



**Growing Up
in Ireland**
National Longitudinal
Study of Children



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THE INFANTS AND THEIR FAMILIES

INFANT COHORT



REPORT 1

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First, we wish to acknowledge the funding of the project by the Department of Health and Children, through the Office of the Minister for Children and Youth Affairs, in association with the Department of Social Protection and the Central Statistics Office.

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The Research Ethics Committee (REC) has provided rigorous ethical assessment of all aspects of ***Growing Up in Ireland***. This has involved their critical review of often voluminous documentation at each stage of the project, requiring an extraordinary level of commitment, time and input from its members.

The 84 children who sit on the Children's Advisory Forum (CAF) have provided very important help in developing questionnaires and testing schemes for the Child Cohort.

Staff and colleagues in both the ESRI and Trinity College provided assistance in many ways, as did the members of the Advisory Panels of Experts who made a particularly important contribution to instrument development and project design throughout.

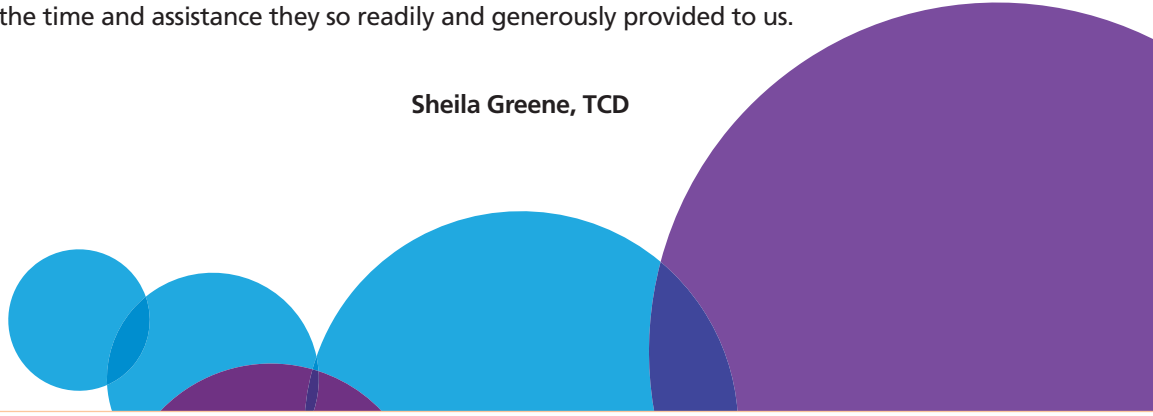
A range of stakeholder groups gave generously of their time, assistance and support, particularly during planning and design phases.

The energy and dedication of our staff in implementing ***Growing Up in Ireland*** have been tremendous since the inception of the project.

The final (and biggest) word of thanks goes, of course, to more than 11,000 families of nine-month-old infants who participated in the Infant Cohort of the Study. ***Growing Up in Ireland*** would simply not have been possible without the time and assistance they so readily and generously provided to us.

James Williams, ESRI

Sheila Greene, TCD



MINISTER'S FOREWORD

As Minister for Children and Youth Affairs, it gives me great pleasure to publish *'The Infants and their Families'*. This is the second formal publication from ***Growing Up in Ireland*** – the National Longitudinal Study of Children.

Growing Up in Ireland is one of the largest and most complex studies that has ever been undertaken in Ireland. By tracking the development of two cohorts of young children for at least seven years (approximately 11,100 infants and 8,500 nine-year old children), this Study aims to *'examine the factors which contribute to or undermine the wellbeing of children in contemporary Irish families, and, through this, contribute to the setting of effective and responsive policies relating to children and to the design of services for children and their families'*.

Growing Up in Ireland is funded by the Office of the Minister for Children and Youth Affairs in association with the Department of Social Protection and the Central Statistics Office. This Study was commissioned as part of a wider National Children's Research Programme, which was set up to progress Goal Two of the National Children's Strategy (2000):

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.

Since the inception of the National Children's Research Programme, a solid evidence base on children's lives has been established. I am confident that the findings emerging from this publication will add greatly to this evidence base and will also prove to be of enormous benefit to both policymakers and practitioners in the valuable work they undertake to improve the lives of children in Ireland.

I would like to thank Professor James Williams of the Economic and Social Research Institute and Professor Sheila Greene of the Children's Research Centre at Trinity College Dublin, their research team and their team of fieldworkers who are carrying out this Study. Most importantly, I would also like to thank the 11,100 families and carers who have generously given up their valuable time to participate.

Barry Andrews, T.D.

Minister for Children and Youth Affairs



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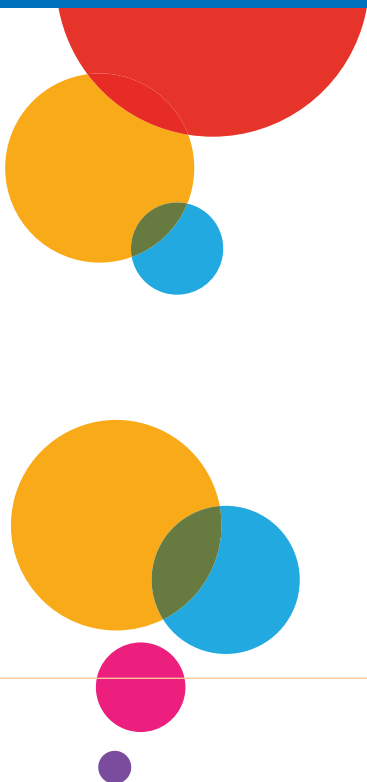
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Chapter 1

INTRODUCTION AND BACKGROUND



1.1. INTRODUCTION

Growing Up in Ireland – the National Longitudinal Study of Children tracks the development of two groups of children – an Infant Cohort (starting at nine months) and a Child Cohort (starting at nine years). The current report presents a descriptive analysis of the findings from the first wave of data collection with the 11,100 families of the nine-month-old children who participated in the Infant Cohort.

The report provides a comprehensive picture of the life of infants in Ireland today, across the main domains of their development, with a view to furthering our understanding of the broad spectrum of their experiences and circumstances. The next report from the Infant Cohort will be analytic in nature; that is, it will examine more closely relationships between the child's wellbeing and developmental status on the one hand, and, on the other, a wide range of factors which may affect the child's development.

Although both scheduled reports will aim to be as comprehensive as possible, it should be borne in mind that the amount of information collected in *Growing Up in Ireland* is considerable and it is amenable to much more analysis. The quantitative data from the project will be lodged (on a strictly anonymised basis) in the Irish Social Science Data Archive (ISSDA¹). This will provide access to the data for researchers, policymakers and other interested parties. The data will also be used again, from a different perspective, when the next wave of the longitudinal study is conducted – when the children are three years of age. At that point, it will be possible to relate the child's wellbeing and development in infancy (at nine months) to outcomes in early childhood (at three years).

1.2 BACKGROUND TO AND OBJECTIVES OF *GROWING UP IN IRELAND*

Growing Up in Ireland was commissioned in April 2006. The project is funded by the Department of Health and Children through the Office of the Minister for Children and Youth Affairs, in association with the Department of Social Protection and the Central Statistics Office. The Study is being carried out by a consortium of researchers led by the Economic and Social Research Institute (ESRI) and Trinity College Dublin (TCD).

Growing Up in Ireland focuses on a broad range of child outcomes across three domains:

- Physical health and development
- Social/emotional/behavioural wellbeing
- Educational achievement, intellectual capacity and cognitive development²

In so doing, the Study will not only establish norms for Ireland but will also facilitate comparison with findings from similar international studies of children. Being longitudinal in nature, the Study will (as subsequent waves of data become available) also address developmental trajectories over time and will explore the factors which most impact on those trajectories and on the life-chances of children as they grow from infancy to early childhood. By providing an evidence base of research and insights into children and childhood, the Study will inform and contribute to the development of responsive policies and the design of services for children and their families.

The first phase of the project will extend over seven years and will involve two longitudinal sweeps of data collection from the nationally representative sample of children in each of the two age categories mentioned – i.e. the 11,100 children in the Infant Cohort (starting at nine months) and the 8,500 children in the Child Cohort (starting at nine years).

¹ For details see <http://issda.ucd.ie/dataset-info/gui.htm>

Growing Up in Ireland can be set within the National Children's Strategy (Department of Health and Children, 2000), the primary objective of which is to "... enhance the status and further improve the quality of life of Ireland's children" (p.4). It affirms Ireland's commitment to respecting children as fully participating members of society in their own right. The three main goals of the National Children's Strategy are to:

- Improve children's lives through increased understanding
- Promote children's development by providing quality supports and services
- Give children an appropriate voice in matters which affect them

The principles espoused by the National Children's Strategy are an integral part of *Growing Up in Ireland* and ensure that in its conception and planning it is a study of children, with children, and for children. The Study encompasses all children in Ireland – in all their multifaceted variation and diversity.

The nine stated objectives of *Growing Up in Ireland* are to:

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

Some of these objectives are more specifically focused in the immediate term on one cohort rather than the other. For example, direct observation of the children was not included in the Infant Cohort (at nine months), so Objective 7 above did not apply to the children involved at that stage of development. That objective will begin to assume greater relevance and importance for the younger children from three years of age onwards.³ Most of the present report focuses on Objective 1 – providing a description of the lives of infants in order to establish what is typical and normal as well as atypical and problematic.

By definition, the results from the first round of the Study are cross-sectional in nature. They provide a snapshot of the lives, circumstances and experience of infants in Ireland at a single point in time. The longitudinal strength of the Study will mature with the second and, particularly, the third and subsequent rounds of observations of the children and their families. From that time (and particularly from Wave Three) it will be possible to meaningfully discuss developmental trajectories and growth paths for the children involved in the Study.

² Clearly, in relation to the Infant Cohort, formal education is not yet an issue. The children's early experiences at home, in childcare and other settings may lay the foundations for their later educational outcomes. With this in mind, the focus in Wave One of the Infant Cohort was on cognitive development rather than on educational achievement and intellectual capacity.

³ Fieldwork will commence with the children from the Infant Cohort (at three years) in December 2010.

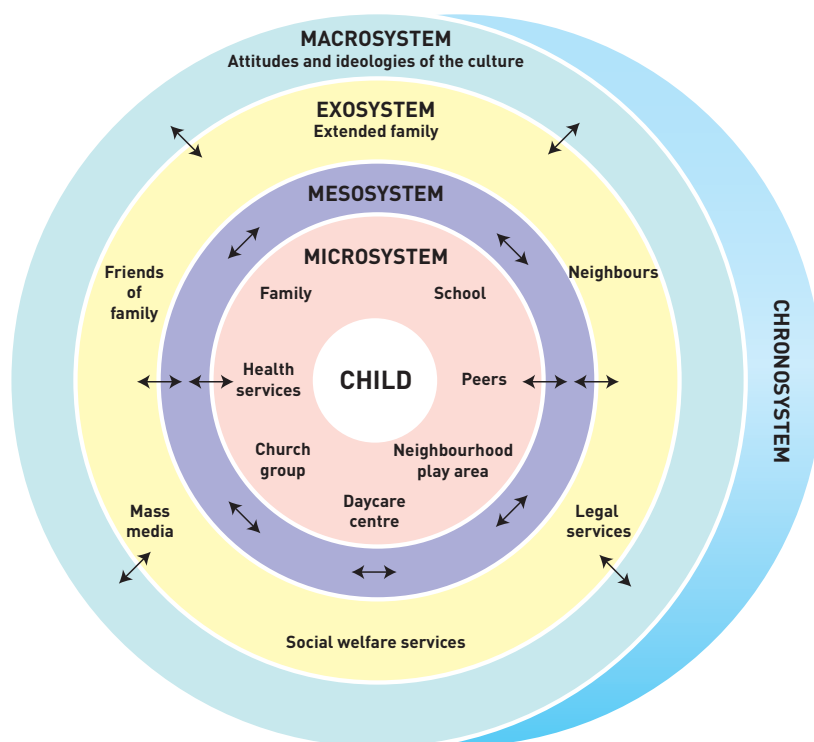
1.3 CONCEPTUAL FRAMEWORK

The conceptual framework adopted by *Growing Up in Ireland* is described in full in Greene *et al* 2010. It emphasises children's connectedness to the world within which they live. It also highlights the importance of considering the multifaceted nature of the influences on development over the child's life-course. The conceptual basis of the study incorporates a model of the child's relationship to the world outlined by Bronfenbrenner in 1979 and further developed in later years. Bronfenbrenner's work offered a re-conceptualisation of the child's ecology as a multilayered set of nested and interconnecting environmental systems, all of which influence the developing child, but with varying degrees of directness. The perspective has evolved since its early inception and today acknowledges the role of the child's own characteristics, including biological factors, in the overall development of the person; hence the model is now referred to as the *bioecological* model (Bronfenbrenner & Morris, 2006).

Within the bioecological model, the child is located at the centre of a set of concentric rings that represent the ecology of human life (Bronfenbrenner 1979; 2001). These systems are layered in terms of their influence on child development. In Figure 1.1, these systems or layers are represented as concentric circles, extending outwards from the individual child and his or her personal characteristics. Parents (and family members such as siblings and grandparents, if present) are the most influential part of the child's early development as are, for example, school and childcare arrangements. Relationships with other people in the child's family (siblings, grandparents, etc) will also exert an important influence on the quality of their daily lives. As these family relationships involve the most direct contact with the child, they are represented in the circle or layer immediately surrounding the individual (the *microsystem*).

Parents and children also have relationships outside the household, for example in school and in the workplace; it is these relationships which help to connect the household to the wider community. To Bronfenbrenner, this illustrates the intimate relationship between the *microsystem*, the face-to-face interactions which the child experiences, and the *mesosystem*, which encompasses the interactions among contexts in the *microsystem* – how families interact with schools, how parents' work-life affects their parenting, and how closely the family interacts with extended kin.

Figure 1.1: Bronfenbrenner's ecological perspective on child development



Source: Adapted from Garbarino (1982)

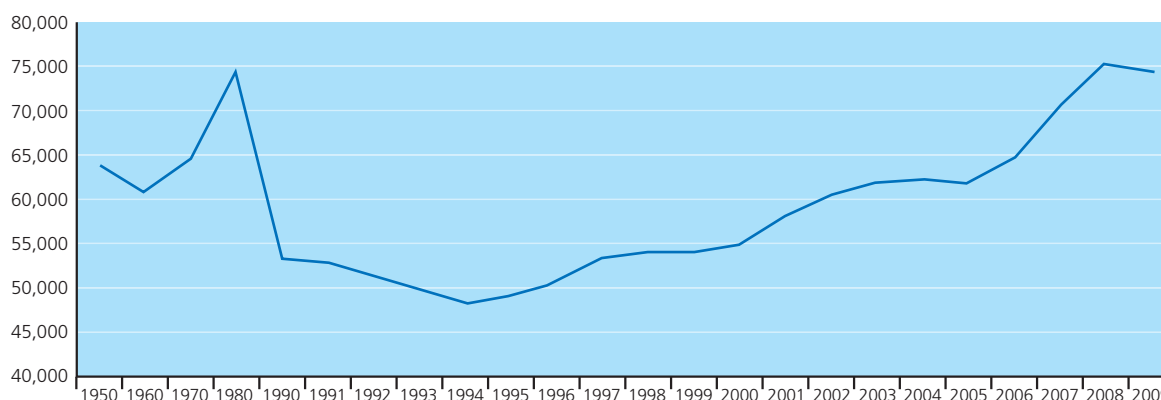
Outside the mesosystem in Bronfenbrenner's model sits the *exosystem*. This comprises the structures, institutions and settings which, while not in direct contact with children, exert an important influence on their quality of life and outcomes. Examples of influential elements in the exosystem would be departments of state, which have an important impact on children's wellbeing through the systems they control, such as welfare services. The last ring of Bronfenbrenner's schema is the *macrosystem*. This consists of the culture-specific ideologies, attitudes and beliefs that shape society's structures and practices, as well as economic and political systems. Together, these four levels (and the linking mesosystem) provide a comprehensive description of the wide range of factors that may influence the experiences and wellbeing of a child as s/he develops from birth to adulthood. The passing of time during this development, and time as a context for development, is important in Bronfenbrenner's model (the *chronosystem*). Time has two aspects: the first is the individual's lifetime. The second is the historical time or period effects associated with any particular point in history. Period effects will create a set of unique circumstances for the members of a given cohort. These period effects include the particular socio-cultural context at any time, for example the change from a period of economic boom to recession.

In the course of conducting *Growing Up in Ireland*, this model may be used as a way of understanding the specific and distinctive processes that shape the development of Irish children. By adopting a whole-child perspective and by locating the child in his or her complex and multilayered ecology and taking account of the multiple interacting and bi-directional influences on child outcomes, *Growing Up in Ireland* aims to determine the factors that promote or undermine the wellbeing of children in contemporary Ireland and, through this, to contribute to the development of effective and responsive policies and services for children and their families.

1.4 TRENDS IN NUMBER OF BIRTHS AND BIRTH RATES IN IRELAND

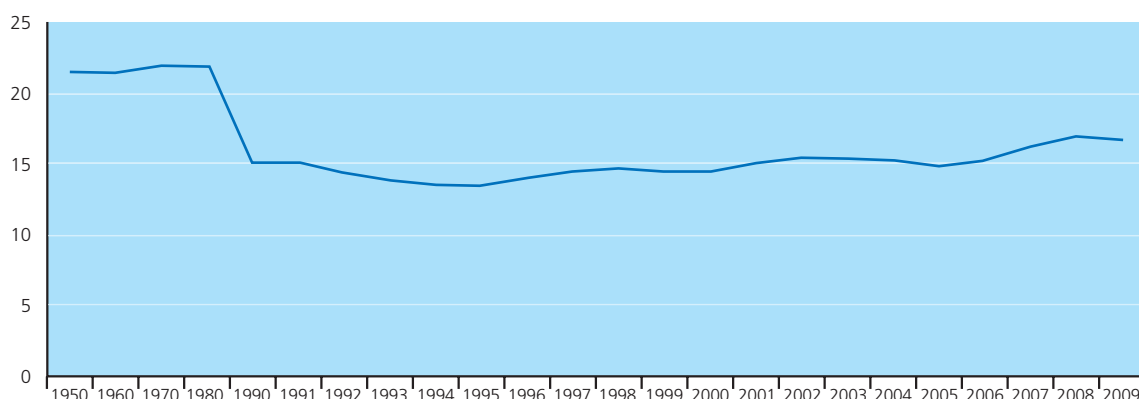
It is particularly appropriate that *Growing Up in Ireland* in its present form and scale should have been initiated at this time. Irish life and society have changed substantially over the last fifty years, not least in terms of changes in the number and structure of births. Figure 1.2 shows that Ireland went from a position of 63,565 births annually in 1950 to a high of 74,064 in 1980. This was followed by a substantial decline throughout the recession and related emigration of the latter half of the 1980s and the early 1990s, resulting in a low of 48,255 births in 1994. Since that time the annual number of births increased steadily, to stand at 75,065 in 2008, falling back slightly to 74,278 in 2009.

Figure 1.2: Trends in number of births in Ireland, 1950-2009



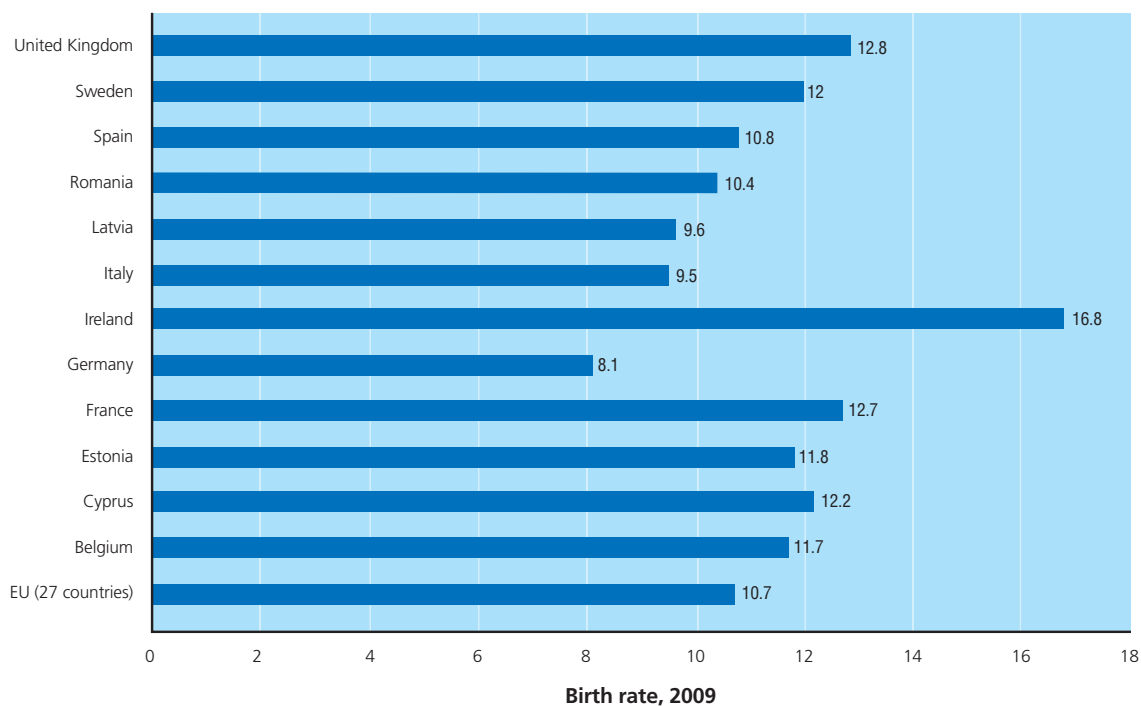
Although the annual number of births has increased steadily since 1994, the birth rate (births per 1,000 population) experienced a major fall between 1980 and 1990, followed by a prolonged period of relative stability over the last two decades. Figure 1.3 shows that the annual birth rate per 1,000 population was relatively stable in aggregate terms over the period 1950-1980 (rising slightly from 21.4 to 21.8 over the period). There was a substantial fall in rates throughout the 1980s, leading to 15.1 births per 1,000 population by 1990; there was limited change thereafter to 2006, when the rate was 15.2 per 1,000. The period 2007 to 2009 saw some fluctuation, with rates increasing to 16.3 per 1,000 population in 2007 and 17 in 2008, and falling back to 16.7 in 2009.

Figure 1.3: Trends in birth rates in Ireland (births per 1,000 population), 1950-2009



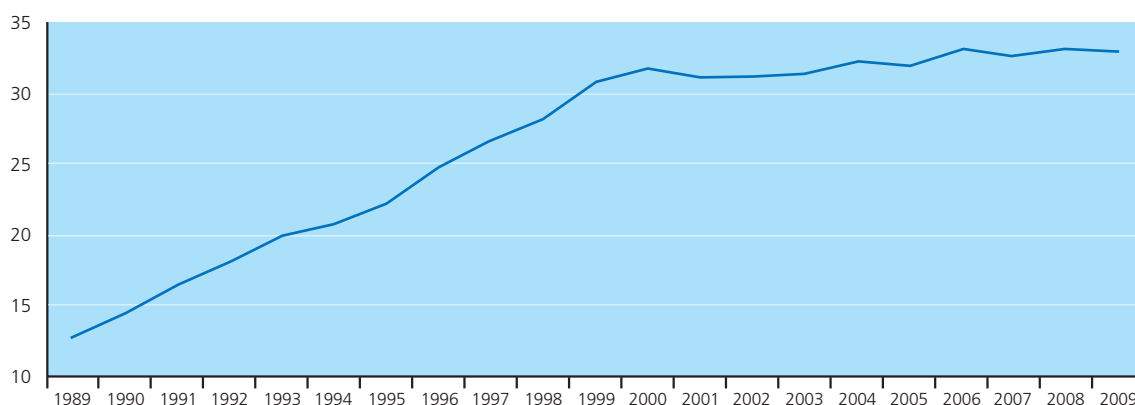
Birth rates in Ireland remain well above the EU average. Figure 1.4 presents details for 2009 for a selection of EU member states. Based on Eurostat figures, Ireland's birth rate of 16.8 was the highest in the EU and well above the EU-27 average of 10.7. The second highest rate was recorded for France (some way behind Ireland at 12.7 per 1,000). Ireland's figure was more than twice Germany's rate of 8.1 per 1,000.

Figure 1.4: Crude birth rates per 1,000 capita for selected EU member states, 2009



A further important aspect of trends in births in Ireland over the last few decades has been the increase in the proportion of births outside marriage. Figure 1.5 shows that the percentage of births outside marriage rose steadily from 12.6% of all births in 1989 to 31% in 1999. The rate has remained relatively stable since then, rising slightly to 33% by 2009.

Figure 1.5: Trends in birth outside marriage as a percentage of total births registered, 1989-2009



The substantial change in the number and composition of births (with related effects on family size and structure) has come at a time of unprecedented change in Ireland's economy, socio-demography, culture, society and value systems (Whelan & Layte, 2006). From the early 1990s to 2007, Ireland experienced high levels of economic growth and became increasingly secular and multicultural. It went from high unemployment in the early 1990s to almost full employment and even labour shortages in some sectors of the economy as recently as 2008. In the period 2005-2007, unemployment rates of just over 4% were the order of the day. Unemployment had increased to almost 12% by 2009 and to over 13% by 2010. The economic buoyancy of the late 1990s and 2000s was characterised by, *inter alia*, increasing female labour-force participation rates. Related to this was a substantial increase in the prevalence of out-of-home and non-parental care for children of all ages. In some parts of the country, commuting times to and from work increased substantially, often causing pressures and tensions in terms of work-life balance and time available for family and children.

All of these economic and social changes have affected the structure of society and replaced traditional certainties with new and often unaccustomed structures and processes, whose impact on children and childhood can only be guessed at in the absence of relevant research. *Growing Up in Ireland* provides important new and comprehensive information on the current position of children in Ireland and (as the project develops longitudinally) on how their circumstances will change over time in the new and emerging contexts of 21st century Ireland.

1.5 DATA AND METHODOLOGY

1.5.1 DESIGN, RESPONSE RATES AND REWEIGHTING THE DATA

The nationally representative sample of 11,100 infants and their families who participated in the Infant Cohort of *Growing Up in Ireland* was randomly selected from the Child Benefit Register maintained by the Department of Social Protection. Children born between December 2007 and May 2008 were selected into

the sample for interview at nine months of age – interviewing taking place between September 2008 and April 2009. A total of 73,662 infants were recorded on the Child Benefit Register for the calendar year 2008.

This is the population to which the figures in this report are statistically adjusted.

The sample response was 65% of all families approached and 69% of valid contacts made in the course of fieldwork. In line with best practice, the completed sample was statistically grossed or reweighted on the basis of external population estimates to ensure that it was wholly representative of all infants in Ireland.⁴

In the analyses reported below, a statistical significance level of 95% has been adopted. This means that, where the text notes that two figures are different, one can be sure 95 times in 100 that the differences are real differences and not a function of the sample or sample design.

1.5.2 INFORMANTS AND QUESTIONNAIRES

The main informants in the Infant Cohort (at nine months) were the adults identified as the Primary and Secondary Caregivers of the Study Child. The Primary Caregiver was defined as the person who usually delivered most care to the Study Child and who was most knowledgeable about him/her. The Secondary Caregiver was the resident spouse or partner of the Primary Caregiver. The Primary Caregiver was self-defined by the family of the Study Child. In almost all cases the Primary Caregiver was the infant's mother, the Secondary Caregiver his/her father. Detailed questionnaires were completed by both primary and secondary caregivers.

In addition, the family was asked to provide contact information in respect of non-resident parents and other regular caregivers, where the latter delivered at least eight hours of care to the nine-month-old Study Child. This regular caregiving could be delivered in either a domestic or institutional setting (for example, a child-minding facility or crèche). The contact details were used by the Study Team to administer (by post) a short self-completion questionnaire to both non-resident parents and also to other regular caregivers. In the course of the household interview, the interviewer also recorded the length, weight and head circumference of the Study Child as well as the height and weight of Primary and Secondary caregivers.

1.6 CLASSIFICATORY VARIABLES USED IN REPORT

Throughout the report, in order to examine how children's lives vary in different sociodemographic contexts, data are examined throughout in relation to a relatively common set of variables. These are, principally, family social class, family income, family type and mother's highest level of educational attainment. As will be described in detail in the chapters below, these variables help to discriminate between children in terms of their outcomes across a number of domains and to paint the picture of social and other variations in the life of infants in Ireland today. These variables are described below.

1.6.1 DEFINITION OF CHARACTERISTICS VARIABLES

Family Social Class

A social-class classification was assigned to both mother and father (where the latter was resident) based on their respective occupations. In line with standard procedures, in two-parent families in which both partners were economically active outside the home, the family's social class was assigned on the basis of the higher of the two. A three-fold classification of family social class is used throughout this report: Professional/Managerial, Other Non-Manual/Skilled-Manual and Semi-Skilled/Unskilled Manual.

⁴ The actual weighting system used is based on a minimum information loss algorithm, which fits population marginals in a regression framework and adjusts the sample estimates to ensure that they produce estimates which match population parameters. See, for example, Gomulka, J., 1994 and 1992. The statistical adjustment or reweighting and grossing of the data were in line with the numbers and characteristics of nine-month-old infants available from the Child Benefit Register 2008 in conjunction with information available from the most recent Census of Population, 2006.

Family Income Group

To make meaningful comparisons across families in terms of their total disposable income, it is necessary to take into account household size and composition (number of adults and children) to create what is known as the 'equivalised' family income.⁵ The infant's family is then assigned to one of five income groups, from lowest to highest. Each group (quintile) contains 20% of infants and their families. Thus, throughout the report, the lowest family income group refers to the 20% of families at the bottom of the income distribution (based on 'equivalised' family income or income adjusted to account for the size and composition of the family). The second lowest income group includes the families in the next 20% of the income distribution, and so on.

Family Type

A fourfold classification of family type is used throughout the report:

- Lone-parent, one child under 18 years
- Lone-parent, two or more children under 18 years
- Two-parent, one child under 18 years
- Two-parent, two or more children under 18 years

Lone- and two-parent family refers only to the number of resident caregivers/guardians. The terms do not refer to the relationship of the caregiver to the Study Child. Biological parents and other caregivers are included in the definition of lone- or two-parent families although (as will be discussed below in Chapter Two) mothers and fathers are overwhelmingly the main caregivers of the children. The term 'children' in the fourfold classification of family type refers to all children under 18 years of age living in the household. It does not necessarily refer to siblings of the Study Child. There may also be siblings of the Study Child living in the household who are over 18 years of age but who are not included as *children* in this classification of family type.

Highest Level of Maternal Educational Attainment

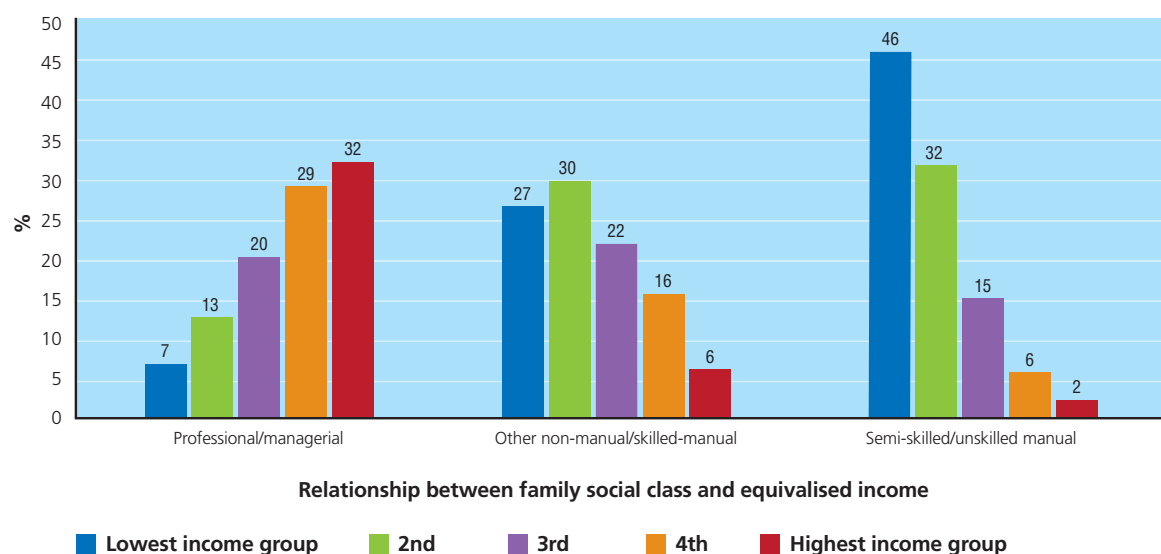
Much of the international literature points to the important impact of the mother's educational attainment on a child's development. The mother's level of education appears to be of substantially greater consequence than the father's. Throughout the report, a fourfold classification of the educational attainment of the infant's mother is used, as follows:

- Lower Secondary or less (in the Irish system Junior Certificate or no formal education)
- Leaving Certificate
- Sub-degree – not full degree status but a certificate or diploma completed following the Leaving Certificate (many of which qualifications will have been completed in a third-level institution)
- Degree or Third Level

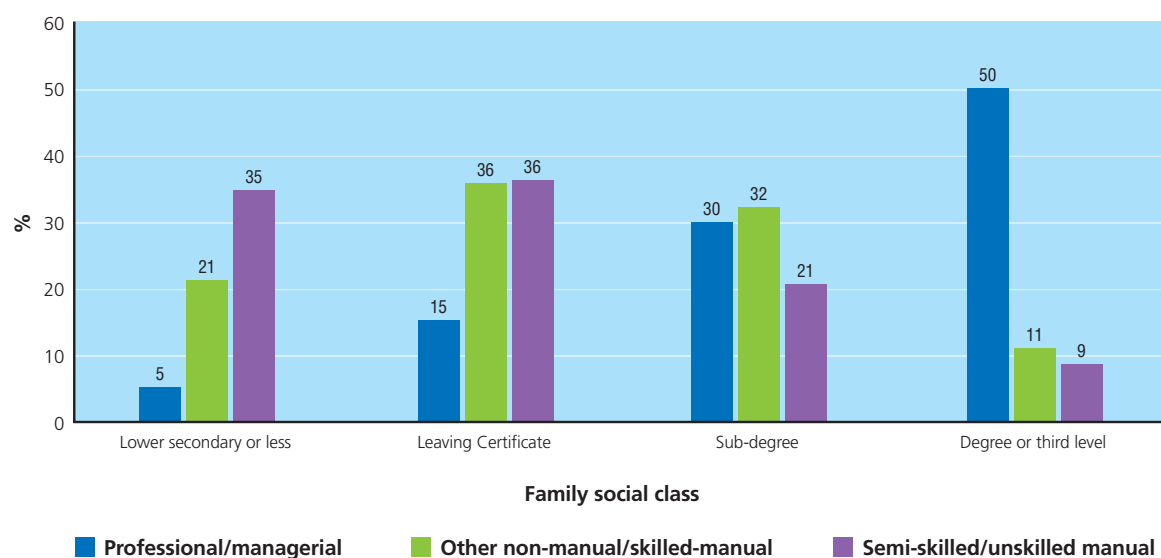
1.6.2 INTERRELATIONSHIPS BETWEEN FAMILY CHARACTERISTICS

It is important to understand how the characteristics outlined above combine and are related to each other. As one would expect, there is a strong relationship between family social class, family income and the highest level of mother's educational attainment. Figure 1.6 shows the relationship between family social class and income group. As social class increases, so too does the proportion of households in the higher income groups. For example, 32% of infants who were in the professional/managerial category were in the highest income group, compared to only 2% of those in the semi-skilled/unskilled manual category.

⁵ To do this the number of 'equivalised' adult members resident in the household is calculated. This is done by assigning a weight of 1 to the first adult, 0.66 to all subsequent adults and 0.33 to each child (14 years or less). The total number of adult equivalents is then divided into the household's total disposable income to give the household's equivalised income. It is this measure of equivalised income which is used throughout the report.

Figure 1.6: Relationship between family social class and family income

Similarly, Figure 1.7 illustrates the relationship between family social class and highest level of maternal education. This shows that, as social class increases, so too does the level of educational attainment. For example, half of mothers in the professional/managerial class group had a degree or third-level qualification, compared to only 9% of mothers in the semi-skilled/unskilled manual category.

Figure 1.7: Relationship between family social class and highest level of education completed to date by the nine-month-old's mother

These interrelationships between variables illustrate that in interpreting the descriptive statistics outlined in this report the reader should remember that patterns should not be interpreted as 'explaining' child outcomes. Different family characteristics can combine to produce different outcomes; it is important to bear in mind that the analyses presented in this report do not necessarily take account of these potentially complex relationships.

Further, the reader should note that in discussing trends in subsequent chapters, reference is frequently made to the fact that only a minority of children or their families display a given trait or possess a stated attribute, where that attribute is often a measure of disadvantage. Noting that a minority (even a very small minority) of children are experiencing any measure of disadvantage does not imply that the consequences for the group of children in question are in any way reduced or moderated by overall low prevalence levels.

1.7 CONTENT AND ORGANISATION OF REPORT

In keeping with the conceptual framework described above, Study Children are at the centre of *Growing Up in Ireland* and of this report.

Chapter Two introduces the infants, their characteristics and their families, including the types of families in which they live as well as some of the socio-demographic characteristics of their parents/guardians.

Chapter Three focuses on the circumstances surrounding the pregnancy with the Study Child, the mother's behaviours during pregnancy (such as smoking and drinking), antenatal care and pregnancy complications (if any). It also outlines key aspects of the birth itself, including mode of delivery, labour and so on.

Chapter Four describes aspects of the child's health from birth to current status at time of interview – at nine months of age.

Chapter Five examines the infant's routines, such as sleeping and feeding patterns. It also describes the infant's temperament as well as physical and cognitive development.

Chapter Six considers issues of childcare. The nature of early childcare can have long-lasting effects on the child's emotional development and attachment. The chapter looks at the types of non-parental childcare received, as well as length of time in childcare each week and related costs.

Chapter Seven deals with parenting and support for parents in bringing up their infant. The family is the primary social system involved in a young child's development and, within families, the parents have a pivotal role in influencing the nature and quality of their children's lives. The chapter addresses some of the important issues of parent-child relationships, including attachment and separation anxiety, parental stress, father's parenting role, and support available to parents in raising their children.

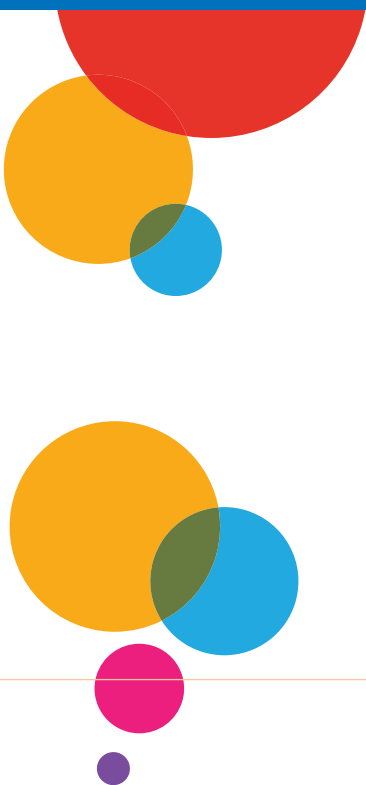
Chapter Eight examines the relationships the mother has with the world outside her home, both in the workplace and in her local community. It also considers some of the characteristics of the neighbourhood or environment in which the Study Child is being brought up, in terms of the family's perception of its connectedness to their local community.

Finally, **Chapter Nine** presents a summary of the main findings and a discussion of some of the issues that arise from these data, both in terms of national policy and in terms of the potential the *Growing Up in Ireland* Infant Cohort data offer for further analysis, and as the foundation wave for the longitudinal development of the 11,100 infant participants.



Chapter 2

CHARACTERISTICS OF INFANTS AND THEIR FAMILIES



2.1 INTRODUCTION

The child's characteristics, experiences and development are at the heart of *Growing Up in Ireland*. Understanding what children experience and their interaction with their world requires that we first know something about the environment in which they live. One of the most important aspects of this environment is, of course, the child's family. Family structure and characteristics will substantially influence a child's daily life, shaping the opportunities and challenges which s/he will face from day to day.

This chapter looks at the contexts in which children are growing up. It discusses the kind of families in which infants were living when interviewed in the first round of *Growing Up in Ireland* – whether they lived with one or two parents, with siblings or with grandparents; where in the family the Study Child came in terms of birth order, and details of the type of accommodation in which the child lived. It also looks at the socio-demographic characteristics of their parents/guardians – their age, marital status, social class, income, hours worked, religious denomination and country of birth.

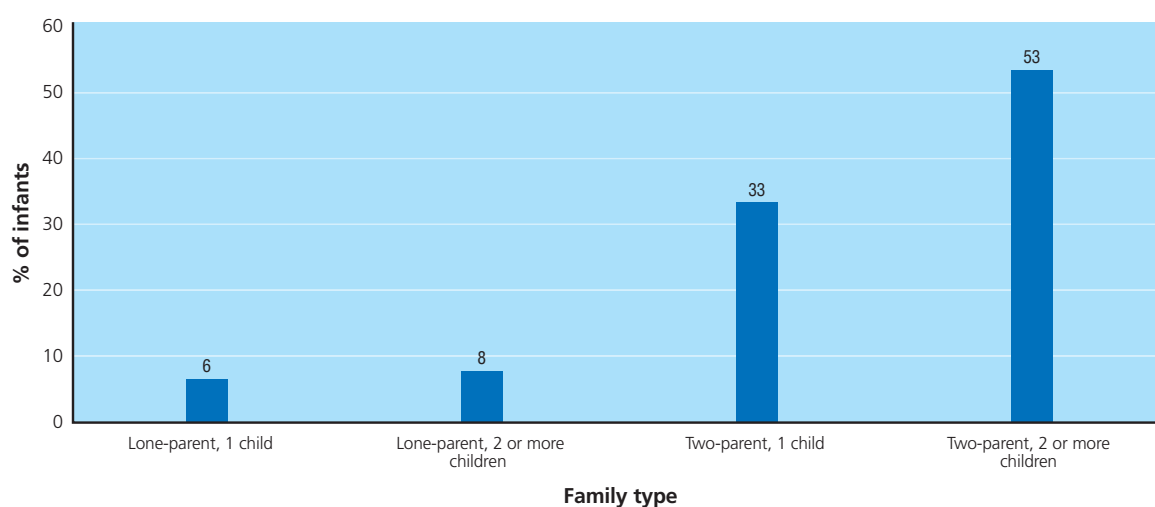
2.2 INFANTS AND THEIR FAMILIES

2.2.1 FAMILY TYPE

As noted in Chapter One, the Child Benefit Register was used as a sampling frame for the Infant Cohort. This contained a total of 73,662 infants, with a slightly higher percentage of boys (51.8%) than girls. The type of families in which the children live can have a substantial bearing on their material and emotional wellbeing. A recent survey of parents and children in Ireland (McKeown, Pratschke and Haase, 2003) found higher rates of cohabitation and lone parenthood among lower socio-economic groups. Fewer resources in households may lead to financial strain and increased family stress, all of which will ultimately affect child outcomes.

Figure 2.1 illustrates the types of families in which infants lived. The chart shows that 14% lived in lone-parent families – 6% in lone-parent families with one child under 18 years and 8% in families with two or more children. The majority of nine-month-olds (86%) lived in two-parent families – 33% in two-parent families with one child and 53% in two-parent families with two or more children.¹

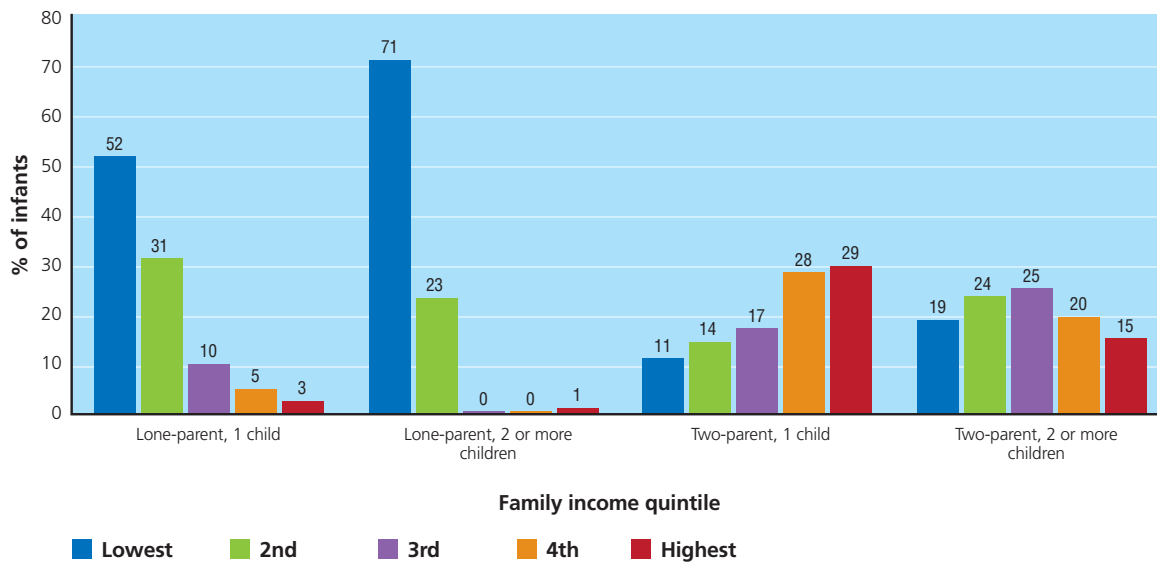
Figure 2.1: Family type and size of households in which infants lived



¹ Under 18 years

Figure 2.2 shows the breakdown of family type by income quintile. Lone-parent families were much more likely to be in the lowest income groups, especially larger lone-parent families; 71% of lone parents with two or more children and 52% of those with one child were in the lowest income category. This compares with 19% of larger two-parent families and 11% of smaller two-parent families.

Figure 2.2: Family type classified by family equivalised income quintile

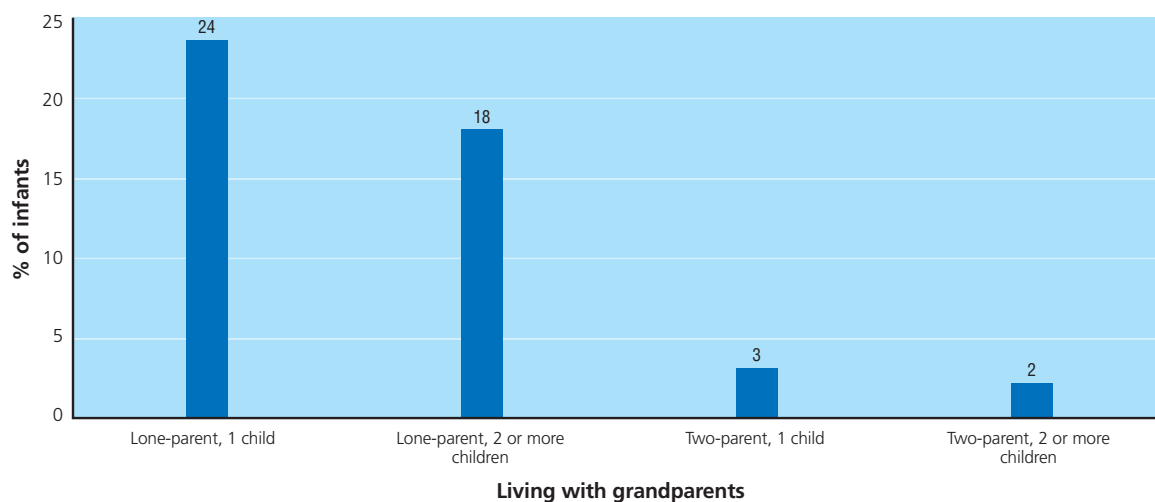


2.2.2 GRANDPARENTS

Grandparents can provide support for parents in a number of ways, including childcare, financial and emotional support, as well as being a source of parenting advice. Levels of contact with grandparents are relatively high in Ireland (Hogan *et al*, 2002) – possibly because of the size of the country but perhaps also because of the value placed on extended family. Having a grandparent living in the household with the family obviously means that their support is on hand more readily and can have a direct and major impact on the child's wellbeing and development. Overall, 5% of infants were living in households in which there was a resident grandparent; 3% lived with one grandparent and 2% lived with two grandparents. Just under 1.5% of all infants were living in their grandparents' home with their mothers at the time of interview.

Figure 2.3 shows that the percentage of infants living with a grandparent varied greatly across family types. Infants in lone-parent families were much more likely to live with a grandparent than those in two-parent families. Almost a quarter (24%) of lone parents with one child and 18% of lone parents with two or more children reported that they lived with a grandparent. The comparable figures for two-parent families were 3% (one child) and 2% (two or more children) respectively.

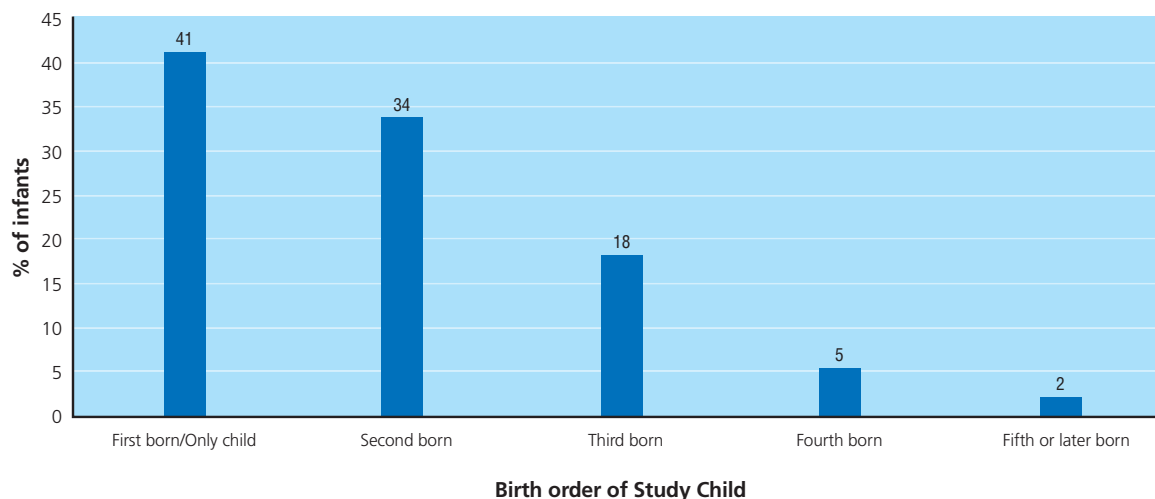
Figure 2.3: Living with grandparents classified by family type



2.2.3 BIRTH ORDER

Figure 2.4 summarises information on the birth order of the Study Child. Where a child comes in the family can be of importance with regard to issues such as parenting style, time spent with the child and impact on the child's developmental patterns (Sulloway, 1996). A total of 41% of infants were the first-born child in their families – by definition the only child in the household. Just over one-third (34%) were the second-born child and 18% were the third-born child.

Figure 2.4: Birth order of Study Child



2.2.4 TYPE OF ACCOMMODATION

Table 2.1 presents details on the type of accommodation in which infants lived. It shows that a large majority lived in houses (92%) and most had access to a garden (95%). Roughly three-quarters (73%) lived in owner-occupied housing and just over one-quarter (26%) lived in rented accommodation. Most infants lived in homes with three or four bedrooms (77%). There was a fairly even split between urban and rural living (46% and 54% respectively).

Table 2.1: Details on the accommodation of nine-month-olds

Type of accommodation		%
	House	92
	Apartment / Flat / Bedsit	7
	Other	1
Access to garden	Yes	95
	No	5
Occupancy	Owner-occupied	73
	Rented	26
	Occupied free of rent	1
Number of bedrooms	1	2
	2	12
	3	42
	4	35
	5 or more	10
Region	Urban	46
	Rural	54

2.3 THE CHARACTERISTICS OF PARENTS/GUARDIANS

2.3.1 PRIMARY AND SECONDARY CAREGIVERS

The administration of the *Growing Up in Ireland* survey required that one adult in the household provided most of the information. To facilitate this, one adult (a parent, where resident) was asked to self-identify as the 'Primary Caregiver' of the Study Child. The Primary Caregiver was defined as the person who provided most care to the child on a day-to-day basis and who knew most about him/her. Where there was a resident partner or spouse of the Primary Caregiver, he/she was automatically defined as the 'Secondary Caregiver'.

Table 2.2 shows the basic characteristics of Primary and Secondary Caregivers. It shows that the Primary Caregiver was almost universally female (99.6%), and almost always the Study Child's mother. Equally, the Secondary Caregiver was almost universally the child's father. Because of this, and for ease of presentation in the remainder of this report, we refer to Primary and Secondary Caregivers as mothers and fathers respectively.

Table 2.2: Basic characteristics of Primary and Secondary Caregivers of nine-month-old infants

	Primary Caregiver	Secondary Caregiver
Male	0.4%	99.6%
Female	99.6%	0.4%
Biological parent	99.9%	99.9%
Average age	31.6 years	35.0 years

2.3.2 AGE OF PARENTS/GUARDIANS

The average age of an infant's mother was just under 32 years. Figure 2.5 outlines the proportion of mothers in different age groups and shows that just over one-third of mothers (36%) were in the 31 to 35 age category. Only relatively small percentages were in the youngest and oldest categories: 3% of mothers were aged 19 or less and 4% were aged 41 or over. The former figure is very much in keeping with Ireland's characteristically low prevalence of teenage pregnancy. The average age of fathers was slightly higher than mothers, at 35 years.

Figure 2.5: Proportion of mothers and fathers in different age groups

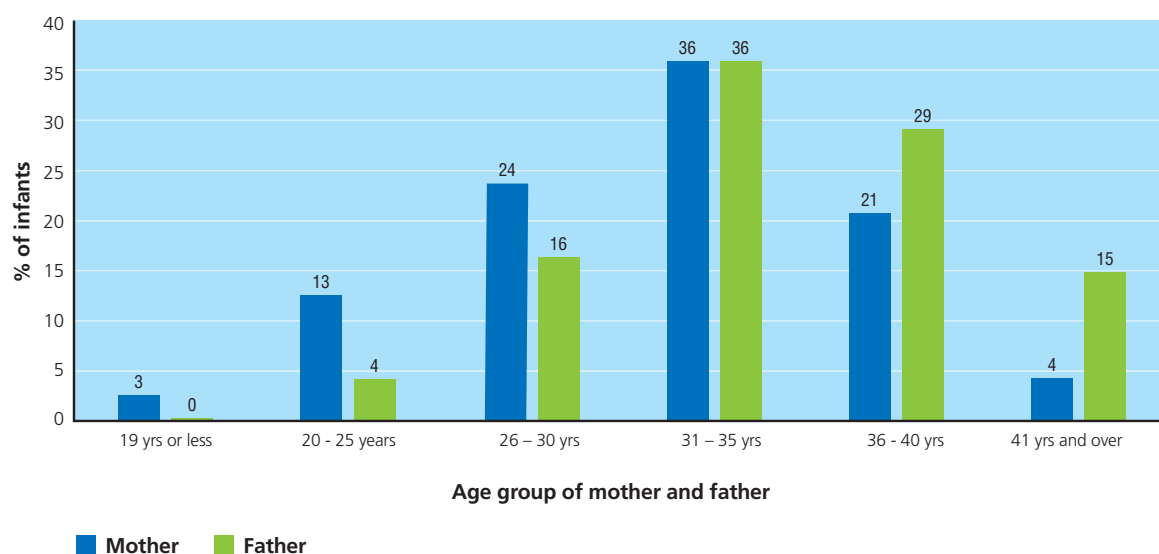


Figure 2.6 shows variations in the mean age of mothers according to socio-demographic characteristics of class, education and income. A positive relationship with age was evident across all characteristics – in other words, the mother's average age increased as her family social-class group, her level of educational attainment and her family income increased. For example, mothers in the lowest social class category (semi-skilled/unskilled manual) had a mean age of 29.5 years, but this increased to 33.6 years for those in the highest group (professional/managerial).

Figure 2.6: Mother's age classified by family social class, mother's education and family income

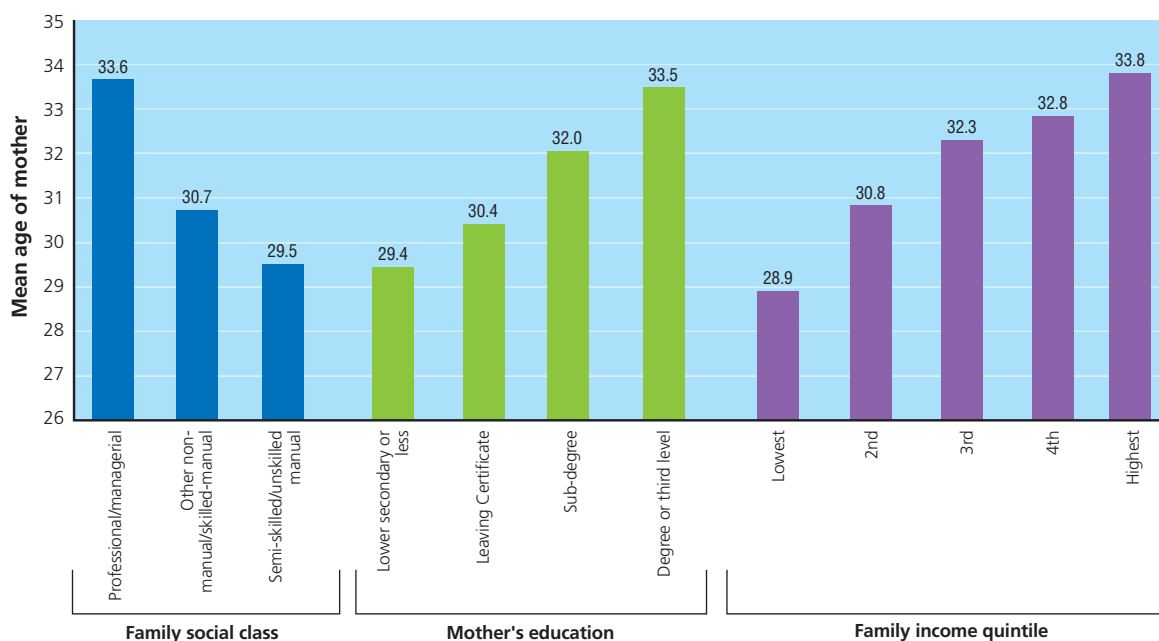
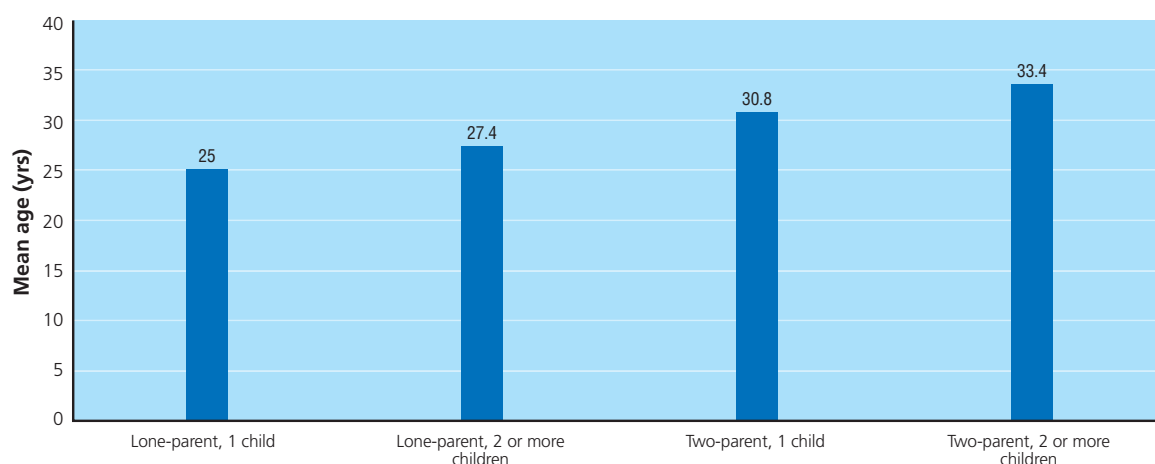


Figure 2.7 shows the breakdown of age of mother classified by family type. Mothers in lone-parent families were, on average, younger than mothers in two-parent households. Lone-parent mothers with only one child were the youngest of all, with a mean age of 25. This increased to 27.4 years for lone-parent mothers with two or more children. In contrast, an infant's mother in a two-parent family with two or more children was, on average, six years older – 33.4 years. The mean age of mothers in two-parent families with only one child was 30.8.

Figure 2.7: Average age of mother classified by family type



2.3.3 MARITAL STATUS

Table 2.3 shows the marital status of the infant's mother at the time of interview. The majority of mothers (71%) were married and living with their spouse, indicating that the traditional family unit headed by a husband and wife is still the single most common structure for infants living in Ireland today. The remainder were split between those who were cohabiting with a partner (15%) and those who were living alone without a resident partner (14%).

Table 2.3: Marital status of nine-month-olds' mothers

Marital status	Mothers (%)
Married and living with husband/wife	70.9
Cohabiting with partner	15.1
Not living with partner	14.0
Total	100.0

2.3.4 EDUCATIONAL ATTAINMENT

Maternal education has a well-established effect on the development of the child – possibly even influencing the life-chances of the child pre-natally. Fowles (2002), for example, noted the relationship between maternal education and awareness of the nutritional requirements of pregnancy. Infant feeding practices are correlated with socio-demographic factors, including mother's highest level of education (Woodward and Liberty, 2005). A range of factors affecting child outcomes including exposure to and type of early childcare, cognitive stimulation in the home, lifestyle and behaviours are all related to the mother's educational level.

Figure 2.8 shows the highest educational qualification achieved by mothers and fathers of the Study Children. A total of 28% of mothers had attained sub-degree level (certificate/diploma); a slightly higher proportion (29%) had achieved degree-level education. Similar figures were reported for fathers: 33% had attained sub-degree level and 29% degree level. A quarter of mothers (25%) had attained Leaving Certificate level and 17% had attained lower secondary or less (Junior Certificate or less). The comparable figures for fathers are 20% and 18%.

Figure 2.8: Highest level of educational attainment of mothers and fathers of nine-month-olds

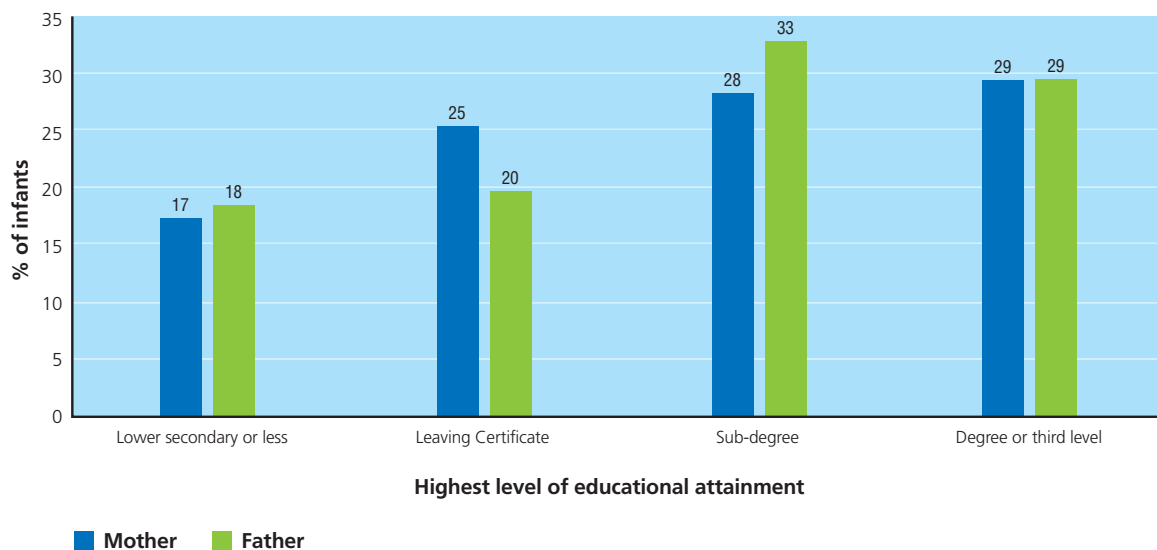
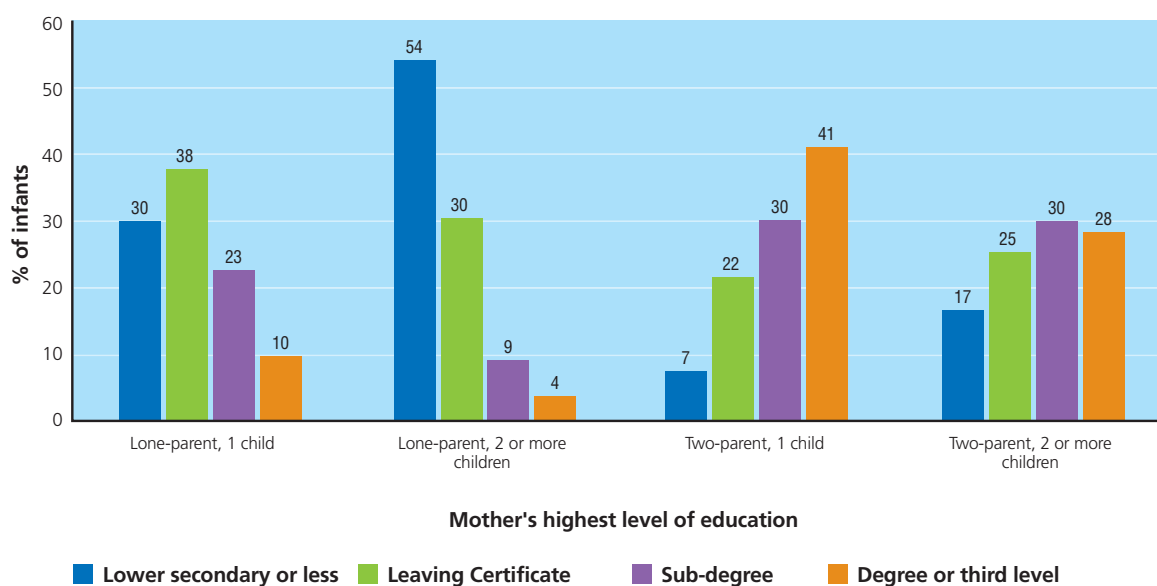


Figure 2.9 shows the breakdown of mother's highest level of educational attainment classified by family type. Mothers in lone-parent families were more likely to be less well educated than those in two-parent families. Lone-parent mothers with two or more children were much more likely to have left school at Junior Certificate or below (54%). This contrasts, for example, with only 17% of mothers in larger two-parent families who had left education at this stage. The corollary of this trend is, for example, the 4% of larger lone-parent families where the mother was a graduate, compared with 28% among larger two-parent families.

Figure 2.9: Mother's highest level of educational attainment classified by family type



2.3.5 EMPLOYMENT STATUS

Evidence from the literature on the nature of the effect of parental employment status on child development is mixed. Some suggests that combining work and family roles is generally conducive to men and women's wellbeing and health, giving rise to the possibility of gaining higher economic resources, external social support and increased opportunities to develop (Barnett & Hyde; Barnett, 2004) – all of which have a positive impact on child outcomes. There is, however, a common belief that children of dual-earner couples enjoy less time, attention and commitment from their parents, but this has been disputed by some of the empirical evidence (e.g. Galinsky, 1999). Although a mother's employment can cause changes in the routines and patterns of interaction with her child, the effects on infant development may depend on how mothers allocate their time.

In the UK, Joshi and Verropoulou (2000) found that maternal employment may increase family income, improving stability and thus child outcomes. Nevertheless, some negative effects of maternal employment on child development have been found, and seem to focus on maternal employment particularly in the first year of a child's life. These include lower reading ability later in life (Joshi & Verropoulou, 2000; Gregg, Washbrook, Propper, & Burgess, 2005) and lower educational attainments in early adulthood (Ermisch & Francesconi, 2001 and 2002). It can prove difficult, however, to disentangle the effects of maternal employment per se from the effects of placing the infant into some form of childcare.

Table 2.4 shows that, when asked how they would best describe themselves with regard to employment, almost 57% of mothers and 91% of fathers classified themselves as being principally employed outside the home, while 34% of mothers classified themselves as being involved in 'home duties'. In contrast, only 1.2% of fathers classified themselves in that category.

Table 2.4: Principal economic status of mothers and fathers

	Mothers (%)	Fathers (%)
Currently at work outside the home	56.9	90.6
Unemployed / State training scheme	5.7	5.9
Home duties / On leave from job	33.7	1.2
Other	3.7	2.3
Total	100	100.0

The number of hours spent in paid employment outside the home is clearly of importance in determining, for example, the length of time spent in parental and non-parental childcare as well as parental stress and work-life balance. Table 2.5 shows the breakdown of hours worked in paid employment outside the home by mothers and fathers. Fathers were more likely to record working longer hours (just under 45 hours) than mothers (30 hours). Most fathers (87%) reported that they worked 30 or more hours per week in paid employment outside the home compared to 33% of mothers.

Table 2.5: Number of hours in paid employment outside the home worked by mothers and fathers

	Mothers (%)	Fathers (%)
Not in paid employment – 0 hours	43.2	9.4
Less than 10 hours	1.9	0.3
10 – 20 hours	6.7	0.8
20 – 30 hours	15.6	2.4
30 or more hours	32.6	87.0
Total	100	100.0
Average no. of hours	29.5	44.8

2.3.6 SOCIAL CLASS

Figure 2.10 presents summary details on the proportion of children in families from each social-class grouping. It shows that 53% of infants lived in families where at least one parent was in the professional/managerial social-class category. Approximately 37% were in the non-manual/skilled manual category and the remaining 11% were in the semi-skilled/unskilled manual group.

Figure 2.10: Social class of infant's family

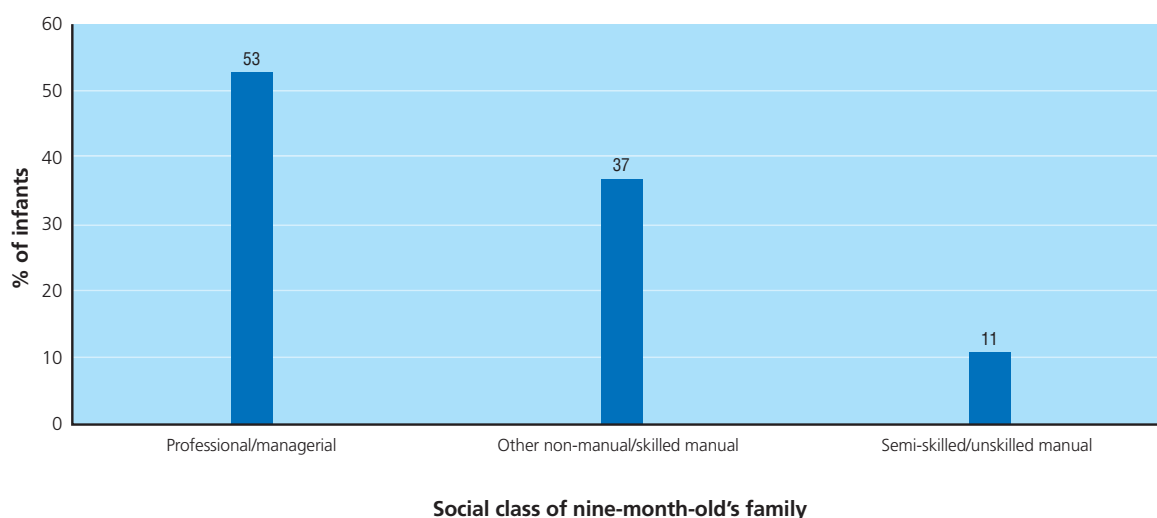
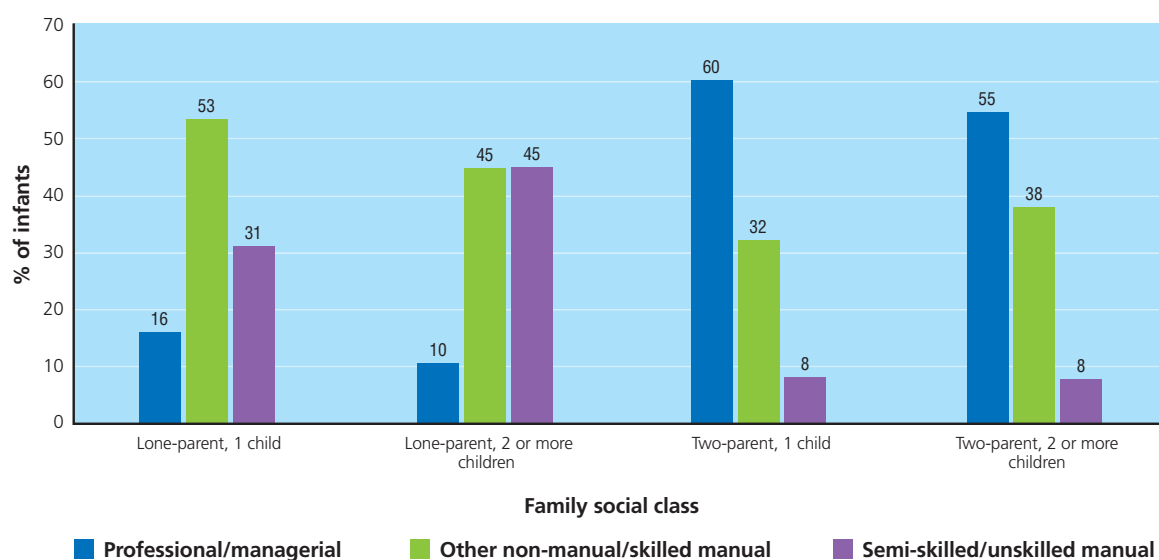


Figure 2.11 provides details on the breakdown of family social class classified by family type. It is clear that two-parent families were much more likely to be classified in the higher social-class category (professional/managerial) than lone-parent families (55-60% compared with 10-16%).

Figure 2.11: Family type classified by family social class



2.3.7 RELIGIOUS DENOMINATION, CITIZENSHIP AND COUNTRY OF BIRTH

The religious denomination of mothers, fathers and infants is summarised in Table 2.6. Parents were presented with six choices of denomination and an open-ended 'other' category. Table 2.6 shows that approximately 80% of mothers, fathers and infants were classified as Roman Catholic, with roughly 8% of each classified as having no religious denomination.

Table 2.6: Religious denomination of mothers, fathers and infants

Denomination	Mothers (%)	Fathers (%)	Nine-month-olds (%)
None	8	9	8
Non-denominational Christian	5	5	5
Roman Catholic	80	79	82
Anglican/Col/Episcopalian	2	2	2
Other – Protestant	1	1	1
Other	4	4	4
Total	100	100	100

Table 2.7 shows the proportions of mothers, fathers and infants who were citizens of Ireland at the time of interview; whether or not they were born in Ireland; and (for those not born here) the length of time since first coming to live here. Parents were presented with a number of categories from *within the last year* through to *11-20 years ago* and *more than 20 years ago*. Answer categories for infants ranged from *within the last 3 months* to *more than 6 months ago*. Almost 81% of mothers were Irish citizens and 73% were born in Ireland. Less than 1% of mothers came to live in Ireland within the last year and 12% in the last one to five years. Almost 96% of infants were citizens of Ireland and almost all were born here (99.6%).

Table 2.7: Mothers, fathers and infants classified by whether or not they are (a) a citizen of Ireland, (b) they were born in Ireland and (c) length of time since first coming to live in Ireland

Denomination	Mothers (%)	Fathers (%)	Nine-month-olds (%)
Citizen of Ireland	80.5	82.3	95.6
Length of time since first coming to Ireland:			
Born in Ireland	73.5	76.1	99.6
Within the last 3 months	-	-	0.0
3 – 6 months	-	-	0.1
More than 6 months	-	-	0.3
Within last year	0.3	0.1	-
1 – 5 years	12.3	10.6	-
6 – 10 years	7.8	7.3	-
11 – 20 years	2.4	1.9	-
More than 20 years	3.7	4.0	-
Total	100.0	100.0	100.0

Details of country of birth are summarised in Table 2.8. This indicates that both mothers and fathers not born in Ireland are most likely to have been born in Britain, Other Western Europe, Eastern Europe, and Africa.

Table 2.8: Country of birth of mothers and fathers of infants

Country of birth	Mother %	Father %
Ireland	73.5	76.1
Britain	6.5	6.8
Other Western Europe	7.2	6.4
Eastern Europe	4.2	3.1
Africa	3.3	2.8
Rest of World	5.2	4.8
Total	100.0	100.0

2.4 KEY FINDINGS

- A total of 14% of infants lived in lone-parent families.
- Lone-parent families were much more likely to be in the lower income groups, especially larger lone-parent families.
- Overall, 5% of infants were living in a household where there was a resident grandparent, with much higher incidence among lone-parent families (23% of lone parents with one child, 18% of lone parents with two or more children).
- A total of 41% of nine-month-olds were the first-born children (and thereby only children).
- The majority (92%) of children lived in a house (in contrast to an apartment or other type of accommodation), had access to a garden (95%) and lived in owner-occupied homes (73%).
- The infant's Primary Caregiver was almost universally the child's biological mother, while their resident Secondary Caregiver was the child's biological father in almost all cases.
- The average age of mothers was 32 and that of fathers was 35.
- Just under 71% of the mothers of nine-month-olds were married and a further 15% were cohabiting with a partner.
- Overall, 29% of mothers and 31% of fathers had attained a degree or third-level education.
- Fathers were much more likely to be employed outside the home than mothers (91% compared to 44%) and also to record working in paid employment for a higher number of hours each week.
- The majority of mothers, fathers and nine-month-olds were classified as being Roman Catholic.
- A total of 27% of mothers and 24% of fathers were not born in Ireland.

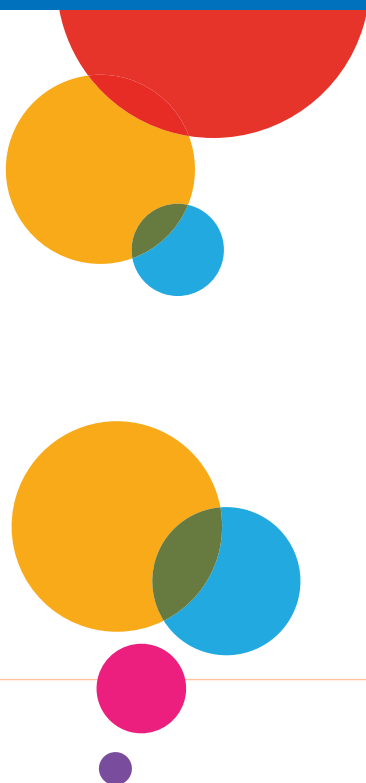
2.5 SUMMARY

Throughout the report we present descriptive breakdowns of child outcomes and characteristics according to family social class, family income group, highest level of maternal education, and family type. As noted in Chapter One, in interpreting the tables and figures it is important to remember that the patterns seen may not necessarily 'explain' outcomes for the child. Different characteristics can combine to produce different outcomes and it is important to remember that the simple analyses presented in this report do not necessarily take account of these complex relationships. The more complex analyses required to uncover these patterns will be carried out in later reports. Our objective in this report is to provide a broad descriptive overview of the circumstances of nine-month-olds on the basis of the main classificatory variables discussed above.



Chapter 3

PREGNANCY AND BIRTH





3.1 INTRODUCTION

The processes influencing child development and outcomes in relation to health, education and emotional wellbeing start long before birth. This chapter highlights findings from Wave One of the Infant Cohort relating to the circumstances surrounding the pregnancy, maternal behaviours during pregnancy (such as smoking and drinking), antenatal care and pregnancy complications. It then moves on to the birth itself, including mode of delivery and labour complications, and the length of time in hospital. Finally, in the post-birth period, there is a selection of findings relating to the important issue of breastfeeding.

3.2 KNOWLEDGE OF PREGNANCY AND INTENTIONS IN RELATION TO BECOMING PREGNANT

Just over half of infants were an intended pregnancy at the time. The remainder were later, earlier or not at all intended. Mothers were typically five-and-a-half weeks into the pregnancy before they became aware of it.

Differences between children emerge even before conception in terms of whether their eventual arrival was planned or unplanned. Whether or not a pregnancy is intended can have implications for the baby's health in terms of the mother's preparation for pregnancy, such as improving diet and cessation of smoking and drinking behaviours. For example, research suggests that the protective effect of folic acid against conditions such as spina bifida is maximised if women take folic acid supplementation prior to conception and continue up until 12 weeks into the pregnancy (Goldberg, 2003; Buttriss, 2004). There may also be implications for other aspects of development relating to the stress induced by a crisis pregnancy.

As indicated in Figure 3.1, over half of mothers (59%) had intended to become pregnant at the time but 10%¹ had no intention of ever becoming pregnant with the Study Infant. Mothers in two-parent families with only one child (the Study Infant) were least likely to report that the pregnancy which resulted in the Study Infant was unintended (5%); and single mothers were the most likely, as shown in Figure 3.2. Mothers with degree-level education had the lowest rate of unintended pregnancy (4%) compared to mothers with Leaving Cert or lower education; and mothers in the highest income quintile had the lowest rates (2%) compared to the bottom three income groups (not illustrated).

Figure 3.1: Intentions regarding pregnancy with the Study Infant

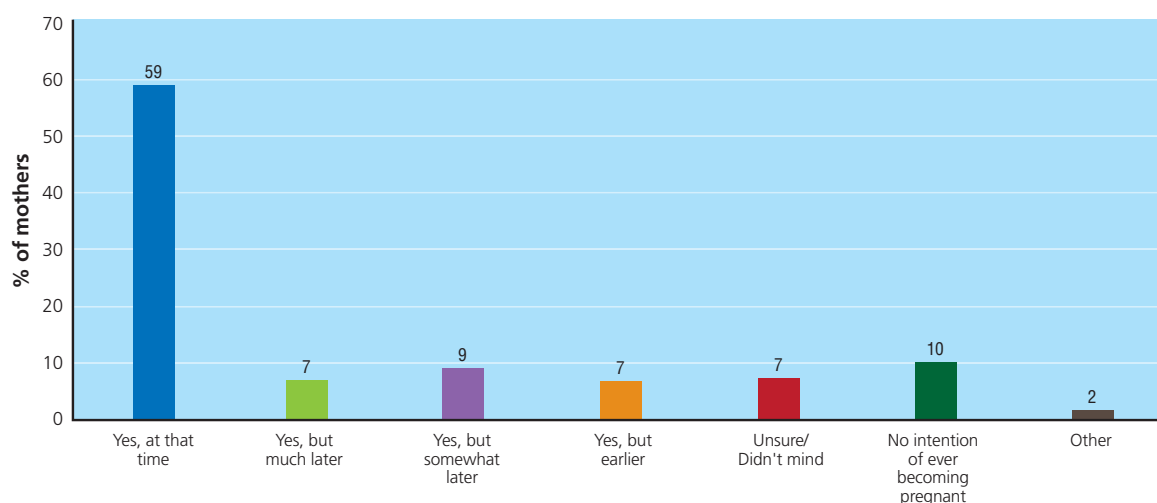
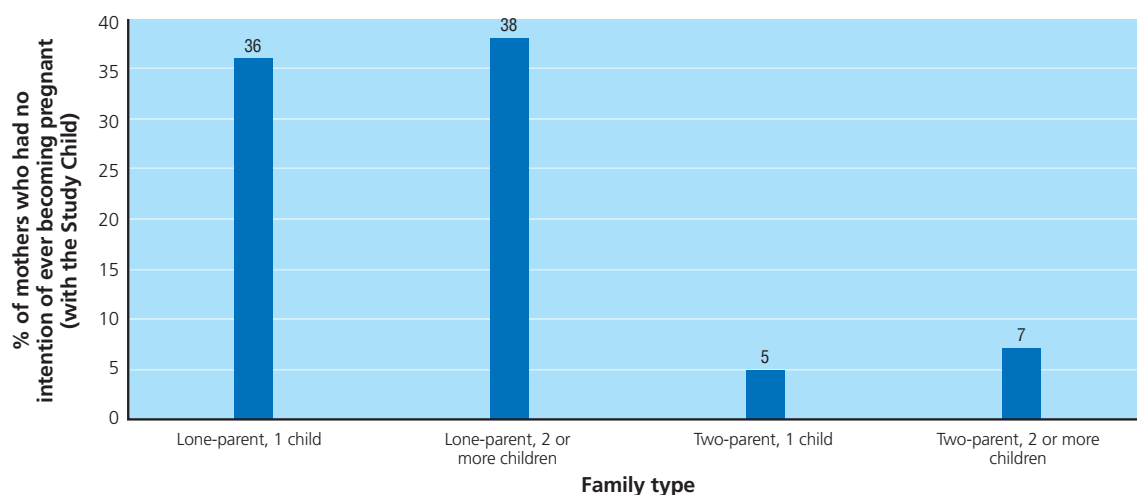


Figure 3.2: Percentage of mothers who had no intention of ever becoming pregnant with the Study Infant classified by family type



¹ Which would be approximately 7,300 infants when grossed to the entire birth cohort for the year.

Intentions regarding pregnancy affected the stage at which mothers realised they were pregnant: those who had no intention of ever getting pregnant realised a little later (6.6 weeks) than other women (5.3 weeks). Mothers who were lone parents with one child at the time of interview tended to be furthest into their pregnancies before finding out (7.2 weeks), which was longer than mothers in any other family type, as shown in Table 3.1. These differences remained even after taking intentions relating to pregnancy into consideration.

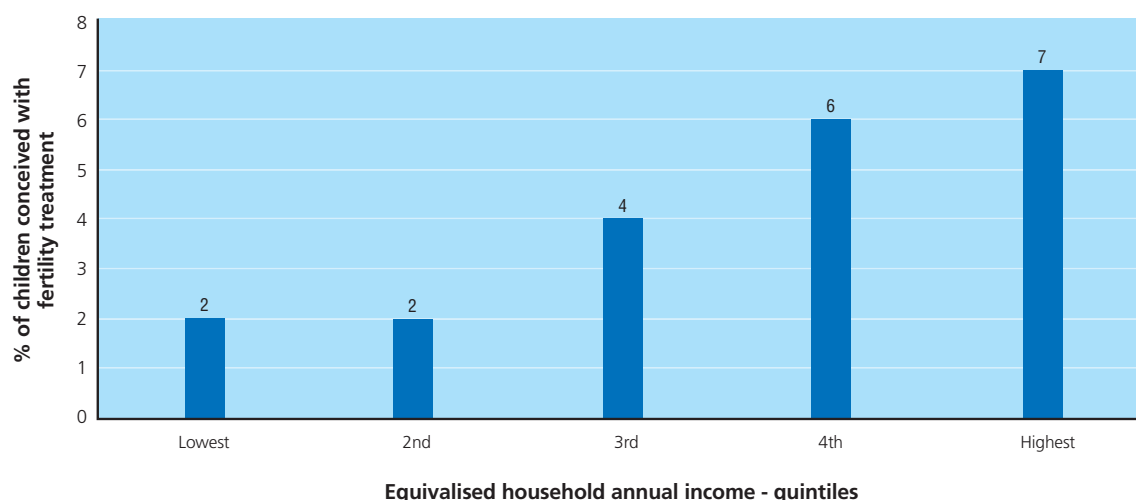
Table 3.1: Number of weeks of pregnancy when mother became aware of pregnancy classified by family type

Family Type	Mean weeks
Lone-parent, 1 child	7.2
Lone-parent, 2 or more children	6.2
Two-parent, 1 child	5.2
Two-parent, 2 or more children	5.3

3.2.1 ASSISTED REPRODUCTION

A small minority of mothers (4%) had used fertility treatment to help them conceive the Study Infant (including drug treatment, IVF, etc). In Ireland, assisted reproduction techniques (ART) are not provided under public health services so it is perhaps unsurprising that Figure 3.3 shows mothers in the highest income quintile were more likely to have used fertility treatment (7%) than those in the lower three income groups. From existing research it appears that children born using ART are at no greater risk for poor cognitive or social outcomes (Golombok & MacCallum, 2003), with some research suggesting that the parenting behaviour of ART parents may be superior (e.g. Repokari, Punamaki, Poikkeus *et al*, 2006). However, a joint British and Irish study of IVF (in vitro fertilisation) births found that such children were at a greater risk of low birthweight and pre-term delivery, both of which characteristics carry their own documented risks for development (Allen, Reardon, Harrison, Bowdin & Maher, 2007); and which may be investigated using the *Growing Up in Ireland* data. Mothers in *Growing Up in Ireland* who used fertility treatment had a much higher incidence of twins or triplets relative to other mothers (16% compared to 2%).

Figure 3.3: Percentage of children conceived with fertility treatment classified by income



3.3 PROVISION OF ANTENATAL CARE

Antenatal care was typically shared between the mother's GP and a consultant. Nearly all mothers had at least one ultrasound scan. About half reported at least one pregnancy complication.

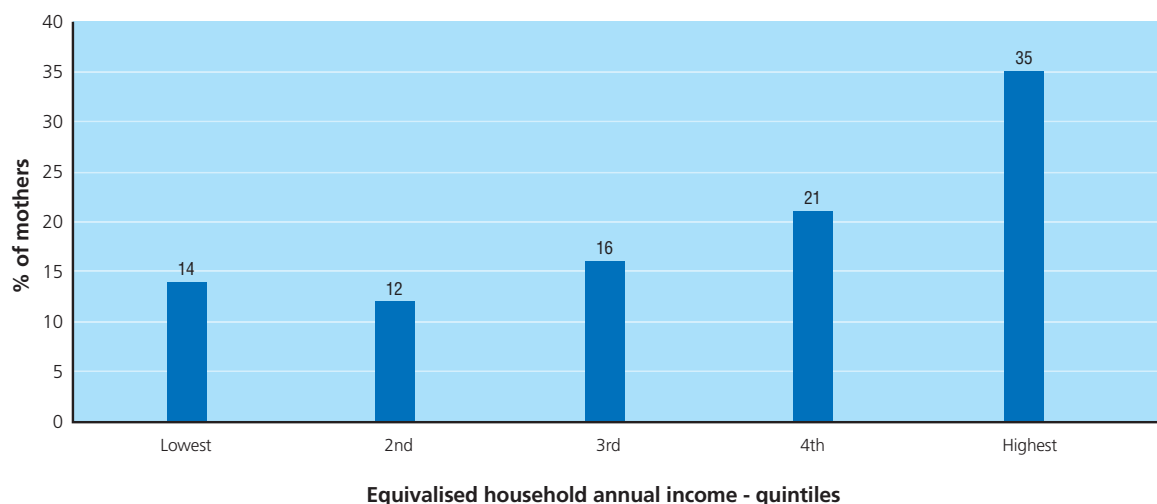
Receiving antenatal care early and regularly in pregnancy is associated with better pregnancy outcomes (Enkin, Keirse, Neilson *et al*, 2000). On becoming aware of her pregnancy, the mother's first antenatal appointment was usually with her family doctor (67%), and at an average of 9.1 weeks into the pregnancy. Single mothers had their first antenatal appointment later than mothers in two-parent families with a similar number of children (taking unintended pregnancies into account), as shown in Table 3.2.

Table 3.2: Number of weeks' pregnancy when mother had her first antenatal appointment classified by family type

Family Type	Mean weeks
Lone-parent, 1 child	10.3
Lone-parent, 2 or more children	10.3
Two-parent, 1 child	8.5
Two-parent, 2 or more children	9.3

The most common form of antenatal care during the pregnancy was shared care between a GP and another professional (78%²). A total of 19% of mothers had antenatal care provided only by a private consultant (12%) or by a hospital clinic (7%). Figure 3.4 shows that mothers in the highest income quintile were much more likely to have had care provided only by a private consultant or hospital clinic (35%) than any of the other income groups. Irish-born mothers used this type of care more often (21%) than mothers born elsewhere (14%).

Figure 3.4: Use of private consultant or hospital clinic only for antenatal care classified by income

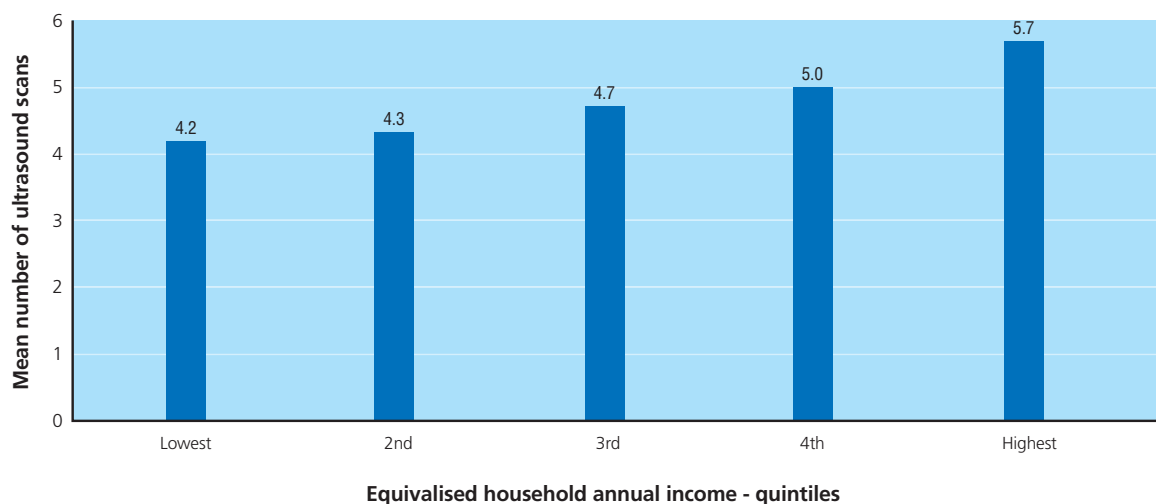


² In line with National Perinatal Statistics for 2007 (Health Research and Information Division, 2009).

3.3.1 ULTRASOUND SCANS

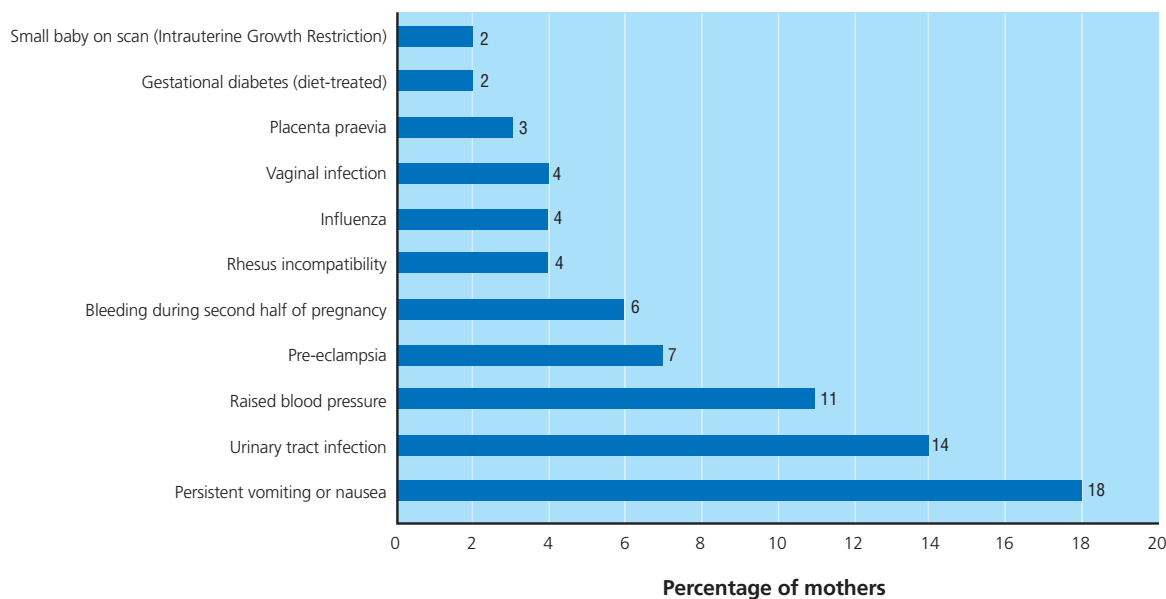
As part of their antenatal care, one or more ultrasound scans was an almost universal experience for mothers (99.8%). Ultrasound scans are used to check on aspects of the pregnancy such as multiple foetuses, to monitor the progress of the baby's development and to identify problems with placenta placement, the mother's uterus, etc. They can also be used to identify the foetus's sex: more than one in three mothers (38%) knew the sex of the baby before birth. The mean number of ultrasound scans among mothers of *Growing Up in Ireland* infants was 4.8, but, for some mothers, the number ranged up to 20. Mothers who were expecting twins or triplets had more ultrasound scans (10.9) than mothers carrying one child (4.6). As shown in Figure 3.5, mothers in the highest income quintile had more ultrasound scans (5.7) than those in other income groups. The 35% of mothers who said their antenatal care had been provided by a private consultant or hospital clinic alone (see previous section) also had more scans on average (6.6) than women using other types of antenatal care (4.3), including when income is taken into consideration.

Figure 3.5: Number of ultrasound scans classified by income



3.3.2 COMPLICATIONS IN PREGNANCY

Complications in pregnancy were relatively common: just over half of all mothers (54%) experienced at least one complication, such as those listed in Figure 3.6. The most frequently reported pregnancy complications were persistent vomiting and nausea (18% of all mothers or 33% of those who had one or more complications) and urinary tract infection (14% of all mothers or 26% of those who had at least one complication). These conditions may lead to more serious complications: for example, excessive vomiting in pregnancy can in some cases lead to a reduction in the required fluids and nutrients available to the foetus (Society of Obstetricians and Gynaecologists of Canada, 2000-2004). Urinary tract infections may have potentially serious complications that are associated with, for example, premature labour, eclampsia in the mother and pneumonia in the newborn baby (Delzell & Lefevre, 2000).

Figure 3.6: Incidence of pregnancy complications

The 3% of mothers who gave birth to twins or triplets were more likely to have a pregnancy complication (61%) than other mothers (54%). Mothers who gave birth to girls were also more likely to have reported at least one complication (57%) than were mothers of boys (51%). The most frequent complication – persistent vomiting or nausea – was more common for both mothers of twins/triplets (25% versus 17%) and those who had girls (20% versus 15%).

3.4 SMOKING AND DRINKING IN PREGNANCY

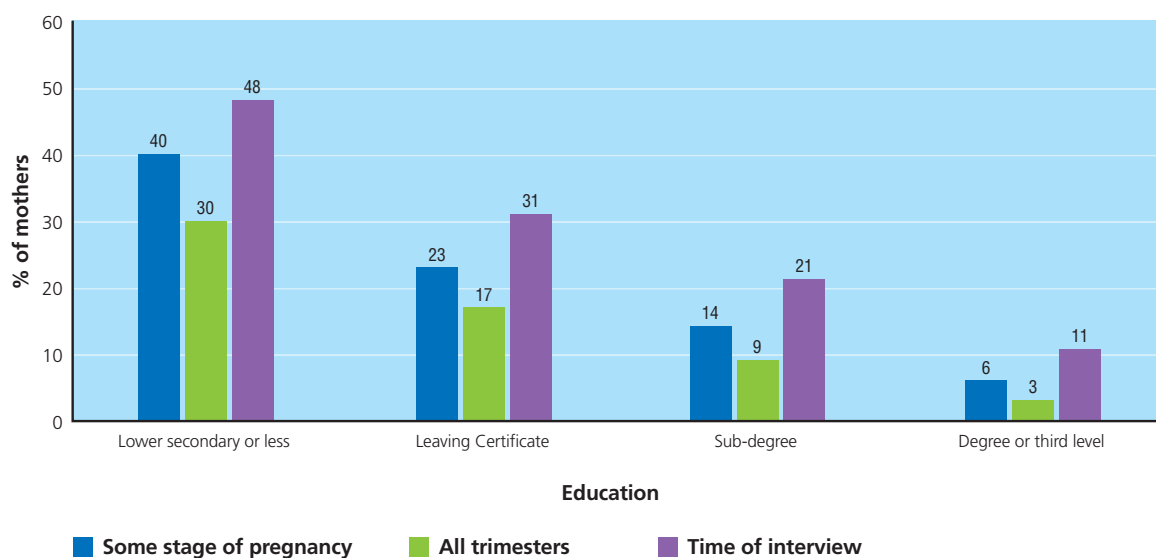
Most mothers refrained from smoking or drinking during their pregnancies. The findings suggest that smokers may find it more difficult to give up cigarettes than drinkers find it to abstain from alcohol.

The issues of smoking and drinking in pregnancy have long been, and continue to be, hotly debated research topics. The mother's use of substances such as tobacco and alcohol during pregnancy has been linked to the compromised development of children, with increased risk for a number of physical, neurological and behavioural deficits (Faden & Graubard, 2000). For example, smoking during pregnancy has been linked to an increased risk of pregnancy complications such as placenta praevia (Faden & Graubard, *ibid*), as well as pre-term delivery and low birth weight babies (Andres & Day, 2000). Smoking has also been associated with increased risk of Sudden Infant Death Syndrome (cot death) (Mitchell & Milerad, 1999) and poorer lung functioning in infants (Tager, Ngo, & Hanrahan, 1995). In Ireland, cigarettes and alcoholic drinks routinely carry health warnings against their use by pregnant women. However, as discussed earlier in this chapter, it is relatively common for women to be unaware of their pregnancy until several weeks into the first trimester – especially if they had not intended to become pregnant.

3.4.1 SMOKING

In *Growing Up in Ireland*, 18% of mothers said they had smoked at least at some stage during their pregnancy and 13% (in total) smoked in all three trimesters. Mothers born in Ireland had higher rates of smoking in pregnancy (20%) than those born in other countries (13%). Mothers with the lowest levels of education were the most likely to have smoked at some stage in pregnancy (40%), as shown in Figure 3.7. Similarly, the highest rates of smoking in pregnancy for the other socio-demographic indicators were seen among the semi-skilled/unskilled social class (33%), the lowest income quintile (33%), and lone parents with two or more children (44%) (not shown in graph). Figure 3.7 shows that mothers with the lowest education were also more likely to smoke in all stages of pregnancy and to be smokers at the time of interview than any of their more highly educated peers.

Figure 3.7: Smoking (a) at any stage in pregnancy, (b) in all three trimesters, and (c) at time of interview when infant was aged nine months



Note: Mothers who smoked in all trimesters are a subset of those who smoked at any stage

While less-educated mothers were more likely to be smokers anyway (see Figure 3.7), it appears that even among fellow smokers they were also less likely to have avoided cigarettes during pregnancy. Table 3.3 shows that, among mothers who were smoking at the time of interview when the infant was aged nine months (current smokers), 78% of mothers with the least education had also smoked at some stage in their pregnancy and 62% had smoked in all three trimesters. In contrast, only 38% of the highest-educated current smokers had smoked at any stage in pregnancy and just 24% had smoked in all three trimesters.

Table 3.3: Percentage of mothers smoking at time of interview who also smoked at some stage of pregnancy and who smoked in all three trimesters classified by maternal education

Mother's education	Mothers smoking at time of interview (current smokers) %	Current smokers who smoked at some stage during pregnancy %	Current smokers who smoked in all three trimesters %
Lower secondary or less	48	78	62
Leaving Cert	31	65	50
Sub-degree	21	55	40
Degree	11	38	24

Smoking in the first trimester

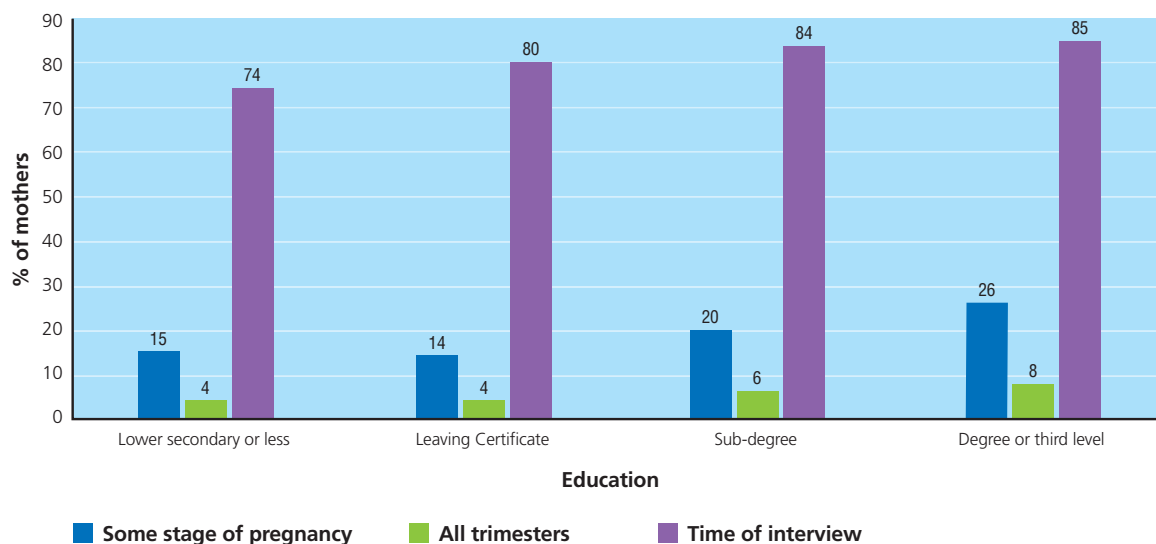
All the baby's major organs and body parts are formed within the first eight weeks of pregnancy (Parker, 2007); hence smoking and drinking behaviours in the first trimester are of particular interest. Of the 16% of mothers who smoked during the first trimester, typical consumption was nine cigarettes per day. Mothers with the least education smoked more (11 per day) than mothers with the highest education (seven per day). Mothers with Leaving Cert and sub-degree education smoked nine and eight cigarettes per day respectively.

3.4.2 DRINKING

Heavy consumption of alcohol during pregnancy has been associated with a set of abnormalities termed Foetal Alcohol Syndrome. This syndrome encompasses a range of problems that include low birth weight, retarded growth, facial deformities, defective limbs, and diminished intellectual function (Jacobson & Jacobson, 2002). However, there are conflicting results in the literature; some longitudinal studies show little or no impact of drinking in pregnancy, at least for low or moderate amounts (e.g. Olsen, 1994; Kelly, Sacker, Gray *et al*, 2010). At the time of writing, there are no official guidelines on what might be considered a 'safe' level of alcohol consumption in pregnancy.

In *Growing Up in Ireland*, 20% of mothers had drunk alcohol at some stage in the pregnancy but only 6% (in total) had drunk in all three trimesters. The trends for the consumption of alcohol in relation to socio-demographic variables differ from those observed for smoking. Drinking at some stage in pregnancy was highest for mothers with degree-level education (26%), in the highest income quintile (29%), in the professional/managerial class (25%) and in two-parent families with more than one child (21%). Figure 3.8 shows that mothers with the highest education were more likely to drink at any stage of pregnancy, in all three trimesters, and at the time of interview than their peers with the lowest education (however, as we will see in the next section, mothers in the lowest education group drank more if they did drink).

Figure 3.8: Drinking alcohol (a) at any stage in pregnancy, (b) in all three trimesters, and (c) at time of interview when infant was aged nine months



Note: Mothers who drank in all trimesters are a subset of those who drank at any stage

The rates of drinking alcohol at the time of interview were much higher than the rates of drinking in pregnancy for all groups, perhaps suggesting that drinkers found it easier to abstain from alcohol than smokers did from cigarettes (although we do not know how many mothers gave up cigarettes for the pregnancy and have remained off them). Table 3.4 shows that, among mothers who were drinking alcohol at least *occasionally* at the time of interview (current drinkers), 30% of those with the highest education also drank at some stage of pregnancy and 10% drank in all three trimesters. In contrast, only 19% of current drinkers in the lowest education category drank at any stage of the pregnancy and only 6% drank in all three trimesters.

Table 3.4: Percentage of mothers drinking at least *occasionally* at time of interview who also drank at some stage of pregnancy and who drank in all three trimesters classified by maternal education

Mother's education	Mothers drinking at time of interview (current drinkers) %	Current drinkers who drank at some stage during pregnancy %	Current drinkers who drank in all three trimesters %
Lower secondary or less	74	19	6
Leaving Cert	80	18	5
Sub-degree	84	23	7
Degree	85	30	10

Drinking in the first trimester

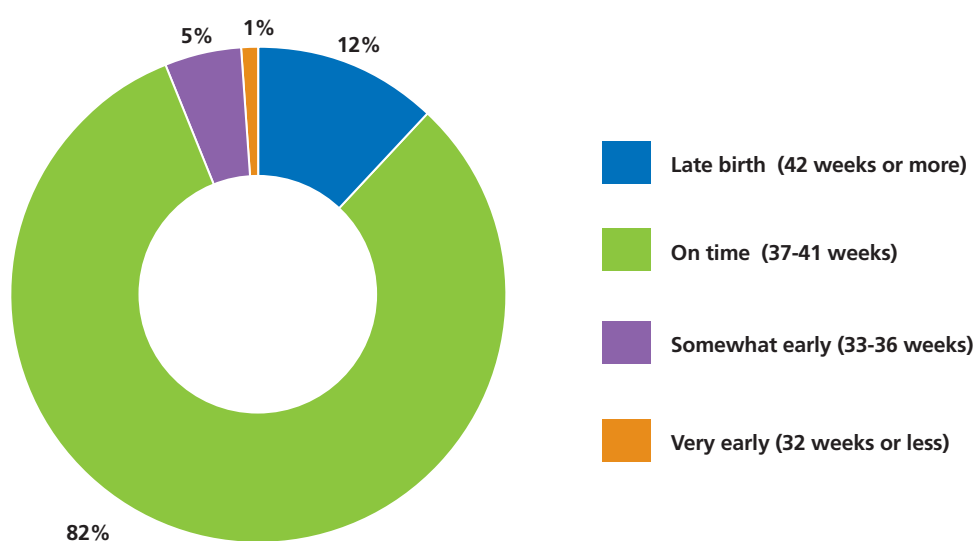
Among the 10% of mothers who drank alcohol during the first trimester, the most popular drink was wine (68%). This was followed by beer (34%), spirits (6%) and alcopops (4%). The average number of units³ consumed per week by women who drank in the first trimester was 4.4 (roughly equivalent to two pints of beer or two 175 ml glasses of wine). Within this group, women with the least education drank more units (7.5 units per week) than women with the highest education (3.4 units). Mothers with Leaving Cert and sub-degree education drank 4.9 units and 4.1 units per week respectively. These figures indicate that, although the mothers with lower levels of education were the most likely to abstain from alcohol entirely during pregnancy, those who did drink consumed more alcohol units per week than higher-educated mothers.

3.5 BIRTH AND DELIVERY

Infants were typically born on time and in a hospital, but almost half required some intervention or a caesarean section to assist birth. The average baby weighed 3.5 kgs.

The majority of **Growing Up in Ireland** infants were born on time (82%), which is between 37 and 41 weeks' gestation, as shown in Figure 3.9. A small number of infants (1%) were born very early at 32 weeks or earlier; 5% were born between 33 and 36 weeks. Of the 12% of late births, the vast majority were born in the 42nd week. Nearly all infants were born in hospital (98%); only 1% were born in a planned home birth (the remainder were mostly unplanned home births or born on the way to the hospital).

Figure 3.9: Percentage of infants born late, on time, early or very early



³ Calculated on the basis of 1 pint standard beer = 2 units, one 175ml glass of wine = 2 units, 1 spirit measure = 1 unit and 1 bottle of alcopop = 1.5 units. These are only approximate values and vary between type of drink (e.g. some wines contain more alcohol than others) and size of measure.

Figure 3.10 shows that a majority of infants (58%)⁴ were born by normal vaginal delivery, a substantial minority of mothers (41%) experienced some medical assistance in giving birth, such as the use of forceps or caesarean section. Research suggests that there are few long-term negative consequences to the child of caesarean birth (Durik, Hyde, & Clark, 2000) although there may be a greater risk of post-birth difficulties in mothers such as cardiac arrest and hysterectomy (Liu, Liston, Joseph, Heaman, Sauve & Kramer, 2007). Instrument delivery can involve the use of forceps or a vacuum extractor to pull babies from the birth canal in the latter stages of labour if mothers are having difficulty delivering within a reasonable period of time. The use of such methods has been linked to outcomes such as bleeding under the skull of the newborn (Johanson & Menon, 1999), and squints and hearing difficulties at the age of one year (Carmody, Grant, Mutch, Vacca, & Chalmers, 1986).

Figure 3.10: Final delivery method

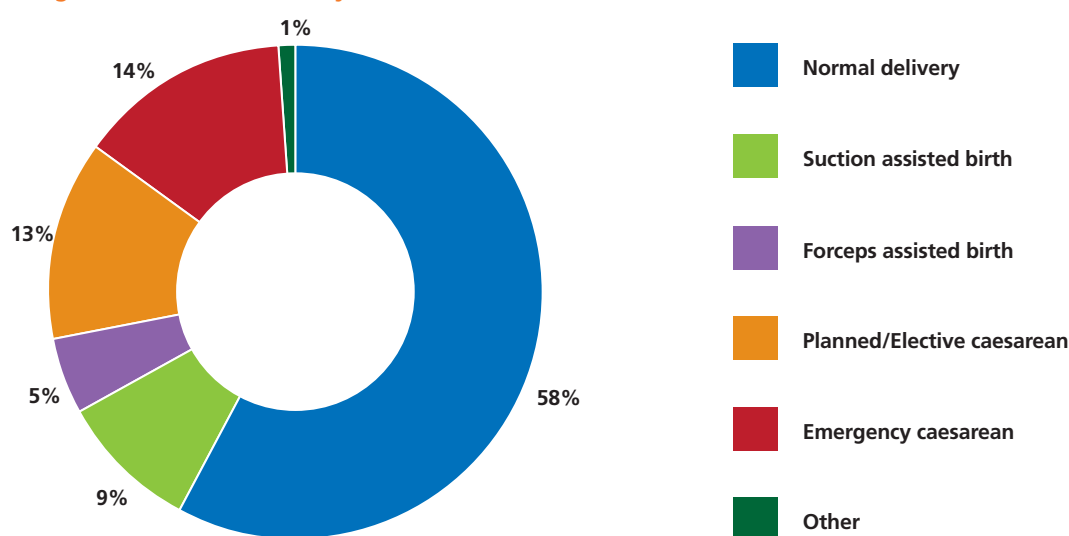
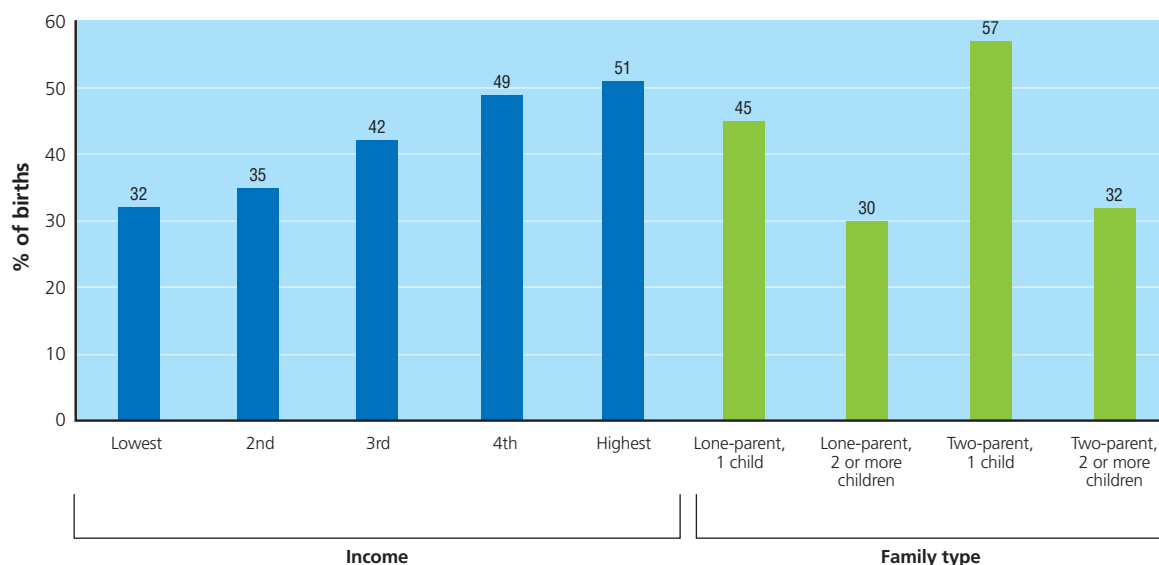


Figure 3.11: Medically assisted births classified by income and family type

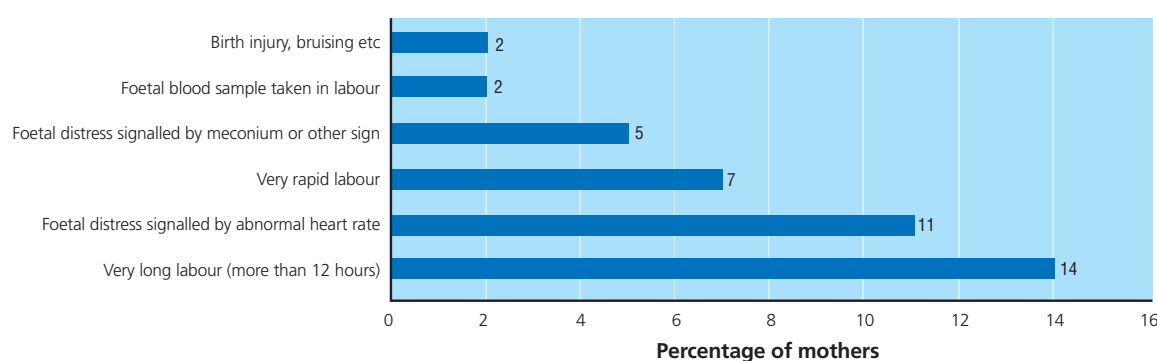


The likelihood of experiencing a medically assisted birth (i.e. suction, forceps or caesarean) increased with the number of pregnancy complications. Mothers who gave birth to twins or triplets had medically assisted births more often (72%) than singleton births (40%). Mothers with other children were less likely to experience an intervention, as shown in Figure 3.11. In terms of other socio-demographic variables, mothers in the lowest income group were less likely to have an assisted birth (32%) than those in the upper three income groups⁵ (taking age of mother and number of complications into consideration). Irish-born mothers were more likely to have an assisted birth (43%) than mothers born in other countries (36%).

3.5.1 BIRTH COMPLICATIONS

A majority of mothers (62%) reported no complications during the birth. The most commonly reported complication was a very long labour (exceeding 12 hours) which was experienced by 14% of all mothers (Figure 3.12). Prolonged labour can lead to complications such as infection, injury to the mother, poor responses in the newborn baby, and greater risk of being admitted to a neonatal unit (Joy, Scott & Lyon, 2009). The next most frequent complication was foetal distress as indicated by an abnormal heart rate (11%).

Figure 3.12: Birth complications (as a percentage of all births)



A total of 14% of infants had to go to a neonatal intensive care unit or special care nursery after they were born. Of these, 30% required help with breathing from a ventilator. For all infants, the mean number of days or part-days in hospital after the birth was 4.2 and for mothers the mean was 3.2 days.

3.5.2 BIRTH WEIGHT

The average infant weighed 3.47 kgs at birth, according to mother's report. Boys weighed slightly more at birth than girls (mean of 3.53 kgs versus 3.40 kgs⁶). The 25th, 50th and 75th percentile birth weights for boys and girls are presented in Table 3.5. Mothers with the least education gave birth to infants that were lighter (3.38 kgs) than infants born to more highly educated mothers, as shown in Figure 3.13.

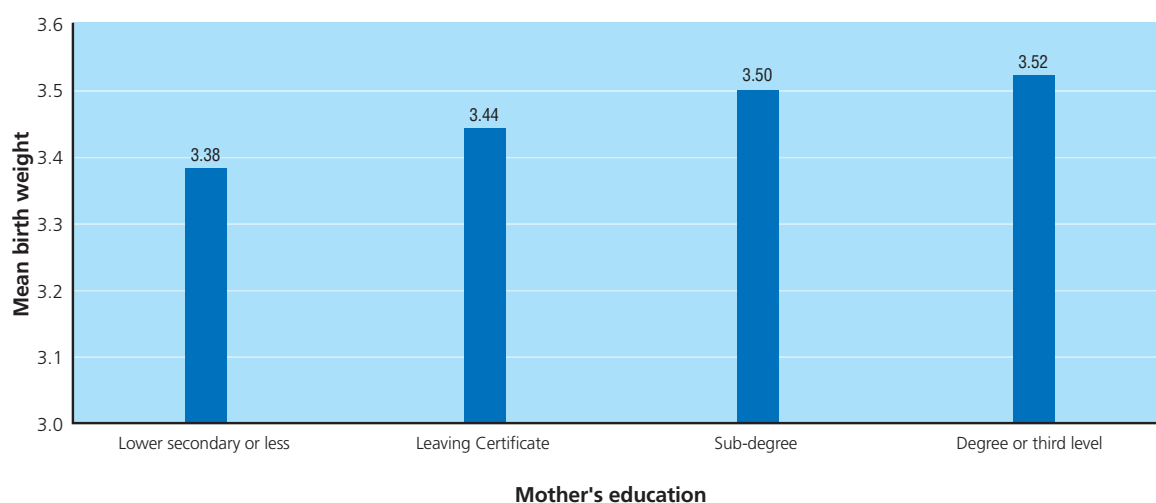
⁵ The highest income group did not have the highest rate of planned/elective caesareans. This group included caesarean sections planned in advance due to medical necessity. The overall rate of caesarean section is in line with National Perinatal Statistics for 2007 (Health Research and Information Division, 2009).

⁶ In line with Perinatal Statistics for 2007 (Health Research and Information Division, 2009).

Table 3.5: 25th, 50th and 75th percentile birth weights for boys and girls

Percentile	Boys (kgs)	Girls (kgs)
25th	3.20	3.09
50th	3.57	3.43
75th	3.91	3.77

Figure 3.13: Mean birth weight classified by mother's education



Just over 5% of *Growing Up in Ireland* infants were classified as having low birth weight⁷ (defined as less than 2.5 kgs). The two main causes of low birth weight are pre-term birth (before 37 weeks of gestation) and restricted growth in the womb (United Nations Children's Fund and World Health Organisation, 2004). Infants born at a low birth weight are considered at higher risk of a number of poor outcomes including below-normal growth trajectories, poor health, and a number of sensory, cognitive and behavioural difficulties (e.g. Hack, Klein, & Taylor, 1995; Hack, 2006; Aylward, 2005; Taylor, Klein, & Hack, 2000).

Socio-demographic variables such as income and mother's education had little or no influence on the likelihood of an infant being born at low birth weight, after multiple births (twins/triplets) and smoking in pregnancy were taken into account. Nearly half of all infants (49%) born as part of twins or triplets were of low birth weight compared to just 4% of singleton births.⁷ The risk of having a low birth weight baby was over 1.5 times greater for mothers who had ever smoked in pregnancy (7%) than for those who had never smoked (5%).

3.6 BREASTFEEDING

About half of infants were being breastfed when they left hospital. Infants of mothers born outside Ireland were much more likely to be breastfed. Mothers who breastfed typically stopped when the baby was three months old.

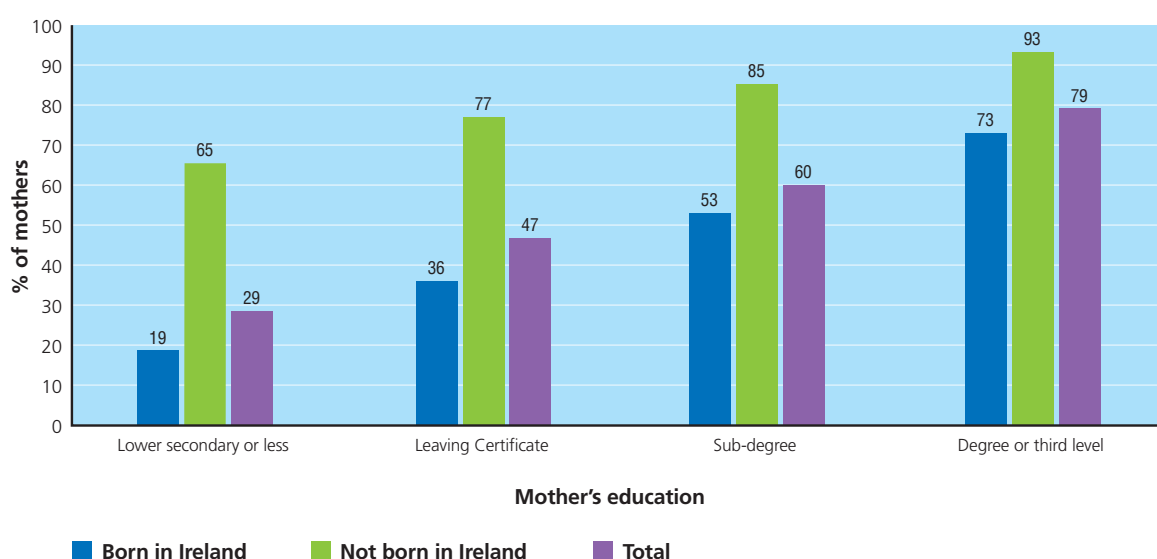
Research examining the longer-term benefits of breastfeeding for physical health and development has been steadily building in recent years (Fewtrell, 2004). Such benefits include support of the child's immune system (Jackson & Nazar, 2006) as well as motor development (Dee, Li, Lee & Grummer-Strawn, 2007) and cognitive abilities (Anderson, Johnstone and Remley, 1999). Some studies also suggest that breastfeeding is associated with higher levels of maternal attachment, and infant self-regulation (Woodward & Liberty, 2005). The physical closeness of mother and infant interactions during breastfeeding is believed to encourage early bonding and attachment and may have longer-term repercussions for the mother-child bond (Gribble, 2006). The promotion of breastfeeding among mothers has been a key government policy for a number of years (National Committee to Promote Breastfeeding, 1994).

A total of 57% of infants in *Growing Up in Ireland* were recorded by their mothers to have ever been breastfed while over 49% were still being breastfed at the time they left hospital.⁸ Although these rates are lower than may be desired, they are much higher than the 1999 rate of 37% reported by the National Perinatal Reporting System (HIPE & NPRS Unit, 2002). Among the *Growing Up in Ireland* infants, 82% of mothers who had ever breastfed had completely ceased by the time of the interview at age nine months. The mean duration of breastfeeding, for those who had ever breastfed but had since stopped, was 12 weeks and ranged between just one day and nine months. A total of 9% of infants were still being partially breastfed at the time of interview, while 2% were still being exclusively breastfed.

3.6.1 BREASTFEEDING AND SOCIO-DEMOGRAPHIC VARIABLES

Mothers who had not been born in Ireland (who made up 27% of all mothers) were much more likely to breastfeed their infants than Irish-born mothers (83% compared to 48%). For both Irish-born and non-Irish-born mothers, breastfeeding was less likely among those with the lowest education, as shown in Figure 3.14.

Figure 3.14: Ever breastfed classified by mother's education and whether or not she was born in Ireland

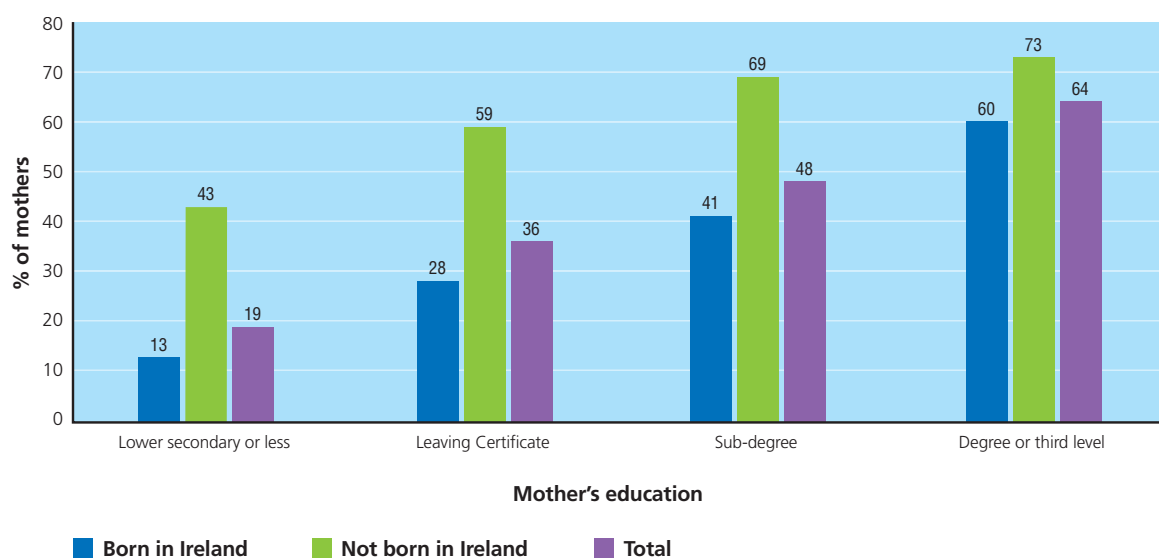


⁸ In line with Perinatal Statistics for 2007 when exclusive and partial breastfeeding at hospital discharge are combined.

Exclusive breastfeeding

The rates of ever exclusively breastfeeding the infant (i.e. not combining with formula feeding) were higher among mothers not born in Ireland (64% to 38%). For both groups, education was a significant factor in predicting the likelihood that a baby would be exclusively breastfed for a time; the least educated mothers were less likely to breastfeed exclusively than any of the more educated mothers, as illustrated in Figure 3.15.

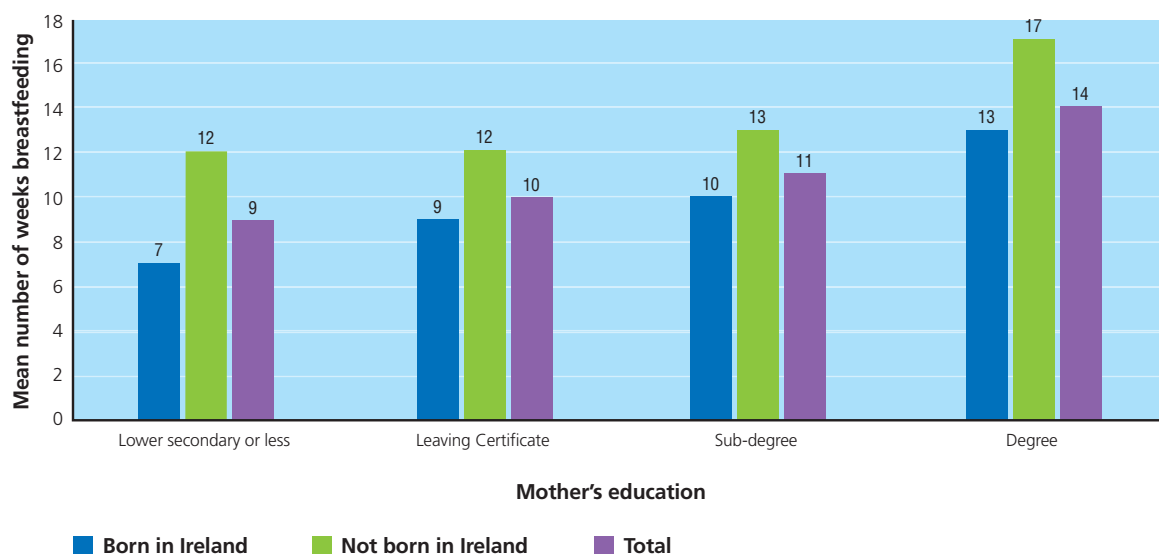
Figure 3.15: Percentage of mothers who ever exclusively breastfed the Study Infant classified by maternal education for Irish-born and non-Irish-born mothers



3.6.2 CEASING BREASTFEEDING

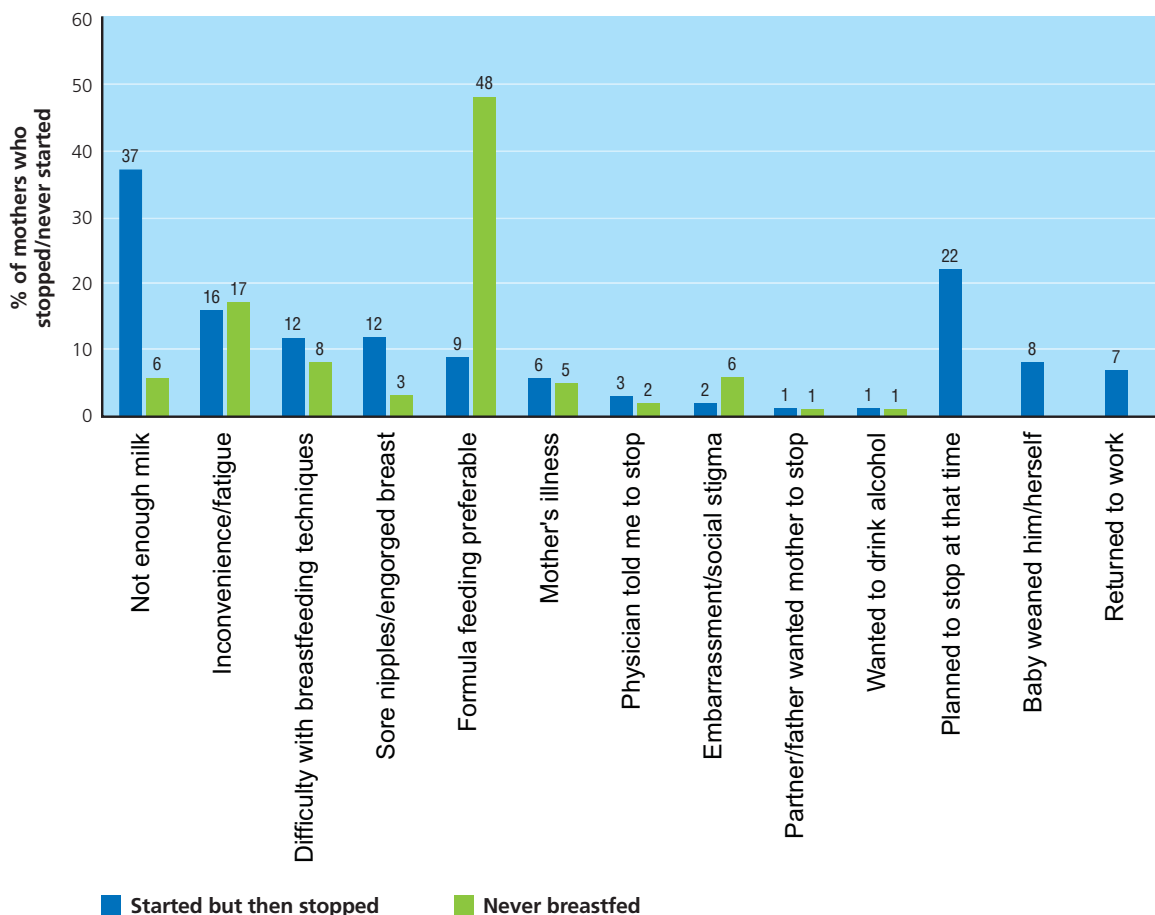
Among children who were ever breastfed (but where mothers had since ceased), non-Irish-born mothers continued breastfeeding for longer (14 weeks) than their Irish-born peers (11 weeks). Within both groups, mothers with the least education breastfed for a shorter period than the highest-educated, as shown in Figure 3.16.

Figure 3.16: Duration of breastfeeding in weeks for those who had breastfed but ceased by nine months classified by maternal education for Irish-born and non-Irish-born mothers



The most frequent reason for discontinuing breastfeeding among those who had ever breastfed (but no longer did so) was “not enough milk/hungry baby” (37%). Among those who had never breastfed, the most frequent reason for not doing so was “formula feeding preferable” (48%); the next most frequent reason was “inconvenience/fatigue” (17%). Figure 3.17 illustrates all reasons for stopping or not starting breastfeeding (note that mothers could indicate a number of reasons).

Figure 3.17: Reasons for stopping breastfeeding/never breastfeeding



3.7 KEY FINDINGS

- One in 10 mothers had “no intention of ever getting pregnant” at the time they conceived the Study Infant.
- Women were typically more than five weeks into their pregnancy before they realised they were pregnant.
- Antenatal care was typically shared by a GP and another health professional. Women in the highest income group were more likely to have antenatal care provided only by a private consultant or hospital clinic.
- The mean number of ultrasound scans during pregnancy was 4.8; mothers in the highest income group received more than others.

- Over half of all mothers had at least one complication during pregnancy, the most common one being persistent vomiting or nausea.
- Nearly one in five mothers had smoked at some stage during the pregnancy and a similar proportion had drunk alcohol at some stage. Mothers with the least education were more likely to smoke, but less likely to drink alcohol, during pregnancy than mothers with the highest education.
- Two out of five mothers required some assistance during delivery: suction, forceps or caesarean. The most common complication was a prolonged labour (14%).
- Average birth weight was 3.47 kgs. A total of 5% of infants could be classified as being of 'low birth weight' and this was more common in multiple births and for mothers who smoked in pregnancy.
- Just over half of all infants were breastfed at some point. Irish-born mothers were less likely to breastfeed, and breastfed for a shorter duration, than mothers born elsewhere. Rates of breastfeeding also increased in line with better education of the mother.

3.8 POLICY RELEVANCE

One aspect of lifestyle during pregnancy that has been the target of government initiatives is maternal smoking. Irish legislation sets out specific guidelines that cigarette packets must regularly feature the warning: "Smoking when pregnant harms your baby" (one of around 14 health warnings that must appear with equal frequency). Since 2008, these warnings have appeared in Irish as well as English. The government's Health Promotion Unit also advises against either smoking or drinking in pregnancy on their respective websites (www.giveupsmoking.ie and www.yourdrinking.ie) and summarises the risks highlighted by research. The Health Service Executive (HSE)⁹-produced booklet for parents entitled *Safe Sleep for your Baby: Reduce the Risk of Cot Death* advises against smoking in pregnancy as it has been identified as a risk factor for Sudden Infant Death Syndrome, otherwise known as cot death.¹⁰ In addition, the HSE has produced a booklet aimed at helping women give up smoking during pregnancy entitled *Give Your Baby a Breather*.¹¹ It appears from the *Growing Up in Ireland* data that women with low education are at greatest risk of being smokers and to continue smoking during pregnancy, which may have implications for the targeting and/or communication of government policy on this issue.

Post birth, the promotion of breastfeeding has been a cornerstone of government policy on children for over 15 years. Following on from the National Breastfeeding Policy for Ireland (1994), a five-year strategic action plan was launched in 2005, for which the mission statement was: "*to improve the nation's health by ensuring that breastfeeding is the norm for infants and young children in Ireland*" (p.7).¹² More specifically, it set targets to increase both initiation rates and duration rates by at least 2% per year. Between 2005 and 2007, exclusive breastfeeding initiation increased by just over 1% and breastfeeding combined with other feeding methods increased by 1.8%.¹³ A number of HSE advice booklets for new parents encourages exclusive breastfeeding for the first six months, or for at least as long as the mother feels able.¹⁴ Again, it seems that women with higher education are more likely to reflect government policy in this regard.

⁹ The HSE is the government agency that oversees health care and health policy in Ireland.

¹⁰ Health Service Executive and the National Sudden Infant Death Register, July 2009.

¹¹ Health Service Executive, July 2008.

¹² Breastfeeding in Ireland: A five-year strategic action plan. National Committee on Breastfeeding. Department of Health and Children (Oct, 2005).

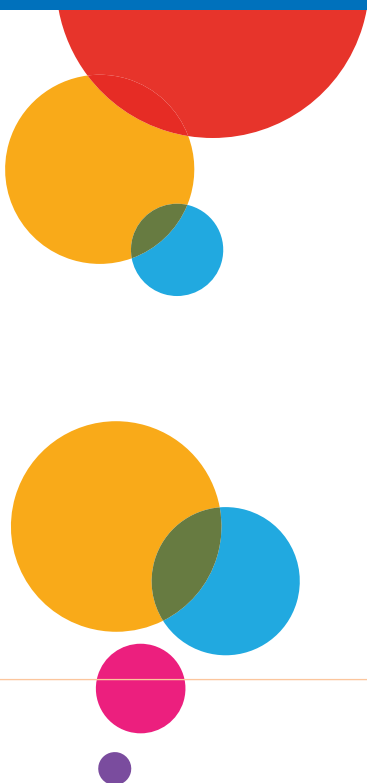
¹³ Singleton births at time of leaving hospital, according to the Perinatal Statistics reports for 2005 and 2007.

¹⁴ For example: *Caring for Your Baby: Birth to Six Months Old* (available from www.hse.ie).



Chapter 4

INFANT HEALTH



4.1 INTRODUCTION

Good health in infancy is fundamental to a child's positive development and is also an important indicator of wellbeing in later life. The foundations of a child's health are established early in life and may have a substantial impact on development and quality of life over the entire life-course (Case, Fertig, & Paxson, 2005). There is also evidence for the positive role of good primary healthcare in childhood outcomes (Quality and Fairness - A Health System for You, 2001). In the context of *Growing Up in Ireland*, the infant's health outcomes at nine months were assessed by recording the infant's health history and current health status, as reported by his/her mother, and by measuring the infant's length, weight and head circumference.

Growing Up in Ireland also collected valuable data on other health-related issues such as immunisation, safety and healthcare use. Infant immunisation is an important issue for child-health policy. Full infant immunisation at 12 months in Ireland is low relative to other affluent countries (UNICEF, 2007). In 2006 the overall immunisation rate for 12-month-olds was 87% (State of the Nation's Children: Ireland, 2008). However, overall immunisation rates for 24-month-olds have been increasing since 2002 and are now approaching the 95% target rate recommended by the World Health Organisation (Health in Ireland, Key Trends, 2009). Among other health-related issues, this chapter presents data on immunisation uptake for infants from birth to nine months.

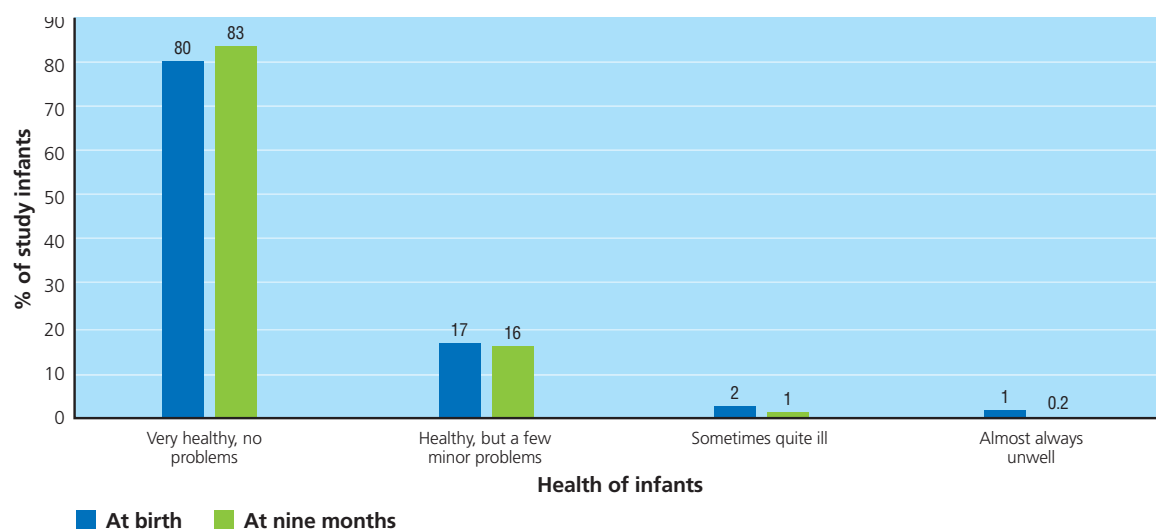
Finally, financial circumstance is an important factor influencing health. Disadvantaged groups typically experience poorer health outcomes and die younger than those in better financial circumstances (Health Services and the National Anti-Poverty Strategy, 2004). Children are more likely to live in poverty than adults, and living in poverty may make it particularly difficult to access adequate healthcare when needed. To address the role of family socio-economic status in relation to healthcare access and uptake, data on several aspects of infant healthcare use were collected and are presented in this chapter with regard to socio-demographic variables that may moderate service uptake.

4.2 MOTHER'S PERCEPTION OF INFANT'S HEALTH AT BIRTH AND AT NINE MONTHS

Most mothers reported their infant to be in good health at birth and at nine months. Overall, boys were significantly more likely to be reported as: being in poorer health at nine months; having a long-term illness such as eczema or a respiratory condition, and having been admitted to hospital since birth.

Mothers were asked to rate their infant's health at birth and also at the time of interview as: *very healthy with no problems; healthy but with a few minor problems; sometimes quite ill; or almost always unwell*. Most mothers reported their infant's health at birth to be either *very healthy* (80%) or *healthy with a few minor problems* (17%) (Figure 4.1). Similarly high levels of good health were reported for the infants at nine months – 83% *very healthy* and 16% *healthy with a few minor problems* (Figure 4.1). Reports of infant health at birth did not vary by infant gender or family socio-demographic variables. However, reports of infant health at nine months did vary by gender; boys (1.4%) were significantly more likely than girls (0.8%) to be reported as being *sometimes quite ill* or *almost always unwell*.

Figure 4.1: Mother's perception of infant's health at birth and at nine months

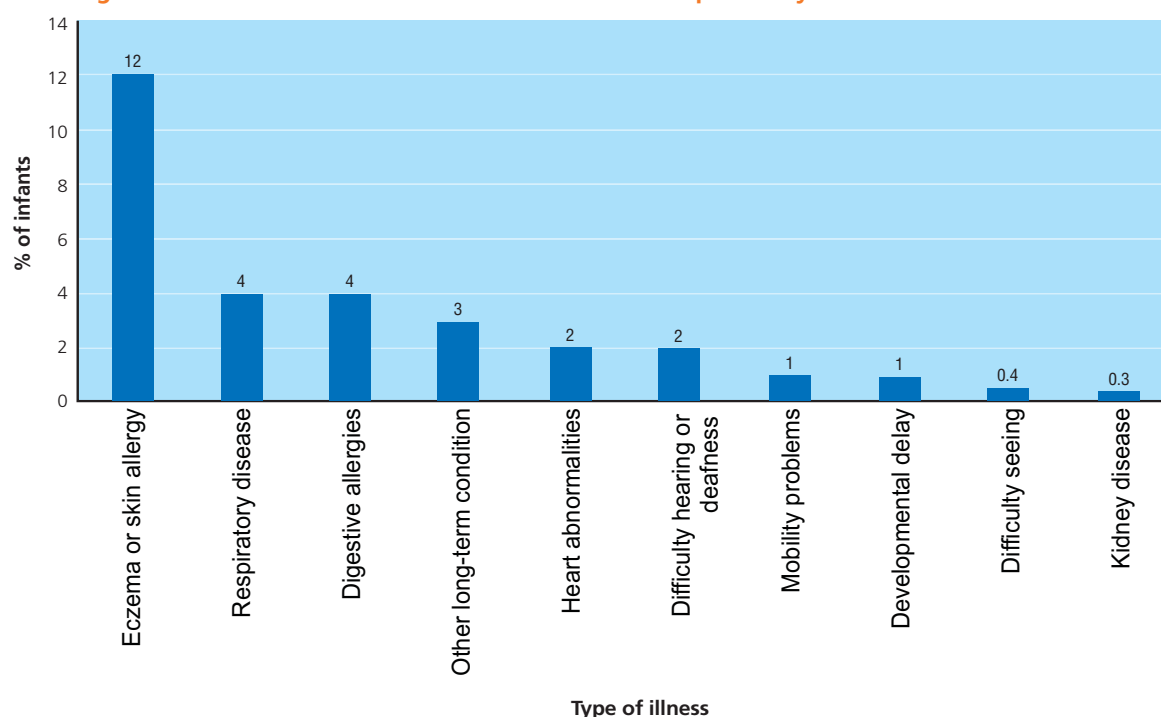


4.3 INFANT ILLNESS AND DISABILITY

*Eczema, or another skin allergy, was by far the most common illness experienced by infants in **Growing Up in Ireland**. Respiratory disease and digestive allergies were the next most commonly experienced childhood condition.*

Mothers were asked to record whether or not their infant had received a medical diagnosis of any illness from a pre-coded list of illnesses. Just under one-quarter (24%) of infants were reported as having had at least one of the listed illnesses at some time. By far the most common illness among infants in **Growing Up in Ireland** was eczema or skin allergy (12% of study children). This was followed by respiratory disease including asthma (4%), digestive allergies (4%) and other long-term conditions (3%). The 10 most common illnesses for infants as reported by their mother are shown in Figure 4.2.

Figure 4.2: Most common illnesses for infants as reported by mothers



The prevalence data for childhood eczema indicate rates of 7% to 21% worldwide, with generally higher rates in more northerly countries (Hanifin & Reed, 2007). The high percentage of children in Ireland suffering from eczema or other skin allergies is therefore typical of countries in northern Europe. Although Ireland has the fourth highest prevalence rate of asthma in the world (one in eight people),¹ asthma is typically not diagnosed until later childhood. Even at nine months, boys in Ireland were significantly more likely than girls to have a respiratory condition – 5% and 3% respectively. Boys (14%) were also significantly more likely than girls (10%) to be reported to have a skin condition such as eczema (Figure 4.3). Infants of mothers not born in Ireland were significantly less likely to suffer a respiratory or skin-allergy illness (Figure 4.4).

Figure 4.3: Percentage of boys and girls who had received a diagnosis of eczema or respiratory illnesses

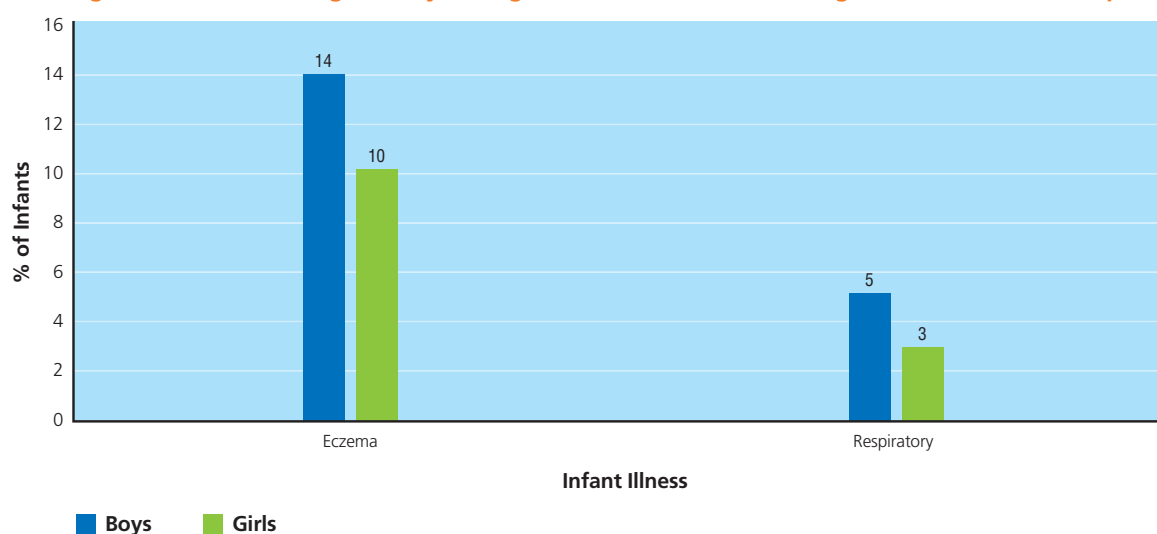
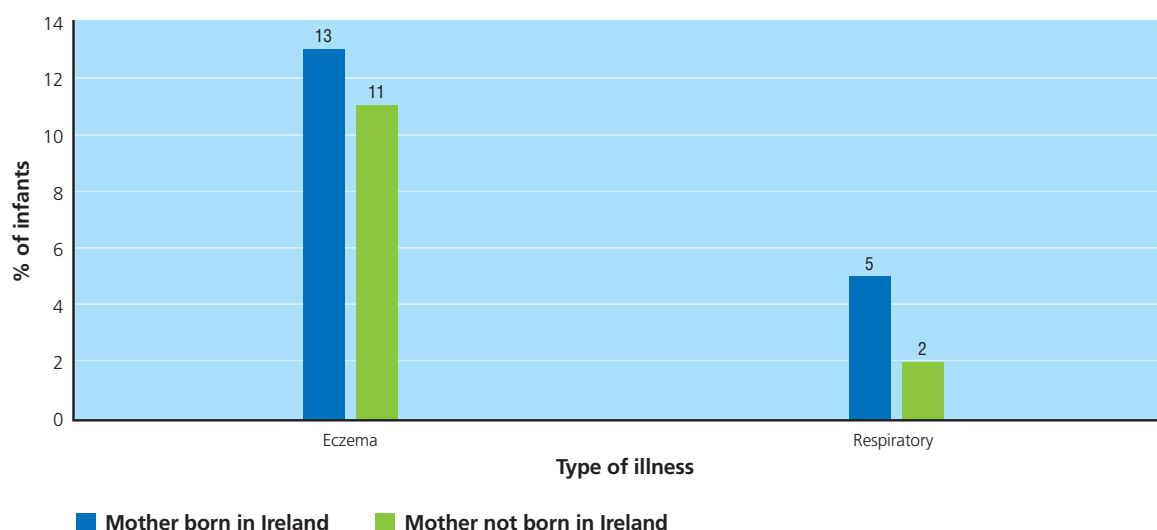


Figure 4.4: Percentage of infants who had experienced either a respiratory or skin allergy illness classified by whether or not mother was born in Ireland

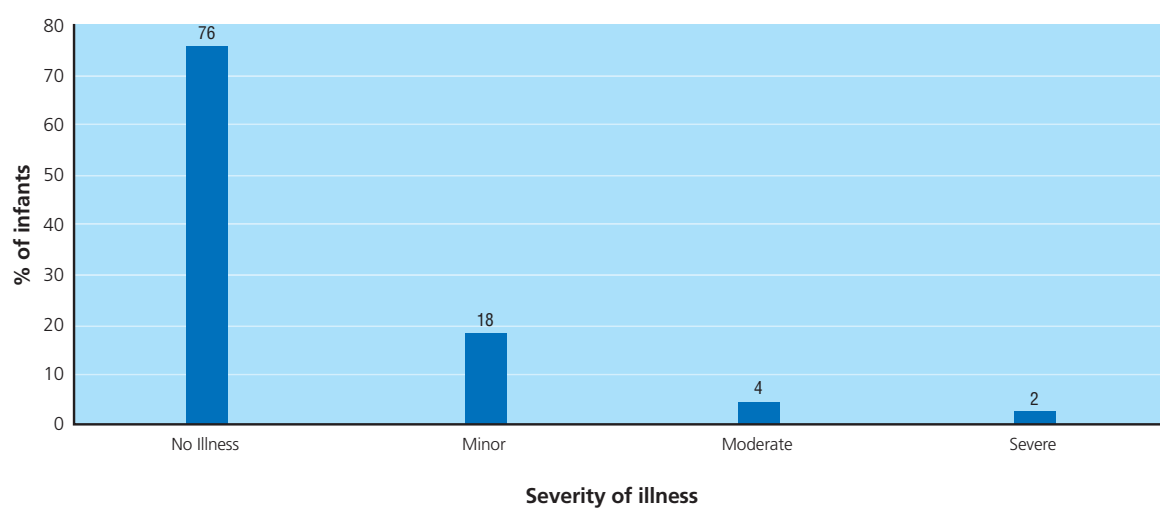


Mothers who reported that their infant had one or more of the listed conditions were also asked whether they would rate their child's condition(s) as *minor*, *moderate*, or *severe*. The majority reported their infant's illness to be *minor* (74%) or *moderate* (19%), while 7% of infants reported as having a chronic condition were said to have a severe illness (Figure 4.5).²

¹ www.asthmasociety.ie

² When translated to the entire population of 73,600 infants, this means that 18% of all infants are described as having a *minor* condition, 4% a *moderate* condition and 2% a *severe* condition.

Figure 4.5: Percentage of reported infant illness classified by severity of the illness



4.4 MEASURING INFANT LENGTH, WEIGHT AND HEAD CIRCUMFERENCE

The infant's length, weight, and head circumference were recorded in the course of the interview. Height and weight are considered important markers of childhood development. A longitudinal cohort study such as *Growing Up in Ireland* provides the opportunity to follow growth and development paths over time. Length and weight measurements were obtained from 97% of the sample of infants in the first round of the Study.

The average weight of infants in *Growing Up in Ireland* was 9.7 kgs, the average length was 72.9 cms and the average head circumference was 46.5 cms. On average, boys weighed 10.0 kgs, were 73.8 cms in length and had a head circumference of 47 cms. Girls weighed 9.3 kgs on average, measured 71.9 cms in length, and had a head circumference of 45.8 cms. Both boys and girls in Ireland are, on average, heavier than their counterparts in the UK, where boys in the 50th percentile weigh 9.2 kgs and girls weigh 8.4 kgs (UK-WHO Growth Charts, 2009). Infants whose mothers were not born in Ireland weighed significantly less at nine months (9.62 kgs) than infants born to mothers born in Ireland (9.69 kgs).

4.5 MEDICAL COVER

The families of almost one-third of infants in Growing Up in Ireland had a medical card, just over half had some kind of health insurance, and 15% had no medical cover. Medical cover varied significantly by socio-economic status.

Medical cards are issued by the Health Service Executive on a means-tested basis. Medical-card holders are entitled to free GP services, to most prescription drugs, to in-patient and out-patient hospital services, and to personal and social care services.

Just under one-third (31%) of infants in *Growing Up in Ireland* were covered by a medical card. Having a medical card varied significantly according to maternal education, social class, family income, and family size (Figure 4.6). Just over half (54%) of cohort families had some form of private medical health insurance, while 15% of infants' families did not have a medical card or any form of health insurance. Having private medical insurance varied significantly according to the set of demographic characteristics listed above, being higher among better-educated, higher-income and professional groups. Two-parent families were significantly more likely to have health insurance (Figure 4.7).

Figure 4.6: Variations in medical card cover classified by socio-economic characteristics

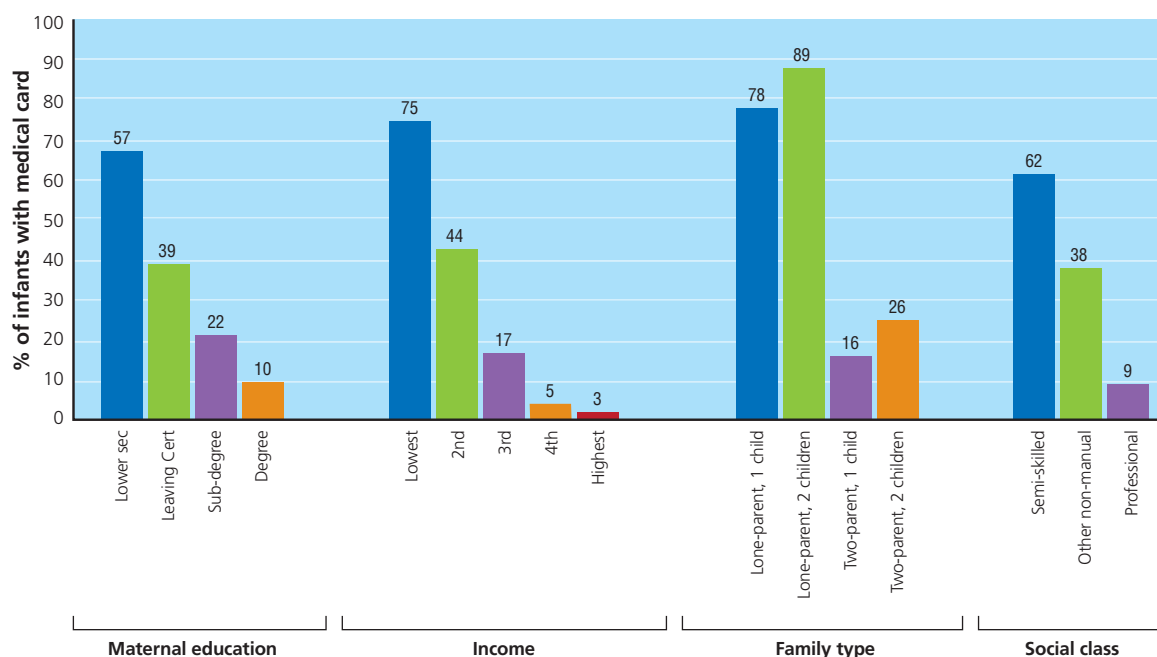
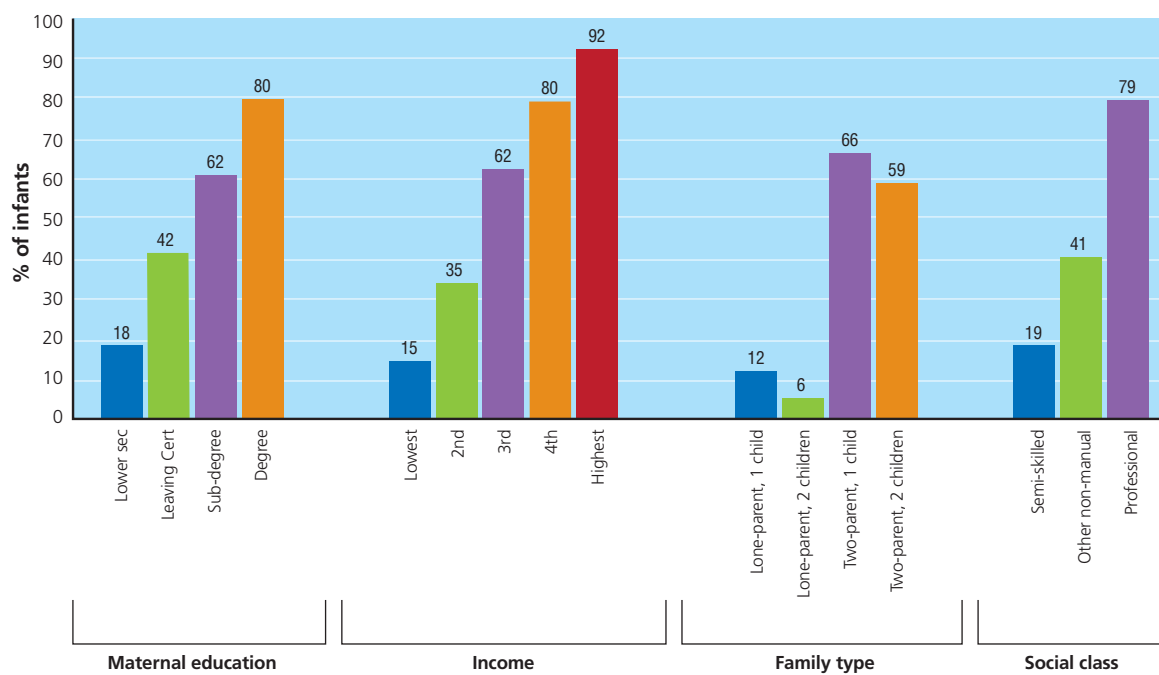


Figure 4.7: Variation in medical insurance cover classified by socio-economic characteristics

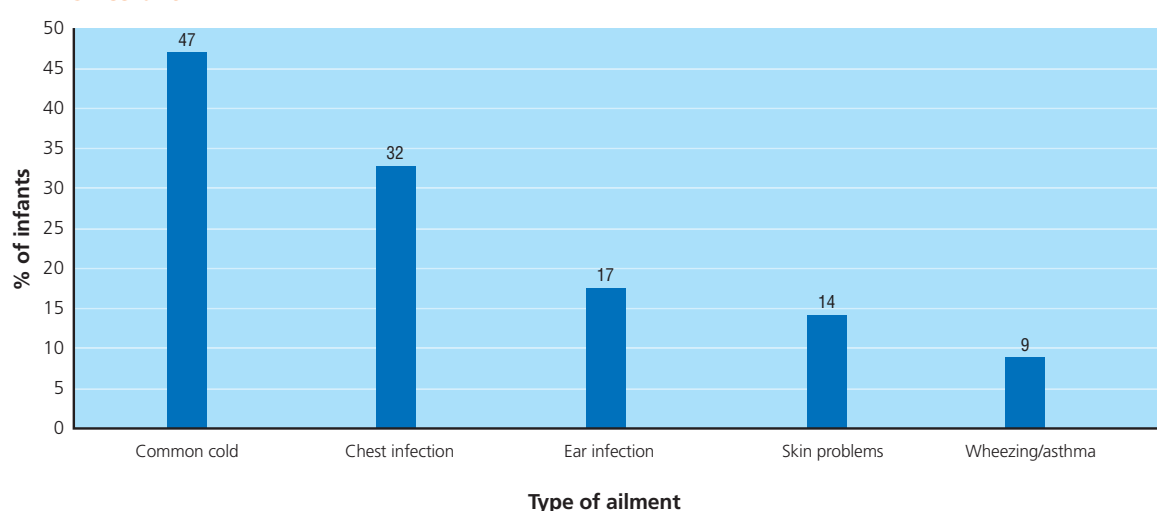


4.6 CONTACT WITH MEDICAL PERSONNEL

Since the birth of the infant, most mothers had made contact at least once with their general practitioner and public-health nurse. The most widespread health problem requiring medical attention was the common cold.

On average, mothers had contacted their general practitioner (GP) three times and a public health nurse (PHN) three times regarding their infant's health since birth. The average number of GP contacts was significantly higher for those infants whose families were covered by a medical card (3.37) than for infants with no medical-card cover (2.41). The most common health problem for which infants required contact with a medical professional was the common cold (47%). This was followed by chest infections (32%) and ear infections (17%) (Figure 4.8).

Figure 4.8: The most common ailments for which an infant had contact with a medical professional since birth



Mothers were also asked if, at any time since birth, the Study Child had (in their opinion) needed a medical examination or treatment that s/he did not receive; 4% of mothers reported that this had occurred – representing approximately 2,900 infants.

Table 4.1 indicates that the reason most frequently cited by the mother was that the required medical attention was not available or accessible to them (reported in respect of 1.2% of infants – approximately 900 infants in the population of nine-month-olds). It is notable from the table that financial constraints/affordability was mentioned in respect of only 0.2% of all infants (approximately 150 children) in the Study. Infants in lone-parent families with two or more children were significantly more likely to have been reported by their mother as not having received examination or treatment at some point since birth, when the mother perceived this to have been required.

Table 4.1: (a) Percentage of all infants in the population reported by their mother to have required medical attention at some time since birth but had not received it and (b) reasons given by mother for not for not receiving such attention

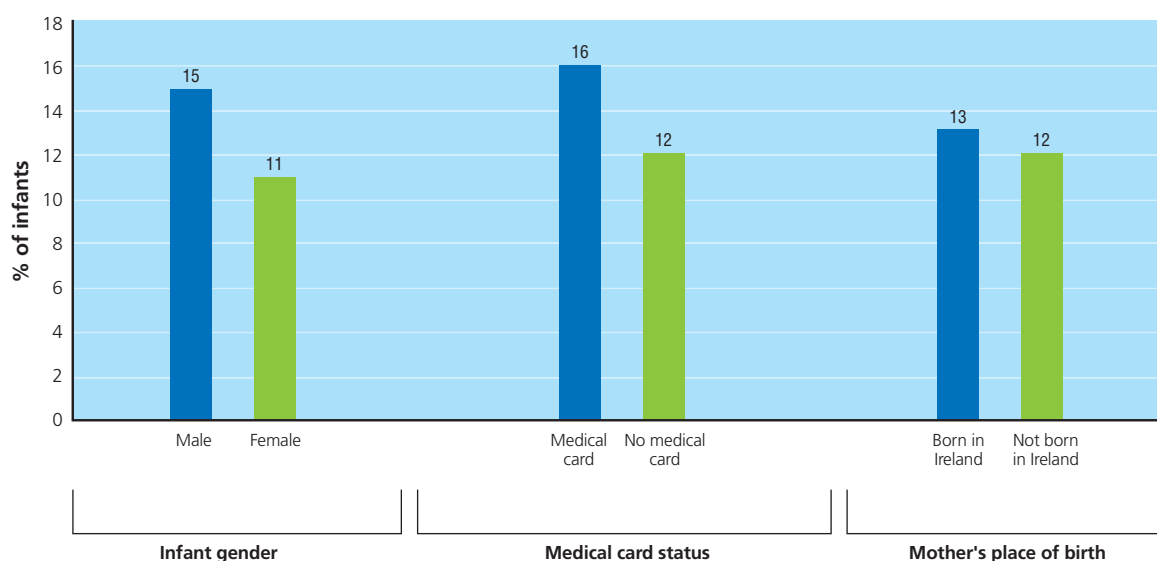
	%	Estimated no. of infants
(a) Required but did not receive medical attention		
(b) Because:	3.9%	2,900
Couldn't afford to pay	0.2%	150
Medical care not available	1.2%	900
Couldn't take time off work	0.0%	0
Wanted to wait and see if problem got better	0.4%	300
Child on a waiting list	0.9%	700
Other reason	1.9%	1,400

Note: Respondents could report more than one reason.

4.7 HOSPITAL VISITS

In *Growing Up in Ireland*, 13% of infants were reported as having been admitted to hospital since birth because of an illness or health problem. The average number of nights spent in hospital by the infants in question was six. This figure is similar to reports of infant hospital admissions at nine months in Scotland (14% in *Growing Up in Scotland*). Boys (15%) were significantly more likely to have been admitted to hospital than girls (11%) (Figure 4.10). Hospital admissions were also significantly higher for those infants with a medical card (16%) and for infants whose mothers were born in Ireland (13%) (Figure 4.9).

Figure 4.9: Hospital admissions since birth, classified by infant's sex, medical-card cover and whether or not mother was born in Ireland



4.8 ACCIDENT AND INJURY

By nine months of age, 4% of infants had had an accident that required medical attention. The prevalence of accidents that required medical attention did not differ by socio-economic characteristics, but infants whose mothers were not born in Ireland were significantly less likely to have been admitted to hospital (3%) than infants of Irish-born mothers (5%). Overall, accident rates reported in *Growing Up in Ireland* were relatively low compared to those reported in the UK (Millennium Cohort Study and *Growing Up in Scotland*, 2007). They are also somewhat lower than the 6% reported for Northern Ireland (Millennium Cohort Study, 2004).

4.9 IMMUNISATION

Almost all nine-month-old infants had had their first six-week check-up (99%) and subsequent vaccinations by two (99%) and four (98%) months of age. There was, however, a drop of six percentage points in the reported uptake of vaccinations for infants at six months (92%) (Figure 4.10). Uptake for the six-month vaccination was significantly higher for infants from the highest-income families (96%). Vaccination uptake at six months varied significantly by family structure, social class and whether or not the infant's mother had been born in Ireland (Figure 4.11).

Figure 4.10: Percentage of infants who had received their six-week check-up and subsequent vaccinations

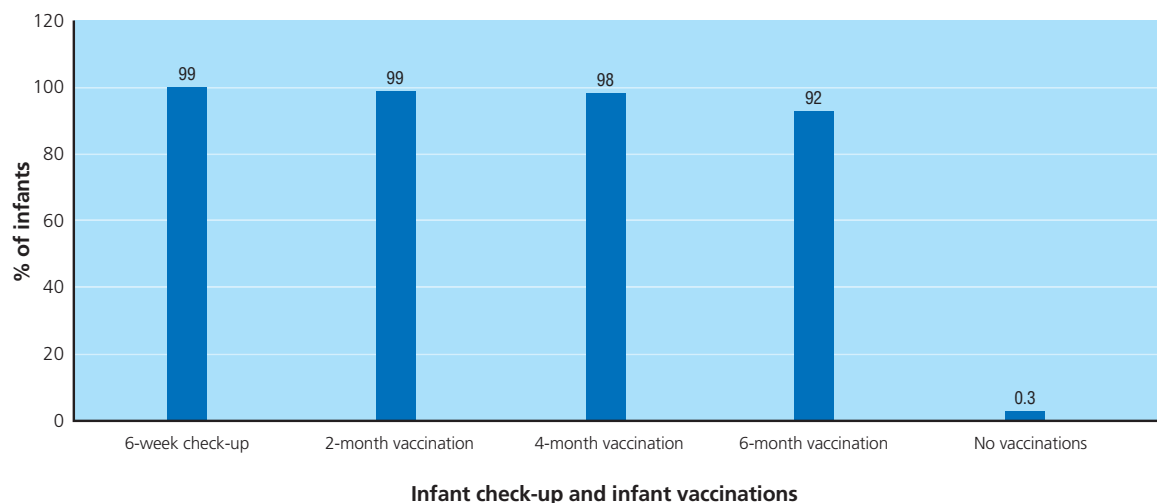
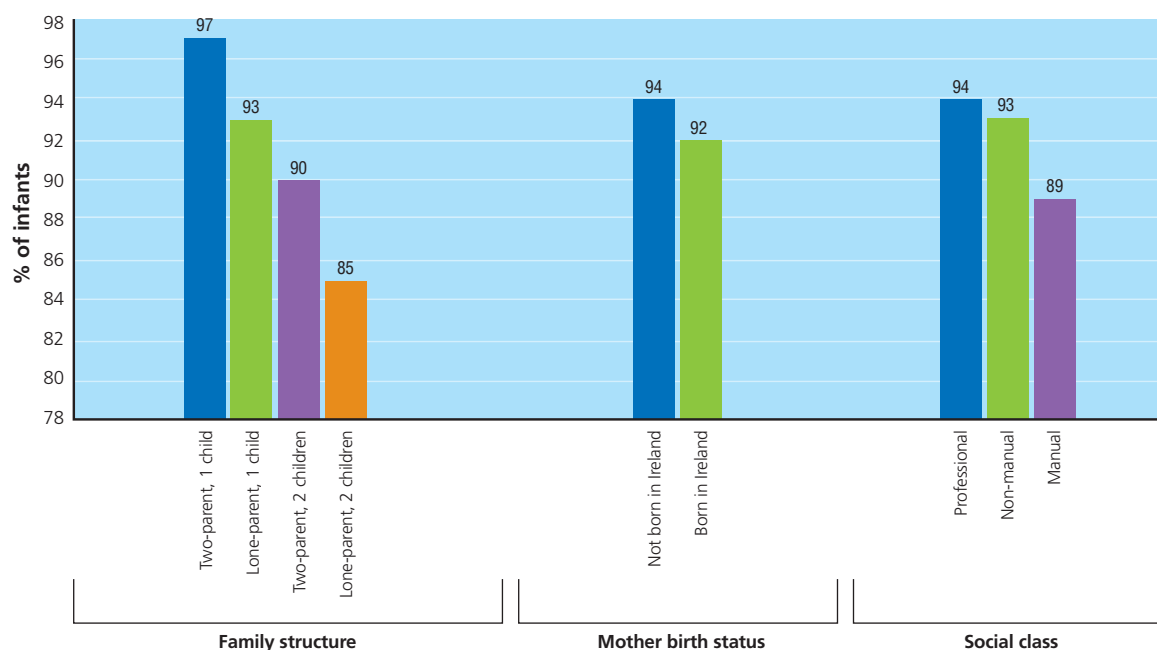


Figure 4.11: Percentage of infants who had received their six-month vaccination classified by family structure, whether or not mother was born in Ireland and family social class





4.10 KEY FINDINGS

- The vast majority of mothers reported their infant's health to be good at birth (97%) and at nine months (99%).
- Overall, boys tended to have had somewhat poorer (reported) health at nine months. They were significantly more likely than girls to have been reported as:
 - being in poorer general health
 - having a long-term illness such as eczema or respiratory condition
 - having been admitted to hospital since birth
- Maternal reports of infant illness are quite high (24%). The most common condition among infants was eczema or other skin allergies (12%). Only 2% of infants in the Study were reported to have had a condition that was regarded by their mother as being severe.
- The most common point of medical contact for the infant was with the GP; 80% of infants had had some contact with their GP since birth. On average, a mother had contacted her GP three times in respect of her infant's health.
- Infant accidents that required medical attention were reported by 4% of mothers. This is lower than the levels reported in the UK.
- Almost all infants had had their first six-week check-up and subsequent vaccinations by two and four months of age. However, there was a drop of six percentage points in uptake of vaccinations for infants at six months – only 92% were reported to have had their six-month vaccination.
- Infants whose mothers had not been born in Ireland were significantly less likely to have been admitted to hospital or to have been diagnosed with a skin allergy or respiratory condition. These infants were also significantly more likely to have received their six-month vaccination than infants of Irish-born mothers.

4.11 POLICY RELEVANCE

The large majority of mothers in *Growing Up in Ireland* reported their infant's health to be good at birth (97%) and at nine months (99%). Although almost a quarter of infants had experienced some kind of long-term illness, only 2% of infants in the cohort were reported as having had a severe illness. Under the Maternity and Infant Care Scheme, free antenatal and postnatal care is offered to all expectant mothers resident in Ireland. Mother and infant are entitled to two visits to their family GP after the baby is born and these usually occur when the infant is two and six weeks old. On average, mothers of infants in *Growing Up in Ireland* had made contact with their GP three times regarding their infant's health, which suggests that they are availing of this free postnatal care. The fact that pre- and postnatal care is provided to all mothers of infants born in Ireland, regardless of income, may be benefiting the health of infants. However, 15% of infants in *Growing Up in Ireland* were not covered by either a medical card or private medical health insurance. This group of children may be vulnerable to difficulties accessing healthcare for financial reasons once they move beyond infancy.

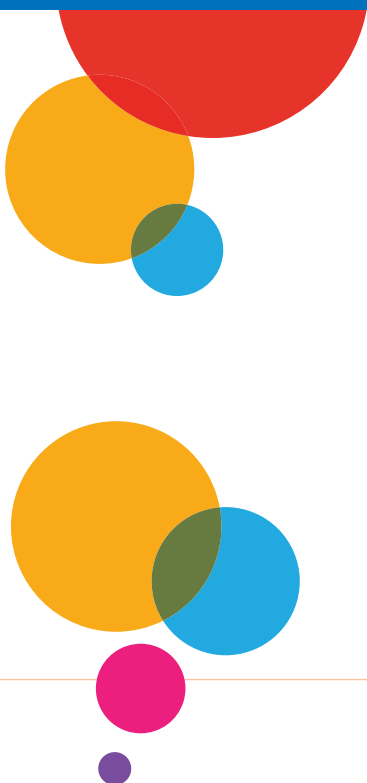
Under the Childhood Immunisation Programme, infants are entitled to certain immunisation services free of charge. These are provided in GP surgeries, hospitals and health clinics. Immunisation is not mandatory, but is strongly advised by the Department of Health and Children. The government-funded National Immunisation Office (NIO) provides information on immunisation policy and protocol for parents. The NIO also provides information on why infants should be immunised, on vaccine safety and how vaccines work. While rates of infant immunisation have been increasing, Ireland still has one of the lowest rates of uptake in Europe (State of the Nation's Children, 2008). Immunisation rates in *Growing Up in Ireland* were highest for high-income families and infants of two-parent families with one child. This suggests that policy for increasing immunisation uptake may need to target lone-parent and single-parent families.

Finally, infant safety is also critical for the child's wellbeing and development. Low rates of accidents requiring medical attention were reported by mothers in *Growing Up in Ireland*. The Health Service Executive provides booklets for parents on caring for infants from birth to six months, and from six months to two years. Parents can avail of a safety-guide DVD, developed by and available from the National Prevention Injury Committee. A pamphlet highlighting critical safety information for parents and their young children is also available as part of the Child Safety Awareness Programme. The positive maternal reports on infant safety in *Growing Up in Ireland* may indicate that parents are safety-aware and that this aspect of infant health is currently well addressed.



Chapter 5

INFANTS' ROUTINES AND DEVELOPMENTAL STATUS



5.1 INTRODUCTION

The first part of this chapter describes the infants' routines. It covers topics such as sleeping patterns, problems and position, and age when formula milk and solid foods were introduced. Trends in the parenting practices of mothers regarding sleeping and feeding are discussed. The second part of the chapter focuses on describing the infants in terms of their temperament, and their physical and cognitive development. Both temperament and development were measured using standardised international tests, which facilitates comparison between infants not just within Ireland but also with norms established internationally.

5.2 SLEEP

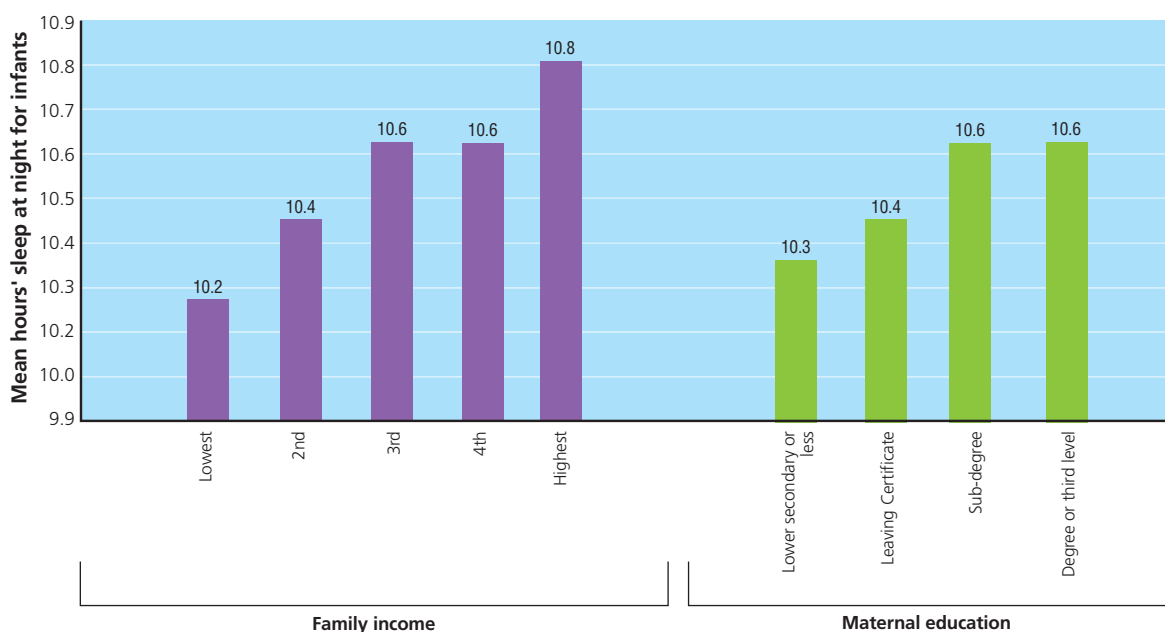
*By the age of nine months, **Growing Up in Ireland** infants were typically getting 10.5 hours of sleep per night, although the majority were still waking at night, at least occasionally. Most were sleeping in their own bed or cot; some were sleeping in their own room while others shared their parents' room.*

5.2.1 SLEEP PATTERNS

Healthy sleep is considered essential to infant growth and development as it is believed to facilitate changes in the brain that occur mostly in the first three years of life (Frank, Issa & Stryker, 2001). Some researchers have suggested that most infant sleeping problems are behavioural in origin rather than due to health reasons (e.g. Smart & Hiscock, 2007). At least one study has shown some evidence of an association between early sleep problems and later diagnosis of ADHD (Thunström, 2002). The HSE's advice booklet for parents of infants aged between six months and two years recommends 10-12 hours' sleep a night for infants aged nine months, with one or two naps during the day of between one and two hours' duration.¹

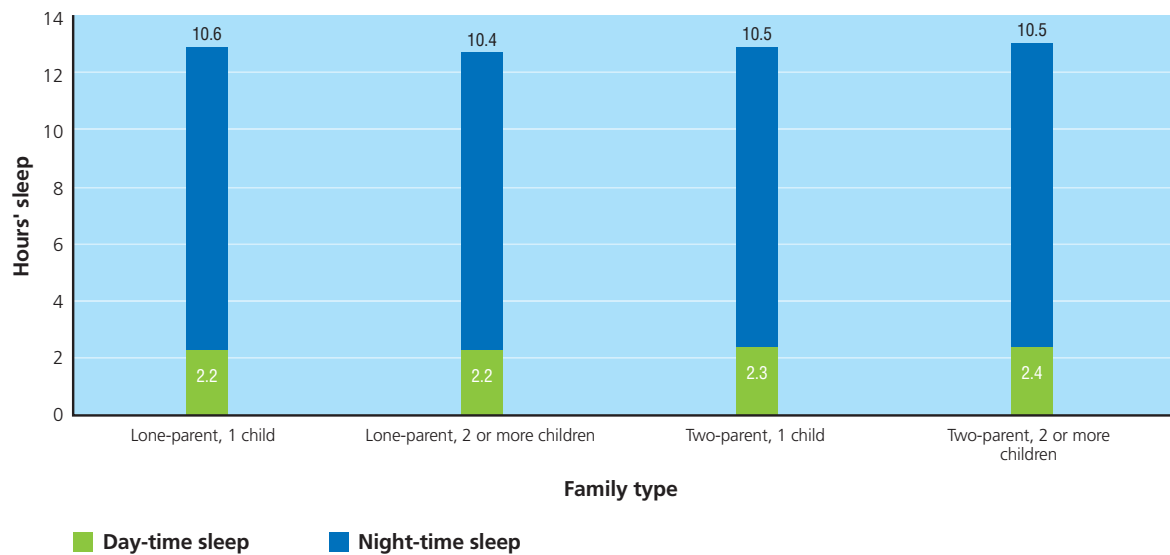
The mean number of hours' sleep at night for infants was 10.5 hours, but there was considerable variation. Differences were observed in relation to family income. Infants of mothers in the lowest income group got less night-time sleep (10.2 hours) than any of the other income groups, as indicated in Figure 5.1. Similarly, infants whose mother had a lower level of education (Leaving Cert. and below) got less sleep at night than other infants (Figure 5.1).

Figure 5.1: Mean number of hours' sleep for infants at night classified by income and maternal education



Infants of single mothers with no other children got more sleep at night (10.6 hours) than any other family type, but also got less sleep during the day (2.2 hours), as shown in Figure 5.2.² A similar pattern was observed when contrasting whether or not the infant's mother was born in Ireland; infants of Irish-born mothers got more sleep at night (10.6 hours) but less during the day (2.2 hours), and vice-versa for infants of mothers born outside Ireland (10.2 and 2.6 hours respectively).

Figure 5.2: Infants’ day-time and night-time sleep patterns classified by family type



Focusing on the 10% of infants who were getting only eight hours’ sleep per night or less, it appears that, in addition to the trends observed above, children who were experiencing health problems and those who slept in their parents’ bed (rather than in their own bed or cot) were more likely to fall into this category. A total of 19% of infants described as being *sometimes quite ill* or *almost always unwell* had eight hours’ sleep or less on an average night (although this represents quite a small number of individual children). Of infants who co-slept with their parents, 21% were getting eight hours’ sleep or less per night; this may indicate a trend towards adult-like sleep patterns, although it is also possible that co-sleeping parents are more aware of their infants’ sleeping and waking during the night.

The most popular time for infants to go to sleep for the night was 8pm (25%) and to wake up for the day it was 7am (28%). Table 5.1 summarises the pattern for going-to-bed and getting-up times.

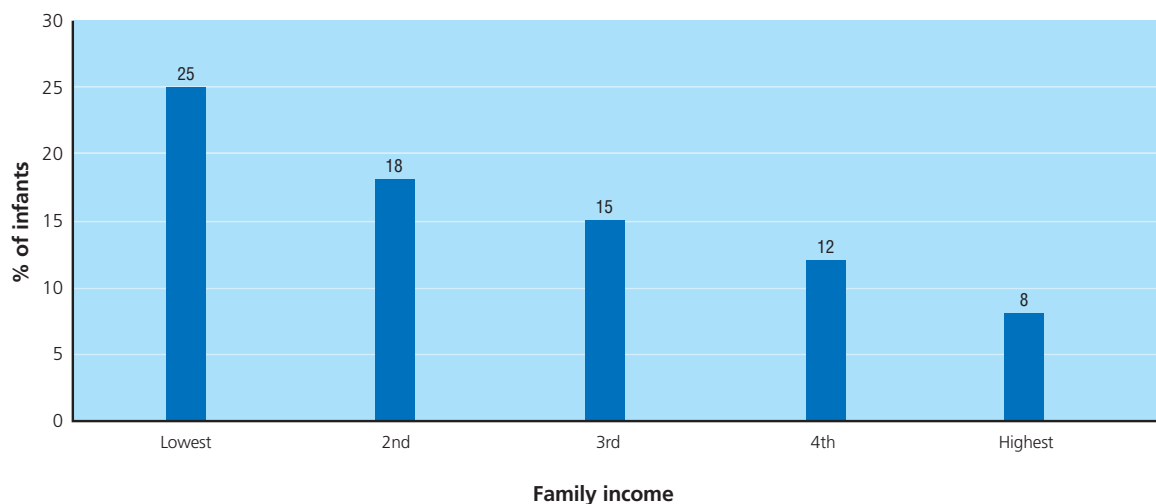
Table 5.1: Distribution of usual times for infants to get up and go to sleep for the night

Getting up		Going to sleep	
7am or earlier	43%	7pm or earlier	13%
Between 7.01am and 9am	53%	Between 7.01pm and 9pm	71%
After 9am	4%	After 9pm	16%

² Note that the child’s mean hours’ sleep during the day for lone parents with one child was 2.15, and was 2.23 for lone parents with more than one child, prior to rounding.

Looking in more detail at the 16% of infants who go to sleep for the night after 9pm, it appears that this is also differentiated by income, with infants in the lowest income families going to sleep late more often (25%) than any other income group, as shown in Figure 5.3. Whether or not the mother was working outside the home did not seem to be a factor. Irish-born mothers were more likely to put their infants to sleep for the night by 9pm (87%) than non-Irish-born mothers (74%).

Figure 5.3: Percentage of infants usually going to sleep for the night after 9pm classified by family income group

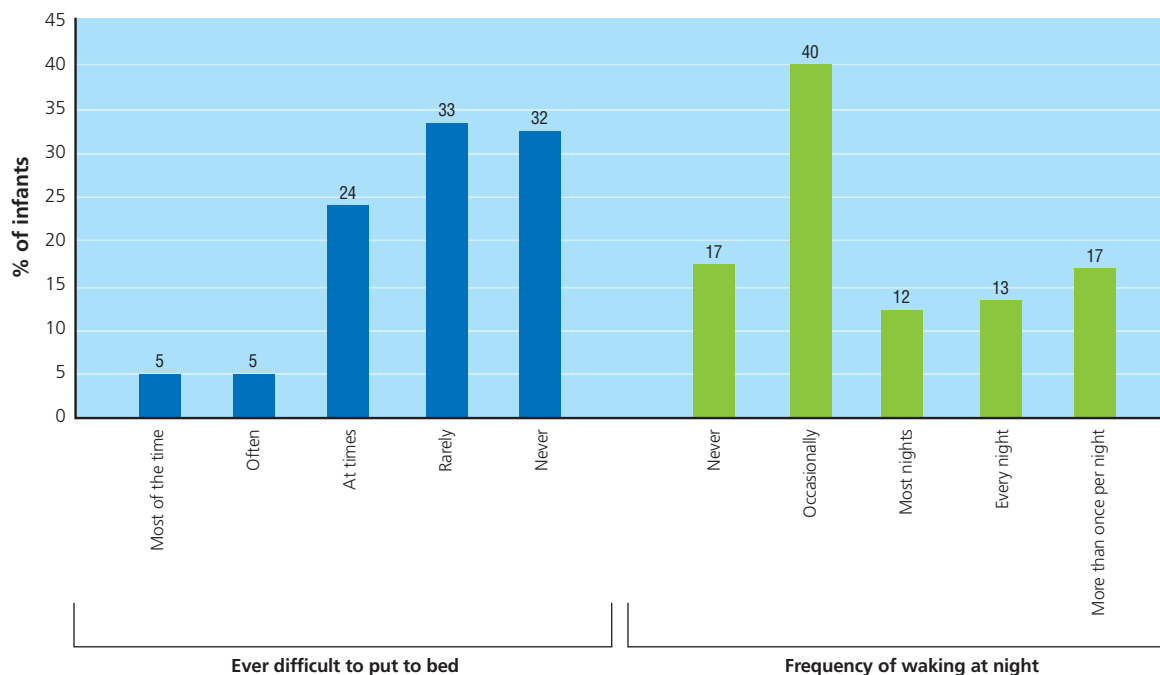


Regarding getting up early, 43% of infants woke for the day by 7am. Infants whose mothers worked outside the home were more likely to get up early (49%) than those whose mothers were on home duties (38%). Boys were also more likely than girls to waken early (46% compared to 40%).

5.2.2 SLEEPING PROBLEMS

One in 10 infants was reported to be difficult to put to bed *often* or *most of the time*, and a further 24% were difficult *at times*. At nine months of age, 40% of infants woke at night *occasionally* and 17% typically woke *more than once a night*, as shown in Figure 5.4.

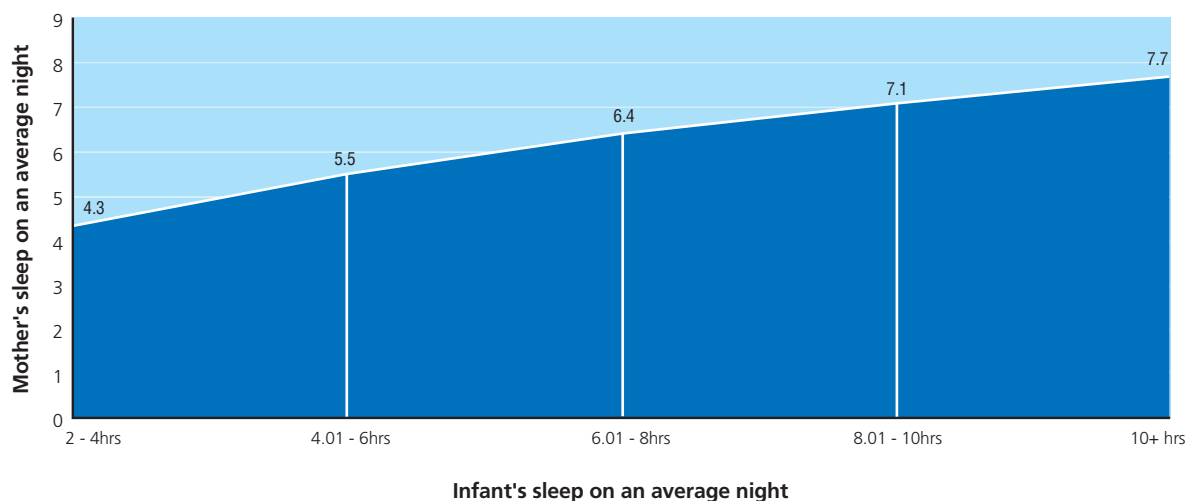
Figure 5.4: Percentage of infants being difficult going to bed and/or waking at night



The infant's sleeping pattern (or habits) was a *large* or *moderate* problem for 11% of parents and a *small* problem for a further 19%. Of those mothers who reported sleep patterns to be a problem, 12% had consulted a doctor or pharmacist about it. Mothers of boys were more likely to report a *moderate* or *large* problem with the infant's sleep (13%) than mothers of girls (10%). Mothers with degree-level education were more likely (15%) to report a *large* or *moderate* problem than mothers with the lowest level of education (8%); rates for Leaving Cert and sub-degree-educated mothers were 9% and 11% respectively.

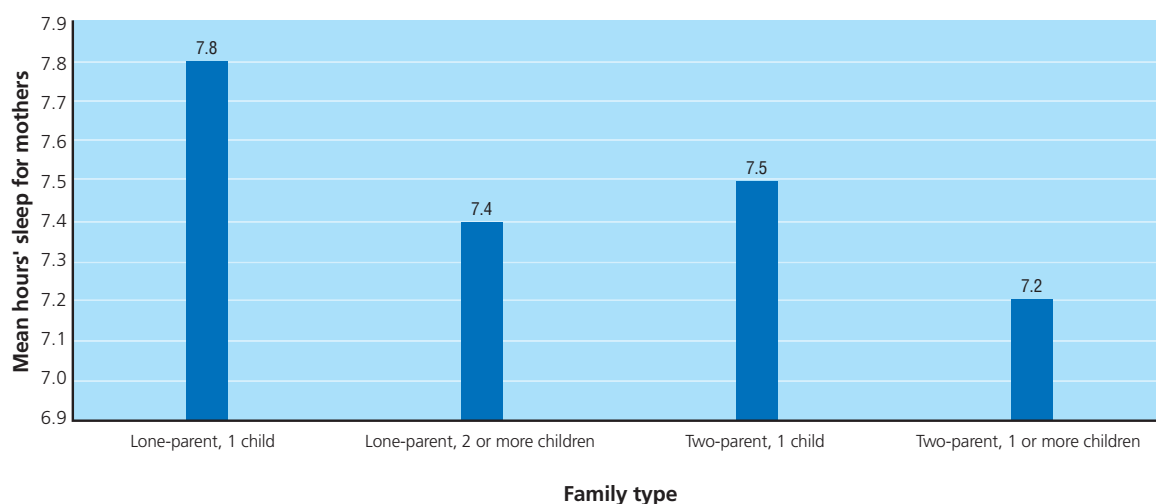
Sleep disturbance and fatigue are common experiences for mothers (and fathers) of new babies (e.g. Gay, Lee & Lee, 2004). While some infants may be sleeping through the night by the age of nine months, mothers experiencing disturbed sleep may be at greater risk of depression (Kendall-Tackett, 2007). In *Growing Up in Ireland*, the mean number of hours' reported sleep per night was 7.4 for mothers, but there was considerable variation: from as little as one hour to as many as 12. Perhaps unsurprisingly, mean hours' sleep for mothers is correlated with the number of hours their infants sleep, as shown in Figure 5.5.

Figure 5.5: Relationship between infant sleep and maternal sleep



Mothers in couples with two or more children got less sleep than mothers with only one child, as shown in Figure 5.6 (but did not differ significantly from larger lone-parent families); hence a lack of sleep may be a result of disruption arising from other children and not just the infant. Mothers of girls got slightly more sleep at night (7.5 hours) than mothers of boys (7.3 hours).

Figure 5.6: Mean numbers of hours' sleep per night for mothers classified by family type



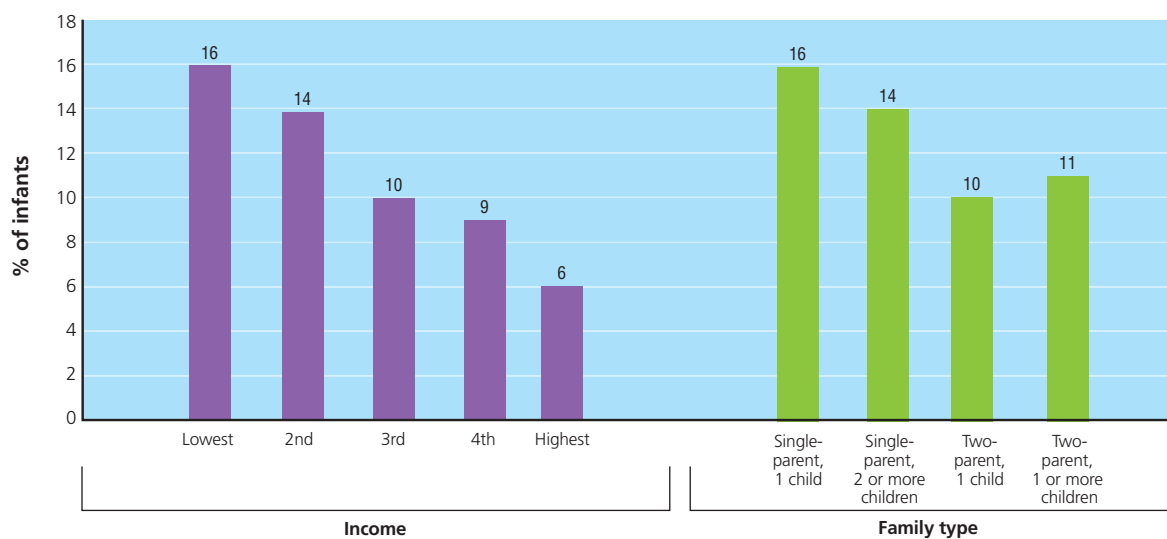
5.2.3 SLEEP LOCATION

Parents differ in their arrangements for where infants sleep. These arrangements can be affected by practical considerations such as space but also by cultural differences in what is considered most appropriate. For example, studies from the US and the UK suggest that co-sleeping (children and parents usually sleeping in the same bed) is more common among non-Western ethnic groups (Ball, Hooker & Kelly, 1999). There has been considerable debate in the research community as to whether co-sleeping is beneficial or harmful to the child. While co-sleeping appears to facilitate breastfeeding (McKenna, Mosko, & Richard, 1997), researchers have disputed whether it inhibits or fosters the child's ability to self-regulate and become more independent (Goldberg & Keller, 2007).

Just over half of *Growing Up in Ireland* infants (52%) slept in their parents' room; most of the remainder slept in a room on their own (42%). The vast majority spent most of the night in their own bed or cot (87%) although 11% usually slept in their parents' bed. Sleeping in the parental bed for most of the night was much more popular among mothers born outside Ireland (21%) than among Irish-born mothers (8%). As Figure 5.7 shows, co-sleeping was also more frequent in the lowest-income households (relative to the third, fourth and fifth income groups). Figure 5.7 also shows that an only child in a lone-parent family was more likely to co-sleep (16%) than an only child in a two-parent family (10%).



Figure 5.7: Percentage of infants sleeping most of the night in the parental bed classified by family income and family type



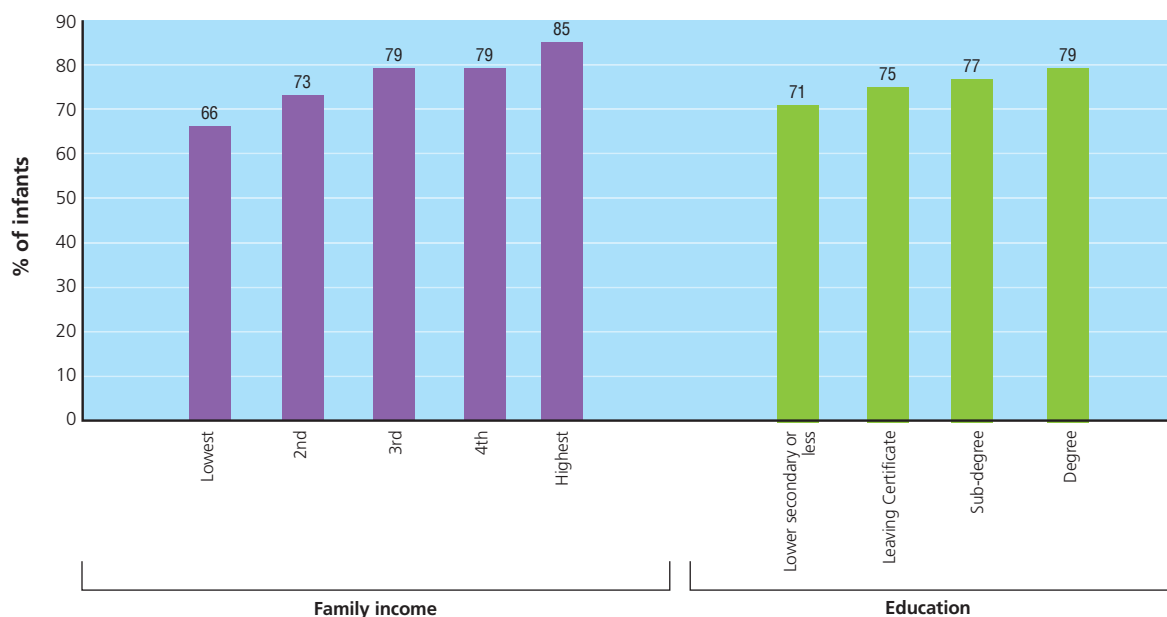
In terms of the number of nights where the infant would spend at least some part of the night in the parents' bed, 61% said zero nights per week and 19% said every night. The remaining 20% spent at least some part of the night in the parents' bed for 1-6 nights per week.

5.2.4 SLEEPING POSITION

Current advice to parents is to put infants to sleep on their backs (supine position), as this position is associated with a lower risk of Sudden Infant Death Syndrome (e.g. Oyen, Markestad, Skaevert *et al*, 1997). However, recent evidence suggests that sleeping in the supine position may delay reaching certain gross motor milestones (such as crawling), albeit with no expected long-term effect (Davis, Moon, Sachs & Ottolini, 1998). A majority of mothers in *Growing Up in Ireland* (76%) normally put their baby down to sleep on his/her back. More Irish-born mothers used the supine position (81%) than mothers born in other countries (61%).

Mothers with the lowest level of education used the supine position less often (71%) than more educated mothers, as shown in Figure 5.8.³ There were also significant differences between the lowest income group and all other income groups; mothers in the lowest income group were least likely to put the baby to sleep on his/her back (66%) (also in Figure 5.8). Boys were less likely to be put on their back than girls (74% compared to 78%).

Figure 5.8: Percentage of infants being put to sleep on their backs classified by family income and mother's education



5.3 FEEDING

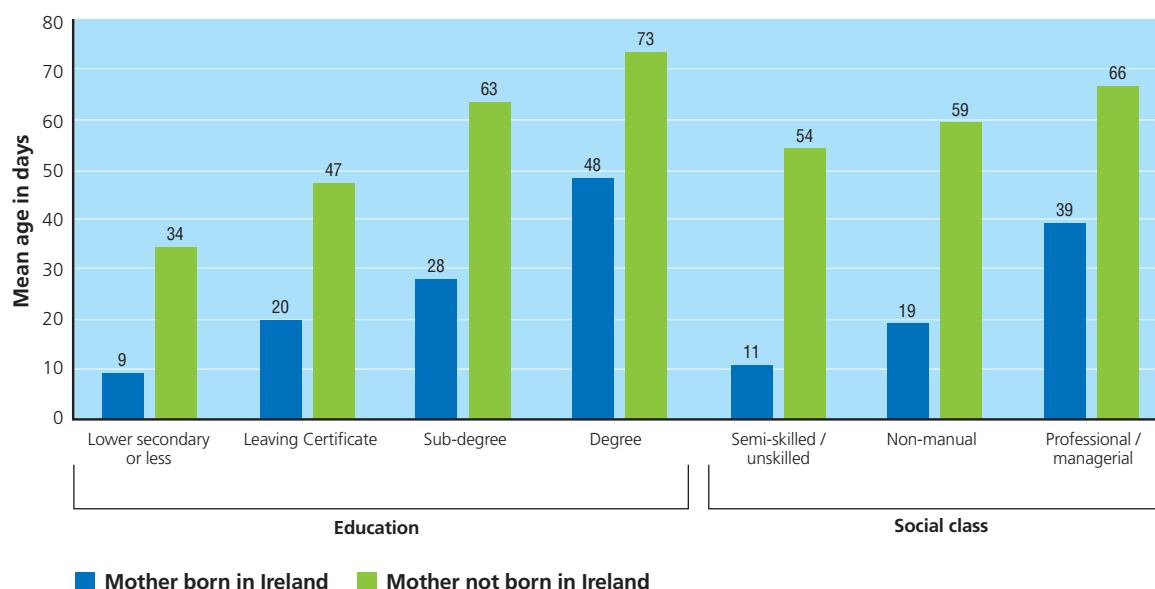
*The typical **Growing Up in Ireland** infant at nine months of age had been given formula milk and was eating solid food regularly. Most infants were also drinking water; other drinks were less popular.*

Introducing other types of milk

As outlined in Chapter Three, 2% of infants were still being exclusively breastfed at the time of interview when they were aged nine months and a further 9% were getting some breastmilk. Regarding the use of other types of milk, formula milk was most widely used, with 97% of infants having received it. There was great variation in the age at which the baby started having formula milk, from the very first day of life up to just starting at the time of interview. The mean age was 36 days.

³ The difference between lower secondary and sub-degree-level mothers was not statistically significant when other characteristics were controlled for.

Figure 5.9: Age in days when formula was introduced for Irish and non-Irish-born mothers classified by education and social class



Irish-born mothers introduced formula milk much earlier than mothers born outside Ireland (28 days old compared to 59 days). For both groups of mothers, those with the lowest education introduced formula earlier than those with higher levels of education,⁴ as shown in Figure 5.9. There was also a social-class difference observed for Irish-born mothers but not for mothers who were born elsewhere.

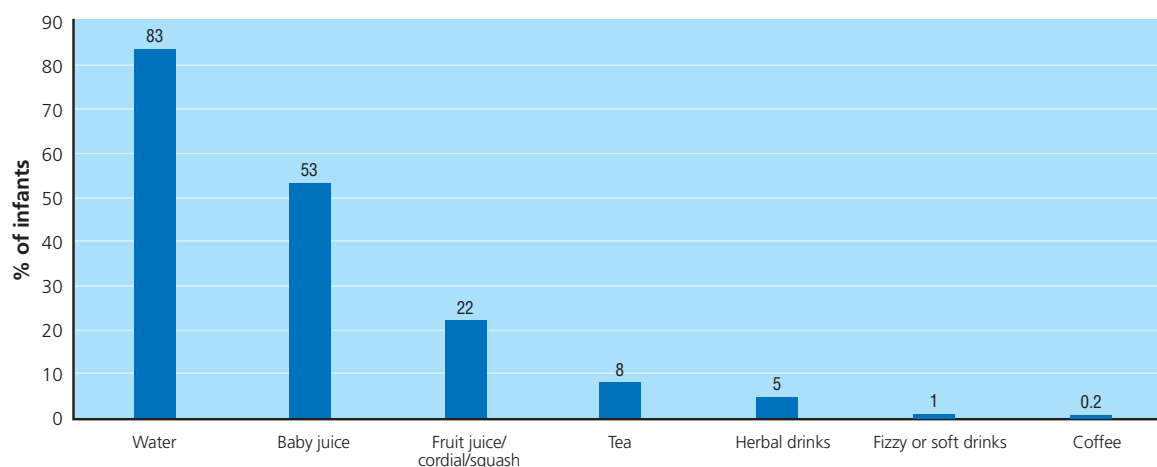
Cow's milk had been introduced to 41% of infants by nine months of age. The mean age at which cow's milk was introduced was much later than formula, at seven months. Irish-born mothers were more likely to have given their infants cow's milk (43%) than other mothers (35%) but there were no differences between the groups in the timing of the introduction (for those who had already given it to their infants). For Irish-born mothers only, those in the lowest social class (semi/unskilled) were less likely to have given their infant cow's milk (39%) than mothers in the non-manual (43%) or professional/managerial (44%) groups.

Other drinks

Figure 5.10 shows the percentage of children consuming drinks other than milk. The vast majority (83%) also drank water, but fruit juice/squash/cordials (other than baby juice) were consumed by 22% and 8% were drinking tea. Irish health authority advice to parents is not to give tea/coffee or fizzy drinks to infants; the former because of a reduction in iron absorption and the latter because of teeth erosion.

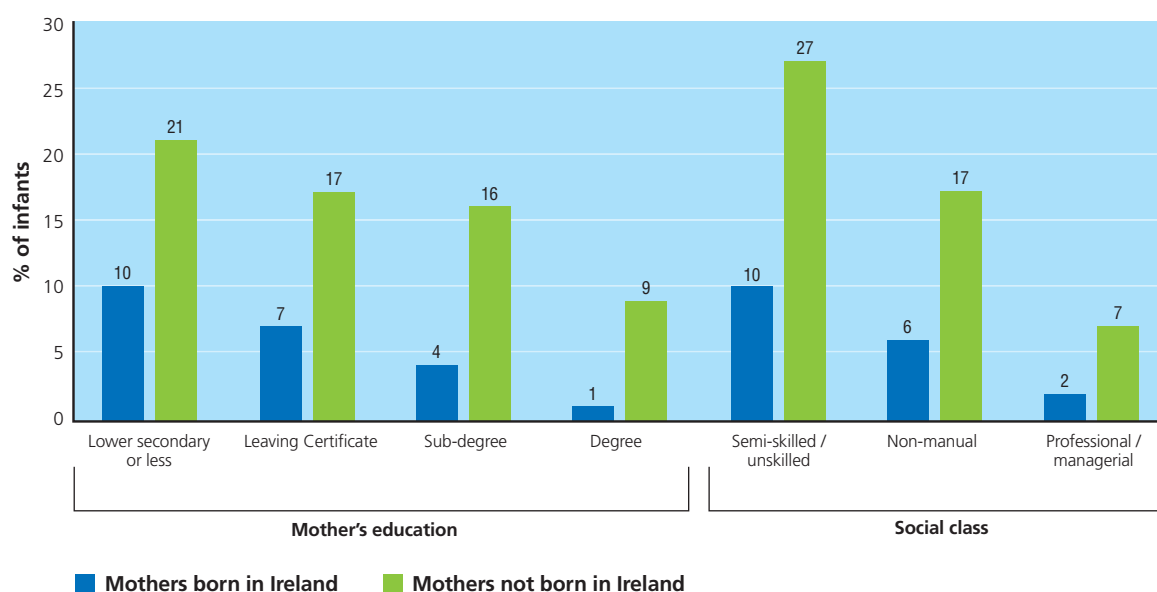
⁴ The statistical significance between lower secondary and Leaving Cert level was marginal ($p=.057$).

Figure 5.10: Consumption of drinks other than milk by infants at nine months of age



Mothers born outside Ireland were more likely to give their infants tea (15%) than Irish-born mothers (5%).⁵ For Irish-born mothers, education was the most apparent influence; the lowest-educated were more likely to give tea (10%) than any of the more educated mothers (Figure 5.11). For mothers not born in Ireland, tea-drinking was more related to social class; a higher percentage of those in the lowest social classes gave tea to their infant (27%) than the other two groups (also shown in Figure 5.11). The least educated also differed from the most educated among non-Irish-born mothers (21% compared with 9%), and the professional class from the semi/unskilled class for Irish-born mothers (2% compared to 10%).

Figure 5.11: Percentage of infants being given tea to drink, for Irish and non-Irish-born mothers, classified by mother's education and social class

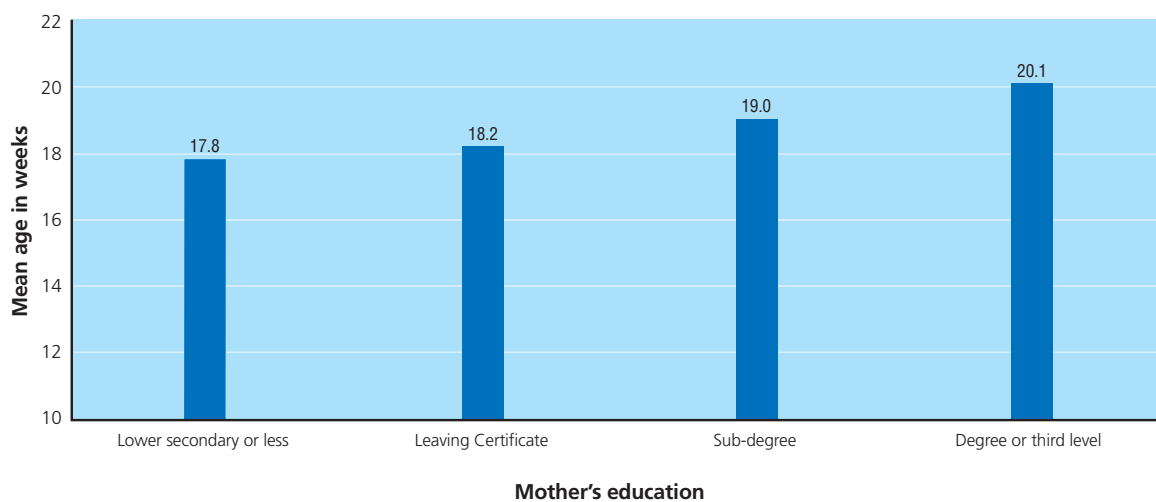


⁵ Note, however, that there is a type of Polish 'baby tea' which appears to be a mixture of fennel and other herbs.

5.3.1 SOLID FOOD

The timing and nature of the transition to solid food is an important research question as recent evidence suggests that children who graduate to solid foods before six months of age may be less capable of regulating their energy intake in childhood (e.g. Ong, Emmett, Noble, Ness & Dunger, 2006). In *Growing Up in Ireland*, nearly all infants (98%) were having solid food on a regular basis by the age of nine months. The mean age for starting solids was 19 weeks (just under five months). Mothers with degree or sub-degree education introduced solids later than mothers with the lowest level of education, as shown in Figure 5.12. This pattern was observed for both mothers born in and outside Ireland, although the former introduced solids a week earlier on average (18.7 weeks compared to 19.7).

Figure 5.12: Mean age in weeks when solid foods were introduced regularly classified by mother's education



5.4 TEMPERAMENT

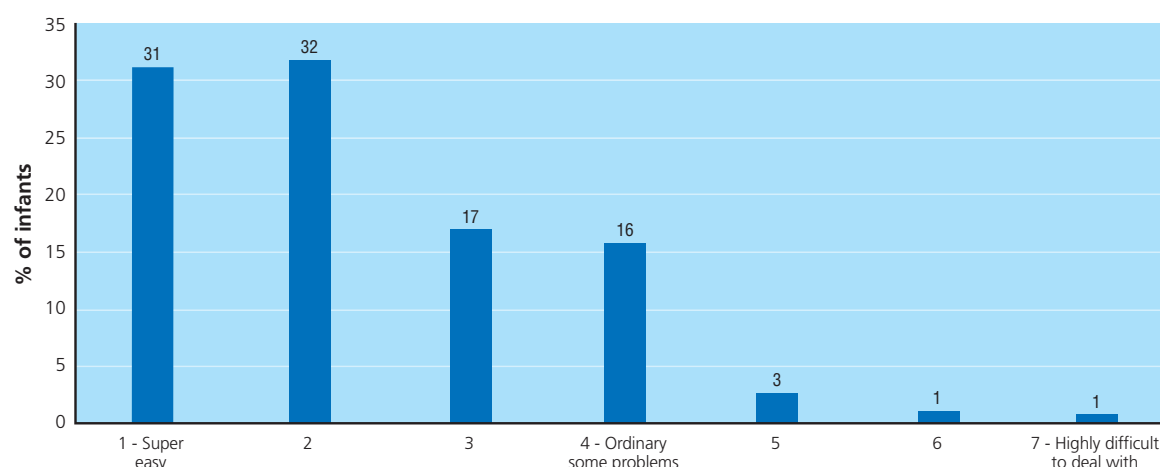
Overall, mothers in Ireland tended to consider that their infants were easy to parent, but some early differences, such as differences between boys and girls, were already emerging.

Describing temperament

Temperament refers to an individual's behavioural style and characteristic way of responding to situations. Infants may be described as being *easy* or *difficult* to parent, depending on how much they fuss and cry, how adaptable they are to new situations, and how much they appear to enjoy engaging with parents and others. Most researchers now agree that individual differences in temperament are present at birth (Santrock, 2007) and some research suggests that characteristics of temperament persist from early childhood right through to adulthood (Caspi, Harrington *et al*, 2003). An infant's temperament is likely to have a strong influence on parent-child interactions, and has an influence on the development of attachment and socio-emotional development (Putnam, Sanson *et al*, 2002) and on the quality of parental engagement (Maccoby, Snow and Jacklin, 1984).

Mothers in *Growing Up in Ireland* were asked to rate how easy or difficult their infant would be for the average parent on a seven-point scale from *super easy* (1) to *highly difficult to deal with* (7). Figure 5.13 shows how mothers rated their infants. Nearly one-third described their infant as *super easy*.

Figure 5.13: Overall ratings of difficulty of infant's temperament



The above question formed part of a measure called the Infant Characteristics Questionnaire (ICQ; Bates, Freeland & Lounsbury, 1979) which describes an infant's temperament using four characteristics:

- **fussy-difficult subscale** (e.g. "baby cries and fusses [a lot] in general") – 6 items
- **not-adaptable subscale** (e.g. "baby typically responds [negatively] to a new person") – 4 items
- **subdued⁶ subscale** (e.g. "baby smiles and makes happy sounds [very little]") – 3 items
- **unpredictable subscale** (e.g. "difficult to predict when baby will become hungry") – 3 items

Higher scores on these characteristics reflect a more difficult temperament. Table 5.2 shows that, in the *Growing Up in Ireland* study, boys were described as somewhat more *fussy-difficult* but also more *adaptable* and somewhat less *subdued* than girls. Boys and girls did not differ on *unpredictability*.

Table 5.2: Scores on temperament subscales for all infants, and differences between boys and girls

Characteristic	Min. possible score	Max. possible score	Mean score: boys	Mean score: girls	Group mean score
Fussy-Difficult	6	42	15.0	14.7	14.9
Not Adaptable	4	28	8.7	9.4	9.0
Subdued	3	21	5.8	6.0	5.9
Unpredictable	3	21	6.1	6.2	6.2

Table 5.3 shows that Irish-born mothers tended to describe their infants as less *fussy-difficult* and more *adaptable* than did mothers not born in Ireland. They did not differ in their descriptions of the infant being *subdued* or *unpredictable*. Table 5.3 also shows the mean scores for each characteristic as reported by the original test authors on a sample of 365 American children, aged six months at the time (Bates *et al*, 1979). Overall, at age nine months, infants in *Growing Up in Ireland* were described as less *fussy-difficult* (14.9), less *adaptable* (9.0) and more *predictable* (6.2) than the American comparison group, but they did not differ on the extent of being *subdued* (5.9). Readers should note, however, the three-month age difference between the groups and also that the original scale data are 30 years old.

Table 5.3: Mean scores on each temperament dimension for mothers born or not born in Ireland, and the norm mean from the original American sample

Characteristic	Minimum possible score	Maximum possible score	Mother's place of birth		Original American mean (1979)
			Ireland	Outside	
Fussy-Difficult	6	42	14.7	15.3	17.8
Not Adaptable	4	28	8.9	9.4	8.9
Subdued	3	21	5.8	5.9	5.9
Unpredictable	3	21	6.1	6.2	7.3

Stressed mothers described their infants as more *difficult* than less stressed mothers did. When mothers were divided into four groups (quartiles) based on their score on the Parental Stress Scale (see Chapter Seven), the 25% of mothers who were most stressed described their infants as more *fussy-difficult*, less *adaptable*, more *subdued*⁷ and more *unpredictable* than any of the less-stressed mothers, as shown in Table 5.4. It is not possible to comment at this stage, however, on whether mothers are more stressed because of their infant's difficult temperament or whether stressed mothers just perceive their infant as being more difficult. Either way, this is likely to have an effect on the mother-infant relationship.

Table 5.4: Infant Characteristics Questionnaire (ICQ) mean temperament subscale scores classified by mother's level of stress

Characteristic	Least stressed (q1)	Q2	Q3	Most stressed (q4)
Fussy-Difficult	12.9	14.3	15.2	17.0
Not Adaptable	8.1	8.8	9.3	10.0
Subdued	5.6	5.8	5.9	6.1
Unpredictable	5.4	6.0	6.3	7.0

(see Tables 5.2 or 5.3 for minimum and maximum subscale scores)

5.5 INFANT'S DEVELOPING SKILLS

Infants in Growing Up in Ireland were generally doing well in terms of development. However, they seemed to be better at communicating and using their hands than they were at using their arms and legs (gross motor skills).

The first nine months is a key period in child development. During this period infants grow rapidly, begin to move around and start to communicate, and individual differences become more apparent. Development and the achievement of milestones (such as first words, first steps) tend to be sequential, although the pace of development may be in 'leaps and bounds' rather than in steady increments (Darrah *et al*, 2003).

Achieving milestones at an appropriate age influences later development: for example, learning to walk facilitates the child in exploring their environment; being able to talk facilitates the development of relationships; being able to manipulate objects such as a pencil is a key skill for later learning in school.

There are many reasons why an infant may be at risk of developmental delay in a particular ability (*single domain delay*) or multiple abilities (*global developmental delay*). They include biological factors such as chromosomal abnormalities (e.g. Down Syndrome) and premature birth. However, parenting practices such as choice of nutrition and what activities caregivers encourage infants to engage in are also important factors. For example, a recent longitudinal study in the UK found that breastfeeding had helped to protect against delays in gross motor development (Sacker, Quigley & Kelly, 2006) and, as mentioned earlier, there is some evidence that sleeping position also affects the achievement of gross motor milestones (Davis *et al*, 1998). Sensitive and responsive parenting also promotes strong attachment relationships.

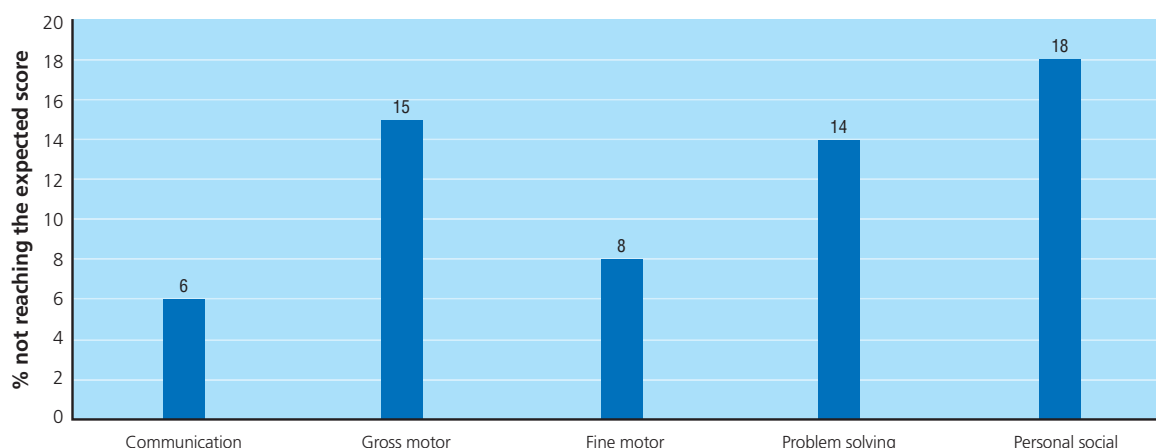
⁷ Statistical significance between 3rd and 4th quartile was marginal ($p=.050$).

The infant's developmental status was reported by mothers using the Ages and Stages Questionnaire – ASQ 2 (Squires, Potter & Bricker, 1999). This questionnaire asks whether the child has yet achieved various milestones under the headings of:

- **Communication** – showing some understanding of basic commands from parents and making first efforts to engage in communication (e.g. “Does your baby make two similar sounds like ‘ba-ba’, ‘da-da’ or ‘ga-ga’?”)
- **Gross motor** – being able to stand up, sit up and move around with support (e.g. “If you hold both hands just to balance her, does your baby support her own weight while standing?”)
- **Fine motor** – able to use fingers and thumbs to manipulate small objects (e.g. “Does your baby pick up a small toy with the tips of her thumb and fingers?”)
- **Problem solving** – showing curiosity in, and some rudimentary understanding of, how the world around them works (e.g. “Does your baby poke at or try to get a crumb that is inside a clear bottle?”)
- **Personal social** – being able to perform some basic self-care tasks such as feeding and showing some early evidence of co-operation (e.g. “When you dress him/her, does your baby push his/her arm through a sleeve once his/her arm is started in the hole of the sleeve?”)

Infants are given scores based on how many milestones they have achieved so far. Infants who do not reach a target score may be at risk of delay in that particular set of skills. The original test authors derived the target score for each skill based on their original sample of American children. Figure 5.14 shows the percentage of infants in *Growing Up in Ireland* who failed to reach the target score for an infant aged 10 months,⁸ separately for each skill.⁹ It shows that personal-social skills had the highest failure rate: 18% of infants did not reach the expected target score. Communication was the area in which infants were doing best: only 6% failed to reach the target score.

Figure 5.14: Percentage of infants failing to meet the target score expected of 10-month-olds for individual developmental areas measured by the Ages and Stages Questionnaire (ASQ)

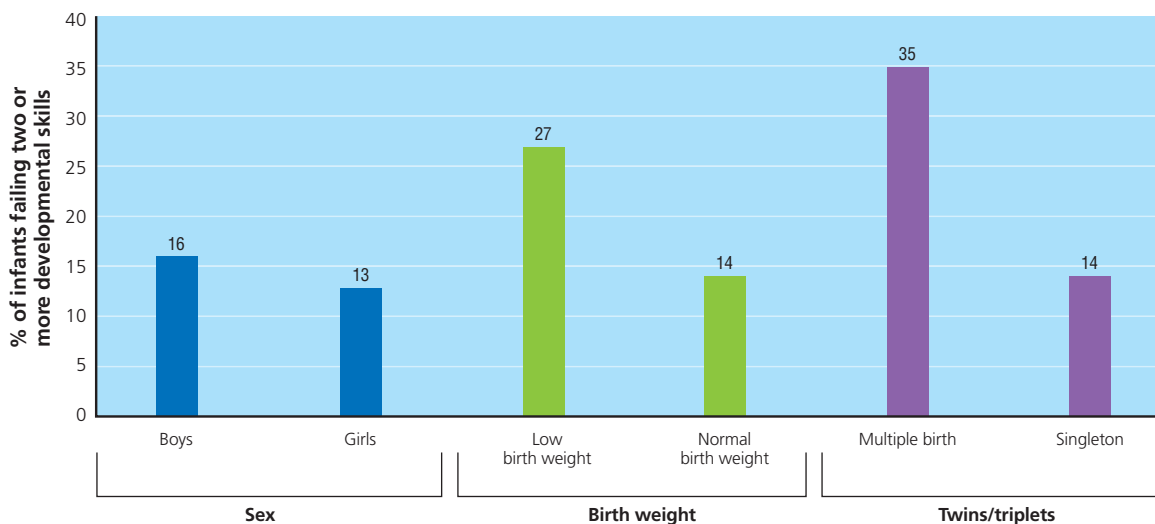


⁸ The ASQ 2, as used in *Growing Up in Ireland*, is divided into two-monthly interval questionnaires at the infant stage. The 10-month questionnaire is used for reference here, rather than the eight-month, as infants had already passed their nine-month birthday.

⁹ The 1% of infants who were born very premature (earlier than 33 weeks' gestation) are excluded from these analyses. This is because such infants are, as expected, not as developmentally advanced as babies born closer to full term.

A total of 14% of infants failed to reach the target score on two or more skills, possibly indicating a risk of a more global developmental delay. Some infants were more likely to 'fail' two or more skills than others: boys (16%) were more likely than girls (13%); infants who had a low birth weight (27%) compared to those of normal birth weight (14%); and twins or triplets (35%) compared to single-birth infants (14%)¹⁰ – as indicated in Figure 5.15.

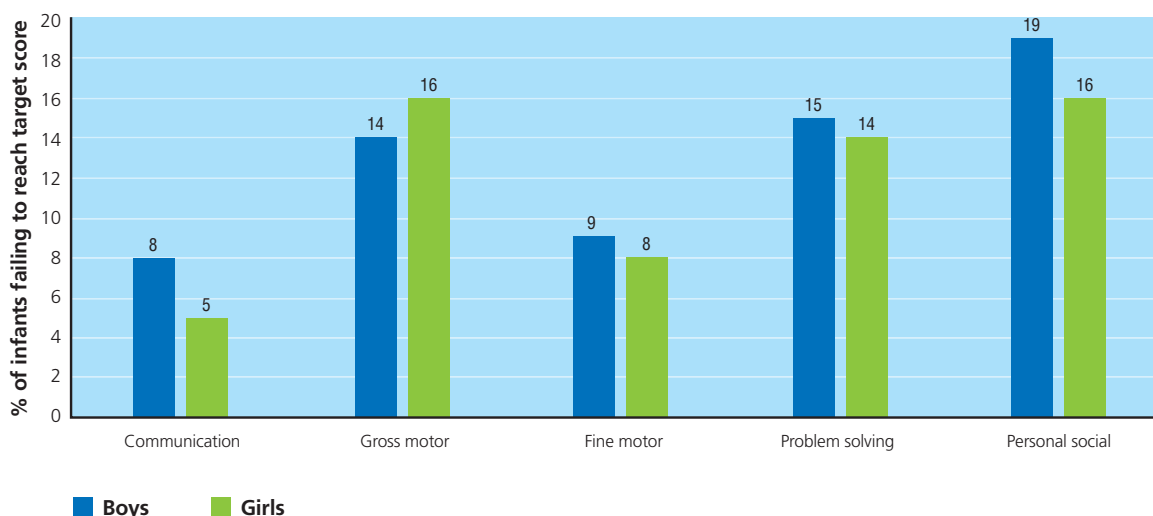
Figure 5.15: Comparison of infants failing to reach the target score on two or more developmental skills



Individual differences

Figure 5.16 compares the 'fail' rate on each of the developmental skills according to the infant's sex. Boys had a higher fail rate for communication and personal-social skills than girls, but a slightly lower fail rate on gross motor skills. These differences may reflect variation in the way adults interact with infants based on their gender (for example, encouraging boys to move around and play, while encouraging girls to talk), and not necessarily a biological difference between the sexes.

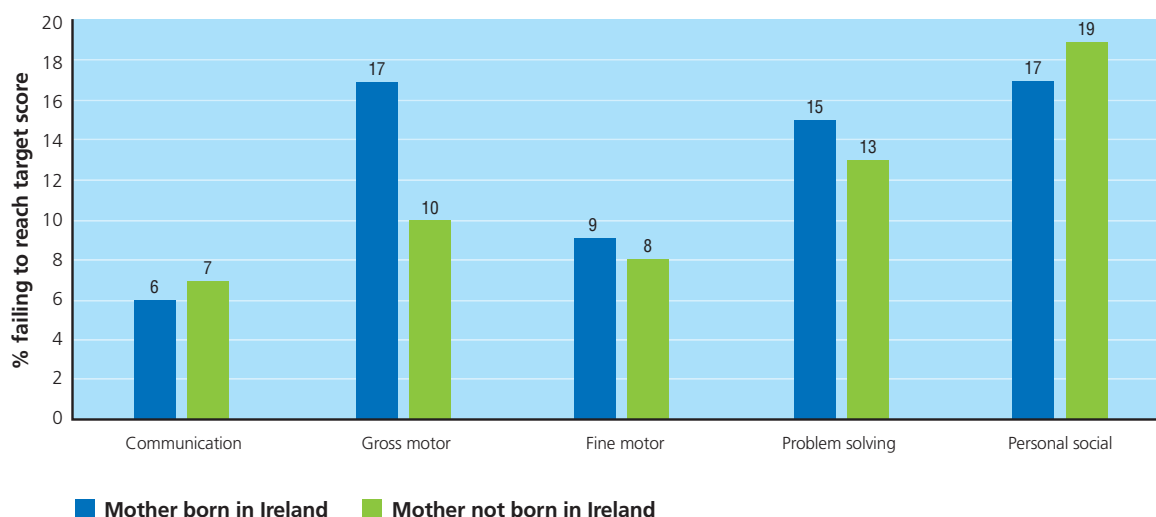
Figure 5.16: Comparison of boys' and girls' failure rate for each 10-month ASQ skill



¹⁰ Having controlled for low birth weight.

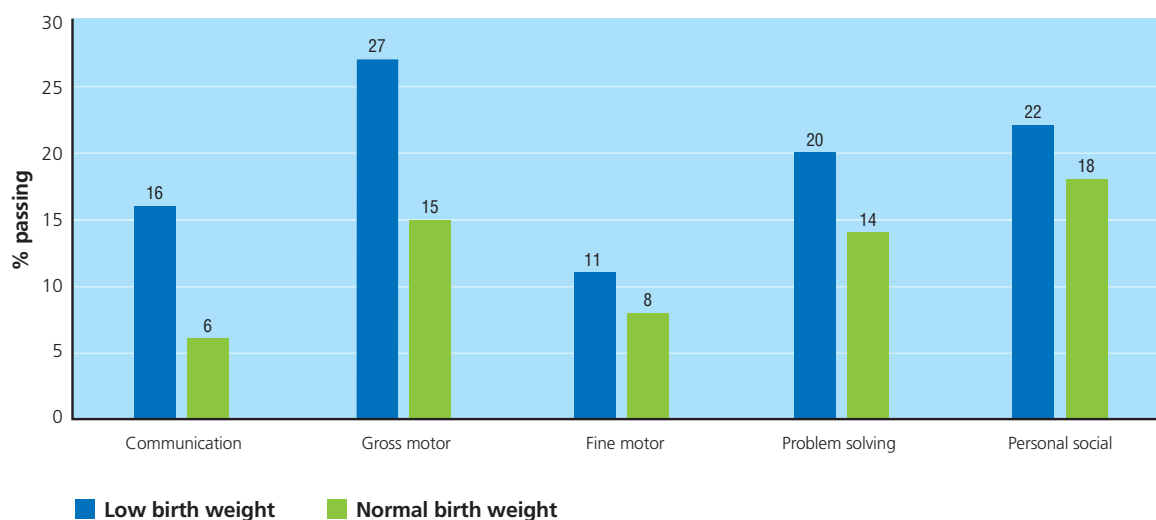
Figure 5.17 illustrates the notable difference that was observed between the infants of Irish-born mothers and mothers born elsewhere in relation to gross motor skills. Infants whose mothers were born outside Ireland were more likely to reach the target score for gross motor skills; just 10% failed to reach the target score compared to a fail rate of 17% for infants of Irish-born mothers. There were no significant differences in the fail rates for the other skill sets.

Figure 5.17: Fail rates for each 10-month ASQ skill for infants of Irish-born mothers compared to infants of mothers born outside of Ireland



Some of the most marked differences were observed in relation to birth weight. As shown in Figure 5.18, infants who were born at low birth weight were more likely to fail to reach the target score on communication, gross motor and problem-solving skills than normal birth weight infants.¹¹ As with mother's country of birth, the most marked differences between groups were in relation to gross motor skills; over a quarter of low birth weight infants failed to reach the target score in this area. The negative effect of low birth weight may reflect that the infant is still 'catching up' on development that they failed to attain during gestation; or the low birth weight status and the slower development of the infant may have a common cause.

Figure 5.18: Comparison of failure rates for low and normal birth weight infants on each ASQ skill



5.6 KEY FINDINGS

- Most infants are getting over 10 hours' sleep per night but there are considerable individual differences (ranging between one and 12 hours).
- Infants whose mothers are working outside the home are more likely to be awake for the day by 7am.
- Around one in 10 mothers reported that the infant's sleeping patterns were a large or moderate problem.
- Co-sleeping (infants sleeping in the same bed as their parents) is more common among mothers born outside Ireland.
- Nearly all infants had been given formula milk by the age of nine months. Mothers born in Ireland introduced formula milk earlier than other mothers.
- Infants typically started on regular solid foods at around five months of age.
- Mothers tended to regard their infants as easy to parent. Highly stressed mothers found their infants more fussy and difficult than did mothers who were less stressed – though, as noted in the text, the direction of this relationship has yet to be explored.
- Most infants were developing as expected in core areas of communicating, moving around, using their hands and fingers, basic reasoning, and engaging with other people. However, infants born at low birth weight tended to lag behind those born at normal birth weight.
- Gender differences are already emerging in terms of both temperament and developmental skills; however, these may be due to differences in parents' interactions and perceptions, and not necessarily to biological differences.

5.7 POLICY RELEVANCE

For the past number of years a key piece of advice to new parents has been to put infants to sleep on their back in order to reduce the risk of Sudden Infant Death Syndrome (cot death). This advice appears not only in the Health Service Executive's publications for parents of infants^{12,13} but also in guidelines for pre-schools.¹⁴ It may be of concern to policymakers to note that mothers with the lowest level of education appear less likely to follow recommendations on sleeping position and other parenting practices, such as those related to infant nutrition.

Government policy on infant nutrition is also reflected in the HSE's parent advice booklets. It recommends exclusive breastfeeding for the first six months where possible and the introduction of solid foods between four and six months, depending on whether the infant is formula-fed or breastfed. Either breastmilk or formula milk should continue to be given to the infant in addition to solid foods up to 12 months of age. Cow's milk is not recommended for children under 12 months.

Infants are due a developmental check, usually conducted by a public-health nurse or a doctor, between seven and nine months of age. Developmental progress is checked in addition to health, vision, hearing and physical growth. The Development Assessment module in the training programme for public-health nurses¹⁵ describes milestones that the infant would be expected to have reached at the time of this check, as well as giving more detailed lists of milestones for infants who have reached eight months and then 12 months of age. The milestones for the 7-9-month check include sitting up unsupported (gross motor), reaching out for toys and poking at objects (fine motor/problem-solving), babbling (communication) and starting to drink from a cup (self-care). If the doctor or nurse carrying out the developmental check has concerns, parents are invited back for the child to be re-checked or referred to a specialist for further assessment.

¹² *Caring for Your Baby: Birth to Six Months Old* (www.hse.ie).

¹³ *Safe Sleep for your Baby* (HSE and the National Sudden Infant Death Register, July 2009).

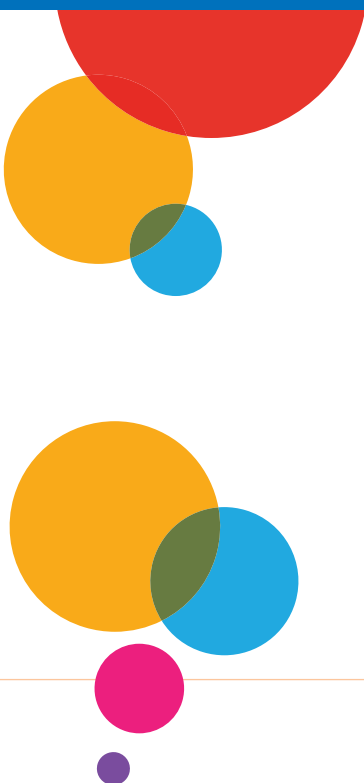
¹⁴ *Safe Sleep for Under 2s: Best Practice Guidelines for Childcare Facilities* (County Childcare Committees/National Forum of Pre-School Inspectors, 2005).

¹⁵ Training Programme for Public Health Nurses and Doctors in Child Health Screening, Surveillance and Health Promotion: Unit 5, Development Assessment (HSE, 2005).



Chapter 6

CHILDCARE



6.1 INTRODUCTION

The nature of early childcare, both parental and non-parental, will have an important impact on the child's development. Non-parental childcare, whether provided by a relative, a childminder or a childcare centre, may be the child's first major contact with adults outside of his/her immediate family. This chapter will look at a number of aspects of early childcare, focusing in particular on non-parental childcare – the types of childcare used by infants, who provides this childcare, its intensity and cost, and the reasons mothers have for choosing the particular form of childcare that they use. It continues by considering parents' satisfaction with the type of childcare they are using, their future intentions for childcare arrangements when the child is three years of age and, finally, the perceived impact of childcare needs on other aspects of parents' lives.

6.2 NATURE/TYPE OF CHILDCARE

A total of 38% of infants were in some form of non-parental childcare - 27% in some form of home-based care and 11% in centre-based care.

Research on childcare often focuses on centre-based care compared to parental care. In Ireland, individuals in home-based settings also provide care. Often these are relatives of the child who are frequently unpaid (Central Statistics Office, 2006). In addition, there is a large network of paid childminders who provide care in their own home or the child's home. There is further variability in the type of care provided by centres: those that are mainly baby-minding facilities and those with some kind of educational ethos such as Montessori. Some centres, called *naíonraí*, provide care through the Irish language. Mothers in *Growing Up in Ireland* were asked a number of questions about their use of any form of non-parental childcare for the Study Infant. It was explained that this referred to the child being minded by someone else, other than themselves or their resident spouse/partner, on a regular basis each week.

A total of 38% of mothers reported that their infant was in some form of non-parental childcare at the time of the interview. They were asked to report on *all* types of non-parental childcare used for the Study Infant. Just under 5% of all children were receiving care from two or more forms of non-parental childcare. The remainder of this chapter focuses on the *main* form of childcare used – as reported by the infant's mother.

Table 6.1 presents details on the different types of childcare used. The most common form of non-parental childcare used was care by a relative (16%); the location was split between the infant's own home (6%) and the relative's home (10%). Centre-based care was used as the main form of care for 11% of infants and a similar percentage of mothers were using home-based care provided by a non-relative; again, this was split between the child's own home (3%) and the carer's home (8%).

Table 6.1: Main type of childcare used

Main type of childcare used	% of infants
Parental care	62
A relative in your home	6
A non-relative in your home	3
A relative in their home	10
A non-relative in their home	8
Centre-based caregiver	11
Total	100

The use of non-parental childcare was strongly related to the socio-demographic characteristics of the family, as shown in Table 6.2. This shows for example, that 25% of infants in the semi-skilled/unskilled manual category were reported to be using some form of non-parental childcare compared with 47% in the professional/managerial group. Similarly in terms of maternal education: 22% for those with lower secondary or less education compared to 49% for those with degree or third-level education used some form of non-parental childcare.

An important issue in the context of childcare provision is the mother's employment status, as well as the number of hours which she works outside the home. It is clear from Table 6.2 that the incidence of childcare usage increased steadily with the number of hours in paid employment. For example, 41% of those who worked outside the home less than 10 hours a week used non-parental childcare arrangements; this increased progressively with the number of hours worked to a high of 80% among those who worked 30 hours or more per week. A total of 9% of mothers who were not working outside the home reported that they used some form of childcare arrangement.

Table 6.2: Variations in main type of childcare classified by family social class, maternal education and number of hours worked

	Parental care	Total non-parental care	Total
<i>Family Social Class</i>	%	%	%
Professional/managerial	53	47	100
Other non-manual/skilled-manual	66	34	100
Semi-skilled/unskilled manual	75	25	100
<i>Maternal Education</i>			
Lower secondary or less	78	22	100
Leaving Certificate	67	33	100
Sub-degree	58	42	100
Degree or third level	51	49	100
<i>Hours worked</i>			
Not working outside home	91	9	100
Working less than 10 hours	59	41	100
Working 10 – 20 hours	40	60	100
Working 20 – 30 hours	26	74	100
Working 30 or more hours	20	80	100

6.3 WHO PROVIDES THE NON-PARENTAL CHILDCARE

The most common provider of relative childcare was grandparents – 12% of infants are minded by their grandparents. The most common form of non-relative care was unregistered childminders.

A 2006 survey of childcare service providers in the Dublin area noted a particular shortage of infant childcare places (Dublin City Childcare Committee Ltd, 2006). A shortage of places, possibly combined with concerns about cost, suggests that it is not surprising that Irish research shows a high level of home-based care, particularly by relatives. Mothers who reported that they used some form of non-parental childcare were asked to record details on who provided that care; the relationship of the care provider to the Study Infant, and the type of centre used if the care was centre-based. Table 6.3 shows this breakdown. The main providers of relative-based childcare were grandparents: 12% of all Study Infants were minded by their grandparents (in most cases the grandmother) on a regular basis. The main providers of non-relative-based childcare (excluding crèches, etc) were unregistered childminders, at 5%. A total of 10% of all infants were being minded in a crèche or nursery, and a further 1% in a work-based crèche.

It is worth noting that there appears to be quite a high reliance on informal childcare arrangements, such as grandparents and unregistered childminders, friends, neighbours, etc. The relative importance of this unregulated sector in childcare provision for infants of this age may be a cause for some concern to policymakers and others.

Table 6.3: Breakdown of main type of childcare provision to the Study Child

		%
	Parental care	62
Relative	Grandparent of Study Child	12
	Aunt/uncle of Study Child	3
	Other relative of Study Child	1
Non-relative	Au pair/nanny	1
	Friend	2
	Neighbour	1
	Registered childminder	2
	Unregistered childminder	5
Centre-based	Work-based creche	1
	Other creche/nursery/Montessori/playschool	10
	Total	100

6.4 DURATION AND COST OF NON-PARENTAL CHILDCARE

Across all main types of non-parental childcare, infants spent an average of 25 hours per week in childcare. Mothers on average spent €5.14 per hour on their main form of childcare for the Study Child. On average, the child was 6.5 months old when he/she started in their main childcare arrangement.

Some research has suggested that long hours (10 plus per week) spent in non-parental care in the first year of life is not desirable (e.g. NICHD Study of Early Child Care, 2001). However, there are conflicting findings; the quality of care provided both in the care situation and in the infant's home are important factors in considering any impact on later outcomes (e.g. O'Brien Caughy, DiPietro & Strobino, 1994). Table 6.4 shows the breakdown of hours and cost of the main type of non-parental childcare used for infants in **Growing Up in Ireland**. The lowest reported hours were in respect of unpaid relative care, with an average of 19.4 hours per week. The highest number of hours was reported for centre-based care, at 29.2 hours per week.

The cost per hour also varied across childcare type, from a low of €4.30 per hour for paid relatives to a high of €5.48 for centre-based care.¹ Some differentiation across childcare types was evident in the mean age of the infant when the main childcare arrangement was started. For unpaid relatives, babies were, on average, 5.8 months old when their mothers started using this arrangement. Children were older (6.9 months) when their mothers began to use centre-based care.

Table 6.4: Hours, cost and age of baby classified by main type of non-parental childcare used

	Mean hours per week	Mean cost per hour	Mean age of infant when main childcare arrangement started
	Hours	€	Months
Unpaid relative	19.4	n.a.	5.8
Paid relative	26.3	4.30	6.7
Childminder/aupair/nanny	24.7	5.34	6.5
Centre-based caregiver	29.2	5.48	6.9
Total	25.1	5.14	6.5

6.5 REASONS FOR CHOOSING CHILDCARE

Two-thirds of mothers reported that quality was the most important criterion in selecting their chosen type of childcare.

Quality of childcare is a key area of concern for parents. However, a 2004 OECD review of early childhood education and care policy in Ireland raised a number of concerns about (centre-based) care. These related to a lack of inter-active and outdoor play in private centres, a lack of resources in some community centres, and problems around the low levels of training, pay and ultimately retention of childcare staff. The OECD report also noted that the regulatory framework (at the time of the review) was weak in comparison to other countries, with a relatively narrow focus on licence to practise.

The 38% of mothers who were using some form of non-parental care were asked to identify the single most important reason for selecting their chosen type of childcare.² These are summarised in Table 6.5. This shows that by far the most important consideration was quality of care; two-thirds (66%) of mothers cited this as their main criterion, while convenience to their home was mentioned by 12%. It is notable that 5% reported that it was the only arrangement they could afford. The 'other' reasons provided by 10% of relevant respondents were mostly related to issues such as wanting the child to be minded by someone from within the family (grandmother/aunt, etc) or in their own home environment or, alternatively, in a group setting where the Study Infant could mix with other children. A further reason was the desire to use the same childcare arrangement as used for their older children.

Table 6.5: Single most important reason for picking chosen type of childcare

	Reason for choice
	% of infants using non-parental childcare
It was the only one I could afford	5
Convenient to my home	12
Linked to my job	2
The quality of the care provided	66
It was the only one available to me	5
Other (please describe)	10
Total	100

¹ These hourly rates are in respect only of the individual Study Child.

² For those who used more than one form of non-parental childcare, the mother was asked to think about the reasons for choosing the main type of childcare.

Because the cost of childcare is such an important issue, mothers were asked separately to indicate the extent to which their choice of childcare had been determined by financial constraints, using a five-point scale ranging from *completely* to *not at all*. Table 6.6 shows that half of all mothers (50%) reported that their choice had not been determined at all by financial constraints. A substantial minority of 17% of mothers, however, recorded that their choice was determined by costs either *completely* or to a *large degree*. Just over one-third of parents (35%) recorded that their non-parental childcare costs had been determined (at least to *some degree*) by financial constraints.

Table 6.6: Extent to which choice of childcare was determined by financial constraints

Choice determined by financial constraints	% of infants using non-parental childcare
Completely	8
To a large degree	9
To some degree	18
Only a little	15
Not at all	50
Total	100

6.6 SATISFACTION WITH CHILDCARE

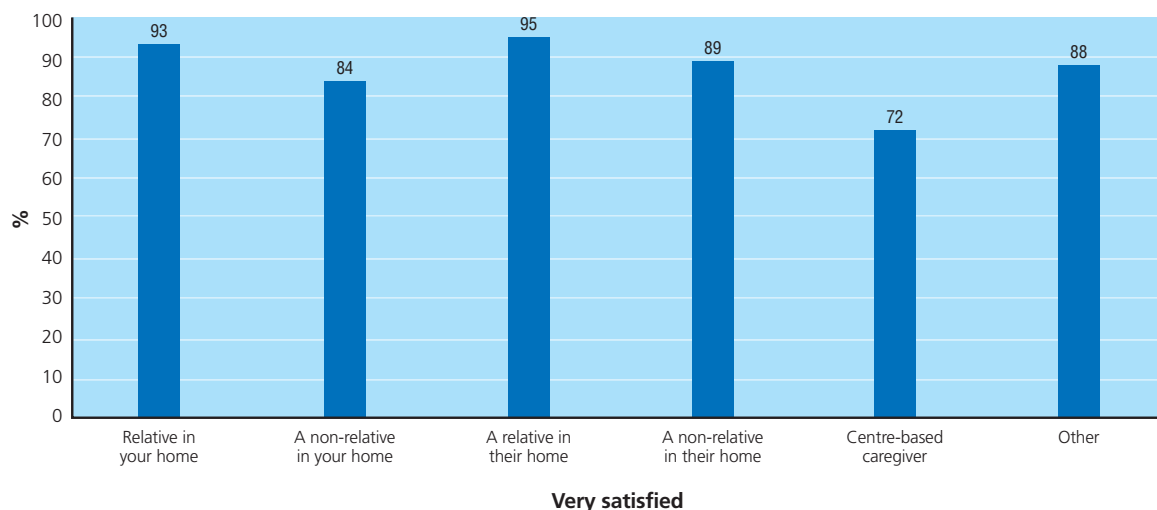
In general, mothers expressed strong satisfaction with their chosen childcare arrangements. Satisfaction levels were higher when the care was provided by a relative.

A total of 86% of mothers who used non-parental care arrangements reported that they were *very satisfied* with them while a further 12% were *fairly satisfied*.² Figure 6.1 shows that satisfaction was higher where the care was provided by a relative (in either the relative's home (95%) or in the Study Infant's home (93%)) as compared to care provided by non-relatives (89% in the non-relative's home and 84% in the Study Child's home). Fewer mothers who used centre-based care (72%) recorded that they were *very satisfied* with it.

The main reasons given for dissatisfaction with childcare provision were cost, preference to mind the child at home, service provided at crèche (staff, mix with older children) and the potential for picking up illnesses in the crèche.

² It must be noted here that there may be potential definitional issues at play. Parents who were unsatisfied with their childcare arrangements would have changed their arrangements to something more suitable if they had not been constrained. Thus, what we have is a measure of the constrained people.

Figure 6.1: Percentage of mothers who reported being *very satisfied* with their current childcare arrangement classified by type of childcare used



6.7 CHILDCARE INTENTIONS

Over two-thirds of mothers reported that they intended to use non-parental childcare when the infant was three years old.

All respondents were asked about their intentions for childcare when the infant was three years old. Table 6.7 shows that a total of 68% of mothers reported that they intended to use non-parental childcare at that stage, either part-time (50%) or full-time (18%).

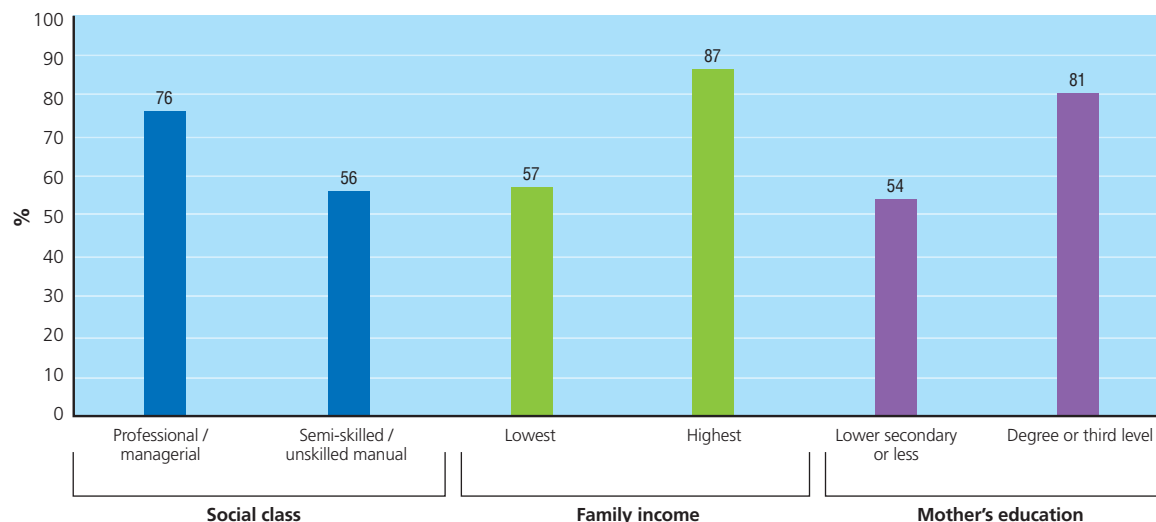
Table 6.7: Intentions for childcare when baby is three years old³

	%
Baby minded by me on a full-time basis	23
Baby minded by my partner on a full-time basis	2
Shared by my partner and me	9
Part-time childcare	50
Full-time childcare	18

As with current use of childcare, variations in intentions regarding future use of non-parental childcare displayed strong social gradients, as illustrated in Figure 6.2. A total of 56% of those in the semi-skilled/unskilled manual group compared to 76% in the professional/managerial group, indicated that they intended to use some form of non-parental childcare by the time their child was three. Similar variations were apparent with family income: 57% among the lowest income quintile, compared to 87% among families in the highest group. Finally, 54% of mothers who left school having completed lower secondary education or less, compared with 81% of third-level graduates, recorded that they would use non-parental childcare when the child was three years of age.

³ These figures add to more than 100% as respondents could answer more than one option.

Figure 6.2: Percentage of mothers who reported intending to use childcare when the Study Child was three years old classified by family social class, family income quintile and mother's highest level of education



6.8 IMPACT OF CHILDCARE NEEDS ON WORK AND NON-WORK ASPECTS OF MOTHER'S LIFE

Difficulty in arranging childcare caused problems for mothers in terms of work opportunities and hours, and also in engaging in social activities.

Cultural norms and practices have generally been slow to respond to the rise in dual-earner families (Barnett & Rivers, 1996) and in many workplaces, practices continue to be structured around an assumption that paid employees have a full-time adult at home who takes care of all unpaid labour. However, the increasing participation of women in the Irish workforce has been accompanied by increasing demands for childcare, flexible working and equality in this domain (Fine-Davis, Fagnani, Giovanini, Hojgaard, & Clarke, 2004).

Mothers were presented with a list of seven pre-coded work and non-work aspects of their lives and asked whether or not any of them had ever been adversely affected by difficulties in arranging childcare. The activities (and the breakdown of replies) is shown in Table 6.8.

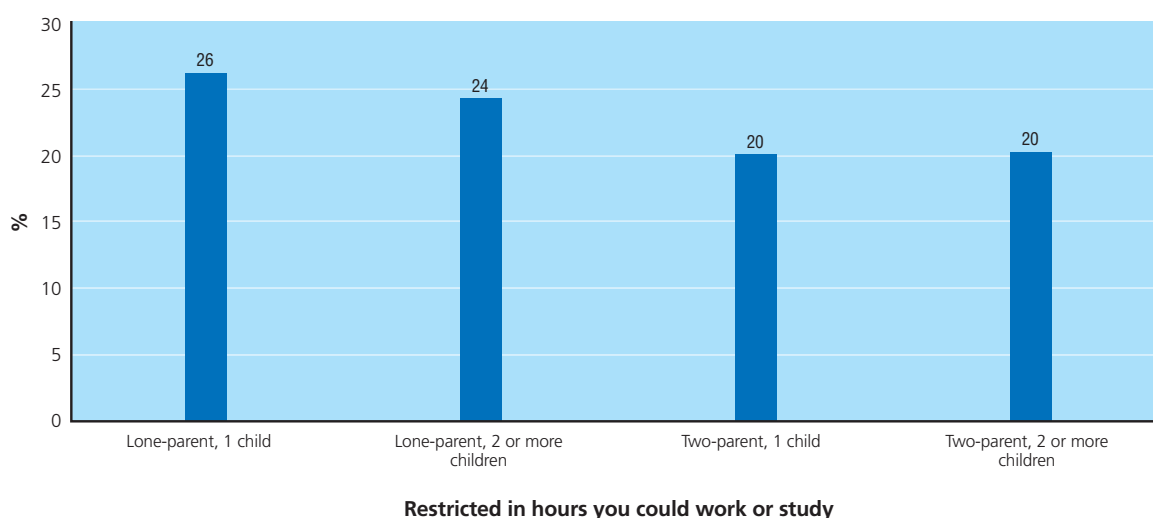
The table shows that 47% of mothers reported that difficulties in arranging childcare had not affected them in any of the pre-specified areas of their lives. A total of 31% reported that childcare difficulties had prevented them from engaging as fully as they would have liked in social activities and 21% reported that childcare difficulties had resulted in a restriction in the number of hours they could work or study.

Table 6.8: Percentage of mothers who reported that difficulties in arranging childcare had affected various aspects of their lives.¹

Pre-specified area affected by difficulty in arranging childcare	%
No effect on any of pre-specified areas	47
Prevented you looking for a job	8
Made you turn down or leave a job	7
Stopped you from taking some study or training	8
Made you leave a study or training course	3
Restricted the hours you could work or study	21
Prevented you from engaging in social activities	31
Other (please specify)	2

Figure 6.3 shows that lone parents with one child were most likely to report that they had been restricted by childcare difficulties in the hours they could work or study (26%); this figure dropped significantly for two-parent families with one child or more (20%).

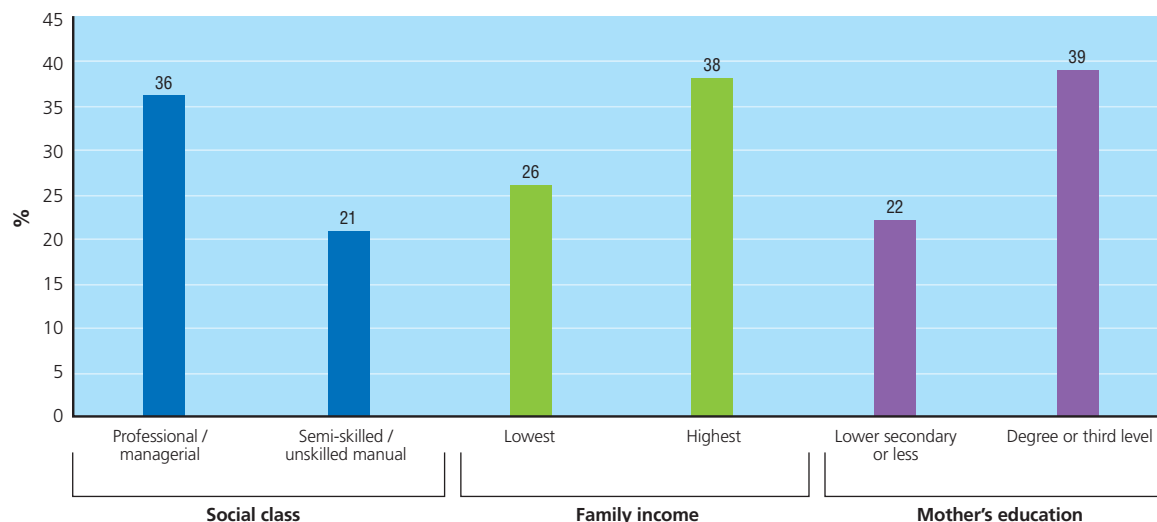
Figure 6.3: Percentage of mothers who reported being restricted in the hours they could work or study classified by family type



A mother's capacity to engage in social activities was even more affected by childcare difficulties, although this was clearly differentiated by social class, family income and maternal education, as shown in Figure 6.4. Those in the lowest class, income and education levels were less likely to record constraints in social activities.

¹ Note that the figures add to more than 100% as mothers could tick as many options as applied.

Figure 6.4: Percentage of mothers who reported being prevented from engaging in social activities due to childcare difficulties classified by family social class, family income quintile and mother's highest level of education



6.9 KEY FINDINGS

- A total of 38% of mothers of infants reported that their child was in some form of non-parental childcare.
- The most common form of non-parental childcare used was that provided by relatives (16%), particularly grandparents.
- Mothers in higher-income households and those who worked more hours per week outside the home were more likely to use some form of non-parental childcare for their infant.
- A total of 11% of infants were being minded in centre-based care such as a crèche.
- Those infants in non-parental care spent an average of 25 hours per week in childcare at an average cost of €5.14 per hour for the Study Child.
- The longest hours and highest hourly costs were reported for children in centre-based care.
- The most important consideration when choosing childcare reported by mothers was *the quality of the care provided*. However, a substantial percentage of mother's using childcare (17%) recorded that their choice had been determined by financial constraints, either *completely* or *to a large degree*.
- Reported satisfaction with non-parental childcare arrangements was high overall – 86% of mothers were *very satisfied* with their arrangements. Care provided by a relative had the highest satisfaction levels, while centre-based care had the lowest.
- A total of 68% of mothers intended to use some form of non-parental childcare when the infant was three years old. This was strongly related to social class, income and education.
- A total of 31% of mothers reported that difficulties in arranging childcare prevented them from engaging in social activities.



6.10 POLICY RELEVANCE

Research and opinions on the effect of non-parental care for infants is still divided, partly because the issue is so bound up with the quality of the care provided. There is, however, a widely held belief that the State should support parents in staying at home with their infants as much as possible during the first year of life (e.g. UNICEF, 2008). *Growing Up in Ireland* found that, although 38% of infants were in non-parental childcare, 41% of these infants were minded by relatives, mostly the grandparents. When mothers were asked to record how satisfied they were with their current form of childcare, highest levels of satisfaction were recorded by those where the care was provided by relatives.

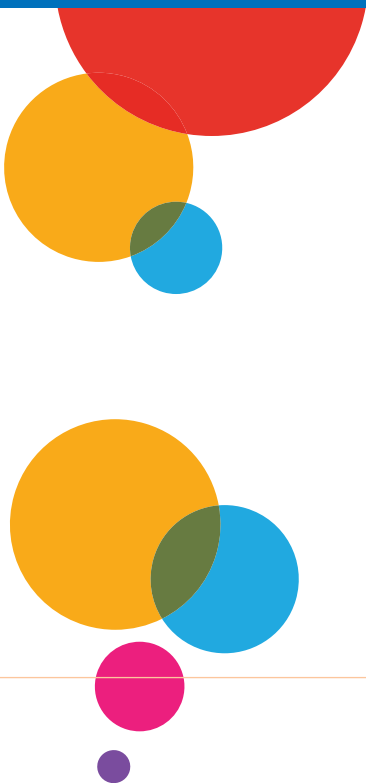
Centre-based care was also relatively common; 11% of infants in *Growing Up in Ireland* were in this form of childcare. In the last five years (2006-2010), a national childcare strategy has been in place with the aim of improving the availability and quality of childcare. It includes a National Childcare Investment Programme to increase childcare places and offer grants to community-based childcare services in disadvantaged areas. Early childcare supplements (up to €1,000 annually) were available to families at the time of interview. This scheme was replaced in 2010 with a free pre-school year of Early Childhood Care and Education. Given that almost 70% of mothers in *Growing Up in Ireland* reported their intention of using childcare when the infant was three years old, policy directed at providing adequate childcare support for pre-school children is clearly important. Mothers who earned more, had a higher level of education, and who were in a higher social class were most likely to report intending to use non-parental childcare when the infant was older. As discussed in Chapter Eight, working mothers in lower-paying jobs with less education may need extra financial and mentoring support if they are to return to the labour force. Childcare policy that increases support for this sub-group of working mothers may be particularly important.





Chapter 7

PARENTING AND SUPPORT



7.1 INTRODUCTION

The family is often regarded as the primary and most fundamental social system influencing a child's development and learning and, within the family, parents typically have a central role in influencing the nature and the quality of their children's lives. Parenting responsibilities are greatest during infancy, when the child is most dependent on caregiving and the child's ability to cope alone is at its lowest. This chapter looks at the parent-child relationship in terms of attachment (including talking with the infant) and separation anxiety. It also looks at other aspects of parenting such as parental stress, the division of caregiving activities between mothers and fathers, and the father's parenting role. The chapter then goes on to examine the perceived support available to mothers in bringing up a child, in particular support received from the infant's grandparents.

7.2 PARENT-CHILD RELATIONSHIP

Overall, very high levels of mother-child and father-child attachment, and low levels of separation anxiety, were reported.

7.2.1 PARENT-CHILD ATTACHMENT

Attachment, the deep and enduring bond between children and their parents, provides the early foundation for a child's sense of security and is seen as a key contributor to socio-emotional growth and development in the infant to toddler period (Berk, 2005). The effects of early attachment can endure to adulthood (Carlson, 1998; Waters, Merrick, Treboux, Crowell & Albersheim, 2000); thus, while secure attachment is a protective factor for more favourable developmental outcomes in social, emotional and cognitive domains, insecure or disorganised attachment is conducive to social, coping, adjustment and mental-health difficulties and dysfunctional behaviour (Levy & Orlans, 1998; Lyons-Ruth, 1996).

The nine-item Quality of Attachment subscale from the Maternal Postnatal Attachment Scale (Condon & Corkindale, 1998) was administered to mothers to assess their emotional attachment to the child. It includes questions about how mothers feel in their interactions with the infant in a parenting role (*competent, tense, patient*) as well as their feelings towards the infant (*pride, affection, enjoyment*). These items were used to calculate a total 'quality of attachment' score. Mothers tended to rate all items very positively, although it may be of interest to note that 24% felt 'slightly guilty that I am not more involved' and a further 7% felt *moderately* or *very guilty* about their level of involvement. While 78% *almost never* felt tense and anxious when with the Study Infant, 21% reported feeling this way *occasionally*. Overall, however, very high levels of attachment were reported. The mean score was 42.5 out of a possible 45. No major differences were evident across socio-demographic characteristics of the sample, either for the total score or for the individual questions.

Fathers were asked to complete a shorter set of questions about their attachment to the infant.¹ Again, overall attachment levels were very high, with a mean score of 24.1 out of a possible 25 and little differentiation was evident across the socio-demographic groupings.

Mothers were asked two additional questions about their relationship with the Study Infant: 'Do you talk to [infant] while you are busy doing other things?' and 'When [infant] cries how often does he/she get on your nerves?' Two-thirds of mothers reported that they *always* talked to their baby while they were busy doing other things and 23% *often* did. Only 3% of mothers reported that they *never* talked to their baby while they were busy doing other things, 8% reported that they *sometimes* did and less than 1% *rarely* did. Trends were not differentiated by socio-demographic characteristics.

¹ The five-item Quality of Attachment subscale from the Paternal Postnatal Attachment Scale (Condon & Corkindale, 2007).

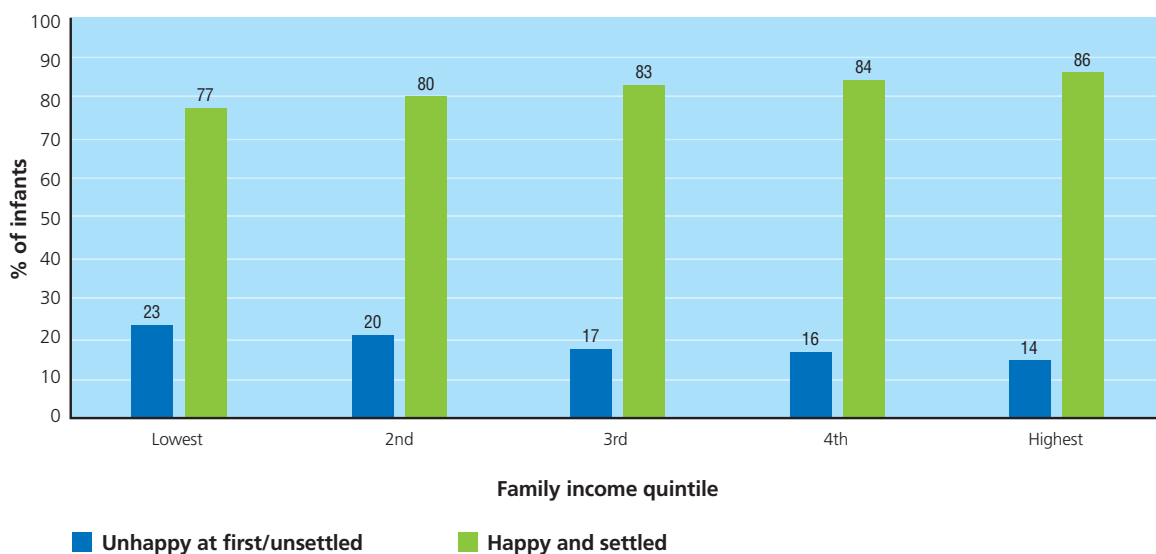
7.2.2 SEPARATION ANXIETY

Infant reactions to separation and subsequent reunion are often part of an assessment on the security of attachment between infant and caregiver. Even though, in experimental conditions, infants a few days old show a preference for their mother's smell over that of other women, they do not normally show a marked preference for particular caregivers until they are seven to nine months old (Boris, Aoki & Zeanah, 1999).

Separation anxiety was measured by two questions on how the child reacted when left with someone else other than the parents and how the child reacted when the parents returned. Overall, 74% of infants were reported by their mother to be *happy and settled* by the time their parents left them with someone else, while 14% were *unhappy at first but quickly settled down*. Only 2% were reported to have *remained unsettled and unhappy during the entire absence*. A further 10% of mothers had never left the nine-month-old with someone else.

The maternal report on separation anxiety varied with socio-demographic characteristics. Figure 7.1 shows the relationship with family income quintile. As family income increased, so too did the proportion of mothers who reported that their child was *happy and settled* by the time they left. The figures increase from 77% for the lowest income quintile to 86% for the highest income quintile.

Figure 7.1: Usual reaction of infant when left with someone else classified by family income



Overall, 92% of mothers reported that their nine-month-old *reacted with delight* when they returned after having left them with someone else. There were no differences between socio-demographic groupings.

7.3 PARENTAL STRESS

Reasonably low levels of parental stress were reported for mothers and fathers, in terms of overall stress scores. Just over a quarter of mothers said the Study Infant's crying got on their nerves 'sometimes'.

Both mothers and fathers described the experience of being a parent in the first year of the child's life as *overwhelming* (e.g. Nyström & Öhrling, 2004). The parent of an infant has to attend to his/her physical, cognitive, social and emotional needs and be able to support all aspects of the infant's development. Poverty, social disadvantage and lack of social support are three leading contributors to parental stress. Stress contributes to anxiety, depression and other mental-health problems, all of which can have a negative effect on child outcomes.

7.3.1 THE PARENTAL STRESS SCALE

Parental stress was measured using the Parental Stress Scale (Berry and Jones, 1995). Parents were asked to record their level of disagreement or otherwise with each of 18 questions which make up the scale. The questions include positive themes of parenthood such as emotional benefits, self-enrichment and personal development (e.g. ‘I enjoy spending time with my child’), as well as negative themes such as demands on resources, opportunity costs of having children, and restrictions (e.g. ‘Having a child has been a financial burden’). The scale allows one to generate scores on four subscales as well as a total stress score, where lower scores reflect lower stress. For the purposes of this report, we will focus on the total stress score.

Overall, parents reported reasonably low levels of stress on the total stress score. Mothers scored a mean of 32.2 and fathers a mean of 30.8 (out of a maximum of 90). Figure 7.2 shows that mothers in the lowest income quintile had a higher mean total stress score (33.8) than mothers in the highest income quintile (31.1). The corresponding figures for fathers were 31.7 and 30.0 (which were also statistically significant differences).

Figure 7.2: Comparison of total stress scores for mothers and fathers in the highest and lowest income quintiles

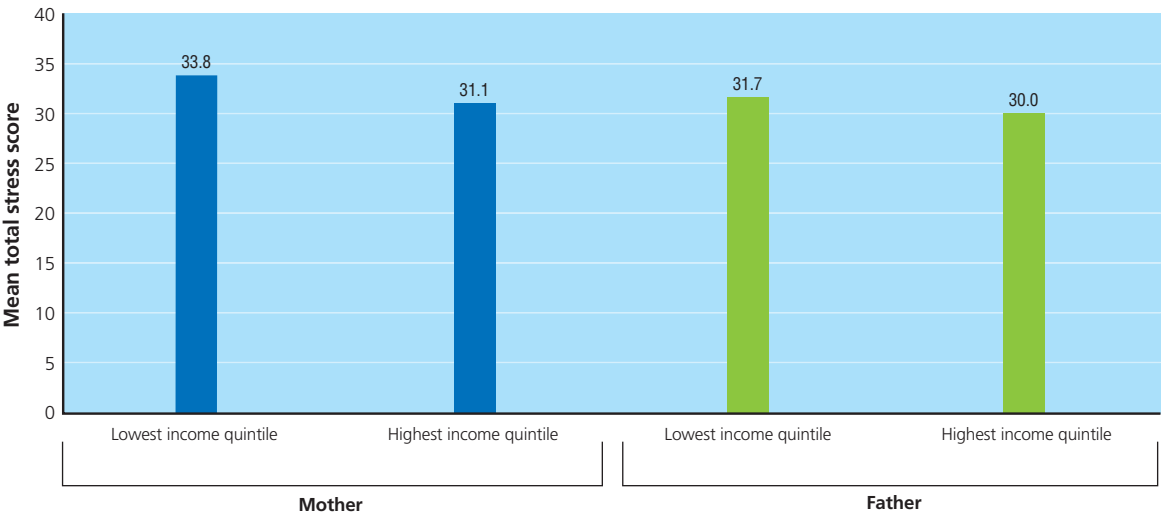
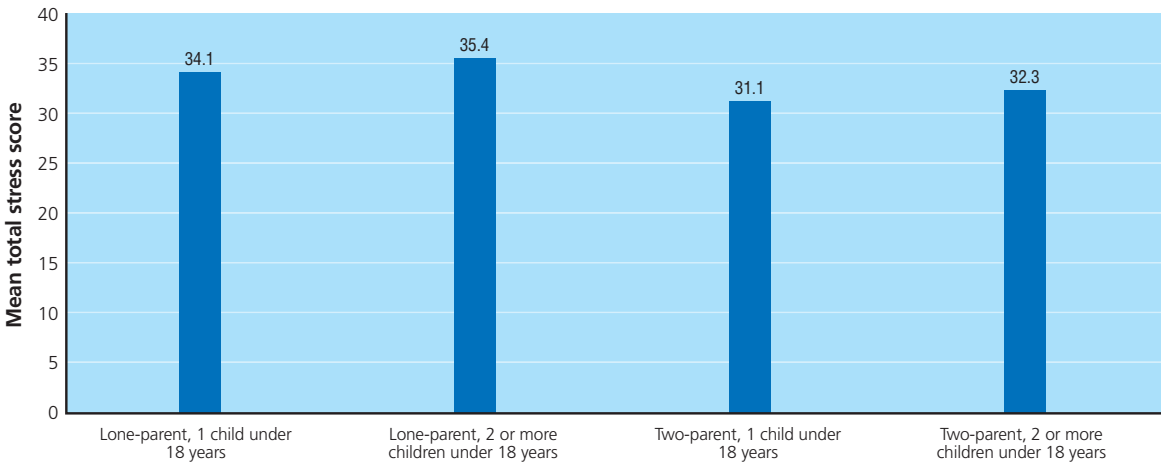


Figure 7.3 shows that mothers in lone-parent families had higher total stress scores than those in two-parent families. Mothers with two or more children (in both lone-parent and two-parent families) had higher levels of stress than those with one child. Mothers in two-parent families with one child had a mean total stress score of 31.1 and those with two or more children had a score of 32.3. This score increased to 34.1 for lone parents with one child and to 35.4 for those with two or more children.

Figure 7.3: Mothers’ total parental stress score classified by family type

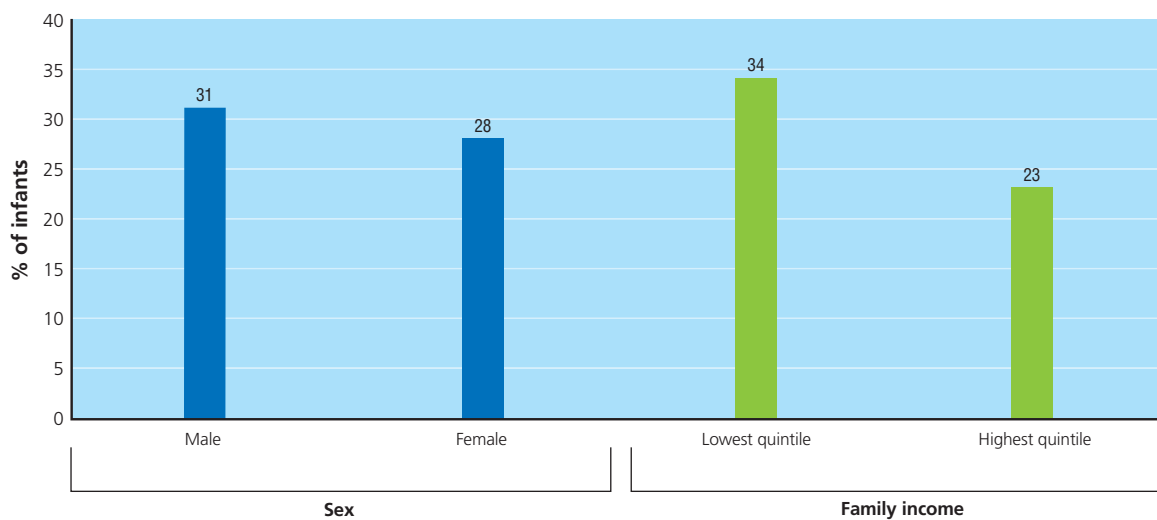


7.3.2 PERCEPTIONS OF INFANT'S CRYING

Approximately one-third of mothers reported that when their baby cried he/she *never/almost never* got on their nerves (35%) and another third reported that the baby *rarely* got on their nerves (35%). Just over a quarter reported that the baby *sometimes* got on their nerves (27%) and 1% each reported that the child's crying *often* or *always/almost always* got on their nerves.

Figure 7.4 shows that mothers of girls were slightly less likely to report that their baby got on their nerves when they cried. A total of 31% of mothers of boys reported that he got on their nerves at least *sometimes* compared to 28% in the case of girls. Family income also appears to affect perceptions of infant crying: a third of mothers (34%) in the lowest income group reported that the baby got on their nerves when he/she cried compared to just under a quarter (23%) of mothers in the highest income group.

Figure 7.4: Percentage of mothers reporting that their infant sometimes/often or always/almost always got on her nerves when he/she cried, classified by infant sex and family income quintile



7.4 FATHERS' PARENTING ROLE

Over two-thirds of fathers reported that showing love and affection was the most important thing which they could do for their child.

Fathers were asked to rate the three most important things that they, as parents, did for their children, from a list of six pre-coded options, as outlined in Table 7.1. The table shows that showing their child love and affection was considered by fathers to be the most important thing they could do for the Study Infant; 69% ranked this as their first priority. The protection and safety of the infant was perceived to be the next most important, albeit considerably behind showing love and affection; it was ranked as the top priority by 22% of fathers. Taking time to play with the infant was also ranked as an important activity (22% said it was the second most important thing and 25% said it was the third most important).

It is interesting to note that taking care of their child financially was not seen by fathers as their priority issue for the infant; only 3% said it was the most important thing, 10% said it was the second most important and 19% said it was the third most important. Giving their child moral and ethical guidance and teaching their child and encouraging his/her curiosity were assigned very low importance at this age. These priorities, of course, applied when the infants were nine months old and may be expected to change as the child gets older.

Table 7.1: Father's report of the most important things for him to do for his (nine-month-old) child

Most important thing to do for infant	Most Important	2nd most Important	3rd most Important
Showing my child love and affection	69	19	6
Taking time to play with my child	3	22	25
Taking care of my child financially	3	10	19
Giving my child moral and ethical guidance	2	9	14
Making sure my child is safe and protected	22	34	20
Teaching my child and encouraging his or her curiosity	1	6	16

7.5 PARENTING SUPPORT AND CONTACT WITH GRANDPARENTS

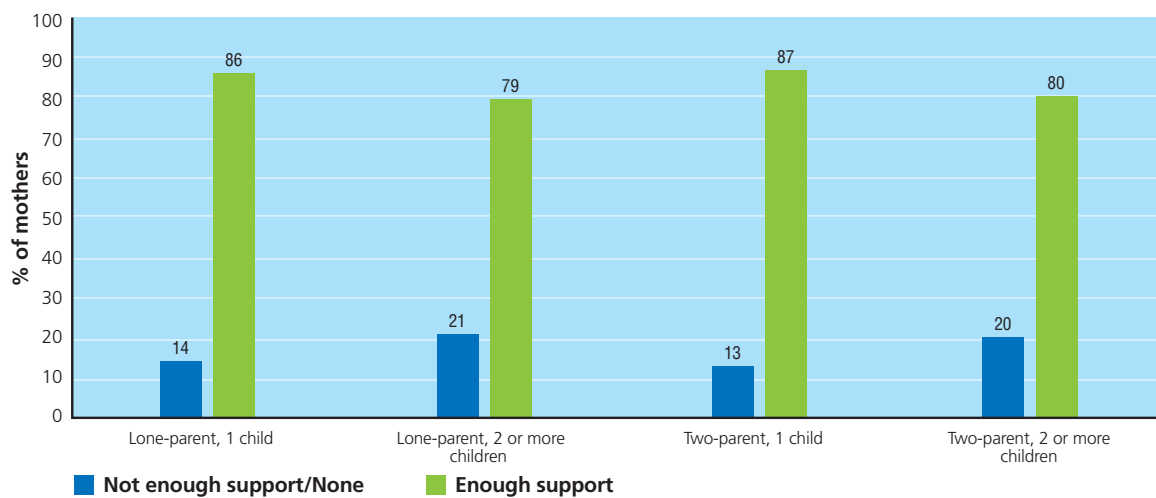
The majority of mothers (72%) felt that they received enough support or help from family or friends living outside their household. Almost nine out of 10 mothers reported being in regular contact with the infant's grandparents. Grandparents were most likely to help out with babysitting, taking the baby out and helping around the house

Given the importance of the parenting role for the child's development, it is important that parents receive adequate support to carry it out. Two critical periods identified in the literature as requiring most support are the transition to parenthood and early infancy (Crnic, Greenberg, Ragozin, Robinson & Basham, 1983). Parents' subjective measurement about the adequacy of the support they receive is important (Bee & Boyd, 2007). To assess their views on this in *Growing Up in Ireland*, mothers were asked a number of questions directly on the extent of support they felt they were receiving. They were also asked about the level of contact they had with the Study Infant's grandparents, who are often identified as key providers of formal and informal supports to the parents of young children.

7.5.1 PERCEIVED SUPPORT AVAILABLE IN BRINGING UP A CHILD

Mothers were asked how they felt about the extent of support or help they got from family or friends living outside their household. Overall, perceived levels of support were high. A total of 72% of mothers said they got *enough help/support*, 10% said they *did not get enough help/support* and 5% said they *got no help/support at all*. Additionally, 6% of mothers said they did not need any help and 8% said their family were not living in the country (and therefore were unavailable to provide support).

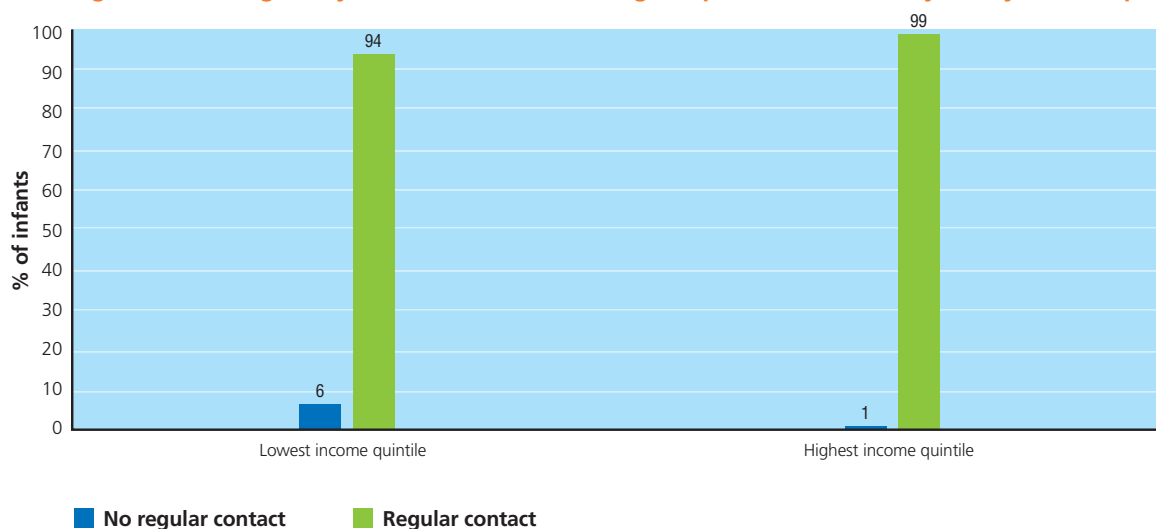
Figure 7.5 shows that mothers in larger families were less likely to report that they got enough support than those with only one child. A total of 86% of mothers in lone-parent families and 87% of those in two-parent families reported that they got enough support. This dropped to 80% for mothers in two-parent families with two or more children and to 79% for mothers in lone-parent families with two or more children.

Figure 7.5: Mothers' perception of available support classified by family type

7.5.2 CONTACT WITH AND SUPPORT RECEIVED FROM INFANT'S GRANDPARENTS

Contact with grandparents seems to be relatively high in Ireland (Lundström, 2001), perhaps because of the small size of the country and low levels of mobility, combined with the value placed on the extended family. An important aspect of the role of grandparents in children's lives may be their provision of informal childcare and babysitting while parents return to work (Hayes & Bradley, 2006). High levels of contact with grandparents were also reported in the *Growing Up in Ireland* study; 89% of mothers reported being in regular contact with the Study Infant's grandparents. Only 2% were not in regular contact and 1% reported that all grandparents were deceased. A further 8% reported that all the infant's grandparents lived abroad.

Figure 7.6 shows that the level of grandparent contact varied with family income (although that level was quite high for all groups). Those in the highest family income quintile (99%) were more likely to report that they were in regular contact with the infant's grandparents than those in the lowest income quintile (94%).

Figure 7.6: Regularity of contact with infant's grandparents classified by family income quintile

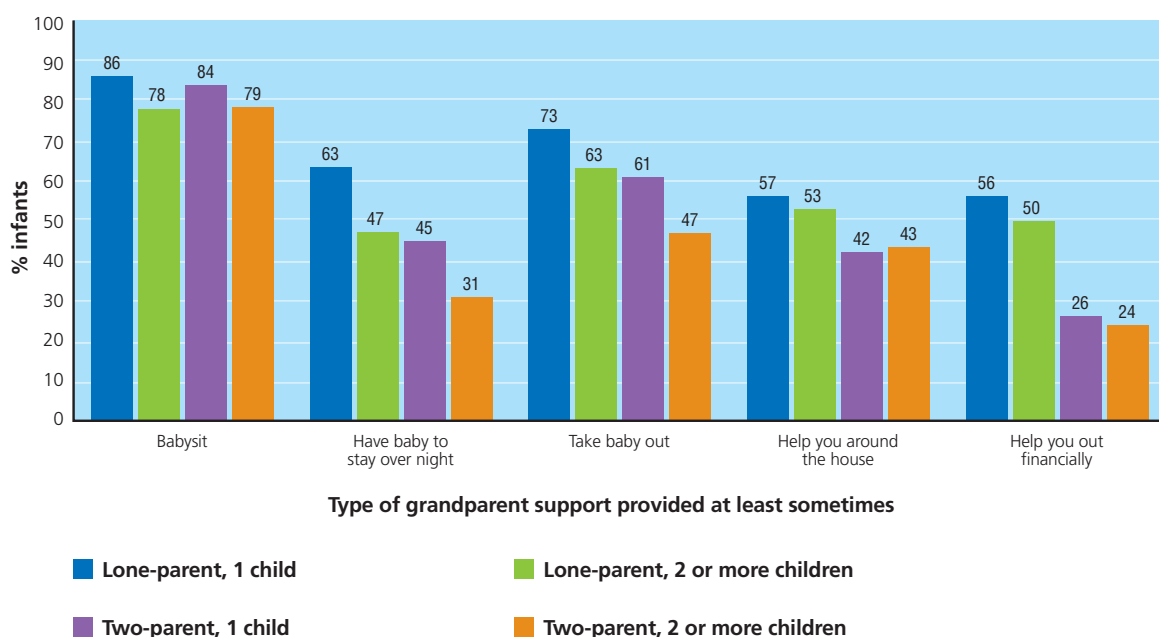
Grandparents can offer a range of supports. Mothers were presented with a list of six pre-coded types of support which grandparents can provide and asked to record how often they received each type, using six response categories ranging from *never* to *every day/almost every day*. Table 7.2 re-groups the responses into *never*, *sometimes* and *weekly or more*.² This shows that grandparents were most likely to babysit (33% *weekly or more*), take the infant out (24%) and help around the house (18%). They were least likely to help out financially (71% *never* did) and have the infant to stay overnight (62% *never* did).

Table 7.2: Mother's report of support from grandparents

<i>How often do infant's grandparents ... ?</i>	Never	Sometimes	Weekly or more
Babysit	19	48	33
Have infant to stay overnight	62	32	6
Take infant out	46	30	24
Buy toys or clothes for infant	4	81	15
Help you around the house	56	26	18
Help you out financially	71	26	3

With the exception of 'buying toys or clothes for the infant', most support provided by grandparents varied by family type. Figure 7.7 shows this relationship for all activities. In all cases, lone parents with one child reported the highest levels of receipt of the various supports (at least *sometimes/often*). This group was different from each of the other family types (except for 'help around the house' and 'financial help' where they were not significantly different to lone-parent families with two or more children). For example, 63% of lone parents with one child reported that the infant's grandparents had the infant to stay overnight. This compares with only 47% among lone parents with two or more children, 45% for two-parent families with one child and 31% for two-parent families with two or more children. The largest differential between lone-parent families and two-parent families was in respect of 'financial help'. This varied between 50% and 56% for lone parents to approximately 25% for two-parent families.

Figure 7.7: Percentage of grandparents who give various supports at least sometimes classified by family type



² The six response categories presented to respondents were regrouped as follows: (1) Never – never; (2) Sometimes – less often than once every three months; at least once every three months; at least once a month; and (3) Weekly or more – at least once a week; every day or almost every day.

7.6 KEY FINDINGS

- Overall, high levels of attachment to the Study Infant were recorded in respect of both mothers and fathers, with little variation according to socio-demographic characteristics.
- Few mothers reported problems with separation anxiety in their infants.
- Most mothers reported that they talked to their child while they were busy doing other things.
- Higher levels of parental stress were reported by lone parents, in particular those with two or more children.
- Just over a quarter of mothers reported that their infant's crying *sometimes* got on their nerves. This was reported by slightly higher proportions of mothers of boys and mothers in the lowest income group.
- Fathers reported that 'showing their child love and affection' was the most important thing for them to do for their child.
- In general, mothers reported that high levels of support were available to them – 72% reported that they got *enough* help and support from family and friends outside the home, but mothers with only one child were more likely to report this than those with two or more children.
- Levels of contact with grandparents were high – 89% were in regular contact. Lone parents were more likely to receive support in a number of pre-specified areas from the Study Infant's grandparents. These included having the infant to stay overnight, helping around the house and providing financial help.

7.7 POLICY RELEVANCE

A key source of state support for parents with infants is the public-health nurse (PHN). New parents can usually expect to visit, or be visited by, a PHN shortly after coming home from hospital, when the infant is six weeks old, at the seven- to nine-month developmental check and often on several occasions in between. The PHN is trained to observe during these visits the interactions between parent and child; for example, a checklist of *warning signs in attachment development* include *poor eye contact, inadequate physical proximity, unmet physical needs, insufficient emotional warmth and caregiver depression or anxiety*.³

As well as providing practical advice and support, the PHN can advise parents on accessing other sources of support such as parenting-skills classes or parent-and-baby groups.⁴ In addition to the universal PHN service, the government provides funding for more targeted support initiatives to assist vulnerable families, including the Springboard initiative which was launched in 1998 (McKeown, 2000). For example, the *Community Mothers* scheme involves organising and training local, experienced mothers who volunteer to help new parents in their area (see www.cmums.ie). Such schemes may be of particular relevance to the 8% of mothers who had no family living in the country who could have provided support; and the further 15% who recorded getting either no support or insufficient support.

³ Training Programme for Public Health Nurses and Doctors in Child Health Screening, Surveillance and Child Protection: Unit 9, Child Emotional and Mental Health (p. 19, 2008).

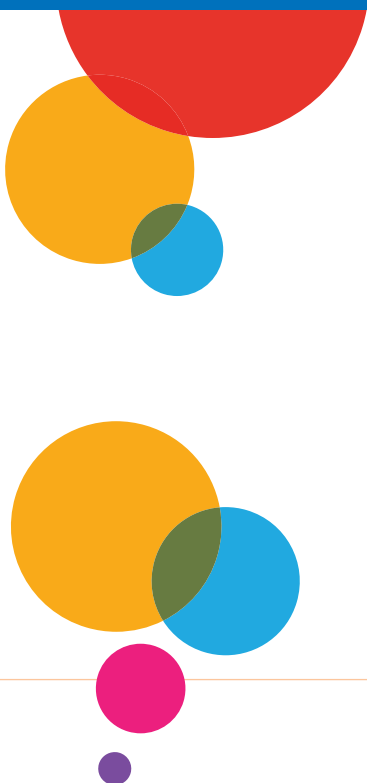
⁴ Caring for Your Child: 6 Months to 2 Years Old, www.hse.ie





Chapter 8

MOTHER'S EMPLOYMENT STATUS AND THE NEIGHBOURHOOD ENVIRONMENT



8.1 INTRODUCTION

Previous chapters have looked at the characteristics of the infants themselves and their relationships within their immediate and extended family. Parents also have relationships outside the household, for example in the workplace and in the neighbourhood. These relationships help to fuse the household to the wider community and in turn influence the infant's development. In this chapter we consider the mother's relationship with the labour market and her employment status before going on to consider her perception of and relationship to her neighbourhood and local environment.

As noted in Chapter Two, the literature suggests that combining work and family roles is generally conducive to positive wellbeing and health for both men and women, because operating in different domains gives rise to the possibility of gaining higher economic resources, external social support and increased opportunities to develop (Barnett & Hyde, 2001; Barnett, 2004). The wellbeing of the mother (and father) has, in its turn, an impact on the outcomes for the infant. Notwithstanding greater access to economic and financial resources some research suggests that children of dual-earner couples enjoy less time, attention, and commitment from their parents, while other research contests this (e.g. Galinsky, 1999). The following sections consider mother's employment status, maternity leave and issues related to work-life balance.

8.2 CHANGES IN EMPLOYMENT STATUS AND FUTURE WORK INTENTIONS

Three-quarters of mothers were working outside the home before they became pregnant with the infant. Those who were working outside the home stopped working on average 3.6 weeks before the birth and just over half had returned to work by the time the infant was nine months old. Roughly one third of mothers who were working felt that their work life had a negative effect on their family life and approximately a quarter felt that their family had a negative effect on their work life.

8.2.1 EMPLOYMENT STATUS BEFORE THE BIRTH

As noted in Chapter Two, female labour force participation has been increasing over the last decade in Ireland. Notwithstanding this trend, fathers are still much more likely to be at work outside the home than mothers (91% and 57% respectively from Table 2.4, Chapter Two). Research in the UK shows that prior to the birth of children, men and women are equally likely to be employed outside the home. However, once their children are born this situation changes quite dramatically with 89% of men working outside the home after the birth of their child(ren) compared to 64% of women (Brewer & Paull, 2006).

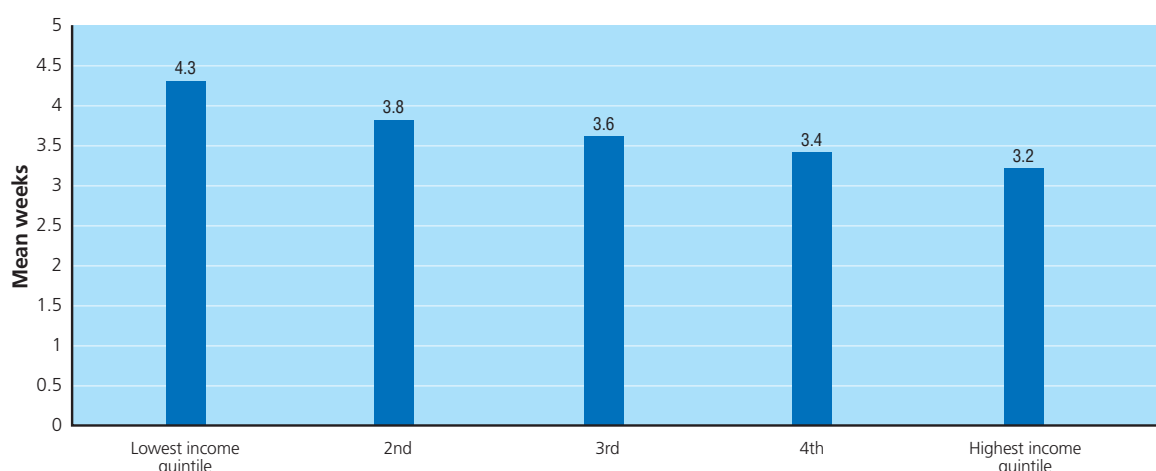
Just over three quarters (76%) of infant's mothers were working outside the home before they became pregnant – 53% full-time and 23% part-time. Mother's employment status before the birth of the infant was strongly related to the birth-order of the infant, as shown in Table 8.1. The mothers of first born infants were much more likely to have been working outside the home on a full-time basis before the birth than were the mothers of second or subsequent born infants. For example, a total of 75% of mothers on their first birth were working full-time outside the home before the birth compared to only 9% of those who were on their fifth or later child. The corollary, of course, is the reverse trend among those who were not working at all before the birth. A total of 14% of mothers on their first birth were not working outside the home before the birth of the infant compared to 70% of those on their fifth or later child.

Table 8.1: Mother's employment status before the birth of the Study Child classified by birth-order of the Study Child

	First born/ Only child	Second born	Third born	Fourth born	Fifth or later born	Total
Working before the birth:	%	%	%	%	%	%
Full-time	75	47	28	19	9	53
Part-time	11	29	34	35	20	23
Not at all	14	24	38	47	70	24
Total	100	100	100	100	100	100

8.2.2 MATERNITY LEAVE

Mothers who were working outside the home before the birth recorded having stopped, on average, 3.6 weeks before the birth of the infant. This was strongly related to family income quintile. Figure 8.1 shows that mothers in the highest income quintile continued working closer to the birth of the infant. Mothers in the lowest income quintile stopped working on average 4.3 weeks before the birth compared to only 3.2 weeks for those in the highest income group.

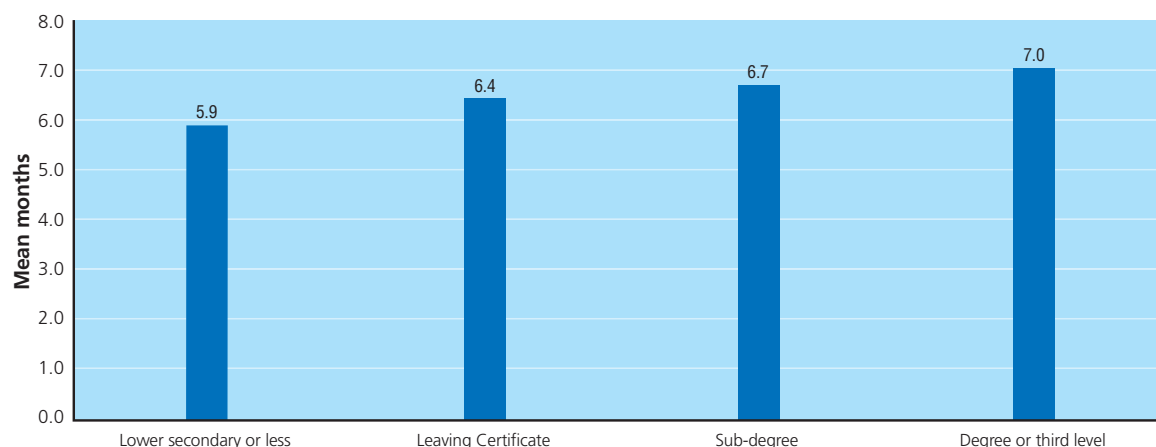
Figure 8.1: Mother's report of when she stopped working before the infant's birth, classified by family income quintile

8.2.3 EMPLOYMENT STATUS AFTER THE BIRTH AND FUTURE WORK INTENTIONS

Of those mothers who were working outside the home before the birth 56% had returned to work by the time the infant was nine months old – 30% full-time and 26% part-time. Mothers in Ireland are entitled to 26 weeks paid maternity leave together with 16 weeks additional unpaid maternity leave. At least two weeks should be taken before the birth and at least four weeks after. Mothers who had returned to work by the time of interview were asked to record the age of the infant when they returned to work. On average mothers returned to work when the infant was 6.7 months old, which works out roughly as the 26 weeks statutory maternity leave entitlement.¹ A strong relationship was evident between maternal education and the timing of when mothers returned to work. Figure 8.2 shows that more highly educated mothers returned to work outside the home when the infant was somewhat older. For example, mothers who left education at lower secondary or less returned to work outside the home, on average, when the infant was 5.9 months old. This compares with seven months for graduate mothers. This may, of course, reflect greater flexibility in the employment of mothers with higher levels of education, with a greater potential for taking unpaid leave after the birth.

¹ This may have been added to, for example, by annual leave etc.

Figure 8.2: Mother's report of when she returned to work after the infant's birth, classified by mother's highest level of education attained



The main reason cited for going back to work was financial – reported by 66% of mothers. Of those who had not returned to work by the time the infant was nine months old, 70% said that they intended to return to work outside the home when the infant was, on average 18 months old. Again, the main reason cited for returning to work was financial (59%).

8.2.4 WORK-LIFE BALANCE

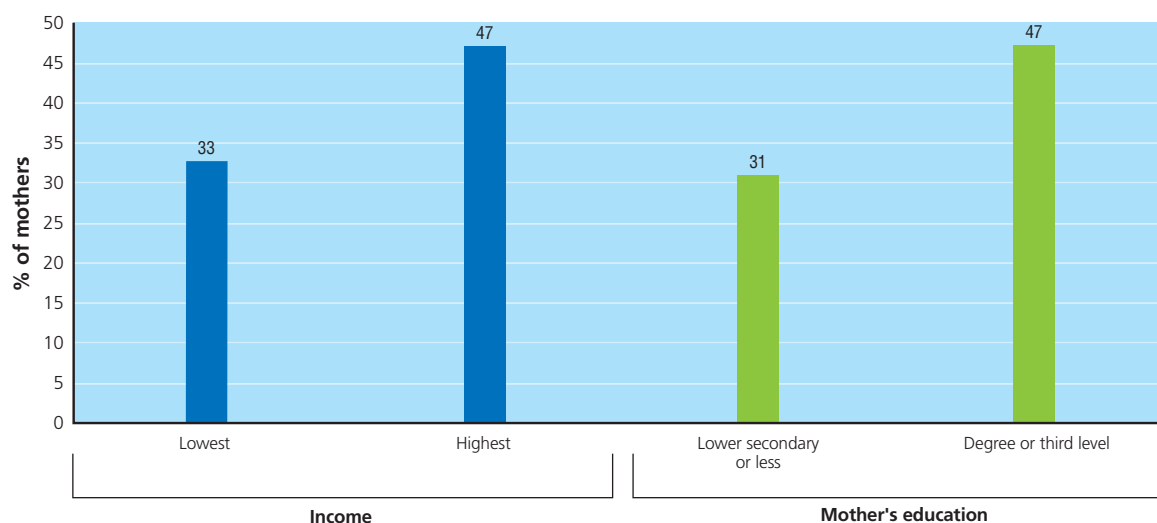
Mothers of infants were presented with four statements on work-life balance – two on the impact of work responsibilities on family life and two on the impact of family responsibilities on work life. They were asked to record the extent to which they agreed with each one on a scale ranging from *strongly disagree* to *strongly agree*. The first two focused on the impact of work on family or home life: *Because of work:*

- You have missed out on home or family activities that you would have liked to have taken part in
- Your family time is less enjoyable and more pressured

Although the majority of infants' mothers felt that their work outside the home did not negatively impact on their family life, a substantial minority felt that it did. A total of 37% either *strongly agreed* or *agreed* that they had missed out on family activities that they would have liked to have taken part in, while 30% agreed that their family time was less enjoyable and more pressured as a result of work activity outside the home.

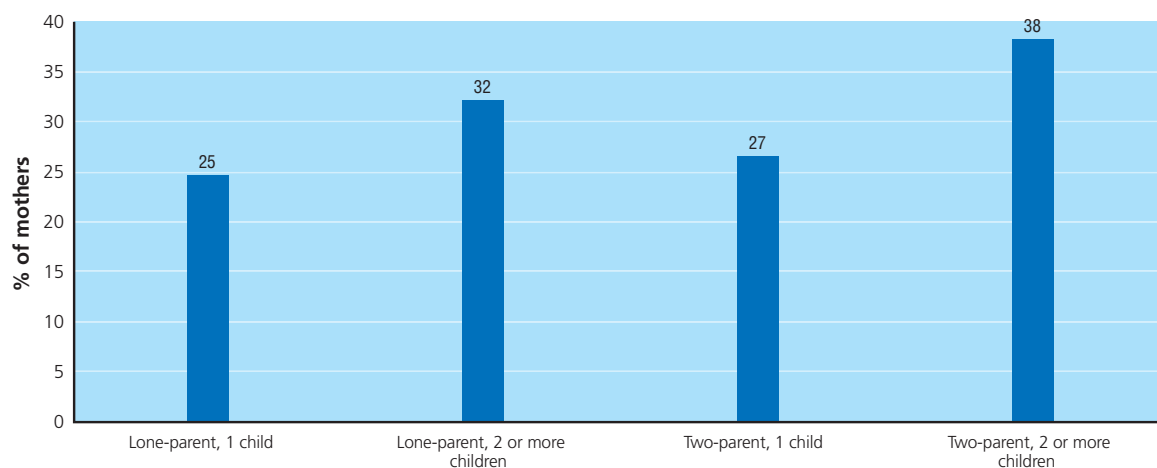
Mother's report on work-life balance/imbalance was clearly related to family income and educational attainment. Figure 8.3 shows that the percentage who reported that work outside the home had negatively affected family life increased with family income. One third of mothers from the lowest family income group reported that they had missed out on home or family activities compared to almost half of mothers (47%) in the highest income quintile. The same trend was apparent in respect of maternal education.

Figure 8.3: Mothers' report of having missed out on home or family activities, classified by family income quintile and mother's highest level of educational attainment



An interesting relationship is evident between family type and mother's perception of work-life balance/imbalance. Figure 8.4 shows that mothers in large two-parent families were significantly more likely to report that their family time was less enjoyable and more pressured than two-parent families with only one child (27% compared with 38% respectively).²

Figure 8.4: Mother's report of family time being less enjoyable and more pressured due to work responsibilities, classified by family type



To assess the impact of family life on work responsibilities mothers were asked if: *Because of family commitments:*

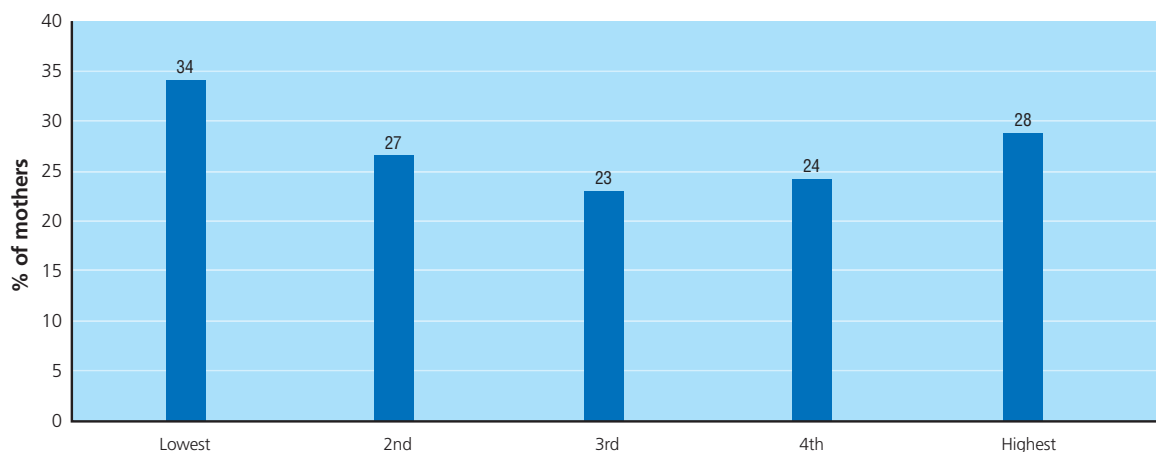
- You have to turn down work activities or opportunities that you would prefer to take on
- The time you spend working is less enjoyable and more pressured.

Overall, mothers of infants were less likely to feel that their family life negatively affected their work life than vice versa. A quarter of mothers (25%) agreed that they had to turn down work activities or opportunities that they would prefer to have taken on, and 26% agreed that the time they spent working outside the home was less enjoyable and more pressured as a result of family commitments.

² Although there was also a six percentage point difference between mothers in large and small lone-parent families, this was not statistically significant.

As shown in Figure 8.5, those in the lowest income quintile were significantly more likely to have reported having had to turn down work activities (34%) than their counterparts in other income groups – which vary from 23% to 28%.

Figure 8.5: Mother's report of having to turn down work activities or opportunities as a result of family responsibilities, classified by family income quintile



In terms of mother's educational attainment the only statistically significant relationship in respect of time spent working outside the home being less enjoyable and more pressured due to family responsibilities was between those in the lowest and highest categories. One quarter of the former group agreed that their time spent working outside the home was less enjoyable and more pressured compared to over a third of those with third-level education (34%).

Parental employment forms one important link to the world outside the home and may have substantial influences on child outcomes and development. Equally important are the relationships outside the family in the local community or neighbourhood in which the family lives. It is to these relationships that the next section turns.

8.3 NEIGHBOURHOOD

Although findings in the literature in this area are somewhat mixed, neighbourhood and community may affect the infant and family outcomes in a number of ways – both directly and indirectly. These may include indirect impacts on family functioning and parenting style or more directly through the neighbourhood's physical condition, perceived safety and community support structures; the access the neighbourhood provides to institutional and community resources or the peer groups and socialisation norms of the area in which the child lives (e.g. Brooks-Gunn, *et al*, 1997; Mueller, Rivara, Shyh-Mine, & Weiss, 1990; Edwards & Bromfield, 2009). As noted in Chapter One, the external world will have an influence on the child in a number of different contexts. At nine months of age, the family (both nuclear and extended) will have the main influence on the child. Contact with the local neighbourhood and community will be almost entirely mediated through the infant's parents and caregivers. Strong connections to extended family and to the local community all serve to build social capital for the family (Field, 2003) and it has been argued that a high level of social capital is an important contributor to child development. Clearly, communities will vary in the extent to which there are strong social connections and families will vary in their connectedness to their local community.

The following sections explore aspects of the neighbourhood in which the infants were living when the first interview with the family took place. The quality and safety of the neighbourhood, the services available and mother's involvement in, as well as connections to, the local community are considered.

8.3.1 QUALITY OF THE NEIGHBOURHOOD ENVIRONMENT

Rubbish and litter was the most pervasive problem reported by mothers in relation to the physical environment of their neighbourhood. Neighbourhood safety was highly rated by most mothers, as was the availability of most services.

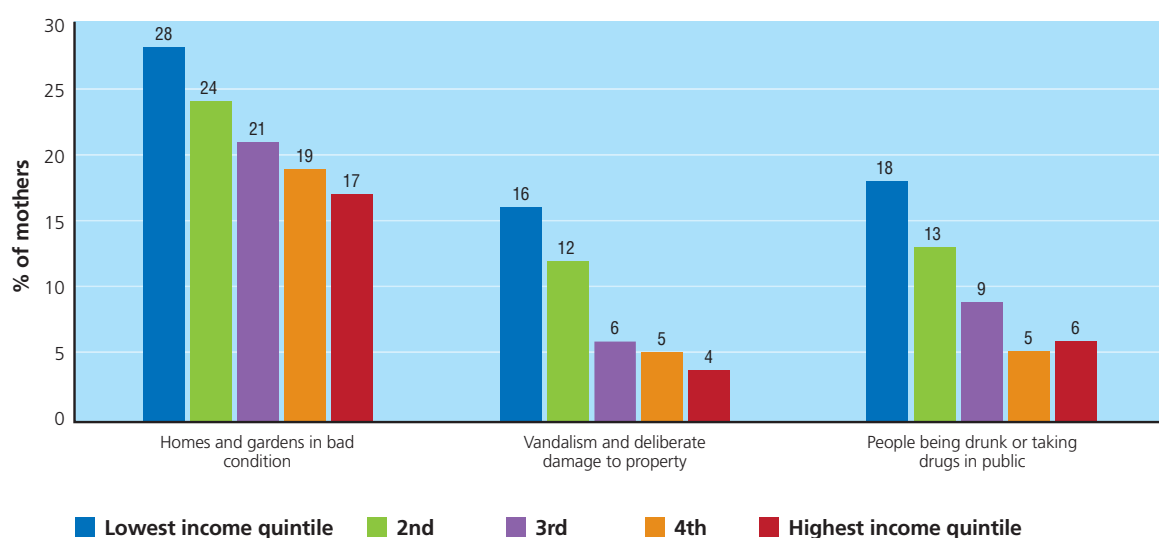
The mothers of infants were asked to rate four items relating to the quality of the neighbourhood in which they lived on a four-point scale from *very common* to *not at all common*. These were:

- Rubbish and litter lying about
- Homes and gardens in bad condition
- Vandalism and deliberate damage to property
- People being drunk or taking drugs in public.

Overall, rubbish and litter lying about appeared to be the most pervasive problem, with mothers of 22% of infants reporting this as being *very common* or *fairly common* in their local area. This was followed by vandalism and deliberate damage to property (11%) and people being drunk or taking drugs in public (11%). Homes and gardens in bad condition was the least common problem, cited by 9%.

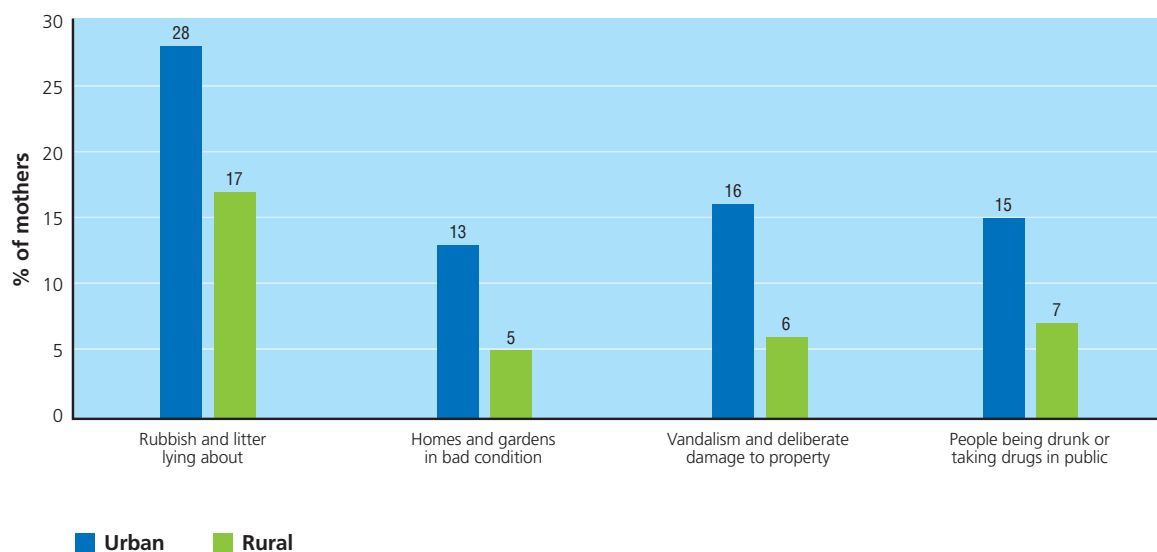
Figure 8.6 shows that there was a strong relationship between family income and the last three of the neighbourhood characteristics in question. A total of 28% of families in the lowest income quintile agreed that homes and gardens being in bad condition were *very* or *fairly common*. This compares with 17% among families in the highest income group. These differences were also evident in respect of 'vandalism and deliberate damage to property' (16% compared to 4%) and in respect of 'people being drunk or taking drugs in public' (18% compared to 6%).

Figure 8.6: Percentage of mothers rating a number of conditions in their local neighbourhood as *very common* or *fairly common*, classified by family income quintile



Differences between urban and rural residents might be expected in terms of the perceived quality of their local neighbourhood. Results are summarised in Figure 8.7. For all items, families from urban areas were much more likely to report that problems were *very common* or *fairly common*. For 'homes and gardens in bad condition', 'vandalism and deliberate damage to property' and 'people being drunk or taking drugs in public' mothers of nine-month-olds in urban areas were at least twice as likely as their rural counterparts to report that they were *very* or *fairly common*. The urban-rural difference for 'rubbish and litter lying about', although statistically significant, was not quite of the same order of magnitude (28% for urban compared to 17% for rural).

Figure 8.7: Percentage of mothers rating a number of physical conditions in their local neighbourhood as very common or fairly common, classified by urban/rural classification



8.3.2 PERCEIVED SAFETY OF THE NEIGHBOURHOOD

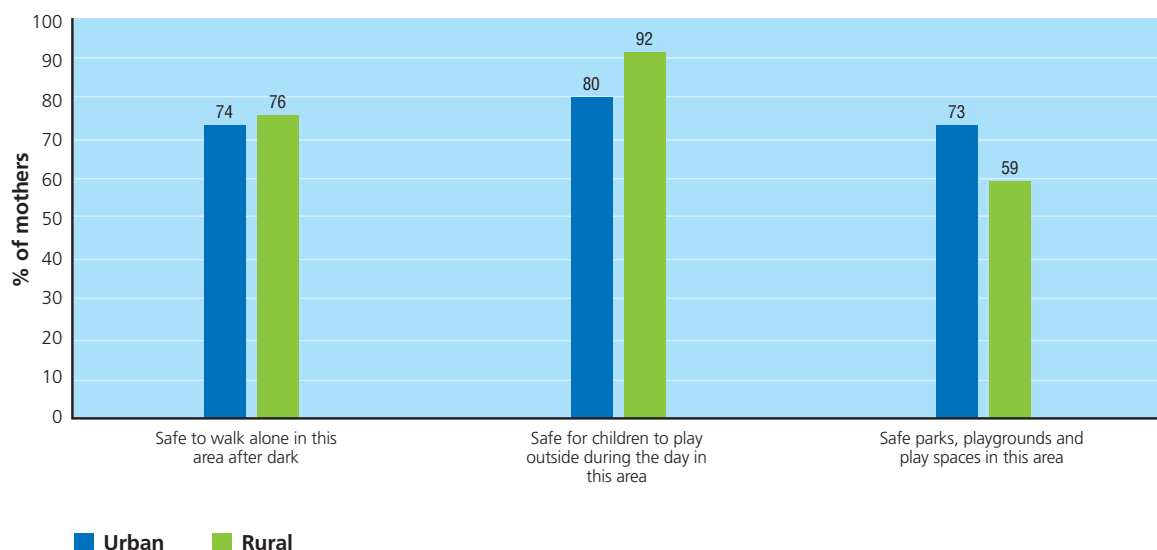
Mothers were asked three questions related to their perception of the safety of their local area using a four-point scale from *strongly agree* to *strongly disagree*. The items were:

- It is safe to walk alone in this area after dark
- It is safe for children to play outside during the day in this area
- There are safe parks, playgrounds and play spaces in this area.

Most mothers agreed that it was safe for children to play outside during the day (86%). Three quarters (75%) agreed that it was safe to walk alone after dark and two-thirds (66%) agreed that there were safe parks, playgrounds and play spaces in their local area.

Urban-rural differences were evident in relation to safety of the local area. Mothers from rural areas were more likely to agree that it was 'safe for children to play outside during the day' than those from urban areas (92% compared to 80%) and that it was 'safe to walk alone in this area after dark' (76% compared to 74% – a small but statistically significant difference). On the other hand, those from urban areas were more likely to report that there were 'safe parks, playgrounds and play spaces' (73% compared to 59%). This probably says more about the availability of parks, playgrounds and play spaces in rural areas than about the safety of those which were available.

Figure 8.8: Percentage of mothers agreeing with statements on the safety of their local area, classified by urban/rural location

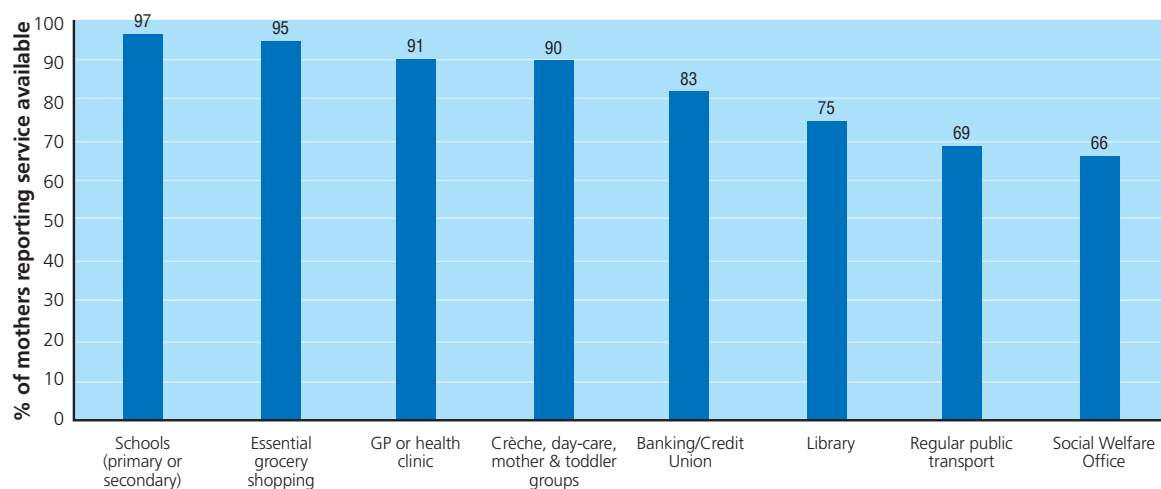


8.3.3 SERVICES IN THE COMMUNITY

Access to community and neighbourhood resources such as medical facilities, schools, parks, public transport, banking facilities and so on can have an impact on infant and family outcomes and wellbeing (Garbarino & Kostelny, 1993). Mothers were asked if eight specific services were available in or could be accessed relatively easily from their local area, as shown in Figure 8.9.

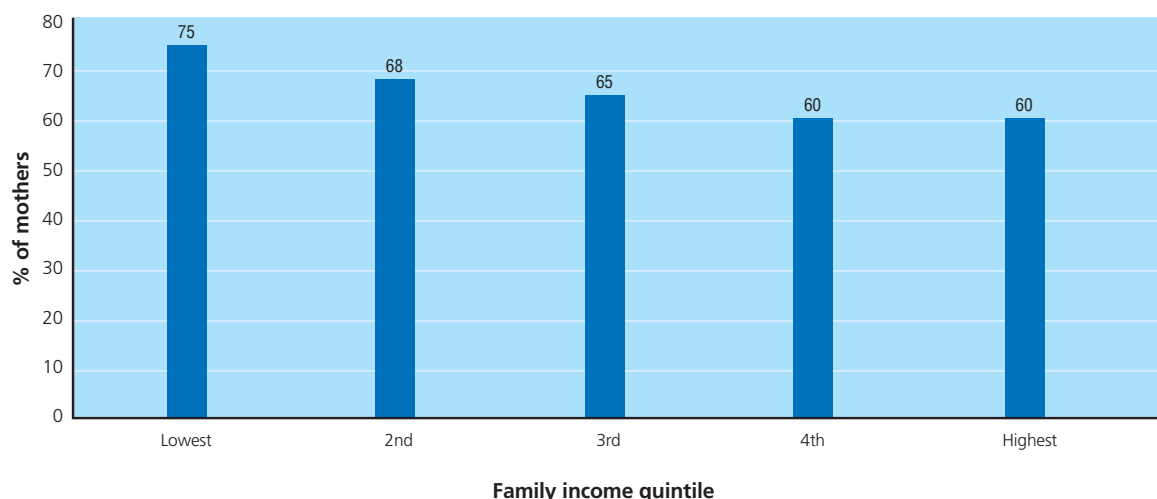
Overall, most services were reported as being accessible by the majority of mothers. Almost all (97%) reported that schools and essential grocery shopping (95%) were available in the local area. GP or health clinic; crèche, day-care, mother & toddler groups and banking/credit unions were also reported as being available to large majorities of infants (83-91%). Libraries; regular public transport; and Social Welfare offices were reported on a slightly less frequent basis as being available (to between approximately two-thirds and three-quarters of infant's mothers).

Figure 8.9: Percentage of mothers recording that specified services were available in their local area



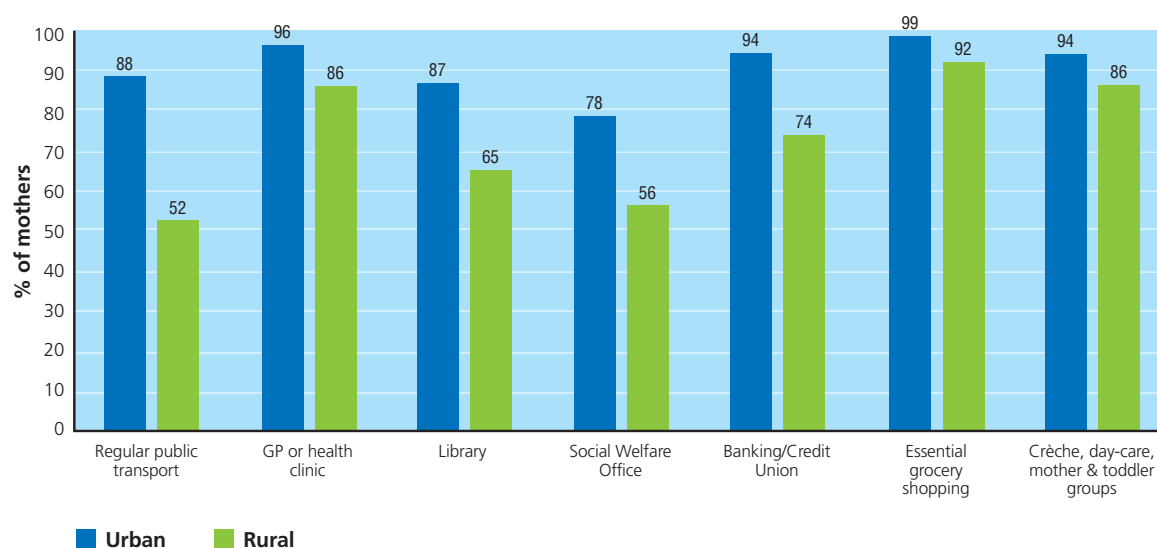
The only service for which a statistically significant social gradient was observed in terms of perceived availability was in respect of Social Welfare offices. Figure 8.10 shows the relationship with household family income group. Those in the lowest income group were most likely to report that Social Welfare offices were available (75%) with this figure falling progressively to stand at 60% among families in the two highest income categories.

Figure 8.10: Mother's view of availability of Social Welfare offices in the local area, classified by household income



Mothers in urban areas were significantly more likely to have recorded all services (except schools¹) as being available (Figure 8.11). The biggest difference was in relation to regular public transport, with 88% of urban respondents reporting that it was available compared to only 52% in rural areas. Other statistically significant differences are in respect of libraries (87% compared to 65%) and Social Welfare offices (78% compared to 56%), the provision of both of which have very clear and direct policy relevance for child development and delivery of child services.

Figure 8.11: Mother's view of availability of services in their local area, classified by urban/rural location



¹ 97% in both urban and rural areas – not shown in Figure 8.11

8.3.4 INVOLVEMENT IN COMMUNITY

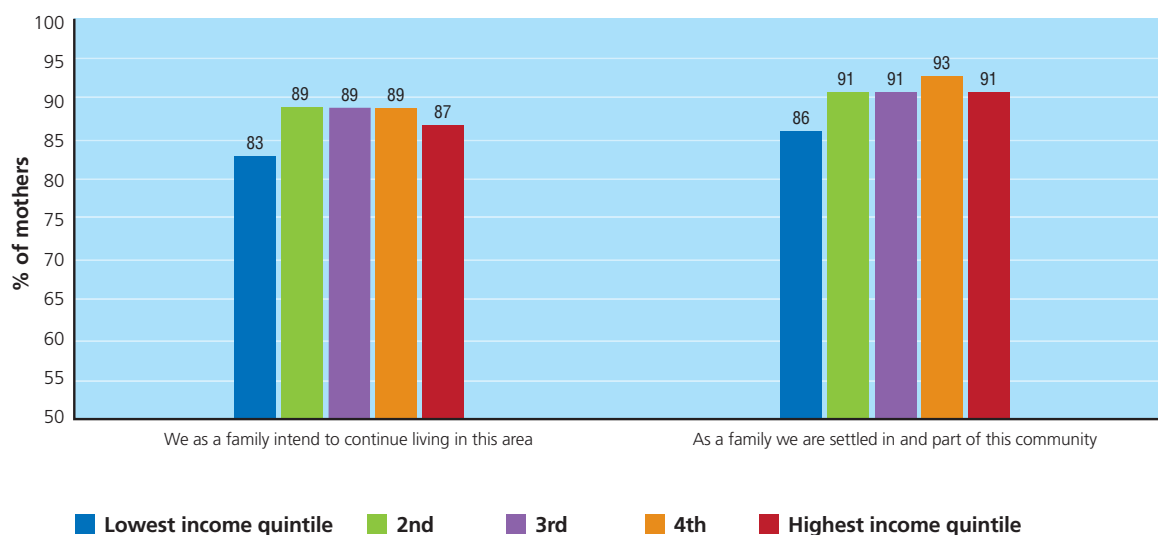
To gain insight into involvement with, and connection to, their community the mothers of the infants were asked three questions. The first two were answered on a four-point scale from *strongly agree* to *strongly disagree* and the third question was answered on a yes/no basis.

- We as a family intend to continue living in this area
- As a family we are settled in and part of this community
- Do you have any family living in this area, including your partner's family?

Overall, a substantial majority (87%) of mothers reported that they intended to continue living in their current area of residence. A large percentage (90%) also agreed that they as a family were settled in and part of their community. Just under two thirds of mothers (64%) reported that they had family living in their local area.

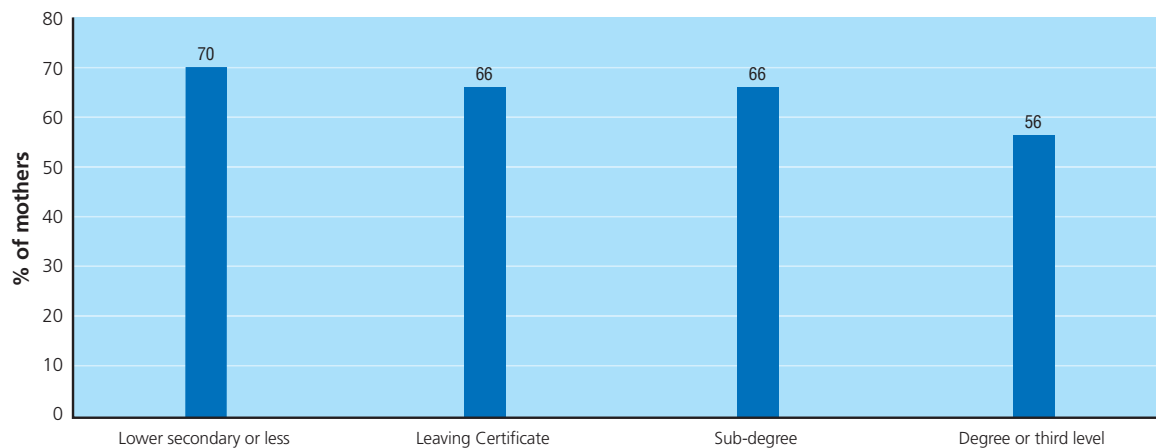
The questions on intention to continue living in their local area and as a family being settled in and part of the community both showed a similar relationship with household income. Figure 8.12 shows that families in the lowest income groups were significantly less likely than those in other income categories to agree that they intended to continue living in the area or that they were settled in the community. The chart shows, however, that there was a fall off in the percentage of families in the highest income group. In terms of intention to continue living in the area, 83% of those in the lowest income group recorded that they intended to continue living in the local area, and 89% of those in the three middle income quintiles but it dropped slightly to 87% among those in the highest income category. The chart shows that a similar trend is apparent in terms of being settled in and part of the community.

Figure 8.12: Mother's view of their involvement in their local community, classified by family income quintile



Mothers' reports on whether or not they had family living in their area did not appear to differ significantly with family income, although mothers' highest level of educational attainment did have an effect (Figure 8.13). There was a statistically significant difference between those with the lowest level of education (70%) and those with the highest (56%). This may reflect, at least in part, higher levels of social and geographic mobility among more highly educated groups.

Figure 8.13: Mother's report of having family living in their local area, classified by mother's highest level of educational attainment



8.4 KEY FINDINGS

- Three quarters of mothers were working outside the home before they became pregnant with the infant. As one might expect, those with fewer children were more likely to have been in paid employment outside the home before the birth of the Study Child.
- Mothers who were working outside the home stopped working, on average, 3.6 weeks before the birth of their baby. When mothers stopped working outside the home before the birth varied with their education, being longer for those with lower levels of education.
- Of the mothers who were working outside the home before the birth, 56% had returned to work by the time the infant was nine months old. Mothers with lower levels of education returned to work earlier.
- Mothers in higher income groups as well as those with higher education were more likely than others to report that they had missed out on home or family activities because of their work. In contrast, mothers from the lowest income group were most likely to record having turned down work activities or opportunities because of their family responsibilities.
- Rubbish and litter lying about was perceived to be the most pervasive neighbourhood problem, with 22% of mothers reporting this as being *very common* or *fairly common*.
- Mothers with lower levels of education were more likely than others to report problems of 'homes and gardens in bad condition', 'vandalism and deliberate damage to property' and 'people being drunk or taking drugs in public' in their local area.
- Mothers in rural areas were more likely to report that it was 'safe to walk alone in this area after dark' and 'safe for children to play outside during the day in this area'. On the other hand, mothers in urban areas were more likely to report that there were 'safe parks, playgrounds and play spaces' in their local community.
- Availability of services such as essential grocery shopping, GPs, childcare and banks was high across all social class and income levels, whereas libraries, regular public transport and social welfare offices were somewhat less prevalent. All services were more readily available to mothers in urban than rural areas.
- Overall, a majority of mothers reported that their family were settled in and intended to continue to live in their local area.

8.5 POLICY RELEVANCE

Family-friendly workplace policies are particularly important in the light of substantial increases in female labour force participation rates of recent years. The 2007 increase in maternity leave available to working mothers was intended partly to make workplaces more family-friendly, and the findings of *Growing Up in Ireland* indicate a high uptake of available maternity leave among Irish mothers who returned to work outside the home after the birth of their child. Policy programmes such as the work of the National Framework Committee for Work-Life Balance also help facilitate the voluntary development of family-friendly policies in the workplace. Notwithstanding these policies, issues related to work-life balance-imbalance remain for substantial proportions of mothers at work outside the home. Promoting flexibility of working time and practices may, therefore, be particularly important, especially for some groups of mothers.

In contrast to mothers in high income groups in *Growing Up in Ireland*, mothers in the lowest income categories were more likely to report having had to turn down 'work activities or opportunities' as a result of their family responsibilities. In keeping with other research findings on patterns of employment (Women and Men in Ireland: Facts and Figures, 2004), *Growing Up in Ireland* also found that levels of full-time maternal employment outside the home fell with the number of children in the family. Much evidence points to childcare responsibilities as negatively impacting on women's participation in the labour market (Russell, Smyth, Lyons, & O'Connell, 2002; Connor, 1999; Coveney, Murphy-Lawless, & Sheridan 1998; Redmond, Valiulis & Drew, 2006). The provision and funding of quality childcare, particularly for women in the lowest income quintile and those with larger families, is therefore an important policy issue in supporting the return of mothers to the workplace.

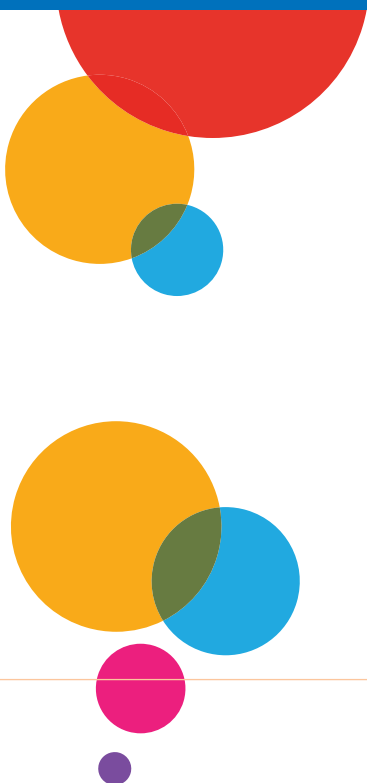
The quality and resources of a child's neighbourhood have the potential to affect child and family outcomes – directly through the physical condition and perceived safety of the area, as well as community support structures, and indirectly through the area's effect on family functioning and parenting style. In general, relatively high percentages of mothers reported that they had access to a range of specified services in their local neighbourhood, though some differences between groups (socially determined as well as urban-rural) appeared to exist and should be a focus for policymakers in maximising access among all parents to public and other services.





Chapter 9

SUMMARY



9.1 INTRODUCTION

This report provides a first descriptive summary of the characteristics and attributes of nine-month-olds and their parents. The report considers how parent and child outcomes and characteristics vary according to some basic classifications such as family type, social class, level of maternal education, ethnicity and family income. The figures presented in the text are statistically significant but the reader is cautioned that in such a sample of respondents even relatively small differences between the characteristics of subgroups may be statistically significant, in the technical sense that they are due to chance less than five times in 100. Although significant in this statistical sense, some of the differences may be relatively small. All of the figures presented are purely descriptive and should not be interpreted in any sense as causal in nature. Many of the trends identified require in-depth analysis to attempt to explain the reasons underlying the associations identified in the report.

9.2 PREGNANCY AND BIRTH

The processes associated with a child's development and outcomes in relation to health, as in other domains, start well before birth. Many outcomes may be linked to the circumstances of the pregnancy and to maternal behaviours during pregnancy, including antenatal care, and subsequently to events around the birth itself, including labour and early breastfeeding.

9.2.1 INTENTIONS TO GET PREGNANT

The mother's intention to become pregnant can have implications for the child's development, not least in the extent to which it will be related to her preparedness for the birth and to her making changes in her diet, behaviours and lifestyle (such as stopping drinking and smoking). Just under three-fifths (59%) of mothers had intended to become pregnant with the Study Child when they did, with one-in-10 mothers having no intention of ever getting pregnant when they conceived the Study Child. For the 41% of women who had not intended to become pregnant with the Study Child at that time, there is a concern that they may have been unprepared psychologically and financially and in relation to their health. The findings in relation to the number of women who had unplanned pregnancies may point to a continued need for contraceptive advice, easy access to contraception and more research on the causes of unplanned pregnancies. The findings suggest that the Crisis Pregnancy Agency, established in 2001 and recently absorbed into the HSE as the Crisis Pregnancy Programme, has a continuing role in relation to education about and research into the causes of crisis pregnancies. That said, many pregnancies, while unexpected, may not be experienced as an actual crisis but may instead be a pleasant surprise. The provision of family planning services is part of the brief of the HSE and such services are widely available, through health centres, GPs and voluntary agencies. It is important to consider the reasons for the extent of unplanned pregnancies despite the increased knowledge about and availability of contraception. It will be possible in *Growing Up in Ireland* to track the family and child outcomes related to planned and unplanned pregnancies.

9.2.2 ANTENATAL CARE

Early antenatal care is clearly associated with more positive health outcomes, confirming what is already known in the research literature. Given the positive consequences of early contact with the medical services, the message about early contact with the family doctor or antenatal clinic could usefully be reinforced in public health literature and other communications. In this Study the first antenatal appointment was usually with the family doctor (67%) at an average of 9.1 weeks into the pregnancy but the range was very wide indeed, being from one to 40 weeks.

9.2.3 FERTILITY TREATMENT

A total of 4% of mothers had used fertility treatment to assist in the conception. While most children born through assisted methods are healthy, there is a raised incidence of health problems for the resulting babies,

some complications being associated with multiple pregnancies and higher maternal age. Whether the children have longer-term problems will be an important research question. There are also important psycho-social issues for some of these families as they handle questions arising in relation to the non-traditional nature of their child's conception. The whole area of human assisted reproductive technology is the subject of some contention in Ireland. It has, for example, been neglected in terms of legislation, with the need for legal regulation being raised by lawyers and other commentators on numerous occasions in recent years (see, e.g. Irish Times, December 16th, 2009).

9.2.4 COMPLICATIONS DURING PREGNANCY

Pregnancy complications were relatively common, being reported by 54% of mothers. While very uncomfortable and distressing, it is likely that only a small number of these women experienced complications at a level that seriously compromised their health or that of the baby. There are more data on the women's pregnancies and on delivery that remain to be analysed and will cast light on the relationship between pregnancy complications and both maternal and child wellbeing. Clearly this study cannot provide data on the number of pregnancies that do not result in the birth of a baby but it will be possible to examine mothers' history of other pregnancies and the impact of parity on children's outcomes.

9.2.5 SMOKING AND DRINKING DURING PREGNANCY

Among the behaviours most likely to be associated with increased risk of physical, neurological and behavioural problems in the child is maternal smoking and drinking during pregnancy. Smoking has been associated with complications in pregnancy (such as placenta praevia) as well as SIDS and bronchial and related illnesses for the child. Just under one-in-five (18%) of mothers had smoked at some stage during their pregnancy, with this being quite strongly related to level of educational attainment. There was strong evidence to indicate that much higher percentages of those with lower levels of education smoked at some stage during pregnancy (40% among those with lower secondary or less compared to 6% among graduate mothers). It was also noted that mothers with lower levels of education were less likely to have changed their behaviour to avoid smoking during pregnancy than those with higher levels of education.

Research findings on the impact on the child's development of drinking alcohol during pregnancy are more hotly contested than are those on smoking. A total of 20% of mothers had consumed alcohol at some stage during pregnancy. In contrast to smoking in pregnancy, the highest prevalence of alcohol consumption was found among more advantaged mothers. Graduate mothers, for example, were twice as likely to have consumed alcohol in all trimesters as those who left education at lower secondary level or less. Having said this, however, the amount (units) of alcohol consumed by those who drank in the first trimester was inversely related to level of educational attainment – highest for those with lowest levels of education. In other words, although mothers with lowest levels of education were the most likely to abstain from alcohol entirely during pregnancy those who did drink consumed more units of alcohol each week than more highly educated mothers. There is currently a renewed debate as to whether a small intake of alcohol is safe in pregnancy (Kelly *et al*, 2010) and as *Growing Up in Ireland* follows this cohort it will be possible to examine the longer-term impact of both smoking and drinking - and different levels of consumption of these substances – on child outcomes. Data have also been collected on the consumption of prescribed medications and illegal substances during pregnancy.

9.2.6 AGE OF MOTHERS

The average age of the infant's mother was 32 years, and 35 for the resident father, at the time of interview. In Ireland the average age of mothers when giving birth to their first child is now 29.2 years (CSO, 2010). The mothers in this Study who were first-time mothers had a mean age of 29.9 years at time of interview – 29.2 years at time of birth. The mother's age when pregnant becomes a matter of concern if she is either very young or, in reproductive terms, very old. Mothers' ages in this Study ranged from 16 to 49. Births to teenage mothers have always been low in international terms in Ireland and they are still decreasing in number. Nonetheless it will be important to examine the outcomes for children of very young mothers and contrast them with children born to mothers who are older.

9.2.7 BIRTH RATE AND COHORT

The birth rate in Ireland has declined in 2009 and 2010 after increasing to an all time high in 2008, the year in which most of the children in this Study were born. These children may become part of a 'baby boom' generation where, depending on the economic climate as they age, they may have to struggle for access to resources.

9.2.8 BIRTH AND DELIVERY

Almost all children were born in hospital (98%) with 1% having been born in a planned home birth, the remaining 1% mostly in an unplanned home birth or on the way to hospital. The small proportion of home births (in comparison to 30% in the Netherlands, 3% in Wales, for example) may reflect a largely negative attitude to home births on the part of the medical profession and health policymakers in Ireland. This is reflected in the new Nurses and Midwives Bill (2010) which could, if passed, further restrict the number of home deliveries. The majority (82%) of children were born on time, between 37 – 41 weeks' gestation. Prematurity (and very late delivery) both represent threats to the baby's welfare and such subgroups should be tracked in further analyses. The average weight at birth was 3.5 kgs with boys (3.5 kgs) being heavier than girls (3.4 kgs). Babies who are 'small for dates' constitute another sub-group whose health trajectory can be further examined. Another issue of concern must be the quite strong socio-economic inequalities in birth weight. Children in the lowest income and education groups were significantly lighter (3.37 kgs) than those in more advantaged categories (3.52 kgs). Many of these inequalities in birth weight appear to be linked to smoking during pregnancy and also to the incidence of multiple births. The inequalities in question are all the more disconcerting in view of the on-going higher risk of a range of poorer outcomes for low birth weight children, including lower than average growth trajectories, poor health and a range of sensory, cognitive and behavioural difficulties.

Although a majority (58%) of babies was born by normal vaginal birth, a substantial minority of births was associated with some form of medical intervention. Over one-quarter (27%) were by caesarean, 9% with suction assistance and 5% with forceps assistance. Although there is little evidence of increased risk to the baby from caesarean birth, suction and forceps birth may be linked to outcomes such as bleeding under the skull of the newborn. The prevalence of medically assisted births was quite strongly related to socio-economic characteristics, notably family income. For example, one-third (33%) of births among families in the lowest income quintile were medically assisted. This figure increased progressively to just over one-half (52%) among mothers from the highest income group. The reasons for this discrepancy could be explored further, since it might be expected that the rate of medically assisted births should be lower in higher income women, given their generally better health status.

9.2.9 BREASTFEEDING

Research evidence on the long-term beneficial and protective effects of breastfeeding on physical health and development is substantial and as a result has been the focus of health promotion campaigns in Ireland. The rates have been increasing from a low baseline but they are still not high in international terms as the *Growing Up in Ireland* data now confirm. Very few babies are breastfed for the officially recommended six months for breastfeeding only followed by a further 18 months' breastfeeding along with solid foods. A total of 57% of infants in *Growing Up in Ireland* were ever breastfed with just over 49% still being breastfed by the time they left hospital. These rates are relatively disappointing in view of the importance ascribed to breastfeeding in national policy and also when compared with international rates. Breastfeeding rates among infants in *Growing Up in Ireland* were found to be much higher among mothers who were not born in Ireland (83%) compared with those born here (48%). Rates were also strongly related to educational attainment (30% among mothers who left school with the lower levels of education compared to 80% among graduate mothers). These trends clearly highlight the need to re-double national efforts to promote breastfeeding, possibly focusing on its long-term beneficial effects for the child. More research is needed on why so many Irish mothers do not want to breastfeed their babies or feel incapable of doing so, despite the

research evidence on its benefits. The reasons for stopping early, having started to breastfeed, are also important to investigate in more depth. When more data waves are conducted the assumed benefits of breastfeeding can be explored.

9.3 INFANT'S HEALTH

Health outcomes are fundamental to a child's positive development and quality of life. In the course of the Study details were recorded from the mother on a range of health-related issues, including health status, prevalence of on-going chronic illness, healthcare use and so on. The findings identified in the report inform not only aspects of the debate on child health and health outcomes but also highlight important issues in health policy in, for example, the relationship between GMS cover and healthcare utilisation. Accordingly, they relate not only to the child's inherent health and related characteristics but also to some of his/her interactions in the exo- and macro-systems in Bronfenbrenner's model.

9.3.1 INTENSIVE CARE AT BIRTH

At birth 14% of the infants were admitted to the Intensive Care Unit or to a special care unit after delivery. This is an important group to follow up at the next data collection point for *Growing Up in Ireland*.

9.3.2 GENERAL HEALTH ASSESSMENT

In general, the vast majority of mothers reported their infant's health to be very good at nine months – 82% of children were rated as *very healthy, no problems* with 16% rated as *healthy, but a few minor problems*. This is a very positive finding in global terms, since the health of infants is an important indicator of the quality of life of the population and the adequacy of the healthcare system, very broadly conceived.

Notwithstanding this overall positive health assessment, 24% of infants were reported to have been medically diagnosed as having at least one from a set of precoded illnesses. The most common illness was eczema or related skin allergy, reported by 12% of mothers. International prevalence rates for skin allergies of the order of 7 to 21% have been recorded, so Ireland is well in line with levels expected for northern European countries. Other commonly experienced illnesses include respiratory diseases (3.7%) and digestive allergies (3.5%). Although a prevalence rate of 24% of infants ever having experienced an illness appears quite high, the majority of parents noted that the effects of the illness on the family were *minor*. Nonetheless, 4.5% of Study Children were recorded by their mother as having experienced an illness of *moderate* severity while 1.8% reported that their child had experienced a *severe* illness over their first nine months. Chronic illness can greatly compromise the child's development and capacity to cope with other challenges such as school. Over time it will be possible to observe the impact of chronic illness on other aspects of the child's functioning.

9.3.3 CONTACT WITH HEALTH PROFESSIONALS

Details on contact with health professionals indicated that health service uptake was noted as being significantly associated with GMS cover. For example, mean visits to the GP and Public Health Nurse were each 2.71. In both cases they were higher for infants covered by a medical card – 3.38 visits to the GP and 2.84 to the Public Health Nurse (compared with 2.41 and 2.66 respectively among infants not covered by a medical card). Hospital admissions were also significantly related to GMS coverage with 13% of all nine-month-old children having been admitted to hospital for an illness or health problem – 16% among those with a medical card, 12% among those with GMS cover. The relationship between medical card and GMS cover, the use of private insurance schemes or lack of any coverage is a complex topic awaiting further analysis. In relation to the data described in this report it is possible that families with medical cards access GPs more often because the child is more often sick, or alternatively, they do so because access is easier and less costly.

9.4 INFANT'S HABITS AND ROUTINES

Healthy routines, including sleeping and feeding patterns, are essential for infant growth and development.

9.4.1 SLEEPING POSITION

It has been established that putting an infant to sleep on his/her back (in the supine position) has been associated with a lower risk of SIDS, although it may initially delay reaching certain gross motor milestones albeit with no expected long-term effects. Just over three-quarters (76%) of mothers usually put their child to sleep on his/her back, this being significantly more common among Irish-born mothers (81%) than those born elsewhere (61%). Sleeping position was also related to the usual measures of social advantage/disadvantage such as family income, maternal education and social class. Two thirds (66%) of mothers from lowest income families put their child to sleep on their backs compared with 84% among highest income families. It is a matter of concern that messages about the importance of the supine position in preventing SIDS have not been communicated effectively to all mothers.

9.4.2 FEEDING PRACTICES

Social gradients were also apparent in terms of feeding practices. In general, mothers in the lowest education category tended to introduce formula milk earlier, were more likely to give their nine-month-old tea to drink and more likely to introduce solid food on a regular basis somewhat earlier. These trends may inform the communication strategies of future policies on the care of infants. Data were collected on the BMI of the parents and at the next data collection wave when the children are three it will be interesting to see how parental BMI relates to the BMI of the child and their typical diet.

9.5 TEMPERAMENT AND DEVELOPMENT

The infant's temperament (their behavioural style and way of responding to others) will substantially impact on parent-child interaction, attachment and parental engagement and may have a persistent effect on the child's development from early childhood to adulthood.

9.5.1 GENERAL TEMPERAMENT

In broad terms the majority of mothers reported their child to be easy to deal with. Only relatively small minorities (approximately 5%) reported an above average level of difficulty.¹ In general, boys were reported to be somewhat more *fussy-difficult* than girls, but also more *adaptable* (responding to a new person) and less *subdued* ("smiles and makes happy sounds").² Maternal stress was related to higher levels of perceived difficulty and low levels of adaptability. The direction of the relationship (i.e. whether maternal stress is a function of child's temperament or child's temperament is related to maternal stress) must await further analysis.

9.5.2 DEVELOPMENTAL MILESTONES

In general, the infants in *Growing Up in Ireland* were doing well in terms of developmental milestones such as motor, communication, personal social skills and so on.³ They appeared, however, to be relatively better at communicating (making first efforts to communicate and showing some understanding of basic commands) and fine motor skills (using their fingers and thumbs in a coordinated fashion) than they were at gross motor skills (using arms and legs to stand, sit up and move around).

Low birth weight children were somewhat lagging behind those born at normal birth weight. Gender differences were also apparent, with girls being somewhat more developmentally advanced on a number of skills. The most notable area of relative concern according to the measure used was gross motor skills. Infants of Irish-born mothers had lower scores on this developmental milestone than those of mothers who were born outside the country. This may be due to parenting practices, possibly including the sleeping position of the child. As noted, although the supine sleeping practice substantially adopted in Ireland may

¹ On a 7-point scale from *super easy* to *highly difficult* to deal with. A total of 5% had a score of 5 or more, a score of 4 being *ordinary, some problems*.

² Based on Infant Characteristics Questionnaire (ICQ).

³ Based on the Ages and Stages Questionnaire (ASQ).

be related to some mild delay in gross motor skills evidence from other studies suggests this is only short term in nature (Davis *et al.*, 1998). It is also the case that infants today may be spending more time in the sitting position than they do on the floor or on their stomachs, in comparison to infants of the previous generation. The explanation of this finding on motor development awaits more detailed analysis.

9.6 THE FAMILY

The family, particularly the parents, is the first and most enduring influence on a child's development. Parents/guardians are the first point of contact between infant and his/her external environment, be it in the home, community, neighbourhood, policy or welfare environments. Their role in the child's micro system within Bronfenbrenner's model is paramount as is their mediating role between it and other layers of his model.

9.6.1 FAMILY CHARACTERISTICS

Notwithstanding major social changes in Ireland over recent years, including a substantial increase in the overall number of births and the proportion of births outside marriage, the majority of nine-month-olds (86%) lived in two-parent families.⁴ Where the infant has two resident parents data were collected on the relationship between the parents and these data will be analysed further and related to child outcomes. In Bronfenbrenner's model relationships between important people or institutions in the child's ecosystem are seen to have an important indirect effect on child development. More analysis remains to be carried out on data supplied by the babies' fathers. The role of fathers has changed markedly in the last few decades and *Growing Up in Ireland* will be able to provide a comprehensive picture of the involvement of Irish fathers in their children's lives. Such data could inform policies in relation to paternal and parental leave.

Variations in social advantage/disadvantage across family types are a source of concern. For example, lone-parent families were generally more likely to be in lower income, lower class and lower educational categories than their two-parent counterparts. Many children in lone-parent families do very well; however, it will be important to examine the processes that underpin the quality of the children's development in lone-parent families, such as the nature of parenting and the relationship between the child and his or her parent.

Just over one-third (34%) of the mothers of nine-month-olds at time of interview described themselves as being on home duties or birth-related leave from their job. A total of 57% were working outside the home. A relatively recent trend in Ireland has been the increase in the proportion of the number of infants whose mother was not born in Ireland. Just over one-quarter (27%) of mothers were not born here, with 21% having moved to Ireland in the last 10 years. As was noted in the previous section, these mothers may adopt different parenting practices, have different attitudes to breastfeeding etc. Following the children of non-Irish mothers and contrasting them with the children of Irish mothers may reveal interesting patterns in terms of parenting with differential outcomes for the children. It will also yield informative data on the integration or lack of integration of these mothers and children into Irish society.

9.6.2 SUPPORT FOR PARENTS AND COMMUNITY CONTEXT

Support for parents and linkage to their community/neighbourhood fall within the mesosystem in Bronfenbrenner's model. Although 78% of mothers felt that they either *got enough help*, or *did not need help* from family or friends, 10% said they *did not get enough help* and 5% said they *got no help at all* – the final 8% said they had no family in Ireland. In general, mothers in larger families were more likely to feel they had sufficient support. Mothers who do not feel connected and socially supported may struggle to provide support in turn for their child; this is a research question that can be examined in the next data collection waves. It may be a particular issue for non-Irish born mothers who do not have ready access to relatives and may be more culturally isolated.

⁴ 71% of infants lived with two parents who were married, 15% with parents who were cohabiting.

Levels of contact with grandparents were high – 89% of mothers reporting regular contact. In only 1% of cases all grandparents were deceased, although 8% reported that all the infant's grandparents lived abroad. Grandparents were a particularly important source of contact and support for lone-parent families, especially in terms of having the baby stay overnight, helping around the house and providing financial assistance.

9.6.3 COMMUNITY AND NEIGHBOURHOOD

The community and neighbourhood context in which children are growing up will influence their development both directly and indirectly. The physical condition of the area, whether or not it is safe and whether there are good resources and facilities for children may all have a direct effect on the child's quality of life. Indirect effects include the impact which the neighbourhood may have on family functioning and parenting style. In Bronfenbrenner's model this would be represented as belonging in the exosystem. Most mothers (86%) reported that it was safe for children to play outside during the day; three-quarters agreed it was safe to walk alone after dark and two-thirds agreed there were safe parks, playgrounds and play spaces in their local area. Although a minority report concerns about safety, cleanliness, etc, this points to a less than optimal environment in which to raise a young child and is a reminder that policymakers and local councils need to bear young children in mind when making decisions about housing, cleaning of neighbourhoods, traffic etc.

9.6.4 ACCESS TO SERVICES

The importance of access to a range of services in the local community was noted in *Towards 2016*. Availability of health care, educational, library and recreational services in the local neighbourhood will potentially affect the child's development. Overall, a substantial majority of mothers of infants reported that most services were available to them within their community. Almost all (97%) reported schools were available with high levels of availability also being reported in terms of essential grocery shopping (95%), GP or health clinic (91%), childcare facilities (90%) and banking / credit unions (83%). Libraries, public transport and social welfare offices were each reported as being available by between two-thirds to three-quarters of mothers. Rural families are often disadvantaged in this regard and, in general, comparisons between the experiences of children growing up in rural Ireland and those growing up in towns and cities will be a fruitful topic for future research.

9.7 CHILDCARE

The quality and extent of non-parental childcare can have an important impact on the development of a child. For many of those in non-parental care, being in child care will represent the first sustained contact that the child will have with adults and settings outside his/her immediate family environment. ***Growing Up in Ireland*** found that at nine months of age 62% of infants were in parental care. This is in part a function of the length of parental leave which now permits more mothers to stay at home with their infants for the first eight months of the child's life. The opportunity to avail of non-paid leave can then extend this time period further. Thus being in non-parental care at nine months is typically associated with the mother having returned to work. Grandparents were the most important childcare providers (12%) with other relatives accounting for a further 4% and non-relatives for 11%. Centre-based care, such as a crèche, accounted for 11%. Types of childcare used varied substantially with family social class, income group and maternal education. For example, 84% of infants in the lowest family income category were in parental care. The corresponding figure among those in the highest income group was 40%. These figures are likely to change significantly over the next six months of the child's life as more mothers return to work outside the home. However it is clear that use of centre-based care is low in Ireland compared to many other European states; there is still high dependence on relative care and on childminders. Half of the childminders were not registered, which raises issues in relation to the quality of care offered to the children.

Across all types of non-parental childcare those nine-month-olds who were in childcare spent on average 25 hours per week in childcare at an average cost of €5.14 per hour. Encouragingly, two thirds of mothers who used non-parental childcare with their nine-month-old recorded that the most important reason for choosing their particular childcare arrangement was the quality of the care provided. A further frequently cited reason (by 13% of mothers) was convenience to the child's home. One third, however, also recorded that choice of childcare was (at least to some degree) determined by financial constraints. Overall, mothers expressed a high level of satisfaction with their childcare arrangement (86% being *very satisfied*). However, it should be noted that the literature on childcare shows that mothers rarely report dissatisfaction with the type of childcare they have chosen. An important question to be explored is the relative impact of different types of childcare arrangements and of none on children's development. With the recent introduction of the preschool scheme and abandonment of the childcare payment these trends and observations will clearly contribute to the policy debate in this important aspect of childhood.

9.8 NEXT STEPS FOR THE GROWING UP IN IRELAND STUDY OF THE INFANT COHORT

As noted in the introduction to this report, this is the first in a series of reports to be based on the Infant Cohort (at nine months). Subsequent reports will adopt a more analytical approach to a range of topics and aspects of the child's life and development and will allow a more systematic approach to relationships between outcomes and contextual variables and also a greater focus on the factors related to child outcomes within the broad bioecological framework underlying the Study. The data from the Infant Cohort will be deposited in the Irish Social Science Data Archive (as were those from the Child Cohort at nine years) for use by researchers, policymakers and others with an interest in childhood and child development.

This first wave of data collection for the Infant Cohort has come at a time of great change in the economic wellbeing of Ireland. Following a decade or more of economic buoyancy and growth, the onset of the global recession of 2008 coincided with data collection. Among other aspects of child development the project will allow an in-depth analysis of the resultant changes in the lives and life chances of infants in Ireland in a period of economic recession. At this point the length and depth of the recession is unknown. Interesting comparisons could be made – if this cohort is followed up until age nine and beyond – with the Child Cohort. The children in the Child Cohort were born in and have spent their childhood in the Celtic Tiger era, where there was high employment and widespread optimism about Ireland's economic prosperity. A rapidly changing economic environment may bring about a new range of untoward effects on children's wellbeing and development which *Growing Up in Ireland* will be well placed to measure and monitor. These changes will be set within a range of other relatively recent social changes influencing children's lives – such as later marriage, smaller families, changing family structures, increasing proportions of births outside marriage and the advent of information and communications technologies that have a major influence on family lives and the daily lives of children.

The greatest strength of the project lies, of course, in its longitudinal design. The next time these children and their families are due to be seen will be when the children are three years old. As more waves of data become available (at three and, possibly, five years of age) the tracing of developmental trajectories will be feasible, which will greatly enhance the value of the data as an evidence base for policymakers, service providers and researchers alike. *Growing Up in Ireland* will provide unprecedented insights into the relative importance and endurance of infant experiences on the course of later development. It will permit analysis of the infant's individual context on his/her functioning and will thus provide an important starting point from which to cast light on the link between development at nine months and outcomes at three years – the next phase of the project.

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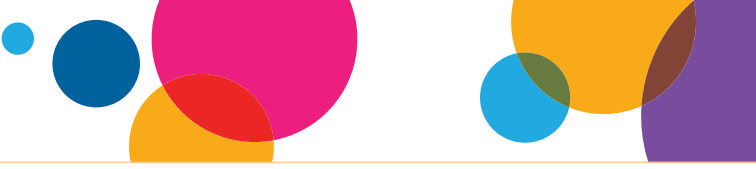
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