 years and 11 years (with physical assessment)	Health, including reproductive failures in pregnant women	<a href="http://www.ssi.dk/sw9314.asp">http://www.ssi.dk/sw9314.asp</a>
Norwegian Mother and Child Cohort Study	Norway	2000-05	100,000 pregnant women	Pregnancy then 6 months	18 months, 6 years	Causes of serious diseases among mothers and children	<a href="http://www.fhi.no/eway/default.aspx?pid=238andtrg=MainArea_5811andMainArea_5811=5903:0:15,3046:1:0:0::0:0">http://www.fhi.no/eway/default.aspx?pid=238andtrg=MainArea_5811andMainArea_5811=5903:0:15,3046:1:0:0::0:0</a>
The German Health Survey for Children and Adolescents	Germany	2003	17,641 children and adolescents aged 0 to 17 years in 167 communities	Cross-section of children aged from 0 to 17 years	Still to be decided	The determinants of better and worse mental and physical health, personal resources, use of medical services.	<a href="http://www.kiggs.de/service/english/index.html">http://www.kiggs.de/service/english/index.html</a>
Infancia y Medio Ambientes [Environment and Childhood]	Spain	1997-2005	3,100 pregnant mothers and newborns from eight different Spanish regions (some have been participating in existing cohort studies)	Pregnancy (12, 20 and 32 weeks' gestation)	Pre-natally, then birth, 1 year and age 4 years	Effect of exposure to environmental pollutants in pregnancy and early childhood on child growth and development	<a href="http://www.infanciaymedioambiente.org/">http://www.infanciaymedioambiente.org/</a>

## Appendix A: Summary Details of Selected International Longitudinal Child/Youth Cohort Studies

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Name	Country	Date started	Sample characteristics	Age at first contact	Periodicity	Focus	Website
French Longitudinal Study of Children (ELFE)	France	2009	20,000 children born on specific days in 2009	Pregnancy, then 6-8 weeks	Personal visits at 3, 6 and 11, interspersed with telephone interviews	Multidisciplinary, strong environmental emphasis regarding health	<a href="http://www.elfe.ined.fr">www.elfe.ined.fr</a>
<b>North America</b>							
The Kauai Longitudinal Study of Children	USA	1955	698 on the Hawaiian island of Kauai	Birth	Variable	Child development and resilience	-
Children and Young Adults of the 1979 National Longitudinal Study of Youth	USA	1986 and later additions	Children of women participating in NLSY79 – 5,255 in 1986 rising to 8,267 in 2004	Various under age 15	Every 2 years	Cognitive development, family formation, educational attainment, transitions to employment	<a href="http://www.cls.ioe.ac.uk/text.asp?section=00010001000500090004">http://www.cls.ioe.ac.uk/text.asp?section=00010001000500090004</a>
NICHD Study of Early Child Care and Youth Development	USA	1991	1,364 children from 10 locations	0-3 years	1 <sup>st</sup> , 6 <sup>th</sup> and 9 <sup>th</sup> grade	Effect of childcare on development	<a href="http://secc.rti.org/">http://secc.rti.org/</a>
National Longitudinal Study of Children and Youth (NLSCY)	Canada	1994 with top-ups of infants in 2000 and 2002	National sample of children aged 0-11 years, last cycle in 2004/5 had 26,000 children	Aged 0-11 years	Every 2 years	Factors affecting child's social, emotional and behavioural development. Intellectual outcomes	<a href="http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurveyandSDDS=4450andlang=enanddb=imdbandadm=8anddis=2">http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurveyandSDDS=4450andlang=enanddb=imdbandadm=8anddis=2</a>
Early Childhood Longitudinal Study (ECLS)	USA	1998 for kindergarten cohort; 2001 for birth cohort	14,000 in the birth cohort; 21,000 in the kindergarten cohort	Aged 9 mths and 5 years	Birth: age 2, 4 and 5 years Kinder: 1 <sup>st</sup> , 3 <sup>rd</sup> , 5 <sup>th</sup> and 8 <sup>th</sup> grade	Early school experiences and school-related outcomes	<a href="http://nces.ed.gov/ecls/index.asp">http://nces.ed.gov/ecls/index.asp</a>

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Name	Country	Date started	Sample characteristics	Age at first contact	Periodicity	Focus	Website
Quebec Longitudinal Study of Child Development	Canada	1998	2,120 children, representative sample of births to mothers living in Quebec area 1997-98	5 months	17 mths, 29, 41, 45-56, 5 years, 6, 7, 8, 10, 12 years	Children's social adaptation and school adjustment	<a href="http://www.stat.gouv.qc.ca/cadri/sq/enq_eldeq_an.htm">http://www.stat.gouv.qc.ca/cadri/sq/enq_eldeq_an.htm</a>
Fragile Families and Child Well-being Study	USA	1998–2000	5,000 children born in large US cities, the majority to unmarried parents	Birth	1 yr, 3, 5, 9	Children born to unmarried parents	<a href="http://www.fragilefamilies.princeton.edu/">http://www.fragilefamilies.princeton.edu/</a>
National Children's Study	USA	2008	100,000 children from 105 areas	Birth	Up to age 21	Environmental influences on child health and development	<a href="http://www.nationalchildrensstudy.gov/">http://www.nationalchildrensstudy.gov/</a>
<b>Australia and New Zealand</b>							
Dunedin Multidisciplinary Health and Development Study	New Zealand	1972/73	All 1,037 births in the town of Dunedin in 12-month period	3 years	Face-to-face assessments every 2 years until 15 years, then 18, 21, 26, 32 [38, 44 +]	Physical and mental health	<a href="http://www.iop.kcl.ac.uk/international/?project_id=20">http://www.iop.kcl.ac.uk/international/?project_id=20</a>
Christchurch Health and Development Study	New Zealand	1977	1,265 born in Christchurch urban region in mid-1977	Birth	4 month, 1 year, annually up to age 16, 18, 21 +	Health and development	<a href="http://www.chmeds.ac.nz/research/chds/">http://www.chmeds.ac.nz/research/chds/</a>
Mater - University of Queensland Study of Pregnancy and its Outcomes (MUSP)	Australia	1981-83	8,556 expectant mothers in a single hospital	Pregnancy then birth	5 years, 14, 21	Obstetric outcomes, child health	<a href="http://www.socialscience.uq.edu.au/index.html?page=15531">http://www.socialscience.uq.edu.au/index.html?page=15531</a>
Australian Temperament Project	Australia	1982-83	2,433 children born in Victoria	4-8 months	Every year until 3-4 years, then every 2 years until 20+	Temperament, emotional, psychosocial and behavioural development	<a href="http://www.aifs.gov.au/atp/">http://www.aifs.gov.au/atp/</a>
Growing Up in Australia – longitudinal study of Australian children	Australia	2003/04	Two cohorts of 5,000 nationally representative children	< 1 year and 4 years	Every 2 years until 2009 Personal visit	Multi-disciplinary, heavy policy emphasis. Factors affecting children's social, emotional, health and cognitive outcomes	<a href="http://www.aifs.gov.au/growingup/home.html">http://www.aifs.gov.au/growingup/home.html</a>

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Name	Country	Date started	Sample characteristics	Age at first contact	Periodicity	Focus	Website
(LSAC)					interspersed with postal questionnaire		
<b><u>Rest of World</u></b>							
Birth to Twenty	South Africa	1990	All 3,273 singleton births in Soweto-Johannesburg region in a 7 week period in 1990; which includes births to girls in original cohort	Birth	16 times in 17 years, twice a year since age 14 years	Multidisciplinary	<a href="http://web.wits.ac.za/Academic/Health/Research/BirthTo20/">http://web.wits.ac.za/Academic/Health/Research/BirthTo20/</a>
Korean Youth Panel Survey	Republic of Korea	2003 (8 <sup>th</sup> graders) /2004 (4 <sup>th</sup> graders)	Two cohorts: 3,449 8 <sup>th</sup> graders (mean age of 13 years) and 2,844 4 <sup>th</sup> graders (mean age of 9 years). Schools selected from districts then one class selected from each school.	13 yrs/9yrs	Last quarter of every year	Career development and deviant behaviours among adolescents	<a href="http://www.nypi.re.kr/eng/data/2007/2007_01.ppt">http://www.nypi.re.kr/eng/data/2007/2007_01.ppt</a>



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

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