

CHILDCARE, EARLY EDUCATION AND SOCIO-EMOTIONAL OUTCOMES AT AGE 5

EVIDENCE FROM THE GROWING UP IN IRELAND STUDY

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AND FRANCES MCGINNITY



Childcare, Early Education and Socio-Emotional Outcomes at Age 5: Evidence from the *Growing Up in Ireland* study

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Executive Summary

This report examines the effects of experiencing non-parental childcare on children's socio-emotional development at age five. The analysis is based on three waves of data from the Infant Cohort of the *Growing Up in Ireland* survey (at age nine months, three years and five years). The child's primary caregiver – usually the mother – and teacher completed the Strengths and Difficulties Questionnaire (SDQ). This test assesses the child's pro-social skills (e.g. sharing, kindness to younger children) and socio-emotional difficulties, including conduct problems, emotional difficulties, hyperactivity/inattention and peer problems. At three years, prior to the Free Preschool Year, half of all children were in regular non-parental care. Just over 50 per cent of those in childcare were in centre-based care, such as crèches, with the remainder equally divided between care by a relative, predominantly grandparents, and care by a non-relative such as a childminder.

The main questions addressed in this study are: Is participation in different non-parental care types in the first three years of life associated with differences in children's socio-emotional development at age five? Does the quantity of non-parental care have any influence on social, emotional and behavioural outcomes? Does centre-based care affect different groups of children differently, for example, do effects vary according to child and family characteristics and/or social background?

KEY FINDINGS

How does non-parental care at age three influence socio-emotional outcomes at age five?

After controlling for a range of child, parent, family and neighbourhood level characteristics, the study found that compared to children in parental only care at age three:

- Care provided by **relatives** at age three was associated with lower socio-emotional difficulties as assessed by parents and higher pro-social skills as judged by parents and teachers at age five.
- Children cared for by a **non-relative** were rated by both parents and teachers as having fewer socio-emotional difficulties, in particular, fewer emotional and peer problems. Teachers also judged this group to have a higher level of pro-social behaviour.
- Teachers rated children who attended **centre-based care** at age 3 as having more socio-emotional difficulties compared to children in parental care only.

This difference was driven by higher levels of externalising behaviour (hyperactivity and conduct problems).

- Parents rated children who attended **centre-based care** as having fewer emotional and peer problems, but marginally higher conduct problems compared to children in full-time parental care. When the subscales were combined to form the overall difficulties score, there was no difference between the two groups.
- Differences between parent and teacher ratings are consistently found in the international literature and are likely to be influenced by varying expectations between parents and teachers, differences in the settings in which the children are observed and differences in the relationship intensity between the child and teacher or parent. Both provide valid information on children's adjustment in different contexts.
- Overall the effect of childcare type at age three on socio-emotional development at age 5 is small and childcare type explained less than 1 per cent of variance in children's scores. Potential differences arising due to variation in the quality of care within care-types cannot be assessed with the current data.

Does quantity of non-parental care affect social, emotional and behavioural outcomes?

- Children who spent a total of 30 or more hours per week in any type of non-parental care were considered by teachers to have more socio-emotional difficulties after controlling for other variables. No such effect was found for parents' assessment of children's SDQ.
- Spending more hours per week in centre-based care was found to be related to higher socio-emotional difficulties and less pro-social behaviour as judged by teachers but not by parents. However, parents assessed children who spent more time in relative care as having greater pro-social skills and fewer socio-emotional problems.
- Having been in non-parental childcare of any type at nine months was found to have a small positive effect on socio-emotional outcomes at age five.

Other factors associated with variation in children's socio-emotional development

- The child's health, gender and a number of parent, family and socio-economic characteristics (including for example family structure and parenting style) all had a stronger impact on children's socio-emotional outcomes than childcare.
- Family financial difficulties such as debt problems and difficulty making ends meet were associated with poorer outcomes across all the difficulties subscales: conduct, hyperactivity, peer and emotional problems.

- Children from lower social class backgrounds had significantly more difficulties - especially hyperactivity and conduct problems, and lower pro-social behaviour as judged by teachers.
- Poorer neighbourhood quality, in terms of safety and satisfaction with the area, was associated with higher socio-emotional difficulties across all the parent-rated subscales and was also linked to higher teacher-rated difficulties, especially on the conduct scale.

The effect of centre-based care on socio-emotional outcomes for different groups of children

In order to test theories about the possible compensatory effects of childcare and early education, the socio-emotional outcomes of disadvantaged and advantaged children who attended centre-based care were compared. Outcomes for girls and boys were also compared.

- Centre-based care did not have differential effects for advantaged and disadvantaged children according to parental scores: however, significant though small differences across groups did arise in teacher assessments.
- Teacher assessments showed that centre-based care was associated with small but significant improvements in pro-social behaviour for children in lone-parent families, compared to children of lone parents in full-time parental care.
- Children from the lowest social class backgrounds who attended centre-based care at age 3 had marginally lower socio-emotional difficulties than those who were cared for full-time at home.
- Conversely, centre-based care was related to increased socio-emotional difficulties among children who were advantaged on each of the dimensions.
- For girls, parents reported fewer socio-emotional problems among those who attended centre-based care, but teacher assessments showed the opposite.
- No effect was found for centre-based care on the socio-emotional adjustment of boys.

CONCLUSIONS AND ISSUES FOR FURTHER STUDY

This report shows that a range of different child, household, neighbourhood and socio-economic factors are associated with differences in children's socio-emotional outcomes. The longer term progress and consequences of outcomes in this area can continue to be assessed using *Growing Up in Ireland* data as the children in the study grow and develop.

While the effects of childcare type and hours on socio-emotional outcomes are small, the study provides evidence that childcare has some influence on the

development of socio-emotional skills. Relative and non-relative care were associated with fewer socio-emotional difficulties and increased pro-social behaviour compared to full-time parental care. Teachers' ratings suggest slightly greater socio-emotional problems for children in centre-based care, particularly those in longer hours of childcare (over 30 hours). However, effect sizes are small, and parent-rated overall difficulties do not differ between children in centre-based care and those in full-time parental care.

Social inequalities in socio-emotional development are already evident at age five. The results show that economic and social disadvantage, both within the family and the neighbourhood, have a consistently negative influence on children's socio-emotional outcomes in early childhood and this is also the case for children's cognitive development (McGinnity et al 2015). This underlines the need for a policy focus on preventing child poverty. We find some limited evidence to suggest that access to centre-based care has more beneficial effects for disadvantaged children, but the effects are small and are not sufficient to level the playing field.

These insights provide an important perspective from which to consider policy developments. Although the *Growing Up in Ireland (GUI)* survey provided a rich source of data for this study, information on childcare quality from the parental questionnaires is limited. Further studies on the quality of childcare settings and providers are clearly needed to adequately inform any future debate or policy decisions regarding childcare and potential child outcomes.¹

There has been significant policy development in the early education and childcare sector in Ireland over the last decade. In particular, the introduction of the Free Preschool Year in 2010, and its recent extension to two years, marked a major shift in policy. There has also been a focus on improving quality, for example through the introduction of curriculum guidelines and a quality framework, and recent changes in regulation. Yet, comparisons with levels of spending on early childhood care and education in other EU countries suggest that there is considerable scope for increased investment in Ireland. Both UNICEF and the Expert Advisory Group on Early Years Strategy recommended that spending be increased to 1 per cent of GDP. The nature of any investment has important implications for the quality of care and equality of access. An OECD review of childcare across 20 countries concluded that ensuring quality of service is best served by direct public funding of services rather than indirect funding through subsidies or tax credits to parents.

¹ Additional information is available from *GUI* questionnaires completed by providers, which will be used for further research when these data are deposited in the data archive.

Chapter 1

Childcare and Socio-Emotional Outcomes: Issues and Context

1.1 INTRODUCTION

In Ireland, participation in non-parental childcare is an increasingly common experience for young children. Findings from the *Growing Up in Ireland* study indicate that two in every five nine-month-olds (39 per cent) were in regular non-parental care. When the children turned three, half of the children were in non-parental care for an average of 25 hours per week (McGinnity et al., 2015). This care takes a variety of forms, from informal care by grandparents to participation in formal group care provided by the community sector or private sector. The state plays a role in funding some of this provision and in regulating the conditions under which providers operate. Therefore the influence of early childcare and early education on children's subsequent outcomes is of considerable public interest.

There is much debate surrounding the impact that early non-parental childcare has on children's development (OECD, 2015). Much of the earlier research in this area focused on children's learning and educational outcomes. More recent research, however, recognises the equal importance of children's social, emotional and behavioural development and how this may be affected by childcare at an early age. Sammons et al. (2012) observe:

'The social-behavioural development of young people is important in its own right because it contributes to well-being, but also because it can influence current and future academic achievement, and shape developmental pathways' (Sammons et al., 2012, p.1).

Children's social, emotional, and behavioural development are interrelated with each domain influencing the other (see for example Hinshaw, 2008). Social development includes the acquisition of skills that allow children to participate in social interactions and includes pro-social skills such as co-operation and empathy. Emotional development is strongly tied to the child's behavioural and social functioning. In a review of the literature, Greene et al. (2014) note that 'effortful control' is a crucial aspect of emotional self-regulation and 'involves the child's ability to inhibit a powerful behavioural response and to respond with a more appropriate behaviour' (Greene et al., 2014, p. 38). Children over the age of

three years are better able to control their feelings and behaviour compared to younger children (Greene et al., 2014) although some may experience difficulties with behavioural adjustment. This can take the form of externalising behaviour problems which are expressed in children's outward behaviour and often include disruptive, hyperactive and aggressive behaviours. Internalising behaviour problems on the other hand reflect children's internal psychological environments, and can include withdrawn, anxious and depressed behaviours (Gialamas et al., 2015). The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) is a reliable and validated instrument widely used internationally to measure children's pro-social skills and behavioural difficulties in the form of conduct and hyperactivity (externalising problems) and emotional and peer problems (internalising behaviour). The SDQ is used to assess children's socio-emotional development in this study, see Chapter 2 for more details.

Children's socio-emotional development is also correlated with characteristics of the child such as gender and temperament, and with external factors such as parenting style, parental stress levels and family resources and wider environmental factors such as neighbourhood characteristics and public services, as described by the bio-ecological model of child development (Bronfenbrenner, 1979). Together these developmental features and environmental factors affect the child's ability to socialise appropriately, form peer relationships, and engage in positive relationships within the family and with teachers and carers.

During early childhood, between age 3 and age 5, which is the focus of our study, a child's social world expands outside the immediate family, and the child begins to participate in group settings including pre-school and school. Those whose socio-emotional competencies are less well developed may find it more difficult to learn in formal academic, and informal peer and family contexts. This interaction of socio-emotional and cognitive factors in early childhood is recognised in the 'school readiness' literature, (see for example, Blair 2002; Neuenschwander et al., 2012; Raver, 2003) which highlights factors such as concentration and self-regulation as being as important as language and reasoning skills in easing children's transition into school. The link between socio-emotional development and cognitive outcomes in early childhood has also been found in the *Growing Up in Ireland* study. McGinnity et al. (2015) found that socio-emotional development at age three, specifically hyperactivity and peer-problems, had a significant negative influence on children's cognitive outcomes at age five. Poor socio-emotional development can have continuing effects on mental health, behaviour and academic outcomes into adolescence and adulthood. For example, poorer socio-emotional development can predict substance abuse, delinquency, criminality and sub-optimal workplace performance (Denham et al., 2009; Bradley and Corwyn, 2005; Henry et al., 1996).

The objective of this study is to examine the effects of non-parental childcare in the first three years on children's social, emotional and behavioural development. The following research questions are addressed:

1. Is participation in different non-parental care types in *the first three years* of life associated with socio-emotional outcomes at age five?
2. Does the quantity of non-parental care influence socio-emotional outcomes?
3. Are there differential 'effects' of centre-based care for different groups of children, in particular do the effects vary with social background (e.g. mother's education, income group, nationality, neighbourhood characteristics) and family structure?

The *Growing Up in Ireland* study encompasses all forms of regular non-parental care, including informal care by relatives or friends/neighbours, childminders in the child's or carer's home, and centre-based services such as crèches, play-groups, pre-schools and Montessori schools, and includes both paid and unpaid care. The term Early Childhood Care and Education (ECCE) is increasingly used in the literature to describe non-parental childcare provisions for pre-school children (aged three to six years). This term emphasises the importance of both the care and the educational components of services for children in the first years of their lives. Not all forms of non-parental care may include an explicit educational component, although more informal care may still include learning activities.

Previous research on the relationship between early care and education and children's socio-emotional/behavioural development is discussed in Section 1.2. In this study we hope to add to the debate about possible differences in effects according to **care type** and different **quantities of care**. The study also provides the first national study of possible childcare effects on socio-emotional outcomes at age five, an important point in development as the children are beginning their school career. It incorporates both parents' and teachers' evaluations of the children's development. The study builds on research relating to childcare and socio-emotional outcomes carried out at age three (Byrne and O'Toole, 2015) and childcare and cognitive development at age five (McGinnity et al., 2015).

In this study, the influence of factors at earlier waves is tested on outcomes in subsequent waves; this is best practice in longitudinal research into child development. In practice this means that the effects of participation in non-parental childcare at Wave 1 (nine months old) and Wave 2 (three years old) on socio-emotional outcomes in Wave 3, at five years old, are examined. There are

no detailed childcare histories in the data, so it is not possible to add the experience of care between age three and five to the models.

Participation in the Free Preschool Year (FPSY) programme occurred after the Wave 2 interviews. The universal scheme was introduced at the same time throughout the country and had a very high take-up rate; 96 per cent of the children in the study took part in the scheme (McGinnity et al., 2015). The high level of participation means that non-participants are highly selective and therefore there is no matched control group with whom to compare outcomes. Consequently, it was not possible to model the effects of participation in the scheme *per se* on socio-emotional outcomes; we do, however, provide some figures on the take-up of the FPSY in Chapter 3.

Non-parental childcare is only one small component of the child's developmental environment; therefore the analysis in the following chapters also takes account of the multiple additional sources of influence such as personal, familial, social, economic, and institutional factors through statistical modelling. The multi-factorial nature of influences on children's socio-emotional development should also temper our expectations of the size of the effect of childcare characteristics on children's outcomes. The previous research outlined below suggests that the effect sizes of childcare are generally much smaller than family characteristics (see for example, Melhuish, 2004).

The remainder of this chapter is organised in the following manner. A review of the literature in Section 1.2 summarises previous research exploring the relationship between non-parental care and socio-emotional outcomes, and Section 1.3 describes the policy context in Ireland.

Chapter 2 provides a description of the *Growing Up in Ireland* data and the methodology applied in this study. In Chapter 3 we describe the main patterns of early care and education at age three years, including the hours of care. The features of centre-based care attended by the children, such as group size, are also described. This chapter also contains information on participation in the Free Preschool Year. Chapter 4 contains the main analysis of the relationship between care type and care quantity and children's socio-emotional/behavioural outcomes at age five years. Both bivariate and multivariate results are presented. The influence of socio-economic advantage/disadvantage on children's outcomes is also examined. Chapter 5 goes on to investigate whether the effects of care-type and care hours vary for different groups of children, comparing both gender difference and differences by family social background and financial

circumstances. In Chapter 6 conclusions are drawn and ensuing policy implications are discussed.

1.2 PREVIOUS RESEARCH

1.2.1 Previous Findings for the Effect of Early Childcare on Socio-emotional Outcomes

In theory, it is possible for non-parental care to influence children's socio-emotional outcomes in both positive and negative ways. Hansen and Hawkes (2009) theorise that formal group care may be negatively associated with more behavioural difficulties in children due to a lower attachment to their carers, having to compete for attention in busier, noisier environments which may be associated with increased stress and aggression and the likelihood of bad behaviour being passed on through social learning. However, as argued by Peter et al. (2015) more opportunities to observe and interact with peers of a similar age may enhance peer sociability as per social learning theory (Bandura, 1989). Similarly, the likelihood of increased social cognition as a result of exchanges with peers may increase social and emotional knowledge, and communication and social problem-solving skills (Rubin and Rose-Krasnor, 1992).

While reported effect sizes are generally larger for cognitive outcomes (see for example Sammons, 2010; Sammons et al., 2012; Melhuish et al., 2015; Camilli et al., 2010; Sylva et al., 2004; Keys et al., 2013), previous studies find both positive and negative associations between participation in non-parental childcare and socio-emotional outcomes.² To facilitate comparison with the current research, we have prioritised findings from studies that use the Strengths and Difficulties Questionnaire (SDQ) as a measure of children's socio-emotional development. Alternative outcome measures are indicated in footnotes.

We focus on the results from general population studies of children, predominantly cohort or longitudinal studies. These studies provide the closest comparison for the *Growing Up in Ireland* study. There is also a significant body of research based on randomised control trials or quasi-experimental studies of intensive targeted interventions. Due to the nature of the interventions, these studies tend to be smaller scale, though the methodology means that the results are highly reliable. Some of these studies are discussed in Section 1.3.1 which looks at effects of care on disadvantaged groups.

² Most of the studies reviewed in this section also report that the effect of controlled variables such as child, family and home characteristics on children's socio-emotional outcomes are much larger than any childcare effect.

The UK Millennium Cohort Study (MCS) is a large scale longitudinal study which has a design that follows children from infancy similar to the *Growing Up in Ireland* study and which uses many of the same measures including the SDQ; this allows for a useful comparison of results. Researchers using MCS data have found links between participation in childcare at infancy (before age 3 years) and better socio-emotional outcomes at three and five-years-old. For instance, McMunn et al. (2011) found that maternal employment, and hence non-parental care, was associated with less difficult child behaviour, although the study did not take account of the type of childcare that was experienced. Other studies using MCS data also found that non-parental childcare was related to better socio-emotional outcomes, for example, Dearden et al. (2010) who examined childcare as a mediating factor in socio-emotional development among children from different socio-economic backgrounds. Similarly, while Hansen and Hawkes (2009) did not find an independent effect for formal childcare (e.g. crèche or childminder) on socio-emotional outcomes, they report that grandparent care compared to formal group care in infancy is associated with more problem behaviour, especially peer problems at age 3 years.

The SDQ is also used to measure socio-emotional outcomes in the Longitudinal Study of Australian Children (LSAC). Using cross-sectional data from the study, Harrison (2008) found that mothers rated their children's social competence as higher and behaviour problems as lower when they attended some form of childcare, compared to those who did not.³ In a subsequent study Harrison et al. (2009) reported lower mother-rated problem behaviour but also lower pro-social behaviour at age 4-5 years for children currently in formal centre-based care compared to those in informal care settings, excluding children in parental care. However, when they include a small group of children who were cared for exclusively by their parents in the comparison group of children in home-based care, no significant differences remained between children with or without experience of centre-based care. In addition, only small but significant differences remained for pro-social behaviour between those with and without experience of centre-based care.⁴ Although the overall effect sizes were small, the study found that childcare setting was a stronger predictor of teacher/carer ratings than of parental ratings;⁵ teachers reported less behaviour problems (and better pro-social behaviour for children in centre-based care compared to those in informal care settings (excluding children in parental care only). Furthermore, teachers reported lower pro-social behaviour and higher problem behaviours for children attending multiple settings each week (Harrison et al., 2009).

³ Measured using the Brief Infant Toddler Social and Emotional Assessment (BITSEA) scale.

⁴ No analysis is reported which directly compares centre-based care or home-based care with full-time parental care.

⁵ The 'childcare type' predictor variable explained only 0.6 per cent of total variance in mother-rated SDQ pro-social and problem behaviour scores. It accounted for 2.1 per cent and 1.4 per cent of variance in teacher-rated pro-social and problem behaviour scores respectively.

Smart et al. (2008), also using Australian LSAC data, reported that children currently in informal childcare or parent-only care were less likely to have low parent-rated pro-social scores compared to those in formal childcare and pre-school type settings. Similarly, using the *Growing Up in Ireland* study, Byrne and O'Toole (2015) found that at 9 years, children in after school centre care had higher SDQ total difficulties scores but in the separate infant sample there was no independent effect of childcare type at infancy on socio-emotional outcomes at three-years-old. The Growing Up in Scotland (GUS) longitudinal study also reports that any bivariate differences in problem behaviour between groups of 5-year-old children who attended different childcare settings at infancy dissipate when other variables are controlled for (Bradshaw et al., 2014).

Studies that focus on the quality and quantity of childcare being experienced rather than the type or setting may allow a clearer picture of the exact nature of the relationship between early childcare experience and socio-emotional development. These studies are examined in the following section.

1.2.2 Quality of Care and Socio-Emotional Outcomes

Quality of early childcare is determined by both structural and process features. Structural features comprise aspects such as the caregiver's level of education and training and the number of children and adult caregivers in the group. Process features include carer-child interaction, language stimulation and the warmth and supportiveness of relationships between adults and children (NICHD ECCRN, 2000; Burchinal et al., 2002; Harrison, 2008; Sammons, 2010).

Much early childcare research finds that centre-based childcare and interventions that are of a higher quality are related to better cognitive and socio-emotional outcomes (Camilli et al., 2010; Sylva et al., 2004). Reviews also suggest that better quality childcare may have particularly positive benefits for disadvantaged groups (Melhuish et al., 2015; Keys et al., 2013) or mitigate any negative outcomes as a result of starting centre-based care at an early age (Sylva et al., 2004) and spending longer hours in care (NICHD ECCRN, 2005).

The Effective Pre-School, Primary and Secondary Education Project (EPPSE) study in the UK was designed to assess the short- and long-term effects of care centre characteristics. It has been following the cognitive and social/behavioural development of nearly 3,000 children from the age of about 3 years since 1997 (with children's history of childcare before age 3 collected at entry to the study). This study reports that by age 14 years, just having attended pre-school no longer predicts better social/behavioural outcome as it did up until age 11 (Sammons,

2010). However, high quality care continued to be a significant, although weak, predictor of all four social/behavioural outcomes used up until age 14 years⁶ (Sammons et al., 2012). Children attending centres where managers had qualifications above Level 5 had significantly better socio-emotional gains and less anti-social or worried behaviour; however, there was no significant relationship between observed adult-to-child ratios and social/behavioural development (Sylva et al., 2004; Sammons et al., 2012).

In an Australian cross-sectional study (using LSAC data) that focused on the relationship between quantity and quality of current childcare and socio-emotional outcomes, Harrison (2008) reported that carers' ratings of social development was higher for two- to three-year-old children in smaller groups and that parent and carer ratings of social development were higher for children whose carers were more actively engaged.⁷ In a later study Harrison et al. (2009) found that mothers and teachers rated pro-social behaviour as higher and problem behaviours lower for children aged 4 to 5 years currently in childcare centres where the ratio of qualified staff to children was higher. Similarly, Gialamas et al. (2014), using the LSAC data and focusing on quality of early centre-based childcare and family day care, found that higher quality of care⁸ was associated with lower parent and teacher reported internalising and externalising⁹ problem behaviour that persisted to age 6 to 7 years.

In contrast, research using the Scottish Longitudinal Study of Children reported that the small associations between socio-emotional outcomes and higher quality childcare became non-significant once child and demographic variables were added (Bradshaw et al., 2014).

Findings from the US using NICHD data, have found that while there is a relatively strong relationship between quality of early childcare (particularly relative care) and cognitive outcomes, the association between centre-based care and social functioning hinges not on quality but on quantity (NICHD ECCRN, 2005; Belsky et al., 2007). However, more recent studies using NICHD data indicate that high quality care can predict youth reports of less externalising behaviour at age 15 years (Vandell et al., 2010).

⁶ Measured using the Child Social Behaviour Questionnaire (CSBQ).

⁷ Measured using the Brief Infant Toddler Social and Emotional Assessment (BITSEA) scale.

⁸ A total of 31 indicators from the centre and home-based carer questionnaires were used to generate a proxy measure of childcare quality describing provider and programme characteristics of care, activities in childcare and the carer-child relationship.

⁹ In the SDQ, the emotional and peer problem subscales can be combined into an indicator of 'internalising' problems and the conduct and hyperactivity subscales into a measure of 'externalising' problems (Goodman et al., 2010).

1.2.3 Quantity or Duration of Non-Parental Care

Before discussing any findings from US studies relating to children's socio-emotional outcomes and the quantity of non-parental care they receive, it is important to note some typical differences in the area of childcare between the US and Ireland. There is no legislation to guarantee paid maternal leave in the US as there is in Ireland.¹⁰ And, while there is no legislative right in either jurisdiction that allows working mothers with young children to work part-time, the *Irish Parental Leave Act (2013)* provides a right for employees to request flexible or reduced hours for a set period of time, although this is at the discretion of the employer (McGinnity et al., 2013). Between Ireland and the US, there are also differences in the regulation and funding of childcare provision and cultural factors such as attitudes to maternal employment (Stein et al., 2012).

All of these features contribute to differences in the age at which children enter non-parental care and the amount of care they receive. The US NICHD Early Child Care Research Network found that

[d]uring their first year of life, the children in the study experienced high rates of non-maternal care, with early entry into care, relatively long hours of care, and frequent changes in care arrangements (NICHD ECCRN, 2001, p.480).

This US study found that on average, children started non-maternal care at just over 3 months old, and by 12 months 69 per cent were regularly receiving non-maternal care. At first entry into care, these children averaged 29 hours of care per week which increased to 34 hours by the age of 12 months. At 12 months, nearly half of all the children in the study (45 per cent) were in care for 30 or more hours a week. By 36 months of age 80 per cent were currently in non-maternal care, and while there was only a slight increase to 52 per cent of children regularly spending 30 hours or more a week in non-maternal care, the type of care changed considerably; with 44 per cent in centre care, a rise from 13 per cent at entry age and 17 per cent at age one (NICHD ECCRN, 2001).

The *Growing Up in Ireland* study found that just under two-in-five infants (39 per cent) were in regular non-parental childcare at nine months of age with most children starting non-parental childcare around six months of age; at nine months the average time spent in non-parental care was 26 hours and the majority (57 per cent) were in care for less than 30 hours. At three years, 50 per cent of

¹⁰ Women in insurable employment immediately before maternity leave and who have paid social insurance (PRSI) contributions, are entitled to receive a payment from the State for up to 26 weeks after giving birth and a further 16 weeks unpaid leave. The *Parental Leave Act (2013)* allows parents to take an additional 18 week's unpaid leave per child.

children were in regular non-parental childcare, 36 per cent of whom attended for more than 30 hours per week and, following the pattern in the US, a higher number were in centre-based care; this increased from 10 per cent at nine months to 27 per cent at three-years-old (Williams et al., 2013).

Initial studies from the US suggested that more hours of any type of early childcare was associated with higher teacher-rated externalising problem behaviour, higher teacher-child conflict and lower social skills and adaptive work habits in children aged 2 years and 4 to 5 years (NICHD ECCRN, 1998; 2001). These effects were reported to persist in children aged 6 to 7 years with teacher/child conflict and externalising behaviour dissipating by age 8 to 9 years (NICHD ECCRN, 2005). More importantly, differences were found between different types of childcare settings. It was the children who spent more time in **centre-based care** that had a more conflictual relationship with their mothers and teachers and more teacher-reported externalising behaviour problems (NICHD ECCRN 2005; Van Ijzendoorn et al., 2004). Spending more time in family day care¹¹ was related to higher teacher conflict and more teacher-rated social competence, which continued until age 8 to 9 years (NICHD ECCRN 2005).

Furthermore, Belsky et al. (2007), using the same data, report that higher levels of early group care were associated with a re-emergence of teacher-rated externalising behaviour at age 11 to 12 years. Similarly, Vandell et al. (2010), also using NICHD data, found that more hours of non-relative care predicted more risk taking and impulsivity at age 15.¹²

In the UK, while Peter et al. (2015) using MCS data point to better socio-emotional outcomes for children who enter group care before the age of 2½ years, no distinction is made, in this study, between different types of group care settings, quality of setting or number of hours spent in childcare per week.¹³ Meanwhile, the UK EPPE study provides evidence suggesting that children who start group care between the ages of 2 to 3 years had higher teacher-rated peer sociability scores than those starting after this age, and that this effect lasted to the age of 7 years. Children who started group care before the age of two were reported to have slightly more 'Anti-social/Worried' behaviour at age three and age five. However, this applied mainly to Local Authority and private day

¹¹ In the US care provided by a non-relative in the caregiver's home is commonly called family day care (see National Center for Education Statistics <http://nces.ed.gov/pubs95/web/95824.asp>).

¹² Risk taking was measured using an audio computer-assisted self-interview ($b=0.008$ and impulsivity measured using an eight-item questionnaire taken from the Weinberger Adjustment Inventory (Weinberger and Schwartz, 1990).

¹³ This study uses Propensity Score Matching (to adjust for selection bias in non-experimental studies); later entry into group care was associated with 8 per cent of a standard deviation increase in SDQ peer problem behaviour at age 5 and a 7 per cent standard deviation increase in overall SDQ scores at age 7, mainly due to peer problems and hyperactivity which increase by 8 per cent and 5 per cent respectively.

nurseries where children tended to start before two years of age and some under one year. This effect was reduced where the quality of the childcare centre was higher and there was no evidence of this effect lasting up to age seven (Sylva et al., 2004; Sammons, 2010; Melhuish et al., 2001; Melhuish, 2010). Longer hours of care by a relative (usually a grandmother) were associated with less anti-social behaviour and more co-operation and conformity¹⁴ (Melhuish et al., 2001). There was no evidence that mobile children, who moved pre-school centre during the study, showed poorer social or behavioural outcomes at age 5 years nor were there any significant differences between full- and part-time attendance (Sylva et al., 2004).

Harrison (2008), in Australia, found no significant effect on parent-rated socio-emotional competence or behavioural problems¹⁵ when children spent more hours per week in non-parental care. However, parents reported higher levels of problem behaviour for children who spent longer hours in formal care settings (centre-based and family-based day care) compared to children with more hours in informal care (relatives, nanny, friends). This study found more consistency among carer reports of socio behavioural outcomes with carers reporting higher levels of both socio-emotional competence and behavioural problems in children who spent more hours per week in both informal and formal childcare settings, with more robust findings for socio-emotional competence. In a later study, Harrison et al. (2009) found that instability in group care settings, that is, children who attended multiple settings each week, was a more important factor than quantity of centre-based care. Teachers rated problem behaviours as being higher for children who experienced instability in group care settings¹⁶ while there was no significant effect for number of hours per week or the age of starting group care. Gialamas et al. (2015) used the same LSAC data but carried out a longitudinal analysis on the effect of childcare at age 0 to 1 year and 2 to 3 years on socio-emotional outcomes at 4 to 5 years.¹⁷ They found that increasing the time spent in any type of childcare by one day per week over the first three years of life resulted in higher levels of parent- and teacher-reported externalising problem behaviours and lower parent-reported internalising problem behaviours. In addition, compared with children cared for only by parents in the first three years of life, children in centre-based care had higher parent- and teacher-reported externalising problem behaviours and lower parent- and teacher-reported internalising problem behaviours at 4 to 5 years.¹⁸

¹⁴ As reported by pre-school workers.

¹⁵ Using the Brief Infant Toddler Social and Emotional Assessment (BITSEA) scale.

¹⁶ SDQ total difficulties score increase of 1.1 points ($p < .05$) for more than one setting and 1.7 points ($< .01$) for more than two settings.

¹⁷ Children who attended pre-school or kindergarten were excluded as they are administratively classified as belonging to the education sector in Australia (this was approximately 6 per cent of the sample).

¹⁸ These results held when the two age groups (0-1 year and 2-3 years) were examined separately.

No association was found between any other types of childcare and children's problem behaviour.

1.2.4 Disadvantaged Groups

Social class and financial disadvantage can impact children's development both directly and indirectly through parental health and education, neighbourhood disadvantage and family adversity which can in turn affect parenting style. There is a large body of evidence to suggest that children from disadvantaged families have poorer socio-emotional outcomes (Janus and Duku, 2007; Kerr, 2004; McLoyd, 1998). Among the infant cohort in the *Growing Up in Ireland* study, Williams et al. (2013) found that three-year-old children in the professional group were least likely (8 per cent) to be in the 'problematic' range for behavioural/emotional difficulties (assessed using the SDQ). However, the risk increased as social class declined rising to 24 per cent among children in the 'never worked' social group. Similar trends were evident across other socio-economic indicators: for example, children in one-parent families were reported (by the parent) as having more behavioural difficulties in comparison to those in two parent families. Again, this is a common finding internationally (Hansen and Joshi, 2007; Propper and Rigg, 2007).

It is suggested that there may be a 'compensatory' effect from high quality non-parental care that benefits less advantaged families and which 'may serve as a protective factor to promote the development of low-income children' (Peng and Robins, 2010, p.4), and indeed this theory lies behind many early interventions. Alongside the evidence from general population research discussed above, there is a significant body of research to support the finding that childcare works as an intervention strategy to improve both cognitive and socio-emotional development among disadvantaged children. This is especially apparent where interventions are evaluated using a strong experimental design (see for example Melhuish et al., 2015). Following a review of international childcare intervention evaluation studies¹⁹ Melhuish et al. (2015) conclude that high quality childcare produces more benefits for the social development of disadvantaged children compared to advantaged children, with more consistent results among studies evaluating the progress of children who started childcare after age three. He argues that while cognitive gain may not persist, it is the boost to confidence and social skills afforded to disadvantaged children who attend childcare that provide a better foundation for continued school (and workplace) success.

Some non-experimental studies have also found positive effects of centre-based care for disadvantaged children. Peng and Robins (2010) using US data for a

¹⁹ Intervention evaluations used either randomised control techniques (RCT) or quasi-experimental designs.

sample of predominantly low income one-parent families, found that after controlling for selection bias, centre-based care was associated with reduced internalising and externalising behaviour. In addition, care by a relative in the child's home increases with both internalising and externalising behaviour and care from a relative or non-relative in their home was related to externalising behaviour. While effect sizes were relatively small, the study supports the 'compensatory' argument due to the disadvantaged background of most of the children in the study. Also in the US, a meta-analysis of four large studies containing data from children in centre-based care by Keys et al. (2013) reports that there were greater gains in social skills for children with who had lower cognitive skills at entry²⁰ suggesting a compensatory effect. But the meta-analysis also found an 'accumulative effect', whereby children who had more highly educated mothers experienced greater benefits from good quality early care due to their ability to build on these advantages.

Drawing on the UK EPPE data, Sammons (2010) reports that at age 11, children with high multiple disadvantage (based on various child and family characteristics associated with poorer social and behavioural outcomes), benefited more than children with lower levels of disadvantage from attending high quality pre-school groups. She also makes the point that children from disadvantaged backgrounds tend to attend for fewer months (average of 4-6 months less), which acts as an additional disadvantage for these children (Sammons 2010). Also in the UK, Hansen and Hawkes' (2009) finding that children who had received childcare from a grandparent scored higher on the SDQ peer problems dimension, was shown to remain significant only for those children who were more advantaged.²¹ In a Scottish study, Zigel et al. (2014) show that after controlling for other factors²² the children of lone parents benefited from any form of non-parental childcare type; whereas for the whole population of children a positive effect on behaviour was only evident for those using centre-based care for less than 25 hours per week.

In Australia, Smart et al. (2008) reported that interaction analysis showed financially disadvantaged children in informal or parent-only care had higher hyperactivity scores than those who attended pre-school (OR = 2.2).

1.2.5 Gender Disadvantage

Socio-emotional outcomes are also known to differ according to gender. Findings from other international large scale longitudinal studies using the SDQ as an

²⁰ This was both at the meta-analysis and individual study level.

²¹ In terms of gender, mother's education, not having a lone parent, an older mother and family not on benefits.

²² Controls included child characteristics, family socio demographic and economic factors and mothers wellbeing.

outcome measure have reported boys as having higher levels of difficulties compared with girls (Bradshaw and Tipping, 2010; Smart, 2011; Sammons et al., 2008). The *GUI* study finds significant differences at age three between Irish boys and girls on four of the five subscales. Boys showed higher levels of difficulties (between 0.2 and 0.5 points out of ten) on the conduct problems, peer-problems and hyperactivity subscales, according to parental reports, although there were no significant difference between boys and girls on the emotional symptoms subscale. When averaged across the four dimensions comprising the total difficulties score, boys had significantly higher levels of difficulties overall (0.8 of a point). Girls by contrast scored more highly than boys on the pro-social subscale of the SDQ (0.5 of a point) (Williams et al., 2013).

Goodman (1997) recommends using the 90th percentile on the total difficulties scale to define children with a problematic behavioural profile. Using the *Growing Up in Ireland* data, Williams et al. (2013) report that 12.5 per cent of study children were identified as having a problematic behavioural profile and boys were significantly more likely to score in this range (14 per cent for boys versus 11 per cent for girls).

While overall girls tend to have better socio-emotional and behavioural outcomes, boys show a greater benefit in this area of development when they experience high quality pre-school provision (Sammons et al., 2008; 2012; Sylva et al., 2004; Peter et al., 2015). The UK EPPE study found that these gender differences persisted to age 11. They explored the differential benefits of **high quality** pre-school care on groups of children whose situations differed on the basis of gender, eligibility for free school meals, mother's education, early identified behaviour problems and special educational needs (SEN). Results showed differential effects only for gender and SEN, suggesting that at age 11 boys (and children identified as SEN) gained more benefit from attending high quality pre-school than girls.

1.2.6 Area Differences

Neighbourhoods can influence the wellbeing of their residents through both structural and compositional characteristics (Macintyre et al., 2008). Structural features relate to the physical environment such as the availability of services and the quality of the physical infrastructure (for example, availability of health and community services, recreational facilities or green spaces, supermarkets, street lighting, quality of housing). Compositional characteristics refer to the characteristics of residents and the collective social functioning of the community. Compositional features include factors such as the level of unemployment in the neighbourhood, levels of poverty, or the proportion of

younger or older households. Social functioning encapsulates features such as the level of crime, or the social cohesiveness of the community.

A systematic review of 13 multilevel studies by Sellstrom and Bremberg (2006) found that neighbourhood context was related to a variety of child outcomes such as birth-weight, behavioural problems, risk for injury and child maltreatment. Neighbourhood disadvantage was associated with a higher risk of behavioural problems in four of the five studies where this served as an outcome variable.

Previous findings from the *Growing Up in Ireland* survey show that risk of injury is greatest among the children of parents who had the least positive opinions on the safety of their neighbourhood. Children of parents who strongly disagreed with the following statements; it is 'Safe for kids to play outside during the day' and it is 'Safe to walk alone at night' had higher rates of injury (22 per cent) than those whose parents strongly agreed with these statements (15 per cent).

Neighbourhood effects have been considered in a number of the international child cohort studies. The Longitudinal Study of Australian Children (LSAC) found that there was an association between neighbourhood advantage/disadvantage and the type of non-parental childcare attended. Bivariate analysis showed that children living in the most disadvantaged communities²³ were less likely to attend family day care than those in the top two quintiles and those in the top quintile more likely to attend non-relative care than those below the 3rd quintile (Harrison et al., 2009). The LSAC research also found that living in a disadvantaged area was associated with higher conduct problems and peer problems (Smart et al., 2008).

In contrast, the British EPPE study found neighbourhood influence, measured in terms of the Index of Multiple Deprivation (IMD), was non-significant for children's cognitive and social behavioural development at age 11 years after taking into account child and family characteristics, particularly home learning environment (Sammons et al., 2008).

At age 14 a student's neighbourhood was found to have stronger effects on outcomes than was apparent during primary school. Findings from the EPPSE study in the UK show that disadvantaged neighbourhoods²⁴ predicted poorer

²³ Neighbourhood disadvantage was based on information from the Census.

²⁴ Measured by indicators including the Index of Multiple Disadvantage (IMD, Noble et al., 2004 in Sammons et al., 2012 and Sylva et al., 2012) and the Income Deprivation Affecting Children Index (IDACI, Noble et al., 2007 in Sammons et al., 2012 and Sylva et al., 2012) using students' postcodes.

‘self-regulation’, higher levels of ‘hyperactivity’ and increased ‘anti-social’ behaviour. In addition, higher levels of neighbourhood criminality were associated with poorer outcomes in all four social-behavioural domains; higher levels of unemployment were related to increased ‘hyperactivity’ in 14-year-olds and a higher incidence of limiting long-term illness in the area resulted in lower levels of ‘self-regulation’.²⁵ Despite the small effect sizes, these neighbourhood influences remained statistically significant after controlling for individual and family characteristics (Sammons, 2012; Sylva et al., 2012).

This review of the literature acknowledges that children’s socio-emotional development is strongly influenced by certain characteristics of the child such as temperament, family factors such as parenting style, parent-child attachment and parental mental health, family resources and constraints and the wider economic and institutional environment. However, it has shown that there is some evidence for an independent effect of non-parental childcare on children’s socio-emotional outcomes. This is particularly the case where childcare is of high quality and the effect may be greater for children who are socially disadvantaged. In the following chapters we investigate which of the findings are replicated in the Irish context.

1.3 CHILDCARE POLICY IN IRELAND

The type and amount of non-parental care used by parents for their children are strongly influenced by state policies such as supported leave entitlements, policies to support flexible or reduced working hours and the provision and cost of childcare services (OECD, 2007; Russell et al., 2011; McGinnity et al., 2013). The guiding principles, policies and debates that inform current State support for non-parental care are outlined in Section 1.3.1. The focus of Section 1.3.2 is on current regulations governing childcare standards. In conclusion, Section 1.3.3 outlines some recent policy recommendations while Section 1.3.4 looks at some of the policies and changes that have been implemented to date.

Attention is given to policy and provision up to the end of Wave 3 of *Growing Up in Ireland* (September 2013), but policy changes since are also mentioned where relevant. Policies that support the combination of employment with the care of young children such as maternity leave provision and parental leave also shape the demand for non-parental childcare; these are discussed in McGinnity et al. (2015) and are not described here.

²⁵ Measured using parent’s perception of neighbourhood safety and social cohesion from parent questionnaires.

1.3.1 State Support for Non-Parental Care for Pre-School Children

During the 1990s and early 2000s successive Irish Governments sought to remain neutral in terms of providing support for parental care in the home and non-parental care outside the home (McGinnity et al., 2013). This was reflected in the Government's preferred policy of providing parents with direct cash payments that are not conditional on labour market participation, in the form of Child Benefit. As demand for financial support for childcare rose during the economic boom, the policy response was to increase Child Benefit and in 2006 an Early Childcare Supplement was introduced, though it was abolished in 2009. The OECD (2007) argued that raising Child Benefit, which is paid whether or not parents are working, was a poorly targeted childcare expenditure even though it may have other objectives, such as contributing to the cost of raising children and combating child poverty.

Over the same period, financial support to the childcare sector was provided in the form of capital grants to encourage private and community sector childcare provision. This led to a massive expansion of childcare places between 2000 and 2010. Community sector services, which make up around 25 per cent of childcare provision, typically serve disadvantaged communities and provide subsidies to disadvantaged parents through schemes such as Community Childcare Subvention and Training and Employment Childcare Programmes. The Community Childcare Subvention (CCS) scheme currently subsidises approximately 27,000 childcare places annually in participating community-based providers,²⁶ and approximately 14,800 of these are pre-school places.²⁷ One problem with the CCS is that in some areas there are no community providers and therefore no access to this support for disadvantaged children (Start Strong, 2014a).²⁸ The Training and Employment Childcare Programmes (TEC), offers support to eligible parents to start training courses and return to work by providing subsidised childcare places.

Some additional early childcare places are also provided by targeted intervention projects based in disadvantaged urban areas; these are funded by the Irish Government, for example the Early Start programme. Another programme, the National Early Years Access Initiative (NEYAI), funded by Atlantic Philanthropies, aimed to improve quality of services. Some of these programmes have been evaluated based on comparative child outcomes (see Educational Research

²⁶ See www.dcy.gov.ie/documents/ecce-scheme/20151118UpdatedExpansionNoticeECCE.PDF.

²⁷ Clarified via email from Pobal Monitoring, Analysis and Outcomes Unit. The figure (14,845) refers to the number of children in CCS in 2015 whose date of birth indicated that they were under 5 years.

²⁸ Additional CCS places were announced in Budget 2016 that opened the scheme up to some private providers from April 2016.

Centre, 1998; Kelly and Kellaghan, 1999; Lewis et al., 2011; McKeown et al., 2014 for a review of this provision).

A significant shift in policy came with the introduction of the Free Preschool Year (FPSY)²⁹ in 2010. This is a universal scheme which provides free part-time early care and education to pre-school age children. From 2010 to 2015 the scheme was available to children who were aged from 3 years and 2 months to 4 years and 7 months on the 1st September in the academic year preceding school entry. The pre-school place covered one school year (38 weeks) for 15 hours per week and is available at no cost to parents although they can choose to pay for additional or 'top up' hours at the same childcare setting if this option is offered by the childcare provider (the scheme is described in more detail in Chapter 2).

Overall, this package of provisions means that for the large majority of parents with pre-school children, there is still no financial support for childcare beyond the Free Preschool Year. Given the age qualification for FPSY, even after this scheme is extended to two years in September 2016 (see below), the issues of childcare costs are particularly acute for those with children under the age of 3 years. Wolfe et al. (2013) argue that, despite marked change in policy and provision in the past 20 years, a traditional policy paradigm has remained, where the State's role in service delivery is limited, the Government are reluctant to intervene in family policy, and education is prioritised over care.

International comparisons suggest that the cost of childcare for families in Ireland is among the highest in the EU; amounting to just over 27 per cent of the family's net income in Ireland, compared to an OECD average of just over 12 per cent and an EU average of 11 per cent in 2012 (OECD, 2014). For single-parent families, the net costs of childcare are even higher. According to 2012 OECD estimates, childcare costs represent 40 per cent of an Irish single-parent family's net income, where the parent is earning 50 per cent of the average wage.

Ireland came joint last out of 25 affluent countries achieving only one out of ten benchmarks relating to the provision of early childhood education and care in an influential international report (UNICEF, 2008). While there has been progress on some of the policy indicators since this report (see below), State financial support for and investment in non-parental childcare in Ireland is low in comparative terms. Public investment in Ireland's pre-school services amounts to less than 0.2

²⁹ This is officially known as the Early Childhood Care and Education Scheme (ECCE). However to avoid confusion with the same acronym used in the international literature to describe Early Childhood Care and Education (ECCE) services which provide non-parental childcare, 'FPSY' is used throughout this report to refer to this scheme.

per cent of GDP (Start Strong, 2015)³⁰ compared to the average investment of 0.8 per cent of GDP in OECD countries (OECD, 2014) and the UNICEF report recommended spending of 1 per cent of GDP in this area.

1.3.2 Current Regulation of Childcare Standards

Government policy also plays an important role in regulating the quality of care in both the community and private sectors. Minimum standards that must be adhered to were set down by Government in the *Child Care (Pre-School Services) Regulations (1997)* and updated in 2006 (Department of Health Children, 1997; 2006). These regulations provide the basis on which services are inspected and outline minimum standards such as the health, welfare and development of the child; facilities and the physical environment; and management and staffing features including adult-to-child ratios, and the qualifications of childcare staff.

There is no compulsory curriculum that childcare providers must follow. However in 2009 the National Council for Curriculum and Assessment set out guidelines on appropriate curriculum content for children from birth to 6 years, known as Aistear (NCCA, 2009).³¹ This is based on 12 principles grouped under the four themes of wellbeing, identity and belonging, communicating, exploring and thinking.

This was preceded by Síolta, the National Quality Framework for Early Childhood Education (CECDE, 2006).³² Síolta comprises of 16 standards covering individual ECCE areas such as play, interactions, environment and 75 components or indicators of quality within these areas. Tools and supports for implementation are provided to ECCE practitioners along with a system for validation. ECCE providers are not obliged to adopt the Síolta framework but those in receipt of public funding, including providers of the FPSY, must adhere to these principles. Engagement with Síolta can be informal which allows providers to apply the principles at their pace, or formal which involves implementation of the 12 step Síolta Quality Assurance Programme (QAP) with the support of a Síolta mentor.

The current pre-school services adult-to-child ratios have been in place since 2006 (Department of Health and Children, 2006). These range from 1:3 for children aged less than one year in full-time day-care; 1:5 for one to two-year-

³⁰ The published OECD (2014) Family Database figure for Ireland (0.5 per cent) includes the infant classes of primary schools (nearly 0.4 per cent of GDP). Excluding this, pre-school spending in Ireland was 0.16 per cent of GDP in 2015.

³¹ See www.ncca.ie/en/Publications/Syllabuses_and_Guidelines/Aistear_the_Early_Childhood_Curriculum_Framework.pdf.

³² See www.education.ie/en/The-Department/Re-use-of-Public-Sector-Information/Library/Early-Years-Education/Early-Years-Education-Resources/S%C3%ADolta.html.

olds; 1:6 for two to three-year-olds and 1:8 for children over three years old. Childminders may not look after more than five pre-school children, including their own, or more than two children under 15 months old.

Ratios are somewhat higher for those participating in the Free Preschool Year. Since September 2012, the maximum group size permitted during the sessional element of the FPSY service is 22 children per room and the minimum number of Pre-school Leaders and assistants is as follows:

- Up to 11 children: one Pre-school Leader;
- From 12-22 children: one Pre-school Leader and one Pre-school Assistant;
- From 23-33 children: two Pre-school Leaders and one Pre-school Assistant;
- From 34-44 children: two Pre-school Leaders and two Pre-school Assistants, and so on.

Prior to the introduction of the FPSY there was no minimum qualification requirement for staff working in the Early Years sector (Department Children and Youth Affairs, 2015a). This programme introduced a requirement that all Pre-school Leaders should hold a major award in Early Childhood Care and Education at a minimum of Level 5 on the National Framework for Qualifications (NFQ)³³ or equivalent. There was a financial incentive in the form of a higher capitation grant available to childcare providers in which the Pre-school Leader had achieved a qualification at Level 7 on the NFQ (or equivalent), and where pre-school room assistant staff held the minimum Level 5 award. Pobal's 2014 *Annual Report on the Early Years Sector* (Pobal, 2015) shows that only 15 per cent of childcare workers in Ireland hold a Level 7 or 8 NFQ degree which is much lower than the EU recommendation that 60 per cent of Early Years staff be graduates (University of East London and University of Ghent, 2011). However, many commentators argue that it is difficult for services to recruit and retain well-qualified staff when pay and working conditions remain poor (see for example Start Strong, 2014b; 2015).

In 2013 a National Early Years Quality Agenda was announced with the aim of improving quality in childcare services and implementing the guidance contained in *Síolta*, the National Quality Framework, and *Aistear*, the Early Childhood Curriculum Framework. Among the measures included in this initiative was the announcement of a regulatory requirement for all staff working directly with children in pre-school settings to hold a qualification in Early Childhood Care and Education at a minimum of NFQ Level 5 or the equivalent. This change will come

³³ See www.nfq.ie for details of qualification levels.

into force in December 2016. Furthermore, the providers of the FPSY will be required to ensure that all Pre-school Leaders hold a major award in Early Childhood Care and Education at a minimum of Level 6 on the NFQ, or equivalent (Department Children and Youth Affairs, 2015a). Greene and Hayes (2014) argue that, while the requirement for Level 5 qualification was an improvement, it set a very low bar; they noted that the qualification was

currently delivered by multiple providers, of varying quality and limited accountability, with some programmes solely online ... there is no system of external evaluation; and there is no mandated supervised placement of students.

The Child and Family Agency (TUSLA) is responsible for inspecting the compliance of early years services with the regulations. A number of authors and provider organisations have been critical of the inspection regime in Ireland, as it relies on inspection by public health nurses rather than those with expertise in early childhood education and care, and focuses on health and safety more than quality of instruction (Neylon, 2014; Greene and Hayes, 2014). Since early 2016 education focused Inspections are now also being carried out in pre-schools participating in the FPSY by Early Years Inspectors in the Department of Education and Skills. However, recommendations have been made to merge these two inspection systems into a single inspectorate and make further reforms including standardisation and easier and faster access to reports (Houses of the Oireachtas, 2016; Start Strong 2015; DCYA, 2015b).

A report by TUSLA (the Child and Family Agency) which analysed the information contained in just over 3,000 inspection reports carried out between January 2012 to May 2013 found that for 12 of the 27 regulations the non-compliance rate was below 10 per cent (Hanafin, 2014). Levels of non-compliance were highest in relation to management and staffing (46 per cent), safety measures (43 per cent), maintenance of records (35 per cent), premises and facilities (28 per cent), sanitary accommodation (25 per cent), and register of pre-school children (20 per cent).

1.3.3 Policy Reviews and Recommendations Made to Date

There have been a number of important policy reviews of childcare provision in Ireland in recent years, which have addressed issues relating to the cost and quality of childcare provision (see Table 1.1). We focus here on the most recent.

An expert advisory group established by the Minister for Children and Youth Affairs in 2012 to inform the development of Ireland's first National Early Years Strategy highlighted five main challenges for action. Among those relating

specifically to ECCE were the following recommendations: Firstly, that investment in ECCE rise to 0.7 per cent of GDP in five years and to 1 per cent of GDP in ten years. Secondly, that the quality of ECCE be enhanced through investment in training, mentoring and professionalisation of childcare workers and, conditional on achieving higher standards, that the free pre-school provision entitlement be increased from the child's third birthday until they enter primary school (DCYA, 2013). In April 2014 the Department of Children and Youth Affairs (DCYA) published *Better Outcomes, Brighter Futures: the National Policy Framework for Children and Young People 2014-2020*. This document represents the first national policy framework for children and young people aged from birth to 24 years and sets out a commitment to 'Continue to increase investment in high quality early years care and education for all children, prioritising families on low incomes'.

In July 2015 a Government Inter-Departmental Group (IDG) published the *Future Investment in Childcare in Ireland* report which set out a range of costed options for Government and made a number of recommendations for early years policy. These recommendations included;

- The introduction of a further six months' paid parental leave, to give parents 12 months' paid leave in total.
- Extension of the free pre-school provision from age three to entering primary school.
- Replacement of CCS and TEC subsidies with a single, income-related subsidy, paid directly to services and available in all (community and private) centre-based services, with parental fees capped according to parents' income level in order to prevent childcare prices rising.³⁴
- Other measures to raise quality including regular audits, a fund for professionalisation and expansion of the Learner Fund, increased funding for mentoring and inspection and the regulation and support of childminding.

Some of these measures have been introduced as part of Budget 2016, see below.

In January 2016 the Joint Committee on Health and Children's Report on Affordable and Quality Childcare was published. Among its recommendations, this Committee Report identified the need for adequate resources to ensure the extension of the FPSY and recommended that consideration be given running the scheme over 48 weeks rather than 38 weeks. Furthermore, this report stated that

³⁴ This includes extending the higher capitation rate for services with Graduate Leaders (currently only for the free pre-school year) to ECCE provision for children of all ages, to incentivise professionalisation.

there is a need, in the longer term, to move towards greater state subsidisation of childcare to relieve parents of the burden of an 'extra mortgage' and to ensure that the sector is sustainable for service providers. (Houses of the Oireachtas, 2016, p. 13)

Measures to increase the quality of childcare were also recommended in this report; these included addressing childcare workers' pay and conditions, access to training and development and the standardisation and faster publication of inspection reports.

1.3.4 Budget 2016

Funding for further rollout of the Síolta Framework under the National Early Years Quality Support Service was provided in a package of Quality Measures through Budget 2016 which also includes provision for an audit of quality and increased inspections. The Learner Fund 2014-2015, launched by the Department of Children and Youth Affairs, provides a training subsidy to assist existing staff working directly with children in registered Early Years services to attain the new mandatory minimum qualifications (see above). Investment into this fund was increased by €1.5m in Budget 2016. This Budget also extended the Free Preschool Year by an additional year so that all children from age three until they start primary school or reach age five and a half can avail of the FPSY from September 2016. In addition, an extra 8,000 places under the Community Childcare Subvention Scheme were provided.³⁵ Two weeks paternity leave entitlement will be effective from September 2016.

³⁵ These places will be available to private childcare providers for the first time.

TABLE 1.1 Key Initiatives and Publications in ECCE Since 2000

Year	Key Initiatives and Publications
2000	Publication of the National Children’s Strategy (DHC) Establishment of the National Children’s Office Equal Opportunities Childcare Programme introduced
2001	<i>The Children’s Act</i> (Government of Ireland)
2003	Foundation of the Family Support Agency Appointment of the Children’s Ombudsman
2004	Publication of <i>Towards a Framework for Early Learning</i> National Council for Curriculum and Assessment’s (NCCA) Publication of <i>Babies and Bosses: Reconciling Work and Family Life. A Synthesis of Findings for OECD Countries</i>
2005	Publication of the <i>Early Childhood Care and Education Report</i> , National Economic and Social Forum (NESF)
2006	Publication and dissemination of <i>Síolta</i> , the National Quality Framework for Early Childhood Education (CECDE) <i>Child Care (Pre-School Services) Regulations</i> (DHC)
2008	Publication of UNICEF’s Report Card: <i>The Childcare Transition</i> (UNICEF)
2009	Publication and dissemination of <i>Aistear</i> , the Early Childhood Curriculum Framework (NCCA)
2010	Publication of the Workplace Development Plan for the ECCE sector (DES) Introduction of the Free Preschool Year in ECCE programmes
2011	Establishment of the Department of Children and Youth Affairs (DCYA)
2012	The Children’s Referendum on a constitutional amendment to strengthen children’s rights
2013	Publication of <i>Right from The Start</i> the report of the Expert Advisory Group on the forthcoming National Early Years Strategy (DCYA)
2014	National Early Years Quality Support Service established Publication of <i>Better Outcomes, Brighter Futures; The National Policy Framework for Children and Young People 2014-2020</i> (DCYA) Establishment of The Child and Family Agency (TUSLA)
2015	Inter-Departmental Group (IDG) on Future Investment in Early Years and School-Age Care and Education. (DCYA) Inter-Departmental Group (IDG) on Supporting Access to the Early Childhood Care and Education (ECCD) Programme for Children with a Disability. (DCYA)
2016	Houses of the Oireachtas Joint Committee on Health and Children; Report on Affordable and Quality Childcare

Source: Adapted from Table 1.1 in Byrne and O’Toole (2014 Draft report to Tusla).

Chapter 2

Data and Methodology

In this chapter we outline the key features of the *Growing Up in Ireland* study and describe the variables that are used in this report, including the measures of socio-emotional development.

2.1 ABOUT GROWING UP IN IRELAND

2.1.1 Sampling and Weighting of the Infant Cohort

There was an initial sample of 11,134 children for the Infant Cohort of the *Growing Up in Ireland* study, who were aged nine months at the time of the first interview (Wave 1) in 2007/2008. These children were selected in a systematic random sample from the Child Benefit Register; further details are available in a separate publication (Thornton et al., 2013). The same participating children were revisited at age three years (Wave 2, Jan-Aug 2011) and again at age five years (Wave 3, Mar-Sep 2013), when the completed samples totalled 9,793 and 9,240 respectively.³⁶ A weight was created for the dataset such that the sample would be nationally representative of the relevant population (see Thornton et al., 2013 for further details on the creation of weights in *Growing Up in Ireland*). In this report, descriptive statistics are proportionally weighted but regression models are presented unweighted.³⁷

2.1.2 Procedures and Participants

Most information on the Study Infants was collected via a face-to-face interview with the child's Primary Caregiver in the family home. The spouse/partner of the Primary Caregiver was also interviewed if resident in the home as the Secondary Caregiver. In most cases, the Primary and Secondary Caregiver were the biological mother and father respectively. At Waves 2 and 3 the child's socio-emotional and behavioural development was assessed (more details on these tests are given below).

³⁶ The five-year sample includes a sub-sample of twins which is not included in the public access file, which contains 9,001 children.

³⁷ The weights in this sample are all relatively small; and the assumption is that the models will control for any factors associated with non-response. Estimating the models unweighted means no standard error correction is required.

2.2 STATISTICAL MODELLING

All of the statistical models estimated in this report are linear regression models, as the socio-emotional outcomes are measured as a scale. The models allow us to isolate the effect of certain characteristics (such as childcare experience) while also accounting for others (such as family background). For each factor of interest, the socio-emotional outcome scores of children with certain characteristics are compared to a reference group. For example, for childcare type the reference group is children in sole parental care. A coefficient estimate for relative care, for example, indicates how much higher or lower on average the scores of this group are compared to children looked after solely by a parent. All coefficients reported in the tables are unstandardised. An additional piece of information for each estimate is whether this result is statistically significant; that is, can we be sure that this is robust and generalisable to the whole population given the size of the groups and the distribution? This is indicated by stars in the tables. Finally, the r-square statistic of the total model is the total variance explained, and gives a sense of how good all the information included about the children in each model (characteristics, family background, care situation, home learning, etc.) is at allowing us to predict their socio-emotional outcomes at five.

2.3 MEASURES USED IN THIS REPORT

The outcome measure used in this study was the results of the ‘Strengths and Difficulties Questionnaire’ (SDQ) at age three and five years (see below). Most of the predictor and control variables in the regression models were measured at age three years; low birth-weight, gender and socio demographics were measured at nine months. In the following chapter, descriptive statistics are also provided for childcare use and school-start for the children at age five years.

2.3.1 Socio-Emotional and Behavioural Development

The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) provides details about the study child’s socio-emotional and behavioural development. This instrument is designed for completion by the parents or teachers of children aged 3-16 years. The SDQ consists of 25 items in total and produces a separate score for five subscales; these are: **Emotional symptoms**, **Conduct problems**, **Hyperactivity/inattention**, **Peer relationship problems** and **Pro-social behaviour**. Respondents indicate their level of agreement from ‘Certainly true’, ‘Somewhat true’ to ‘Not true’, for all five items on these subscales. Scores on each subscale range between 0 and 10, and a Total Difficulties score, ranging from 0 to 40, is obtained by summing scores across the four deficit-focused scales (i.e. all except the pro-social behaviour scale) so that higher scores indicate more problems. The total score can be analysed as a continuous variable or may be divided into categories that identify children most ‘at risk’, for example, those whose total score is in the top decile (tenth). By contrast, higher scores on the pro-social scale

are indicative of more positive behaviours. It is also possible to divide the SDQ into the three subscales of ‘internalising problems’ (emotional plus peer problems; 10 items), ‘externalising problems’ (conduct plus hyperactivity problems; 10 items) and the pro-social scale (5 items) (Goodman et al., 2010).

The validity of the test in a number of different settings and countries has been established (Goodman, 2001; Hawes and Dadds, 2004; Stone et al., 2010; Goodman and Scott, 1999). The reliability of the scale in Ireland in the *GUI* 9-year-old sample was established by McCrory and Layte (2012). The SDQ has also been successfully employed in previous large-scale longitudinal research programmes such as the Millennium Cohort Study, Growing Up in Scotland and Growing Up in Australia (Williams et al., 2013; Greene et al., 2014).

TABLE 2.1 Strengths and Difficulties Subscale Items

Emotional Problems Scale	Hyperactivity Scale
Often complains of headaches	Restless, overactive
Many worries	Constantly fidgeting or squirming
Often unhappy, downhearted	Easily distracted, concentration wanders
Nervous or clingy in new situations	Thinks things out before acting
Many fears, easily scared	Sees tasks through to the end
Conduct Problems Scale	Peer Problems Scale
Often has temper tantrums or hot tempers	Rather solitary, tends to play alone
Generally obedient	Has at least one good friend
Often fights with other children	Generally liked by other children
Often lies or cheats	Picked on or bullied by other children
Steals from home or elsewhere	Gets on better with adults than children
Pro-Social Subscale	Response Categories
Considerate of other people’s feelings	Not True
Shares readily with other children	Somewhat True
Helpful if someone is hurt	Certainly True
Kind to younger children	
Often volunteers to help others	

Source: Taken from 'Instructions in English for scoring by hand SDQs for 4-17 year olds, as completed by parents, teachers or youths' (see <http://www.sdqinfo.org/py/sdqinfo/c0.py>).

In this study we analyse the SDQ ratings of both the Primary Caregivers (referred to as parent-rated) and the teacher. The Primary Caregiver (typically the mother) completed the SDQ as part of the main Wave 3 questionnaire schedule, which was carried out shortly after the child’s fifth birthday, between March and September 2013. Field work was staggered over this period and the majority of questionnaires were completed by August 2013. Teachers completed the SDQ as part of a separate postal questionnaire called the ‘Teacher on Child’

questionnaire which parents consented to being completed. This questionnaire was completed by teachers in respect of 8,373 study children (91 per cent).³⁸

The teacher survey did not begin until October 2013³⁹ in order to give time for children to start school and for the teacher to become familiar with them. This lapse in time between parents and teachers completing the SDQ could potentially impact on children's scores as children's socio-emotional development may have changed between these time periods.

2.3.2 School Start

At the time of the Primary Caregiver interview, 72 per cent of the children had already started school,⁴⁰ nearly all of whom had started in September 2012. Therefore, the children had been exposed to a different amount of formal schooling, which may have an impact on their SDQ scores. Firstly, it is possible that those children who did not begin school until September 2013 had less time to adjust to the primary school environment which may in turn impact on their socio-emotional development. Secondly, although it is common for children to have a different teacher for each primary school year, where children had started school in 2012 and had the same teacher for both junior and senior infant classes, this teacher may have been more familiar with the child. The median length of time respondents had been teaching the study child was 3 months.⁴¹ Other factors, including the number of other children in the class group, are also likely to affect teachers' degree of knowledge about the study child.

Whether or not the child had started school depended on his/her birth month: 98 per cent of the children born in December 2007 had started school by September 2012, but this fell to 34 per cent of children born in June 2008 (see Table 2.2). However, school start is also influenced by family income with children from lower-income backgrounds more likely to have started school younger; a pattern that may be related to the cost of pre-school for children above the FPSY age threshold of three years but eligible for a State-funded school place at age four years. Whether or not the child had started school before the 3rd Wave interview is controlled in all the subsequent models.

³⁸ A small number of children were either home schooled or had not started school at the time for various reasons.

³⁹ This ended in March 2014; however, over three quarters of surveys were completed by Christmas 2013.

⁴⁰ Primary schools in Ireland enrol pupils from four years of age. The great majority of children who had started school entered in September 2012 (96 per cent); the other four per cent began after this date, including two per cent who started in September 2013 and were also interviewed in that month.

⁴¹ 57 per cent of the teachers had taught the child for three months or less; 23 per cent had taught the child for 4 to 6 months and 20 per cent had taught them for over 6 months. The mean length of time was longer for children who were in senior infants, though the median was the same; this is taken into account in the models which control for when the child started school.

TABLE 2.2 Proportion of Children by Month of Birth that had Started School, by School Starting Age and Family Income

	<i>Month of Birth</i>						
	<i>Dec '07</i>	<i>Jan '08</i>	<i>Feb '08</i>	<i>Mar '08</i>	<i>Apr '08</i>	<i>May '08</i>	<i>Jun '08</i>
Age in Sept 2012 (yr:mths)	(4:9)	(4:8)	(4:7)	(4:6)	(4:5)	(4:4)	(4:3)
Started school Sept 2012	98%	93%	92%	80%	70%	47%	34%
Family income	<i>Percentage of children who had started school</i>						
Quintile One (Low)	98	96	94	77	76	62	52
Quintile Two	99	92	92	83	75	49	37
Quintile Three	99	89	94	85	69	46	32
Quintile Four	98	96	92	76	61	44	29
Quintile Five (High)	96	97	87	84	65	38	24

Source: *Growing Up in Ireland 2013, Key Findings Report.*

Children who have started school may be at an advantage in terms of their socio-emotional development. For example, they may have had the opportunity to build further on their social competence through engagement with others in social interaction. In addition, the school system requires children to practice a degree of self-regulation and in particular effortful control of behavioural impulses. For these reasons whether or not the child had commenced formal schooling is included as a control in the models that follow.

2.3.3 Non-Parental Care

At age three years, Primary Caregivers were asked to provide details on non-parental care for the Study Child if used for at least eight hours per week on a regular basis. It was possible for Primary Caregivers to give information on more than one type of care, but the central classification in this report refers to the main type. **Main type of care** is categorised as care by a relative (e.g. grandparent or aunt/uncle), non-relative (childminder or au-pair/nanny) or centre (e.g. crèche) compared to parental care only.

Other characteristics of non-parental childcare used in this report are **hours of care** at three years (more or less than 30 hours of non-parental care per week), and whether there was any regular **non-parental care at Wave 1** (age nine months). For centre-based care settings only, the **ratio of carers to children** was calculated using Primary Caregiver reports of the number of children looked after in the room where the child was cared for, and the number of adults who supervised the children in the room. Descriptive statistics for childcare use at age five years are categorised in the same way as for age three years.

2.3.4 Child Characteristics

Several variables associated with the child were incorporated into the models, including **gender**, **low birth-weight** (defined as less than 2,500g) and the **number of siblings** the study child had. A measure of **school status** (whether child had started school by time of interview at age five years) was also included. In addition to this, an indicator of chronic ill-health or disability was devised based on responses (at Wave 2) to a detailed set of questions on specific conditions.⁴² Children were categorised as having ‘no health condition’, ‘condition present but not hampered (in daily activities)’ or ‘hampered by health condition’. Thus the variables **hampered** and **not hampered** were included in the models.

2.3.5 Parental and Household Characteristics

All the parental and household variables refer to measurements at Wave 2, when the Study Child was three years old, including the **PCG age**, whether or not the Primary Caregiver was a **lone parent** and if they had been **born abroad**. Other variables are summarised below:

Parenting style

Parenting **styles** differ from parenting **practices** in that parenting styles set the tone for interactions, rather than being goal-directed attempts at socialising a child. At Wave 2 and Wave 3 of the *Growing Up in Ireland study*, a 17-item measure was used to index parenting style on three dimensions – warmth, consistency and hostility, with higher scores indicating higher levels of that attribute. This scale is used by at least one other longitudinal study of children (Longitudinal Study of Australian Children – LSAC), see Williams et al. (2013). Williams et al. (2013) found that the children of parents who scored in the lowest quintile of the warmth and consistency dimensions were significantly more likely to be classified as having a problematic SDQ profile.

Parental stress experienced by Primary Caregiver

Parenting stress has been associated with negative parenting attitudes and behaviours and lower parental wellbeing as well as higher levels of child behavioural problems (Crnic et al., 2005; Barry et al., 2005). A six item subscale from the parental Stress Scale (Berry and Jones, 1995) was used to measure parental stress at each of the three waves in *Growing Up in Ireland*. The subscale included statements about stress, worry and financial burden (in relation to the child), for example, ‘caring for my child sometimes takes more time and energy than I have to give’. These items were self-completed by the Primary Caregiver on a separate supplemental questionnaire with higher scores indicating higher levels of stress. Cronbach’s alpha for this subscale at age three years was 0.77. A higher

⁴² ‘Health condition’ included chronic mental, emotional, behavioural and physical illness or disability.

level of parenting stress was associated with significantly higher levels of childhood behavioural problems and this risk was increased if the parent experienced higher levels of stress across both time points (Williams et al., 2013).

Primary Caregiver level of depression

The relationship between parental mental health and children's emotional health and wellbeing has been explored extensively (Goodman, 2007). Children whose Primary Caregiver is suffering from major depressive illness are often found to be at increased risk of a range of adverse health outcomes, including emotional and behavioural maladjustment (Goodman and Tully, 2006). This can occur through a number of potential pathways; for example parenting behaviour can be affected by parental depression and is associated with increased negativity, disengagement and lower levels of parental nurturance (Lovejoy et al., 2000). Other contextual factors such as low marital satisfaction and family conflict can mediate the relationship between maternal depression and child behaviour problems (Ashman et al., 2008). The *Growing Up in Ireland* study collected detailed information from parents concerning depressive symptoms using the CES-D scale. This scale measures the degree to which respondents have experienced a wide variety of depressive symptoms in the week prior to the interview (Radloff, 1977). The test includes 20 questions measured on a four-point scale and includes items on negative feelings (like having the blues), positive thoughts (being hopeful about the future), somatic activity (like losing appetite) and on social contacts (experiencing other persons as unfriendly). Higher scores indicate higher depressive symptoms and a cut-off score of greater than or equal to 16 is used to determine clinically significant depressive symptoms (Radloff, 1977). This instrument has been used in other longitudinal studies including TILDA, The Irish Longitudinal Study on Ageing.

Income poverty

Households are 'at risk of poverty' when income falls below a threshold of 60 per cent of the median equivalised household income. This is calculated as follows; Primary Caregivers provided an exact figure or best-guess estimate of household income (net of tax, PRSI, etc.). This figure was then equivalised depending on the number of adults and children in the household.⁴³ This was compared to the median value for equivalised household income for the population which is taken from the SILC survey for the year in which the *GUI* wave was conducted. Households whose income falls below the 60 per cent threshold were deemed income poor.

⁴³ Total disposable household income is adjusted using an equivalence scale which assigns a value of 1 to the first adult, 0.66 for any additional household member aged 14 and over and 0.33 for any children under 14.

Social class

The classification used by the *Growing Up in Ireland* study to assign a social class to families was that used by the Irish Central Statistics Office (CSO). In line with standard procedures, in two-parent families in which both partners are working outside the home, the **family's** social class was assigned on the basis of the higher of the two occupations. The categories of this classification are as follows Professional Workers, Technical and Managerial, Non-manual, Skilled Manual, Semi-skilled, Unskilled and Other (i.e. validly no social class as no current occupation or previous occupation if unemployed or retired).

In arrears on Mortgage, Rent or Utility Bill

This variable is derived from a question on how family have been affected by the recession. Respondents (PCG), that said the recession had a very significant, significant or small effect were subsequently asked how the family had been affected; those who ticked either of the following items were identified as being in arrears.

- You are behind with rent/mortgage payments
- You are behind with utility bills (e.g. electricity, gas bills etc.)

Respondents who said the recession had no effect were not asked this question and are coded as zero on the arrears item (i.e. not in arrears as a result of the recession).

Difficulty making ends meet

This information comes from the Primary Caregiver who was asked in relation to the total household income from all sources and household members;

- ‘Concerning your household’s total monthly or weekly income, with which degree of ease or difficulty is the household able to make ends meet?’

Response categories were: with great difficulty, with difficulty, with some difficulty, fairly easily, easily, very easily.

2.3.6 Neighbourhood Characteristics

The neighbourhood ‘quality’ measure was based on the following four items;

- Safe to walk alone in this area after dark
- Safe for children to play outside during the day in this area
- As a family we are happy living in this area
- We intend to continue living in this area.

The neighbourhood is self-defined by the respondents. The alpha for the scale is 0.69. A fifth item on the availability of parks and green areas in the area was found to reduce the scale alpha so was not included. The response categories were strongly agree, agree, disagree, and strongly disagree, coded 1 to 4. These responses are summed so that a higher score implies a 'lower quality neighbourhood'. The measure combines both the social functioning of the area (security) and the respondent's satisfaction with the neighbourhood.

Chapter 3

Patterns of Childcare and Early Education in Ireland

3.1 INTRODUCTION

Increased participation in the female labour market along with changes in public attitude and policy towards the use of pre-school education and care services have led to increased usage of non-parental childcare in Ireland over the last two to three decades. Yet previous research in Ireland and elsewhere clearly shows that uptake of non-parental childcare and the type of childcare used remains strongly influenced by social differences. Variation in the nature and provision of early childcare and education across countries is shaped by policy decisions on the role of the family, the market, the not-for-profit sector and the State (see Chapter 1).

From this context, Chapter 3 outlines the extent and nature of non-parental care experienced by the children in the *Growing Up in Ireland* study at three years. Section 3.2 begins with a brief outline of some of the factors that may influence parents' decisions to use non-parental childcare and what type of childcare is chosen. This is followed by a description of the main type of childcare setting in which children in the *Growing Up in Ireland* study participated and the length of time spent in non-parental care settings. This section then looks specifically at centre-based type childcare, and the adult-to-child ratios and different group sizes in these settings. These factors have all been shown to affect the socio-emotional outcomes of children in other country contexts (see Chapter 1).

Section 3.3, using information from the Wave 3 survey at age five years, examines school start and participation in the Free Preschool Year (FPSY).

3.2 PATTERNS OF CHILDCARE AT AGE 3

Previous research suggests that the use of non-parental childcare and type of childcare chosen by parents is strongly related to family socio demographic and socio-economic characteristics (Williams et al., 2013; McGinnity et al., 2013; Byrne and O'Toole, 2015). At nine months old and at age three years, the take-up of non-parental childcare is higher among high income and professional class families, those with higher levels of maternal education and those in which mothers were previously employed and working longer hours. In terms of family structure, families headed by lone parents and those with only one child tend to

choose non-parental childcare (McGinnity et al., 2013; Byrne and O’Toole, 2015). This reflects the finding of McGinnity et al. (2013) that lone parents are more likely to return to work earlier than dual parents and these families may have access to targeted community childcare schemes. This finding also indicates that the cost of childcare, particularly for multiple child households, may be a factor in determining the uptake of non-parental childcare.

A similar pattern of social stratification emerges when the setting or type of childcare chosen by parents is examined. Byrne and O’Toole (2015) showed that at infancy, centre-based care compared to relative or non-relative care is more likely to be chosen by two-parent households, high income and better educated families and those from professional and managerial social classes. Interestingly however, this pattern reverses at age three so that despite an increase in the overall proportion of children experiencing non-parental childcare – particularly centre-based care – between these ages (see next section), centre-based care was more likely to be chosen by lone parent families, those with multiple children, lower income levels and those from lower social class groups.

International research points to similar social gradients in childcare choices, particularly in countries where the provision of early childcare is not universal or well-subsidised, and in countries where these services are provided largely by the private sector (Gambaro et al., 2014; Roberts et al., 2010; Hofferth, 1996; Magnuson and Waldfogel, 2014).

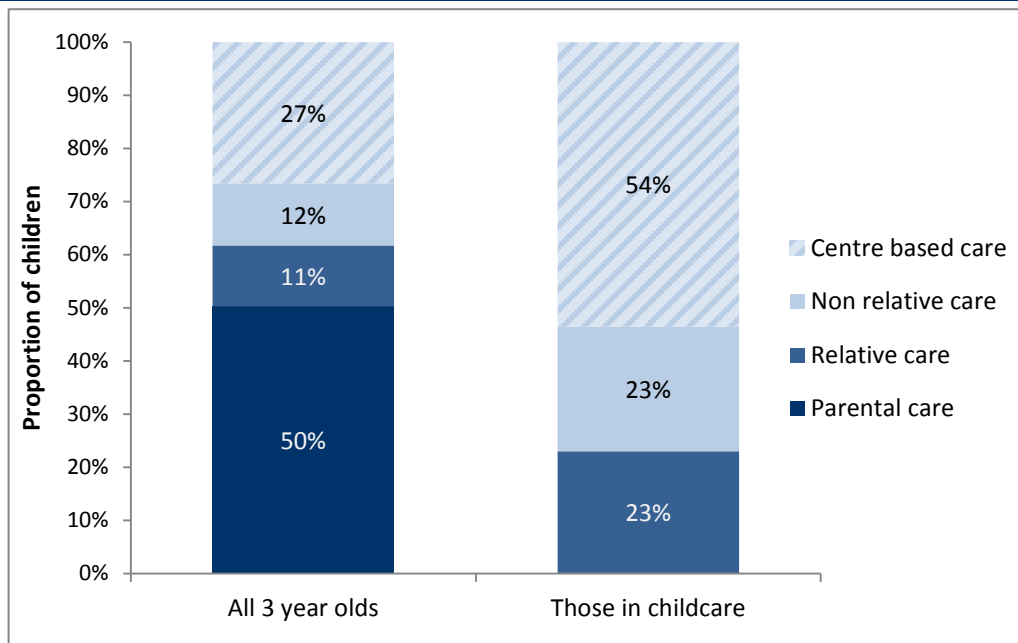
The availability of centre-based care also plays a role when parents are choosing a childcare setting (McGinnity et al., 2013). Bryson et al. (2012) in the UK found that cost was the main factor influencing parents’ choice of informal childcare and to a lesser extent the caring role of and trust in the provider, while families using formal care were more likely to mention professional or reputation factors, convenience and a desire for the child to mix with other children.

In this study we focus on whether differences in the type and hours of non-parental care matter for children’s socio-emotional development. Differences in the patterns of participation by social background, family structure etc. found in earlier analysis of the *Growing Up in Ireland* study mean that these factors need to be held constant, by means of statistical models, to ensure that as far as possible the independent effect of childcare is measured.

3.2.1 Type of Care

In total, 50 per cent of all children who took part in Wave 2 during 2011 were in regular non-parental childcare at age three years (see Figure 3.1). The majority of these children (54 per cent) were attending a childcare centre. The remainder were cared for by relatives and non-relatives; 23 per cent in both cases. Grandparents, predominantly a grandmother, provided the bulk of relative care to 3-year-olds (74 per cent). Non-relative care was most commonly provided by childminders (74 per cent).

FIGURE 3.1 Percentage of Children in Childcare at Aged Three Years and Main Care Type



Source: *Growing Up in Ireland* Infant Cohort Wave 2, Age 3. Authors' analysis.

Notes: Main childcare type defined by Primary Caregiver; 'regular non-parental care for at least eight hours per week'.

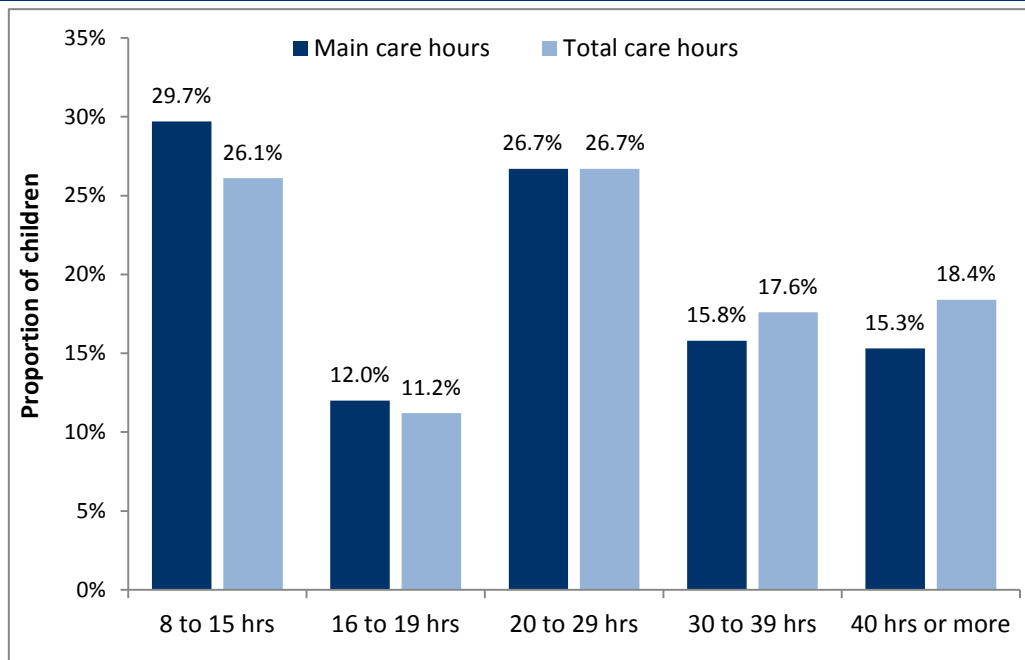
Figure 3.1 shows the *main* type of non-parental care children received. However, the Primary Caregiver was asked to describe arrangements for *any*, as well as the main type of childcare their children received. This information highlighted that a further 6 per cent of children in childcare attended centre-based care even though it was not their main form of care. This means that a total of 60 per cent of 3-year-olds in non-parental care, or 30 per cent of all 3-year-olds, spent some time in a childcare centre. Similarly, the proportion using relative and non-relative care increases from 23 per cent in both cases, to 29 per cent and 26 per cent respectively when all care types are considered. This additional analysis also showed that 14 per cent of children in non-parental care at age three were in two or more forms of childcare. See Byrne and O'Toole (2015), for an analysis of the factors influencing multiple care types.

3.2.2 Quantity of Care

The link between quantity of childcare as a moderator variable and socio-emotional outcomes was outlined in Chapter 1. Figure 3.2 shows the variation in the number of hours per week children spent in a main care setting at age three years. The average weekly hours spent in main childcare setting at this age was 23 hours. The average time in total non-parental care, that is in all care settings including main type, was 25 hours per week.⁴⁴

The proportion of children in care for more than 30 hours per week is 31 per cent if only the main care setting is considered and 36 per cent if total care is calculated. Eighteen per cent of 3-year-olds spent 40 or more hours per week when time in all childcare settings is counted.

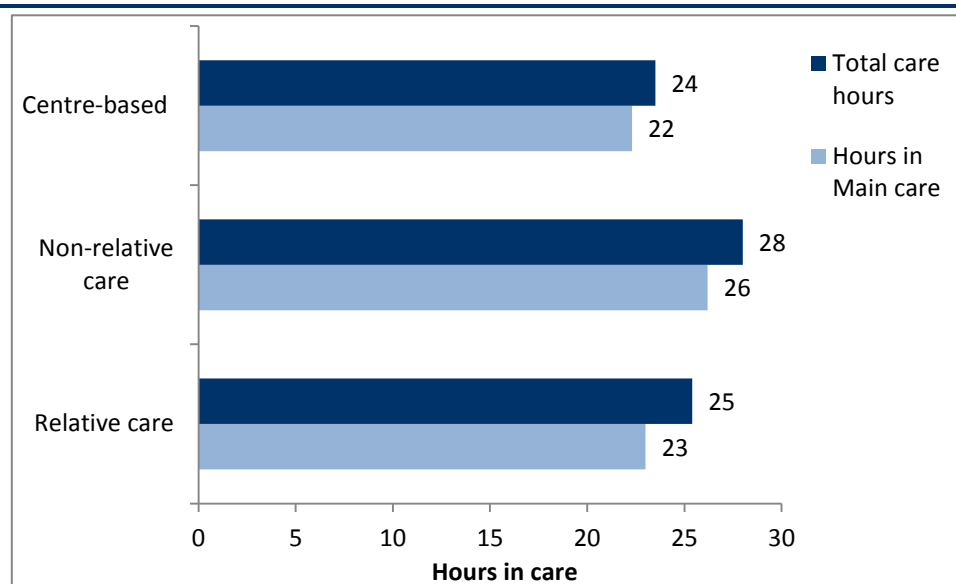
FIGURE 3.2 Hours of Childcare Among Children in Non-parental Care at Aged Three Years



Source: *Growing Up in Ireland* Infant Cohort Wave 2, Age 3. Authors' analysis.

At age three years, non-relative care in the child's own home was the form of main care associated with the longest hours (26 hours per week), see Figure 3.3. The shortest hours were recorded for those in centre-based care (22 hours). This may be due to the increased use of sessional pre-school provision that is held only in the morning or afternoon.

⁴⁴ Question wording meant that only main care for more than eight hours a week was recorded. As the category for less than eight hours per week of any care type was nominal it has been excluded from the figures here.

FIGURE 3.3 Hours in Each Childcare Type Among Children in Non-parental Care at Aged 3 Years

Source: *Growing Up in Ireland* Infant Cohort Wave 2, Age 3. Authors' analysis.

The age children begin non-parental childcare is also relevant when examining quantity of care received. Wave 1 of the *Growing Up in Ireland* study tells us that 39 per cent of all nine-month-old infants were in non-parental care. Relatives provided the main form of care for the majority (42 per cent) of these infants. A total of 30 per cent were cared for by a non-relative, and a further 27 per cent were receiving centre-based care.

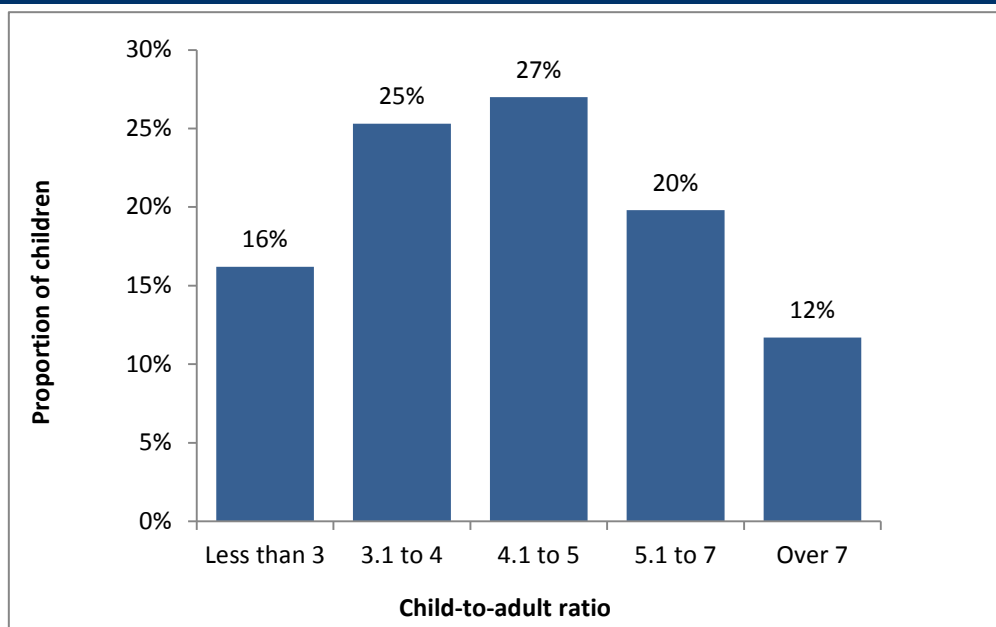
3.2.3 Features of Centre-Based Care

Given the high proportion of children receiving childcare at centres such as crèches and nurseries, this report will focus some additional analysis on centre-based settings. Some of the literature outlined in Chapter 1 found stronger associations between centre-based care and social and behavioural outcomes, although there was evidence of a moderating effect when the quality of centre-based care was considered. It was not possible within the design and resources of the *Growing Up in Ireland* study, where the number of different care settings is almost equal to the number of children in receipt of non-parental care, to measure process quality which includes interactions and relationships between carers and children. However, information on structural measures of quality was collected in the Primary Caregiver's interview. This included the number of children looked after in the room where the child was cared for, and the number of adults who supervised the children in the room. It is likely that, in the case of centre-based care, there may be some error in the parents' estimates of size of the class group and to a lesser extent the number of carers. This was likely to be a greater problem in larger childcare centres with multiple class groups. The number of children in relative and non-relative care should be easier for parents to report as these typically involve much fewer children. This information allows

an analysis of the ratio of carers to children; a commonly used structural measure of childcare quality, particularly in childcare settings that are regulated and inspected.

McGinnity et al. (2015) showed that the highest ratios occurred for those in centre-based care where each adult cared for an average of 4.9 children. The lowest ratio is observed for children cared for in a relative's home (1:1.5), followed by children cared for by a relative in the child's home (1:2.1). Ratios for children in non-relative care were somewhat higher, regardless of whether the care took place in the child's home (1:2.6) or carer's home (1:2.8).

FIGURE 3.4 Ratio of Children to Adults in Centre-based Care at Aged 3 Years



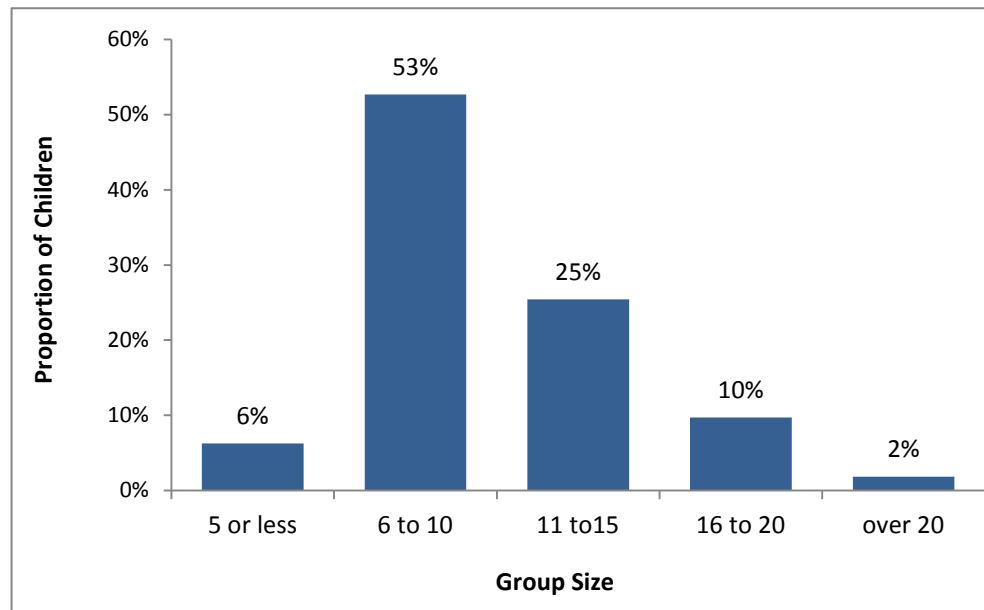
Source: *Growing Up in Ireland* Infant Cohort Wave 2, Age 3. Authors' analysis.

Further analysis of adult-to-child ratios in childcare centres shows that most children were cared for in a group where there were between 3 to 5 children to each adult carer (Figure 3.4). Only 11 percent of children received centre-based care with more than seven children per adult carer.

While the ratio of staff to children is regulated (see Section 1.3.2), there is no regulation specifying a maximum group size for pre-school children in Ireland although a maximum floor space of 2.3 sq. metres is required for children aged three years and over. The *Child Care (Pre-School Services) Regulations, 2006* state that childcare centres can be inspected by the HSE and the number of children catered for can be limited based on the age range of the pre-school children, the

adult-to-child ratios, the group size and the space per child.⁴⁵ Where maximum group sizes are in place in other European countries, they vary from between 20 to 30 children (Plantenga and Remery, 2013). Figure 3.5 shows the proportion of three-year-old children in different centre-based care group sizes. As can be seen, the majority of children (53 per cent) were cared for in groups of between six to ten children.

FIGURE 3.5 Group Size in Centre-based Care at Three Years of Age



Source: *Growing Up in Ireland* Infant Cohort Wave 2, Age 3. Authors' analysis.

3.3 PARTICIPATION IN THE FREE PRESCHOOL YEAR (FPSY) AND SCHOOL START

The Free Preschool Year programme (officially the Early Childhood Care and Education Scheme) was introduced in January 2010, and stipulated that children were entitled to enter the scheme at any age from three years and two months to four years and seven months.⁴⁶ See Section 1.3 for details on the scheme.

The Wave 3 interview at age five years found that 96 per cent of the children had attended care centres under the Free Preschool Year (McGinnity et al., 2015); a marked increase from the 60 per cent of children who had any experience of centre-based care at age three.

⁴⁵ See www.dcy.gov.ie/documents/publications/Child_Care_Pre_School_Services_Regs_2006.pdf.

⁴⁶ Changes to the scheme that were introduced in Budget 2016 are outlined in Chapter 1; however these obviously came after the participation of the children in the *Growing Up in Ireland* cohort.

The high level of participation means that non-participants are highly selective and therefore it is not possible to model the effects of participation in the scheme on socio-emotional outcomes.

Parents' perception of the quality of care provided in pre-school settings was very positive, see analysis by McGinnity et al. (2015). Among the 4 per cent of children who did not avail of the scheme, McGinnity et al. (2015) report the main reasons by parents were:

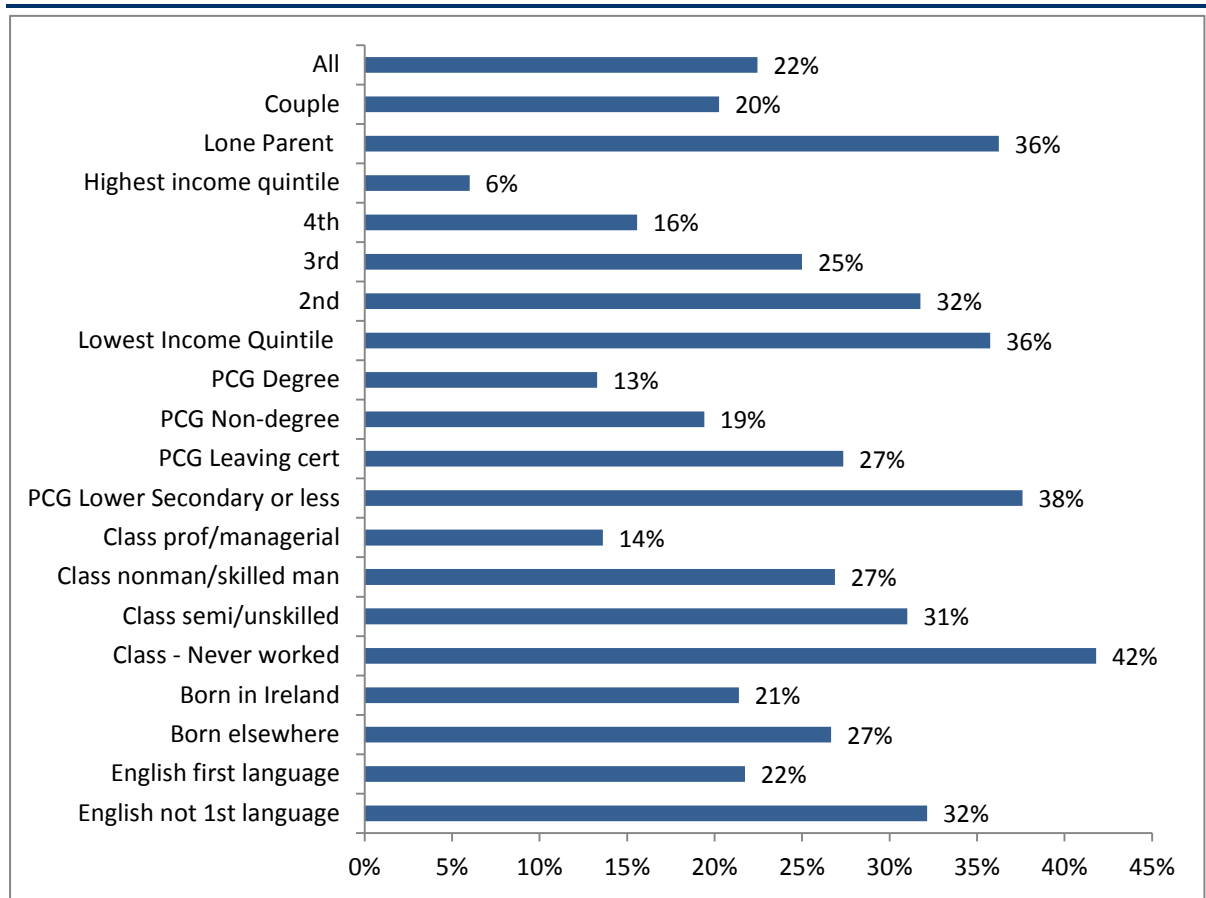
- The child had a place in a centre that did not run the scheme or that was funded under another scheme;
- The child had additional special educational needs;
- The parent preferred not to send the child to pre-school;
- The hours or location did not suit.

Analysis by McGinnity et al. (2015, Table 2.5) shows that 28 per cent of the *GUI* children in the FPSY attended community-based services, while the remaining 72 per cent were in private services. A total of 19 per cent of the children attended centres that were in receipt of the higher capitation rate for qualified staff.

The FPSY scheme rules specify that parents are not obliged to avail of extra hours above those provided by the scheme in order to access pre-school places. Three-quarters of children attended the childcare centres only for the 15 hours per week provided by the FPSY scheme. Of the remaining 25 per cent of children, the majority attended for between 16 and 30 hours. Additional hours were paid for by the parents or where eligible, through Community Childcare Subvention and Training and Employment Childcare Programmes (McGinnity et al., 2015, p46).

3.3.1 Participation in the FPSY among Children from Different Socio-Demographic Groups

More than one-in-five parents stated that they would have been unable to afford a pre-school place without the FPSY scheme. Figure 3.6 shows the proportion of parents who reported being unable to send their child to pre-school without the FPSY by socio-demographic characteristics. These findings suggest that this policy allowed access to disadvantaged groups who would not otherwise have received early education and care.

FIGURE 3.6 Proportion of Parents Who Would Not Have Been Able to Send Child to Pre-School Without the Free Preschool Year (FPSY) scheme

Source: McGinnity et al. (2015).

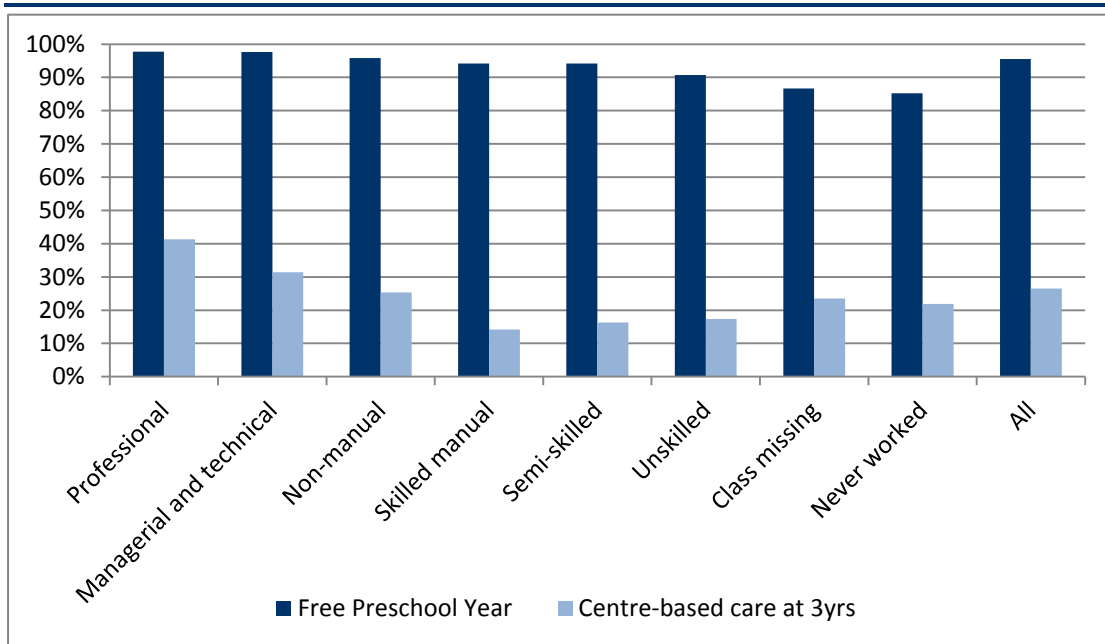
Notes: Socio-demographic characteristics measured at Wave 2. Taken from McGinnity et al. (2015). The differences between the sub-groups are all significant at the .005 level (chi-square test).

As can be seen, just over one-third of lone parents reported that they would not have been able to send their child to pre-school without the FPSY scheme (36 per cent) compared to one-fifth of couples. This is also the case for a similar proportion of those in the bottom two income quintiles (32 and 36 per cent), compared to only six per cent of the top income quintile group. A similar pattern is found within social class, parental education and family nationality where a higher proportion of disadvantaged groups were enabled to attend. For example, nearly three times the proportion of parents with lower secondary education or less (38 per cent) compared to those with a degree (13 per cent), would not have benefited from pre-school education without the FPSY. Those from lower social class groups and those born outside Ireland and whose first language is not English also reported being unable to access early education and childcare without the FPSY.

While some disadvantaged groups are entitled to additional or alternative childcare supports such as the CCS or TEC (see Chapter 1), these schemes are limited to only a small number of places and the full cost of care is often not

funded (Start Strong, 2014a). At the same time, the parents of children from middle social class groups may be caught between being unable to afford centre-based care but being above the threshold that would allow access to subsidised childcare. Addressing this as a policy issue is important given the high number of children involved relative to the proportion who can access centre-based care through schemes aimed at disadvantaged families (Ackerman and Barnett, 2005). Figure 3.7 shows the large rise in the number of children availing of centre-based care between the ages of three and five years; this highlights the effectiveness of the FPSY scheme itself in opening up access to pre-school for all children. The analysis by social class group also shows a U-shaped curve in the red bars representing children attending centre-based care at age three years. This suggests that those in the skilled manual and the semi-skilled or unskilled social classes experienced the biggest increase in access to centre-based childcare through the Free Preschool Year scheme.

FIGURE 3.7 Contrast of Centre-based Care at Age Three Years with Enrolment in the Free Preschool Year (FPSY), by Family Social Class



Source: Growing Up in Ireland Infant Cohort Wave 2 and Wave 3, Age 3 and Age 5. Authors' analysis.

3.4 SUMMARY

This chapter has highlighted the main features of non-parental childcare among children at three years, including the type of care arrangements used and the number of hours that children attended. Half of the children were in regular non-parental care by the time they turned three, compared to 39 per cent at 9 months. The most common form of non-parental care at age 3 was centre-based care. On average the children attended for 25 hours per week; when all forms of care were counted, 18 per cent of children in non-parental care attended for 40 or more hours per week. Those whose main form of care was by a non-relative

(for example, a child-minder) had the longest average hours of care. Those who attended centre-based care at age three were typically cared for in a group of six to ten children and in situations where there was between 3 and 5 children to every adult carer.

As outlined in earlier research (McGinnity et al., 2015), there was a very high take-up of the FPSY, even though the *Growing Up in Ireland* cohort were amongst the first eligible for the scheme. Comparing participation in centre-based childcare at 36 months and subsequent participation in the scheme shows that the FPSY considerably broadened access to pre-school for disadvantaged social groups.

In the following chapter we will consider whether these patterns of participation in non-parental childcare influence socio-emotional outcomes, while taking into account the different characteristics of children and families participating in different forms of care.

Chapter 4

Socio-Emotional Outcomes at Age 5

4.1 INTRODUCTION

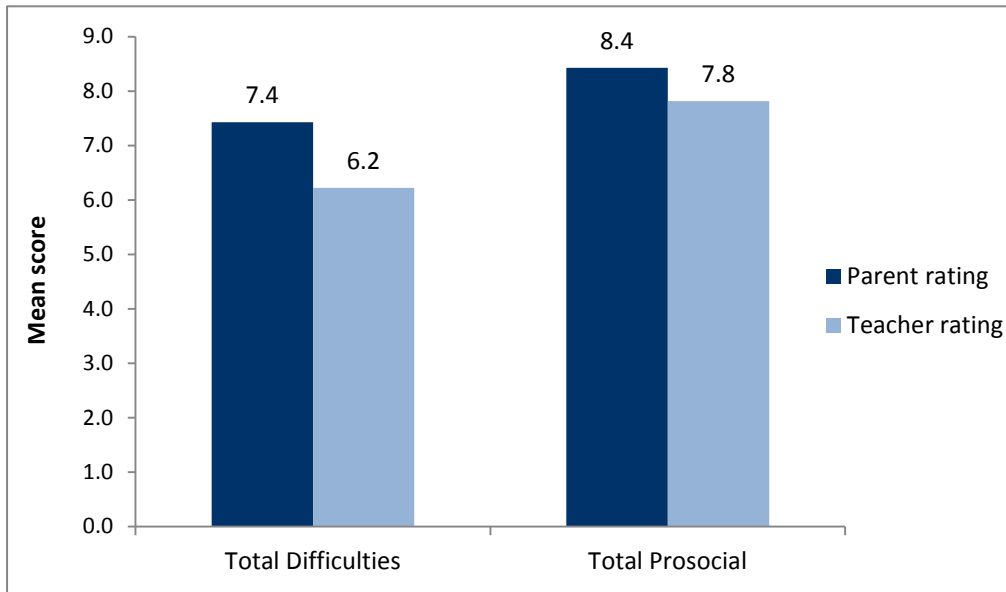
In this report, three waves of *Growing Up in Ireland* data are analysed in order to examine the impact of non-parental childcare at age three on children's socio-emotional outcomes at age five. Both parent and teacher ratings of children's subscale and total scores on the Strengths and Difficulties Questionnaire (SDQ) were used as the outcome measure. The modelling strategy allows the effect of non-parental care as a predictor variable to be assessed independently as far as possible, by controlling for a range of other important child, parent and home environment factors (see Table 4.3 for a summary of controls and Chapter 2 for full a list of controlled variables).

This chapter begins with a discussion of parent and teacher SDQ ratings and summarises the findings of some previous studies that have evaluated variation between parent and teacher SDQ scores (Section 4.2). Differences in SDQ scores by gender and social class are presented in Section 4.3. Section 4.4 describes the bivariate relationship between non-parental childcare type and SDQ scores. This is followed in Section 4.5 by the results from multivariate modelling of children's total difficulties and pro-social scores. This analysis examines the effect of childcare type when other relevant factors are controlled for (Section 4.5.2). Section 4.5.3 uses the same modelling approach to assess whether the quantity of childcare affects children's SDQ scores. Finally, Sections 4.6 and 4.7 consider the effects of socio-economic disadvantage and other child and family factors on children's social, emotional and behavioural outcomes. In the next chapter we will consider whether the general findings for childcare type hold for different sub-groups of children.

4.2 PARENT AND TEACHER-RATED SDQ SCORES

As described in Chapter 2, the Strengths and Difficulties Questionnaire (SDQ) was completed in respect of the study children by both parents and teachers when the children were aged 5 (Wave 3). The mean SDQ scores for total difficulties and pro-social behaviour as rated by teachers and parents is outlined in Figure 4.1. Parent ratings of children's SDQ is slightly higher on both scales; that is, parent's rate the children as having more difficult behaviour and as being more socially competent on average than the teachers.

FIGURE 4.1 Comparison Between Parent and Teacher-rated SDQ Total Scores



Source: *Growing Up in Ireland* Infant Cohort Wave 3, Age 5. Authors’ analysis.

Some of this disparity may be due to the time difference between administration of the parent and teacher questionnaires. As discussed in Section 2.3, the PCG (parent) questionnaire containing the SDQ was carried out between March and September 2013 while teachers completed the SDQ between October 2013 and March 2014,⁴⁷ see Figure 4.2. This time difference could have impacted SDQ scores as a result of changes in children’s socio-emotional development between the time parents and teachers completed the questionnaire, in particular differences in socio-emotional adjustment due to starting school for some children.

FIGURE 4.2 Timeline Showing When Children Started School and when Both Parent and Teacher SDQ Questionnaires were Completed



Source: *Growing Up in Ireland* Infant Cohort Wave 3, Age 5. Authors’ analysis.

⁴⁷ The majority of PCG questionnaires were completed during the spring and early summer of 2013 with only a small number continuing into September whilst most of the teacher questionnaires were carried out between November and December 2013 with less than a quarter completed after Christmas 2013.

However, this pattern of score difference is consistent with other studies that report both parent and teacher mean SDQ scores. For example, a study by Sellers et al. (2015) compared three nationally representative samples of 7-year-old children in the UK⁴⁸ and found that parent ratings of children's strengths and difficulties (across all subscales and for total difficulties) was higher compared to teacher ratings for the same children.

Differences between parent and teacher ratings are common in studies where information is collected from both groups (e.g. Boman et al., 2016; Gialamas et al., 2014; Stein et al., 2012). This may be due to rater bias, differences in the nature of the relationship between the rater and the child, and because children may behave differently in the different contexts in which they are observed. Parents have a much longer experience of the child's behaviour and more intimate interactions on which to base their assessments. Teachers, however, are observing children in group contexts and will have a wider reference group with which to compare the child's behaviour.

Achenbach et al. (1987) claim that evidence for children's functioning in different situations cannot be expected to converge. In fact, they argue that

disagreements between informants' reports about a child are as instructive as agreements...[s]uch variations can, in turn, provide more differentiated foci for interventions and outcome evaluations. Differences between a child's reported functioning at home and school, for example, may indicate a need for different intervention techniques and goals (Achenbach et al., 1987, p. 228).

Stone et al. (2010) carried out a review of 48 studies each of which assessed the psychometric properties of the SDQ. They found that at the subscale level, parent ratings tended to be less reliable over time compared to teacher ratings (using test-retest methods; n = 6 studies), and that teacher ratings showed higher internal consistency.⁴⁹ The latter finding was replicated in another systematic review of 41 studies reporting parent and teacher-rated SDQ scores by Kersten et al. (2016). In both studies (n = 26 in both cases), four of the five subscales (all expect 'peer problems') had an acceptable alpha level (greater than 0.7) for teacher ratings, compared with parent ratings in which only one subscale, 'hyperactivity' had an alpha of this level.

⁴⁸ These samples came from the British Child and Adolescent Mental Health Surveys (BCAMHS) carried out in 1999 and repeated in 2004 and the Millennium Cohort Study (MCS) undertaken in 2008.

⁴⁹ A measure of the extent to which the different scale items produce similar scores.

Despite the differences between teacher and parent-rated total SDQ mean scores a positive correlation between these ratings was found. This is shown in Table 4.1 as 'GUI (2013)' along with the correlation coefficients from other studies for the purpose of comparison. In the GUI sample the correlation between parent and teacher ratings is higher for 'total difficulties' (0.33, $p < 0.001$) than pro-social behaviour (0.16, $p < 0.001$). The weaker inter-rater correlation for the pro-social scale is also seen in the other studies. For both the difficulties and the pro-social scales the level of inter-rater correlation found in the GUI study is at the lower level of the range. We also see a correlation in the expected direction between scores for total difficulties and pro-social behaviour both within and between the parent and teacher ratings.

TABLE 4.1 Correlations Between Parent and Teacher SDQ Ratings for Current and Other Studies

	Study (year)	Parent-rated Difficulties	Parent-rated Pro-social	Teacher-rated Difficulties	N
Teacher-rated Difficulties	GUI (2013)	.33	-.17		8,035
	Koskelainen (2000)	.44			376
	Goodman (2001)	.46			7,313
	Harrison (2008)	(.19)	(-.13)		1,442
	Boman et al. (2016)	.40			512
	Stone (2010) ^Δ	.44			
	Kersten et al. (2016)*	.41			
Teacher-rated Pro-social	GUI (2013)	-.21	.16	-.59	8,035
	Koskelainen (2000)		.29		376
	Goodman (2001)		.25		7,313
	Harrison (2009)			-0.35	2,506
	Harrison (2008)	(-.11)	(.20)	(-.29)	1,442
	Stone (2010) ^Δ		.26		
	Kersten et al. (2016)*	.25	.25		
Parent-rated Pro-social	GUI (2013)	-.38			8,645
	Harrison (2008)	(-.27)			4,475
	Harrison (2009)	-.24			3,612

Source: GUI figures based on *Growing Up in Ireland* Infant Cohort Wave 3, Age 5. Authors' analysis.

Notes: Pearson correlations ($p < .001$); In all studies correlation is between parent and teacher scores for the SDQ except for Harrison (2008) in which the Brief Infant Toddler Social and Emotional Assessment (BITSEA) is used.

Δ Weighted average correlation from a review of eight studies.

*Weighted average correlation from a review of 26 studies (all reporting parent/teacher SDQ scores except one for parent/caregiver reports, which has a higher alpha; all individual correlations reported as Pearson p except one Spearman p and one ICC).

Assessment of children's socio-emotional behaviour may also be influenced by differences within groups of parents and teachers. For example, Lewis et al. (2015) using MCS data for 8,207 children aged 7 years report a social gradient in SDQ scores for both informants, but found that this was stronger among

parents.⁵⁰ However in a Swedish study of children aged 7-8 years, Boman et al. (2016) found that only the parents' ratings were affected by maternal educational level and parental country of birth. This issue is examined in the following section.

4.3 GENDER AND SOCIAL CLASS DIFFERENCES IN STRENGTHS AND DIFFICULTIES SCORES: BIVARIATE ANALYSIS

We know from previous research that children's socio-emotional development is influenced by a wide range of factors for example, child characteristics and parental and home factors, such as social class and parenting style. There are well-established gender differences in child development trajectories across cognitive, socio-emotional and physical development, many of which disappear as the children age (Janus and Duku, 2007; Kerr, 2004; McLoyd, 1998; Hansen and Joshi, 2007; Propper and Rigg, 2007; Bradshaw and Tipping, 2010). Much of the literature reviewed in Chapter 1 recorded higher problem behaviour and lower pro-social behaviour among boys. When the scores for parent and teacher-rated total difficulties and pro-social behaviour are broken down by gender, we see this more adverse pattern for boys emerging in the Irish data too. Table 4.2 shows that boys score higher for both parent and teacher-rated total difficulties (7.9 and 7.1 points respectively) compared to girls (6.9 and 5.4 points). At the same time they score lower for parent and teacher-rated pro-social behaviour (8.2 and 7.4 points respectively) than girls (8.7 and 8.2 points). It is interesting to note that there is a wider gender difference in teachers' ratings than in parent ratings.

TABLE 4.2 Parent and Teacher-rated SDQs Total by Gender at Age 5 Years

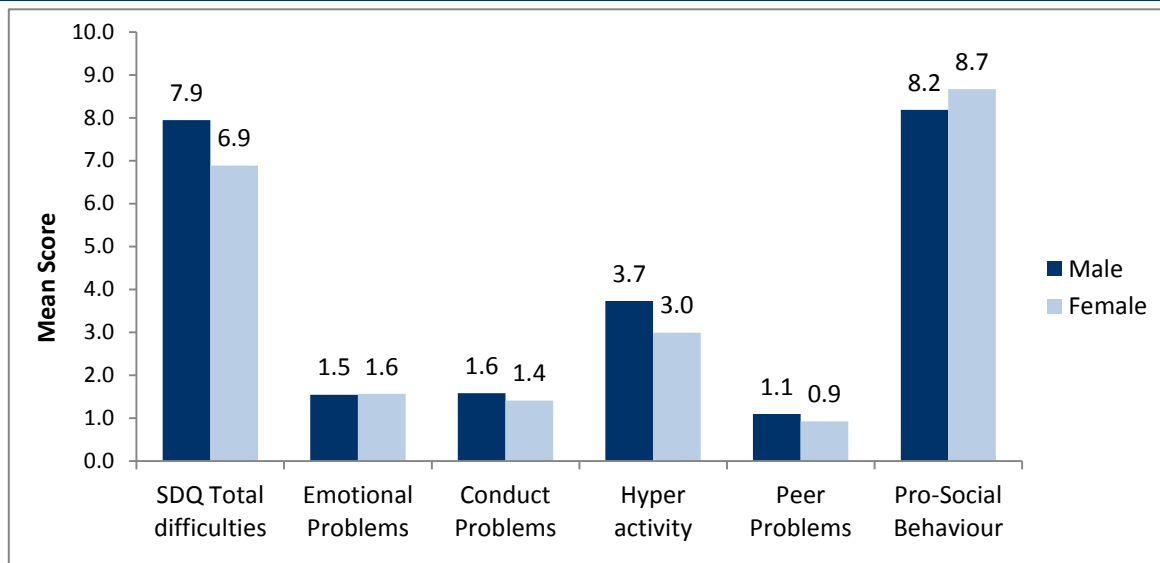
		Boys	Girls	All	SD	N
Total Difficulties	Parent Rating	7.95	6.89	7.43	(4.9)	8,644
	Teacher Rating	7.06	5.35	6.22	(5.4)	8,065
Pro-social	Parent Rating	8.19	8.67	8.43	(1.7)	8,643
	Teacher Rating	7.41	8.24	7.82	(2.2)	8,035

Source: *Growing Up in Ireland* Infant Cohort Wave 3, Age 5. Authors' analysis.

Analysis of boys' and girls' SDQ subscale scores show that much of gender difference in total difficulties scores is driven by a higher hyperactivity score for boys. This can be seen in Figure 4.3 which shows parent-rated SDQ subscale scores by gender. Boys score higher on all the problem behaviour subscales except for emotional problems (differences on all the other scores are statistically significant).

⁵⁰ Compared to mothers with no qualifications, those who had a degree were four times less likely to report children's behaviour as 'borderline/abnormal' when rated by a parent, but only half as likely to report a 'borderline/abnormal' score when rated by a teacher.

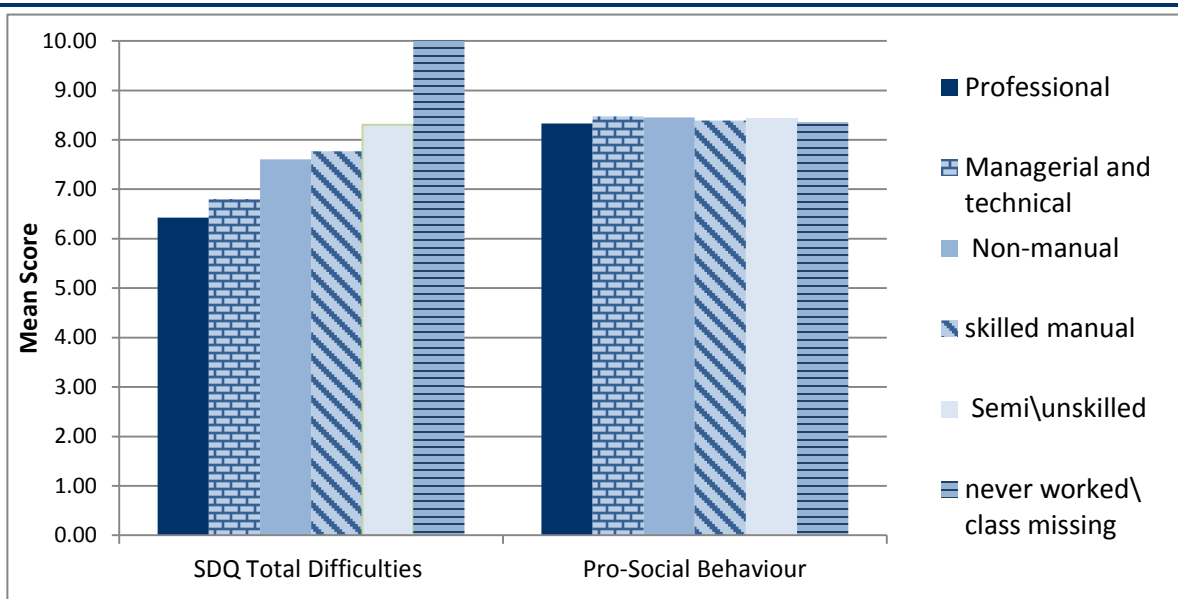
FIGURE 4.3 Parent-Rated SDQ Subscale Scores at Age 5 by Gender



Source: *Growing Up in Ireland* Infant Cohort Wave 3, Age 5. Authors' analysis.

Social class can exert a number of different influences on children’s situation and development, including financial circumstances, parental education and family adversity. Figure 4.4 shows a clear linear trend between higher total difficulties score and lower social class groupings. Pro-social behaviour is less affected by social class, as seen by the low variation in bars representing pro-social behaviour scores below.

FIGURE 4.4 Parent-rated SDQ I Scores at Age 5 by Social Class

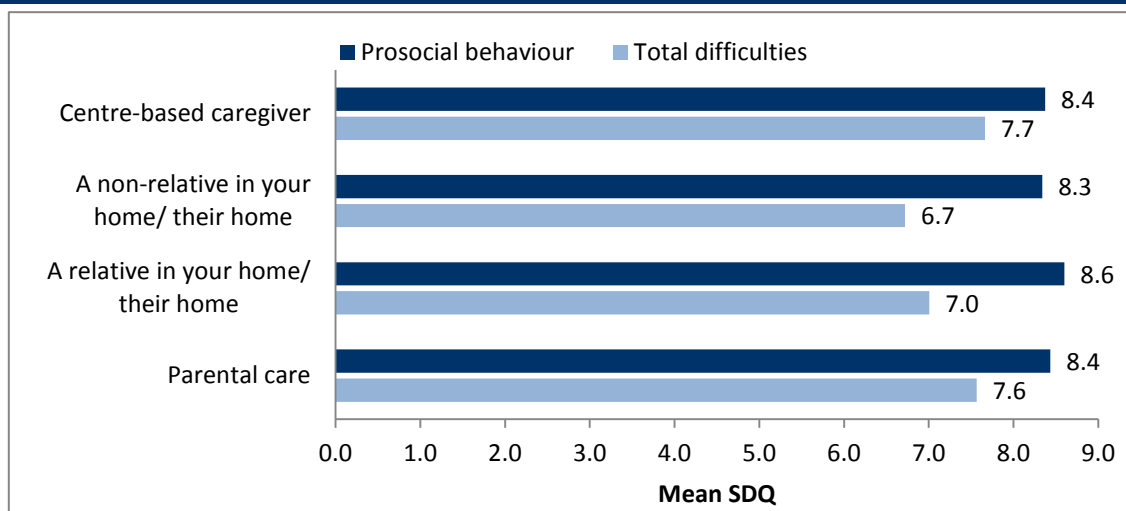


Source: *Growing Up in Ireland* Infant Cohort Wave 3, Age 5. Authors' analysis.

4.4 BIVARIATE RELATIONSHIP BETWEEN CHILDCARE TYPE AND SDQ SCORES

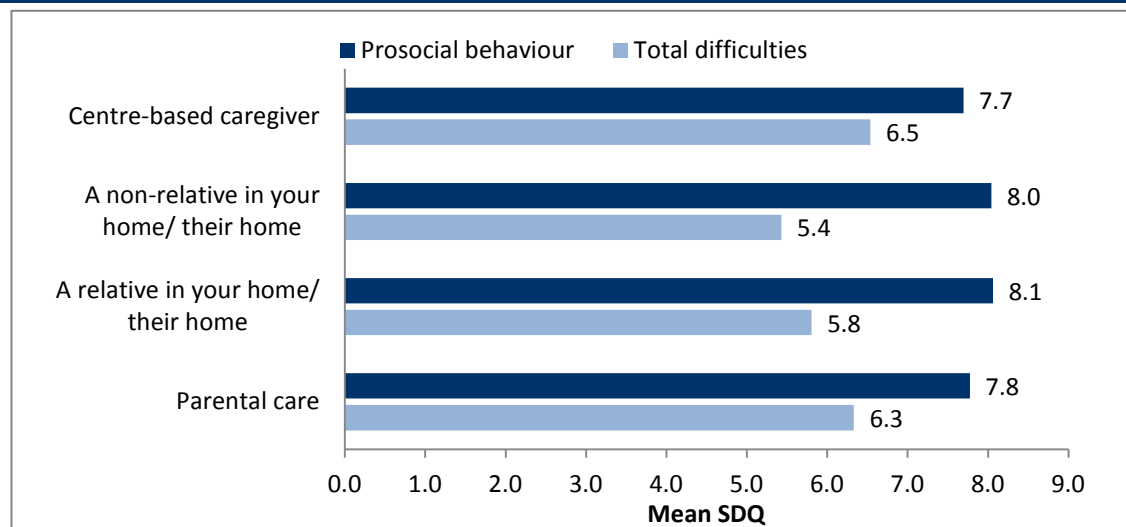
Figures 4.5 and 4.6 compare the total difficulties and pro-social behaviour scores for children at age five years depending on their main childcare type at age three years. These graphs suggest that children receiving care by a relative or non-relative in the home of the carer or the child tended to have lower total difficulties and higher pro-social behaviour scores, although absolute differences are small. This is more marked in the teacher-rated scores (Figure 4.6) and particularly for total difficulties scores. The models in Section 4.5 test whether these differences are due to variation in the characteristics of children in each care type (confounding factors) or whether the care type itself makes a difference.

FIGURE 4.5 Parent-rated SDQ Scores by Type of Childcare at Age 5 Years



Source: *Growing Up in Ireland* Infant Cohort Wave 3, Age 5. Authors' analysis.
 Note: Centre N= 2294; Non-relative N=1020; Relative N=985; Parental N=4,338.

FIGURE 4.6 Teacher-rated SDQ Total Scores by Type of Childcare at Age 5 Years

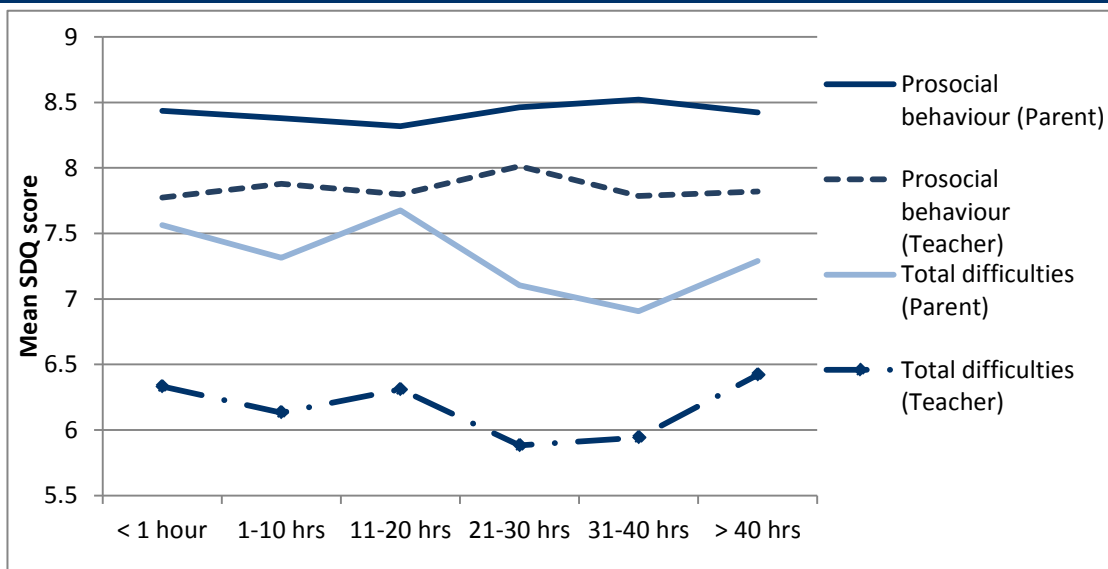


Source: *Growing Up in Ireland* Infant Cohort Wave 3, Age 5. Authors' analysis.
 Note: Centre N= 2,143; Non-relative N=961; Relative N=920; Parental N=4,009.

4.4.1 Bivariate Relationship Between Quantity of Childcare Type and SDQ Scores

Much of the international literature reviewed in Chapter 1 also pointed to the importance of considering the amount of non-parental childcare children receive when examining the effect of non-parental care on developmental outcomes. Figure 4.7 indicates that the relationship between quantity of non-parental childcare and SDQ scores is not linear. The relationship between hours and pro-social behaviour scores is relatively flat. There is a trend for total difficulties to decrease as hours of care increase up to 40 hours, except for the spike at 11-20 hours; above 40 hours difficulties appear to increase.

FIGURE 4.7 Parent and Teacher-rated SDQ Total Difficulties and Pro-social Behaviour Scores by Quantity of Any Type of Non-parental Childcare (Including Main Care and Secondary Care) at Age 5 Years



Source: *Growing Up in Ireland* Infant Cohort Wave 3, Age 5. Authors' analysis.

In the sections that follow, the focus of this chapter will turn to whether these differences between SDQ scores depending on childcare type are statistically significant and whether any effect remains once controls for other important factors are added.

4.5 MULTIVARIATE ANALYSIS OF SDQ SCORE DIFFERENCES BY NON-PARENTAL CARE

4.5.1 Modelling Strategy

To a large extent, the initial research in early childcare and education was rooted in theories concerning children's attachment to their mothers and how this is affected by separation. These studies tended to focus on comparing cohorts of children receiving non-parental childcare with those cared for by their parents, without consideration of the many child, family and social factors related to

childcare choices. As research in early education and childcare has evolved, these additional ‘ecological’ aspects are now included along with variation in the quality of care children receive (Melhuish et al., 2015). While we were not able to control for differences in childcare quality, many of the child, family and neighbourhood factors associated with children’s development are accounted for in the models below.

Multivariate analysis of the relationship between childcare type at three years and socio-emotional development, indicated by SDQ scores at five years, was carried out using OLS regression (see Chapter 2). Childcare type (relative care, non-relative care or centre care) was the main variable of interest and was entered first into the model, followed by the control variables as described in detail in Section 2.3 and summarised in Table 4.3.

TABLE 4.3 Control Variables Used in the Regression Analysis

Variable group	Variables
Child Characteristics	Birth-weight, gender, whether hampered by chronic ill-health/disability, number of siblings, whether started school by 5 year interview
Parental Characteristics	PCG age, whether PCG was a lone parent, whether PCG was born abroad, PCG stress scores, PCG depression scores, PCG parenting style
Household Characteristics	Family social class, whether family are income poor, if the family have experienced difficulty in making ends meet and whether they are in mortgage/rent arrears
Neighbourhood Characteristics	Score on neighbourhood rating scale

Source: *Growing Up in Ireland* Infant Cohort Waves 1 to 3. Authors’ analysis.

Note: All variables were measured at the Wave 2 interviews when the children were aged 3, except birth-weight and participation in care at nine months, which were collected at Wave 1, and school start which was measured at Wave 3.

4.5.2 Multivariate Analysis Results

The full model results for parent and teacher-rated SDQ total difficulties and pro-social behaviour scores can be found in Appendix Tables A.1 and A.2. Table 4.4 isolates the results depending on childcare type predictor variables only and shows variation in the total and subscale scores, both before and after the other variables outlined in Table 4.3 are controlled.

Before interpreting the results shown in Tables 4.4 and 4.5, attention should be drawn to the adjusted R^2 statistic, which estimates the proportion of variation in the outcome variable that can be accounted for by the predictor variables. As can be seen, independent effect sizes for childcare – or the degree to which childcare alone influences outcomes, are relatively small compared to effect sizes for all variables in the model. This is consistent with the literature (see for example, Sammons, 2010; Sammons et al., 2012; Melhuish et al., 2015, Camilli et al., 2010; Sylva et al., 2004).

TABLE 4.4 Regression Results for Parent-rated SDQ Subscale Scores at Age 5 by Care Type

	Parent-Rated											
	Emotional Problems		Hyperactivity		Peer Problems		Conduct Problems		Total Difficulties		Pro-social Behaviour	
Controls used	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Ref: Parental care												
Relative Care	-.12	-.14	-.06	-.07	-.11	-.06	-.12	-.07	-.41	-.36	.13	.11
Non-Relative	-.23	-.14	-.32	-.04	-.27	-.11	-.14	.02	-.96	-.27#	-.07	-.05
Centre Care	-.08	-.11	.03	.05	-.13	-.11	.02	.08	-.16	-.11	-.01	.02
Adj R ²	.002	.076	.002	.153	.005	.095	.001	.149	.004	.222	.001	.107

Source: *Growing Up in Ireland* Infant Cohort Waves 1 to 3. Authors' analysis.

Note: Bold indicates statistical significance at .05 level, # sig at .10 level.

TABLE 4.5 Regression Results for Teacher-rated SDQ Subscale Scores at Age 5 by Care Type

	Teacher-Rated											
	Emotional Problems		Hyperactivity		Peer Problems		Conduct Problems		Total Difficulties		Pro-social Behaviour	
Controls used	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Ref: parental care												
Relative Care	-.08	-.03	-.31	-.16	-.07	.00	-.08	-.02	-.52	-.20	.34	.24
Non-Relative	-.30	-.19	-.44	-.05	-.25	-.14	-.09	.03	-1.08	-.34#	.33	.17
Centre Care	-.10	-.07	.08	.22	-.06	-.02	.07	.12	-.01	.26#	-.02	-.08
Adj R ²	.003	.015	.004	.101	.003	.035	.001	.045	.01	.077	.004	.061

Source: *Growing Up in Ireland* Infant Cohort Waves 1 to 3. Authors' analysis.

Note: Bold indicates statistical significance at .05 level, # sig at .10 level. The results presented are non-standardised coefficients.

The most consistent effects for childcare type are seen within the group of children experiencing non-relative compared to parental care. The total difficulties score for this group is approximately one-third of a point lower on both the parent and teacher-rated scales compared to parental care when other factors are controlled, but the effects are only significant at the 10 per cent level. Teachers and parents rated children who experience non-relative childcare as less hyperactive by $-.44$ and $-.32$ of a point respectively. However, these effects disappear once controls are added as do the smaller significant effects for conduct problems ($-.14$ for parent and $-.09$ for teacher ratings). This implies that it is one or more of the factors being controlled that is associated with lower hyperactivity and conduct problem scores in these children rather than the type of childcare they are receiving. Controlling for other factors, children in this care setting are rated by teachers as having significantly fewer emotional and peer problems ($-.19$ and $-.14$ point respectively) and as having higher pro-social behaviour (0.17 point). Parents also rated children in non-relative care as having less emotional and peer problems ($-.14$ and $-.11$ point respectively) but the

association between this care type and parent-rated pro-social behaviour was not statistically significant. These findings suggest that children who are cared for by a non-relative, who may be a childminder or au pair/nanny, are less likely to experience internalising behaviour problems and are, according to teacher ratings, more socially competent.

Children experiencing relative care, which was most often provided by grandparents (see Chapter 3), had the highest ratings from both teachers and parents for pro-social behaviour after accounting for other variables (0.24 and 0.11 point respectively). Given that this care setting has the lowest adult-to-child ratio (1:1.5)(McGinnity et al., 2015) it could be that the social skills learned through interaction within smaller groups may be as important to children's social development as the opportunity to interact with many children in larger groups. For socio-emotional difficulties, children in relative care have significantly lower parent-rated total difficulties scores (-.36 point) than those in full-time parental care. Of the parent-rated subscales, all show slightly lower difficulties for children in relative care, though only for the emotional problems subscale (-.14 point) was this difference statistically significant (see Table 4.4). As can be seen in Table 4.5, the lower teacher-rated total difficulties and hyperactivity scores (-.52 and -.31 point respectively) are no longer statistically significant once controls are added.

The results are less consistent between parent and teacher reports for children who experienced centre-based care as their main form of care at age three. Parents rated children who attended centre-based care as having significantly fewer emotional and peer problems (-.11 points in both cases) while no relationship was found between teacher ratings on these subscales and the experience of centre-based care once controls were added. However, both teachers and parents rated children who attended centre-based care as having more conduct problems (0.12 and 0.08 point respectively) and teachers rated these children as being more hyperactive (0.22 point). These two scales are seen as identifying externalising behaviour, while emotional and peer problems are seen as internalising behaviours (see Section 1.1).

This could be interpreted as support for similar findings outlined in the literature review (Chapter 1) which reported higher levels of problem behaviour, especially externalising behaviour, in children who experienced more hours of early childcare in centre-based settings (NICHD ECCRN, 1998; 2001; 2005). However, the quality of care provided within these centre-based settings may vary considerably and this has not been accounted for in these models. Much of the literature reviewed in Chapter 1 points to the importance of recognising the effect that variation in childcare quality has on children's socio-emotional

outcomes. A detailed measure of the quality in the childcare centres, particularly process quality, was not available in the *Growing Up in Ireland* study. We did, however, examine whether there were differences among children who attended centres with different adult-to-child ratios and group size. Neither the teacher nor the parent-rated scores showed any significant differences between children attending groups of different sizes (model results available from authors). Child-to-adult ratios were found to be linked to socio-emotional outcomes among children attending care centres but these results were in the opposite direction to those anticipated. Children attending services with the lowest child-to-carer ratios (3 or fewer children to 1 adult) were found to have poorer emotional, social and behavioural outcomes than the other groups. This finding was reproduced on both the teacher and the parent-rated scales. Some of this may be due to the use of special needs assistants in groups which include children with severe behavioural difficulties: this might mean there were more adults per child but also poorer socio-emotional outcomes. However, given that the ratio of 3 children to 1 adult is considerably below the maximum allowable under the regulations, which allow six children aged 2 to 3 per adult, it is possible that these low ratios are due to errors in parent's estimates of the group size and/or staffing level. These results therefore need to be verified with information provided by the care providers when this information is made available.

The amount of time children spend in any type of non-parental care – and in centre-based care in particular – is explored in the next section.

4.5.3 Quantity of Care

The quantity of non-parental care children received is considered in two ways. Firstly, we account for the number of hours per week children spent in non-parental care when aged three years, and secondly we use an indicator of whether the child received regular non-parental care at 9 months. This latter measure indicates early entry into childcare. The data do not contain a full care history so it is not known if the children were continuously in childcare from 9 months to 3 years; however, there is a significant correlation between being in care at both time points, and care status at age 9 months is therefore likely to indicate a longer exposure to non-parental care.

Children who had started in non-parental childcare by age 9 months were found to have fewer socio-emotional and behavioural difficulties than other children, even when a wide variety of other relevant child, family and neighbourhood factors were controlled (see Table 4.6). This finding was consistent for both the parent-rated and teacher-rated scores (-.17 and -.42 points respectively). It was additionally found that this 'early start' group had significantly higher pro-social scores as rated by their teachers (0.13 point).

It is not clear from the analyses whether there is greater behavioural adjustment for those who enter childcare at an earlier age or if there are further unobserved differences between the early starters and other children that are not accounted for in the models.

TABLE 4.6 Results for Parent and Teacher-rated SDQ Total Difficulties and Pro-social Scores by Hours of Care at Age 3 Years and Whether Child had Started Care by 9 Months

	Parent-rated				Teacher-rated			
	Total Difficulties		Pro-Social		Total Difficulties		Pro-Social	
	B	Sig	B	Sig	B	Sig	B	Sig
(Constant)	6.41	**	6.39	**	5.73	**	6.90	**
>30 hours of care at age 3 years	-0.17		0.05		0.38	*	-0.07	
Non-parental care at 9 months	-0.17	#	0.00		-0.42	**	0.13	*
Controls used?	Yes		Yes		Yes		Yes	
Adjusted R2	.222		.107		.078		.060	

Source: *Growing Up in Ireland* Infant Cohort Waves 1 to 3. Authors' analysis.

Notes: Bold indicates statistical significance; **at .001 level, * at .05 level, # sig at .10 level. Models control for child, family and neighbourhood characteristics.

Longer hours of care are classified as 30 or more hours per week, and this includes time in all types of care, not just the main care type. Just fewer than 17 per cent of the children fall into this category. We find that there is no difference in the parent-rated total difficulties score for this group of children (Table 4.6), nor is there any difference in the four difficulties subscale as rated by either parents or teachers (see Appendix Table A.3). However, those attending care for 30 or more hours per week had higher scores on the teacher-rated total difficulties scale (0.38 point). No link between longer hours care and pro-social behaviour was found.

We also considered whether the quantity of care differed depending on the care setting. The total time spent in each care type at age three is entered into the model, and children receiving no non-parental care have a value of zero on each of the measures. The analysis suggests that hours in each care-type has little influence on parent or teacher-rated socio-emotional outcomes (see Table 4.7). There is a very small and only marginally significant relationship for hours in relative care, which has a positive effect on pro-social behaviour (0.004 point) and is associated with reduced problem behaviours (-0.01 point) as rated by parents. Time in centre-based care is however found to be associated with increased difficulties (0.02 point) and a reduction in pro-social behaviour (-0.02 point) when rated by teachers.

TABLE 4.7 Results for Parent and Teacher-rated SDQ Total Difficulties and Pro-social Scores by Total Care Hours in Each Care Type

	Parent-rated				Teacher-rated			
	Total Difficulties		Pro-Social		Total Difficulties		Pro-Social	
	B	Sig	B	Sig	B	Sig	B	Sig
(Constant)	6.45	**	6.38	**	6.28	**	6.95	**
Hours in centre-based care	-.00		.00		.02	**	-.01	**
Hours in relative care	-.01	#	.004	#	.00		.00	
Hours in non-relative care	-.01		-.00		.00		.00	
Controls used?	Yes		Yes		Yes		Yes	
Adjusted R2	.222		.107		.079		.062	

Source: *Growing Up in Ireland* Infant Cohort Waves 1 to 3. Authors' analysis.

Note: Bold indicates statistical significance; **at .001 level, * at .05 level, # sig at .10 level.

Models control for child, family and neighbourhood characteristics. If the child was in full-time parental care at age 3, they have a score of zero on each of the three care hours variables.

4.6 THE EFFECTS OF SOCIO-ECONOMIC DISADVANTAGE ON CHILDREN'S SOCIAL, EMOTIONAL AND BEHAVIOURAL OUTCOMES

The models that assess the influence of care-type on socio-emotional outcomes control for a range of factors that indicate the social and economic position of the family and neighbourhood 'quality', which assess both the perceived safety of the area and the PCG's satisfaction with living in the area. In Chapter 5 we consider whether childcare can mediate the effects of disadvantage, therefore it is important to consider the direct relationship between disadvantage and children's socio-emotional development.

All of the measures of social disadvantage are found to increase the total level of socio-emotional/behavioural difficulties experienced by the child based on the mothers' assessment (see Table 4.8). Particularly sharp increases in difficulty were noted for children in households with no social class, which includes those where no adult was in employment at the time of the first two interview waves. Children in households experiencing severe financial strain as indicated by arrears in rent/mortgage and utility bills also had substantially higher levels of difficulties. The influence of socio-economic disadvantage was visible on all the parent-rated difficulty subscales, but the associations appeared strongest on the hyperactivity scale. The strength of the effects was somewhat weaker for teacher-rated total difficulties and subscales where arrears plus 'never worked' were again particularly strong predictors.

Family socio-economic disadvantage was less strongly linked to children’s pro-social behaviour both for parents and teacher ratings, with only the relationship between ‘never worked’ and skilled manual background and lower pro-social scores reaching statistical significance (on the teacher scales only).

Poorer neighbourhood conditions/desirability were associated with higher difficulties across all the parent-rated subscales and were also linked to higher teacher-rated difficulties, especially on the conduct scale. For example, each one-point increase on the neighbourhood quality scale was associated with half a point increase in the parent-rated total difficulties score. Poorer neighbourhood quality was linked to significantly lower pro-social behaviour on the parent-rated scale, though this effect was not replicated on the teachers’ rating.

TABLE 4.8 Socio-Economic Background and SDQ Outcomes: Parent-Rated

	Emotional problems		Parent-rated SDQ Scores				Total difficulties		Pro-social behaviour			
	B	Sig	B	Sig	B	Sig	B	Sig	B	Sig		
Social Class; Ref: professional												
Managerial	.00		.07	#	.12	#	.02		.21		.07	
Non-manual	.05		.13	*	.31	**	.08	#	.58	**	.02	
Skilled manual	.06		.18	**	.39	**	.08		.71	**	-.01	
Semi/unskilled	.05		.14	*	.28	*	.08		.55	**	.13	#
Missing/ never worked	.10		.12		.39	*	.20	*	.81	**	.17	
Ref: not income poor												
Income poor	-.05		.10	*	.06		.05		.16	#	.08	#
Ref: household not in arrears												
Arrears	.15	**	.16	**	.16	*	.15	**	.62	**	-.00	
Ref: Not experiencing difficulty												
Difficult to make ends meet	.05		.04		.14	*	-.01		.21	*	.07	#
Neighbourhood quality scale ¹	.13	**	.09	**	.12	**	.15	**	.49	**	-.11	**

Source: *Growing Up in Ireland* Infant Cohort Waves 1 to 3. Authors’ analysis.

Notes: # P<.10 * P<.05 ** P<.005.

¹ Higher score indicates poorer quality.

TABLE 4.9 Socio-Economic Background and SDQ Outcomes: Teacher-Rated

Teacher-rated SDQ Scores												
	Emotional		Conduct		Hyper-activity		Peer-problems		Total Difficulties		Pro-social Behaviour	
	B	Sig	B	Sig	B	Sig	B	Sig	B	Sig	B	Sig
Social Class; Ref: professional												
Manager class	.01		.03		.07		-.02		.09		-.01	
Non-manual	.02		.10	#	.20	*	.00		.33		-.06	
Skilled manual	.08		.22	**	.52	**	.07		.90	**	-.21	*
Semi/unskilled	.20	*	.05		.18		.03		.45	#	.07	
Missing/never worked	.35	**	.38	**	.50	**	.13		1.35	**	-.36	*
Income poor	.09		.03		.17	*	.02		.30	#	-.02	
Arrears	-.00		.13	**	.41	**	.09	#	.63	**	-.09	
Difficult to make ends meet	.06		.01		.14	*	.05		.26	*	-.08	
Neighbourhood quality ¹	.07	#	.06	*	.04		.05		.27	#	-.05	

Source: *Growing Up in Ireland* Infant Cohort Waves 1 to 3. Authors' analysis.

Notes: # P<.10 * P<.05 ** P<.005.

¹ Higher score indicates poorer quality.

4.7 ADDITIONAL PERSONAL AND FAMILY FACTORS INFLUENCING SOCIO-EMOTIONAL OUTCOMES

Other individual factors that have significant influence on children's socio-emotional development include the child's gender, birth-weight and health status at age 3 (see Appendix Table A.1 and A.2). Having an illness or disability that limits daily activities is one of the strongest predictors of higher difficulties scores.

Additional family and parental factors are also highly influential. Total difficulties scores are significantly higher for children from lone parent households (controlling for social class and financial situation) but pro-social scores do not differ to those from two-parent households. Children of migrant mothers (PCG born abroad) had fewer socio-emotional difficulties and higher pro-social scores. However, the teacher-rated scale showed that this group of children had lower pro-social scores. Having siblings is associated with a strong reduction in difficulties on the parent-rated scores, and a weaker effect is seen in teacher scores. Having three or more siblings leads to a 1.14 point reduction in parent-rated total difficulties⁵¹ but is also associated with a **decrease** in parent-rated pro-social skills. Fahey et al. (2012) found a similar pattern between family size and reduced socio-emotional problems among 9-year-olds in the older *GUI* cohort.⁵² The results may suggest that having comparators reduces parent perceptions of behaviour as being problematic or reduce the level of monitoring of the child's

⁵² Fahey et al.(2012) use a dichotomous measure of SDQ that identifies those in the problematic range.

behaviour by the parent; such an explanation is consistent with teacher's recording lower average total difficulties scores.

Parenting style is also influential; children who experienced a consistent parenting style⁵³ at age 3 are found to have significantly lower problem behaviours at age 5 and significantly greater social strengths. This effect is confirmed in both parent and teacher models (Table A.1 and A.2). Greater parental warmth and lower hostility were also associated with lower difficulties and greater social strengths; however, this was only found in the parent-rated scales. Similarly maternal⁵⁴ depression was only found to be significant for children's SDQ on the parent-rated scales. These results suggest that the mother's questionnaire responses, including their evaluation of the child's strengths and weaknesses, may be negatively biased due to their own mental health. Maternal stress was however found to have a negative impact on children's socio-emotional development on both the teacher and the parent-rated SDQs.

The differences between teacher and parent scores across a range of social and family characteristics (including family size, migrant status and gender) provide interesting questions for further research but are beyond the scope of the current study.

4.8 SUMMARY

This chapter has examined the relationship between type of care and duration of care received at age three and socio-emotional/behavioural outcomes at age five. We use both parent and teacher-rated SDQ scores to assess children's outcomes. These two sources of assessment add richness to the picture of children's strengths and difficulties but also complexity as the two ratings are not always consistent. In general the parent, usually the mother, rates the child more highly on difficulties and on strengths than the teacher. This disagreement between parent and teacher ratings is routinely found in the literature, and it is suggested that these may reflect real differences in children's functioning across different settings as well as potential response biases.

Care by a **relative** was associated with lower difficulties scores as assessed by parents and higher pro-social skills as judged by teachers and parents compared to those in only parental care at three. Children cared for by a **non-relative** also fared better in terms of lower total difficulties on both parent and teacher

⁵³ See Chapter 2 for a description of these variables.

⁵⁴ Since the vast majority of Primary Caregivers are mothers we refer to maternal depression.

ratings. Teachers also judged this group to have higher pro-social behaviour. The effects of **centre-based care** are more ambiguous. No effect was found for parent ratings of overall difficulties or strengths, but a significant negative relationship is seen in teacher ratings of total difficulties for children in this care type compared children in parental care. The subscale analysis showed that this difference was driven by higher hyperactivity and conduct problems. The higher score for conduct problems was replicated on the parent subscales, though parents also judged children in centre care to have fewer emotional and peer problems.

The analysis of care hours also showed that longer hours spent in centre-based care were related to higher difficulties and lower pro-social behaviour in teacher-rated scales. This was not replicated on the parent assessed scales, though here there was a positive effect for spending more time in relative care. Other studies have found that quality of care is an important factor in children's outcomes, which is an aspect that is not captured in the current analysis; most significantly we lack measures of process quality. The measure of carer-to-child ratio based on parents' estimates appear inaccurate and do not have the anticipated effect; however, it is possible that some of the differences across care types are related to different carer-to-child ratios and consequently levels of individual attention received by the child.

Early entry to childcare at nine months (not controlling for type of care) was linked to positive outcomes for children; this group had lower difficulties on both teacher and parent scales and had higher pro-social scores on the teacher-rated scale compared to children who were in full-time parental care at 9 months.

The findings relating to childcare should be interpreted in the light of the small effect sizes. Across all the findings the biggest effect is a 1.1 point reduction in the teacher-rated total difficulties score for non-relative care, where the SD of the scale is 5.4 points.⁵⁵ Moreover, childcare type accounted for less than 1 per cent of the variance in children's scores on both the teacher and parent-rated scales.

Children's socio-economic environment was clearly associated with socio-emotional outcomes. Living in a family experiencing financial strain, particularly families living with debt problems, was associated with poorer outcomes in terms of conduct, hyperactivity, peer problems and emotional problems. Income poverty had a less consistent effect but was associated with higher teacher and parent-rated total difficulties scores at the 10 per cent level. Teachers rated children from income-poor households as significantly more hyperactive while

⁵⁵ This corresponds to an effect size of 0.20 using the standardised mean-difference effect size (d) using the unstandardised regression coefficient (Lipsey and Wilson, 2000).

parents scored these children higher for conduct problems. The longer term resources and opportunities of the family are captured by social class position and this too shaped children's socio-emotional outcomes, even when the families' current economic circumstances were taken into account. Children from semi/unskilled class backgrounds and those in families who never worked had significantly higher total difficulties scores and lower teacher-rated pro-social scores. Generally, externalising behaviour (hyperactivity and conduct problems) was more strongly affected by socio-economic circumstances than internalising behaviour and pro-social behaviour.

Neighbourhood quality, encapsulating both the safety of the area and the PCG's satisfaction with the area, also mattered for children's socio-emotional wellbeing, even when many individual and family factors were controlled. Poorer neighbourhood quality was associated with higher difficulties across all the parent-rated SDQ subscales and was also linked to higher teacher-rated difficulties, especially on the conduct scale. Interestingly, for parent-rated pro-social behaviour, neighbourhood quality was the only socio-economic indicator to have a significant effect.

Chapter 5

Socio-Emotional Outcomes and Childcare – Family Background and Gender Differences

5.1 INTRODUCTION

The international literature has highlighted the way in which childcare and early education may have differential effects for different groups of children (Melhuish et al., 2015; Keys et al., 2013; Peng and Robins, 2010). From a policy perspective it is of particular interest to establish whether interventions in the early years can narrow the gap between advantaged and disadvantaged children. There is now a significant body of research based on both experimental and longitudinal research which shows that high quality ECCE can compensate for some of the disadvantage faced by children from poorer socio-economic backgrounds in terms of both cognitive and socio-emotional development on entering the school system. In some studies the benefits are found to persist into later childhood (Vandell et al., 2010; Melhuish et al., 2015, Sammons, 2010), though in others the effects disappear as the child ages. Poorer quality care, however, does not have such benefits for disadvantaged children and may even have detrimental effects (Melhuish et al., 2015). Moreover, in societies where the market plays a larger role in the provision of childcare, there is a correlation between quality and income meaning that the most disadvantaged children are more likely to be receiving the poorest quality care (Gambaro et al., 2014). The relationship may be further complicated if the quantity of care differs by social background (Sammons, 2010).

In studies where the quality of care is unmeasured the findings are less clear-cut. Longitudinal studies in the UK and Australia both found negative effects for some types of non-parental care on socio-emotional outcomes for children from an advantaged background but no effect for disadvantaged children in the case of the UK (Hansen and Hawkes, 2009) and a positive effect for disadvantaged children in the Australian case (Smart et al., 2008). In our analysis of cognitive outcomes at age five in Ireland (McGinnity et al., 2015) we found that there was no difference in the effects of childcare type for children from low education backgrounds and others; there was however some evidence that children from non-English speaking backgrounds benefited more from centre-based care than children from English speaking households. This relationship was only present for vocabulary scores and not for non-verbal reasoning.

In previous studies disadvantage has been conceptualised in a variety of ways using measures based on income, social class, parental education level, receipt of welfare payments, lone parenthood and migrant status. Studies have also examined the potential compensatory role of early childcare and education for children with Special Educational Needs (SEN) or those who fall into the lowest category in terms of cognitive or socio-emotional scores at the start of the period. Gender differences in the influence of childcare on socio-emotional outcomes have also been found. Research in the UK found that boys experienced greater gains in socio-emotional development from high quality pre-school provision (Sammons et al., 2008; 2012; Sylva et al., 2004). These gender differences in the care effect were found for self-regulation, pro-social behaviour, hyperactivity and anti-social behaviour. Analysis of the Millennium Cohort Study (Peter et al., 2015) found that earlier entry to childcare (before 2.5 years compared to after this point) had a more beneficial effect for boys than girls.

In line with the previous research we consider whether non-parental care has a different effect on children identified as disadvantaged on a variety of measures at age three: family social class, income poverty, lone parenthood and scoring in the top quintile (20 per cent) on the SDQ difficulties scale. Households described as income poor at Wave 2 are identified using the official ‘at risk of poverty’ indicator (see Chapter 2 for variable description). The focus is on the effects of centre-based care as this is the care type where policy intervention is greatest and where previous findings of compensatory effects are strongest, but significant findings relating to the other care types are also mentioned in the text. The analysis is based on both parent- and teacher-reported SDQ. In Section 5.3 we analyse whether the effects of care-type differ for boys and girls.

5.2 EFFECTS OF NON-PARENTAL CARE ON ADVANTAGED & DISADVANTAGED CHILDREN

To analyse the effects of centre-based care for sub-groups of the population we conduct separate models for the advantaged and disadvantaged groups, and examine the coefficient associated with centre-based care for each group. The models control for all the child, family, and neighbourhood effects outlined in Chapter 4 (see Appendix Table A.1 for a full list of controls). This means that the centre-based care effect is net of the other potential influences on children’s socio-emotional development.

There are no significant effects of centre-based care on parent-rated total strengths and difficulties scores for the disadvantaged or the advantaged groups of children (Table 5.1). Significant differences emerge however on teacher-rated socio-emotional development. Centre-based care is found to have a positive effect for disadvantaged children in a number of the sub-groups identified. It is

associated with a significant improvement in pro-social behaviour for children in lone-parent families, compared to children of lone parents in full-time parental care. Similarly we find that children from the lowest social class backgrounds who attended centre-based care at age three have lower socio-emotional difficulties (teacher-rated) than those who were cared for full-time at home. As the size of the sample for these sub-groups is smaller, the effect is only statistically significant at the 10 per cent level.

In contrast, centre-based care is associated with greater socio-emotional difficulties (compared to parental care) among children who are advantaged on each of the dimensions i.e. not income poor, not in the lowest social class households, in two-parent households and those who did not have SDQ scores in the highest quintile at age 3.⁵⁶ Centre-based care was also associated with lower pro-social behaviour scores for children advantaged in terms of income, social class and two-parent family, but no negative effect was found for those advantaged on the earlier SDQ score.

TABLE 5.1 Results for Centre-based Care Effects on SDQ Scores among Disadvantaged/Advantaged Sub-groups

	Parent-rated			Teacher-rated		
	Total Difficulties	Pro-social	N	Total Difficulties	Pro-social	N
<i>Centre Care Compared to Parental Care</i>						
Income poor at Wave 2	ns	ns	1,881	-.03	+.126	1,729
Not poor	ns	ns	6,495	+.328 *	-.126*	6,079
Top SDQ quintile	ns	ns	2,024	.365	-.017	1,871
Not Top SDQ quintile	ns	ns	6,349	+.266 #	-.108	5,937
Lone Parent	ns	ns	961	-.569	+.353 #	880
Two parent	ns	ns	7,414	+.377 *	-.142 *	6,930
No Social Class or Semi/Unskilled	ns	ns	1,328	-.738#	+.171	1,212
Other Social Class	ns	ns	7,048	+.438**	-.118#	6,597

Source: *Growing Up in Ireland* Infant Cohort, Waves 1 to 3. Authors' analysis.

Notes: **< .005 * <.05 # <.10. ns – not significant.

The results are based on models of the Parent and Teacher-rated SDQ scores, where all variables outlined in Table 4.2 are controlled including child, family and neighbourhood characteristics. Separate models are run for the advantaged and disadvantaged sub-groups.

There are also a number of significant effects for other care-types for disadvantaged children (not shown). Relative care is associated with a significant reduction in teacher-assessed total difficulties for children in lone parent families.⁵⁷ Relative care is also associated with significantly higher pro-social

⁵⁶ Note that this is not a measure of multiple advantage/disadvantage; each advantage is considered separately.

⁵⁷ The coefficient for relative care, compared to parental care is -1.72 for teacher-rated difficulties.

scores for this group compared to parental care only.⁵⁸ Children from a lower social class background are also found to benefit from relative-based care on both the difficulties score and the pro-social score⁵⁹ to a greater extent than children from more advantaged social classes (skilled manual and higher).

5.3 GENDER DIFFERENCES IN THE EFFECTS OF CARE TYPE ON SOCIO-EMOTIONAL DEVELOPMENT

The figures in Chapter 4 show that there are strong bivariate gender differences in socio-emotional development at age five, a pattern which is well recognised in child psychology. Here we consider whether the variation in the effects of childcare and early education for boys and girls is also found at a multivariate level, in the Irish context. We look first at the results from parent assessments (Table 5.2). These figures show that, controlling for other relevant factors, girls who attended centre-based care at age three had lower difficulties score than girls cared for full-time by their parents. No such effect is found for boys. There is no effect of care-type on boys' or girls' pro-social behaviour as assessed by parents, with the exception that relative care has a small positive effect for girls.

TABLE 5.2 Parent-rated SDQ Scores by Gender

	Total Difficulties				Pro-social Behaviour			
	Girls		Boys		Girls		Boys	
Controls used?	Yes		Yes		Yes		Yes	
Constant	5.97	**	5.69	**	6.37	**	6.55	**
Relative Care	-0.52	*	-0.18		0.15	*	0.06	
Non-relative Care	-0.45	*	-0.11		-0.03		-0.06	
Centre-based	-0.34	*	0.15		0.01		0.02	
Adj. r-square	0.199		0.228		0.072		0.104	
N.	4,135		4,240		4,136		4,240	

Source: *Growing Up in Ireland* Infant Cohort, Waves 1 to 3. Authors' analysis.

Note: * p< .05 level, **p<.005 level.

⁵⁸ The coefficient for relative care is +.72 for teacher-rated pro-social behaviour, no effect is found for parent-ratings.

⁵⁹ The coefficient for relative care is -1.7 for total difficulties and +0.61 for pro-social on the teacher-rated scores, and -.88 for parent-rated difficulties.

TABLE 5.3 Teacher-rated SDQ Scores by Gender

	Total Difficulties				Pro-social Behaviour			
	Girls		Boys		Girls		Boys	
Controls used?	Yes		Yes		Yes		Yes	
Constant	2.59	#	6.63	**	8.63	**	5.95	**
Relative Care	-0.06		-0.34		0.19		#	
Non-relative	-0.13		-0.57	*	0.13		.22	#
Centre-based	0.35	#	0.18		-0.05		-0.11	
Adj. r-square	0.05		0.06		0.03		0.03	
N.	3,886		3,922		3,886		3,922	

Source: *Growing Up in Ireland* Infant Cohort, Waves 1 to 3. Authors' analysis.

Note: * p<.05 level, **p<.005 level, # p<.10 level.

Turning to the teacher-rated scores, we find that centre-based care is associated with an increase in socio-emotional difficulties for girls (which is marginally statistically significant) but has no effect on boys' difficulties or pro-social scores. Given the contrasting effects of centre-based care on the parent and teacher reports for girls, the relationship cannot be considered robust. It is also worth reiterating that the models are substantially less successful at accounting for variation in teacher scores than in parent scores (as shown by the adjusted R^2).

5.4 SUMMARY

This chapter addresses the question of whether there are certain sub-groups of children who derive more or less benefit from different types of non-parental childcare, in particular centre-based care. We consider a variety of measures of advantage/disadvantage based on social class, relative income, family structure and SDQ scores at age three.

The analysis suggests that centre-based care is associated with some benefits for disadvantaged children in terms of the teacher-based assessments of their socio-emotional development, and with some deficits for advantaged children when compared to children looked after on a full-time basis by their parents. These effects were not reproduced for parental assessments. The discrepancy between care effects in teacher and parent reports may arise because teachers and parents have different expectations of children's behaviour and that the assessments of teachers are more affected by the group setting. In particular, teacher's assessments of children's peer relationships are observed in a classroom setting whereas parents' observations are more likely to be confined to smaller group interactions between the child's friends and family. Similarly, teachers' observations on the child's attention and hyperactivity relate to a class

setting whereas in the home this assessment is more likely to relate to solo activities, or activities in a small informal group. However, teachers have a much more restricted sense of the child's strengths and difficulties based on a much shorter and less intensive relationship, in a context where the study child is only one of a group of 25 students on average in a class.⁶⁰

In line with the findings in the previous chapter the influence of childcare type on the outcomes for the sub-group is small. By definition the sub-group analysis means a reduction in the number of cases and consequently makes it more difficult for effects to reach statistical significance. Where significant, the overall effect sizes are small; all less than one point on the scale examined. The explanatory power of childcare variables for socio-emotional outcomes are also modest as noted in Chapter 4. The model fit statistics show that care type explained less than 1 per cent of variance when no other factors were controlled in the model.

⁶⁰ Based on OECD figures for the year 2012/2013.

Chapter 6

Conclusions and Policy Implications

6.1 PATTERNS OF NON-PARENTAL CARE AT AGE 3

Previous *GUI* research (McGinnity et al., 2015) and Chapter 3 of this report showed that half of children were in regular non-parental care when they turned three (36 months). This was significantly higher than the figure at nine months, when 39 per cent of infants were in non-parental care. At age three, centre-based care had become the dominant form of childcare, accounting for over half of the children in care (54 per cent), with the remainder equally split between care by a relative (23 per cent) or by a non-relative, for example a childminder (23 per cent). The majority of children were in non-parental childcare for less than 30 hours per week (63 per cent) and the mean number of hours was 25 hours per week. Among children in centre-based care at age three the majority of them (53 per cent) were cared for in groups of between six and ten children and in centres where there was a ratio of between three and five children to one adult carer. The information on number of carers and children was supplied by the Primary Caregiver and therefore may be subject to error.

It is of key policy and public interest whether these patterns of non-parental care have any consequences, either positive or negative, for the socio-emotional development of children. Our previous analysis of cognitive outcomes found few differences between children in full-time parental care and those in centre-based care, relative or non-relative care on measures of vocabulary and non-verbal reasoning at age five (McGinnity et al., 2015). When relevant child and family factors were taken into account, the only statistically significant finding emerged for longer hours of care (30 plus) which had a small negative effect on vocabulary. There were also some contrasting effects when sub-groups were analysed, with children from non-English speaking backgrounds found to benefit more from centre-based care than those from English speaking backgrounds. Overall the effect sizes for childcare on cognitive development were small.

6.2 NON-PARENTAL CARE AND SOCIO-EMOTIONAL OUTCOMES

The current study investigated whether the type and quantity of non-parental care had any effects on subsequent socio-emotional outcomes. Children's socio-emotional adjustment is important not just for their current wellbeing but, like cognitive development, it also has implications for children's ability to settle into school and for their educational attainment both in the short and longer term.

The study relies on the Strengths and Difficulties Questionnaire, completed by both the Primary Caregiver and the teacher, to assess socio-emotional /behavioural development. This is a widely used and well-validated measure, which allows distinctive sub-dimensions of the concept to be measured including conduct problems, emotional difficulties, hyperactivity/inattention problems, peer problems and in terms of 'strengths', children's pro-social behaviour is measured.

Having both teacher and parent (usually the mother) rated scales adds to the richness and robustness of the findings but also brings additional complexity. On average, mothers rate children as having greater strengths and more difficulties than the teacher. Gender differences in children's scores were more pronounced on the teacher-rated scales. Discrepancies between parent and teacher-rated scales are routinely found in the literature and are grounded in the difference in context, reference groups and the nature of the relationship between the child and the rater. There are also significant differences in the depth of knowledge a parent and teacher will have of the study child, and differences in the timing of the parent and teacher questionnaires. Teacher ratings have the advantage of avoiding potential endogeneity in some of the predictors of child outcomes (e.g. parental depression) and the parents' rating of the child's difficulties. However, it is notable that a much higher level of variance in the teacher-rated scores is unexplained by the models.

Compared to children cared for only by their parents at age 3, those in relative care had higher parent and teacher-rated pro-social scores and lower parent-assessed difficulties. Those in non-relative care also had lower teacher and parent-rated difficulty scores and higher teacher-rated pro-social scores.

The effects of centre-based care compared to parental care were more ambiguous. No significant differences were found on the parent-rated scores total difficulties score or pro-social scores; however, the subscales showed lower emotional problems, fewer peer problems but higher conduct problems for children in centre care. The teacher ratings showed a higher level of total difficulties for centre-based care compared to parental care and this was driven by higher conduct and hyperactivity difficulties.

Time spent in care per week was not associated with parent-rated SDQ scores, but teacher-rated scales showed a negative effect for 30 or more hours of care per week (higher difficulties and lower pro-social scores). Further analysis found an interaction between hours and care type, which showed that it was hours in centre-based care that influenced the teacher ratings. This analysis also revealed

that hours in relative care were positively linked to parent-rated pro-social scores and negatively linked to parent-rated difficulties.

Children who had started in non-parental childcare by 9 months were found to have lower socio-emotional behaviour difficulties on both parent and teacher evaluations, and were also found to score higher on teacher-rated pro-social behaviour. The analysis did not adjust for the type of care setting at 9 months.

In Chapter 5 we went on to consider whether these patterns held for different groups of children and whether there was any evidence that centre-based care in particular had any beneficial effects for disadvantaged groups. We focus on centre-based care because this is the area in which there has been most public investment and regulation and also because previous evidence of the compensatory effects of early care and education come mainly from formal group settings. The analysis examines the effect of centre-based care for those who are socially disadvantaged (using social class, income poverty, and lone parenthood as indicators), children who are identified as having problematic socio-emotional scores at the age of three (top SDQ total difficulties quintile) and for boys and girls separately.

Social Disadvantage

Centre-based care is found to have a positive effect on teacher-rated socio-emotional development for a number of disadvantaged groups. Centre care is associated with a reduction in total difficulties for children in the lowest social class categories and with an increase in the pro-social scores for children from lone parent households. Due to the smaller size of these sub-groups the effects are only significant at the 10 per cent level. Teacher-rated scores indicate that any negative effects of centre-based care are confined to the more advantaged groups; those who are not income poor, those in two parent households and those not in the bottom social class groups. No significant differences in the effect of centre-based care for socially disadvantaged groups are found for the parent-rated scales (total difficulties and pro-social behaviour).

The analysis provided does not find that centre-based care has any compensatory effect for those children who had high SDQ difficulties scores at age three on either the parent or teacher-rated scales. However, because these characteristics are both measured at age 3, it does not take into account any potential benefits of earlier care.

Gender

Girls who attended centre-based care were found to have lower total difficulties on the parent-rated scale, holding all other factors constant. The teacher-rated

score showed the opposite effect but was only marginally statistically significant. No effect of centre-based care on boys' socio-emotional difficulties was observed. The effect of centre-based care on pro-social behaviour was not found to differ by gender on either teacher or parent evaluations (with a null effect in both cases).

Taken as a whole, these findings suggest that there are some benefits to centre-based care compared with full-time parental care for girls, and for some disadvantaged groups (lower social class and those from lone parent background). Lower emotional difficulties and fewer peer problems appear to drive the lower parent-rated difficulties score for children in centre-care. Centre-based care compares less favourably to parental care for advantaged groups, specifically on teacher ratings. The analysis of the full group suggests that the negative effect of centre care observed by teachers for advantaged children are driven by higher levels of hyperactivity, more conduct problems and longer hours of care.

The findings support earlier research showing that centre-based care has more beneficial effects for disadvantaged groups. The contrasting effect of centre care for the advantaged groups highlights the complex interaction between home and care environment. Children being cared for by parents from a more advantaged background have higher levels of resources to create a richer home learning environment (McGinnity et al., forthcoming; Duncan et al., 1998; Bornstein and Bradley, 2014) and lower levels of family stress which in turn supports more developmentally beneficial parenting styles (Conger and Donnellan, 2007). Such factors affect the contrast between home and care-setting.

Both the positive and the negative effects of centre-based care are small in scale, in all cases being less than half a point on the scale, with the exception of the reduction in difficulties for those in the lowest social class which was somewhat higher at $-.74$. Moreover, the proportion of variance in socio-emotional development explained by care type or care hours is very low (less than 1 per cent). Therefore, the ability for non-parental care to significantly alter children's socio-emotional/behavioural outcomes in either a beneficial or a detrimental way is rather limited. Other factors such as the child's health, number of siblings, lone parenthood, parenting style, social class and financial hardship all have a substantially stronger influence on children's socio-emotional development. The study follows best practice in longitudinal research on child development by modelling the influence of experience at earlier waves on subsequent waves. However the experience of childcare *between* waves may influence outcomes but is not recorded in the data so could not be examined. Small or non-significant effects for non-parental care on children's outcomes is not inconsistent with

international studies of general population effects (Melhuish, 2004) and was also found for cognitive outcomes at 5 years in the *Growing Up in Ireland* study (McGinnity et al., 2015).

The low strength of association between care-type, care hours and children's socio-emotional development in the current study is also likely to be influenced by the lack of detailed information on what is going on within each care setting, a limitation shared with other general child cohort studies. How exactly do staff engage with children? What learning opportunities are provided? How warm and responsive are the carers with the children? How much attention does the child receive? Limited information on the group-size and staff ratios in care centres was gathered from parents, but group size had no effect on children's SDQ scores and the adult-to-child ratios had the opposite effect to that expected; also there is good reason to suspect that the parent's estimates were inaccurate. It is possible that low overall associations disguise stronger positive effects for high quality care and stronger negative effects for low quality care. The lesson from international studies that have examined quality of care in detail is that this is a critical factor for the role of care-setting in shaping later child outcomes.

6.3 SOCIO-EMOTIONAL OUTCOMES, SOCIO-ECONOMIC BACKGROUND AND NEIGHBOURHOOD EFFECTS

Due to the centrality of the issue of social exclusion to debates about child-wellbeing, the report also draws out the results on the relationship with children's social and economic position and socio-emotional outcomes. The importance of local community as an element of children's ecological environment and as a setting for policy intervention, including childcare and family support services, means that it is also pertinent to highlight the findings on neighbourhood effects.

Children living in families that were experiencing economic or social disadvantage fared worse than other children on nearly all of the outcomes examined. The gap between disadvantaged and advantaged children was particularly wide on the measures of conduct and hyperactivity/inattention and this transferred into significant differences on the total difficulties scores on both the parent and teacher-rated scales. Family financial hardship indicated by arrears on mortgage/rent or utility bills was especially predictive of higher socio-emotional difficulties among children as was coming from a household in the never worked/missing class background, a measure that indicates longer-term exclusion of the household from the labour market.

The care-type analysis showed that there were small beneficial effects of centre-based care for disadvantaged children; however, the wide gap between this group and children from more advantaged background is not altered by these effects. Much more fundamental redistribution of resources and opportunities would be necessary to bridge the divide.

Neighbourhood quality is found to have an independent effect on children's socio-emotional outcomes net of family and child characteristics. The measure encapsulates both the perceived safety of the area and the Primary Caregiver's satisfaction with the neighbourhood. Poorer neighbourhood quality was linked to higher difficulties across all the parent-rated SDQ subscales and to higher teacher-rated total difficulties. Better neighbourhood quality was also associated with higher pro-social scores even though no such effect was found for the family's socio-economic position, suggesting that a positive local environment can engender trust and positive interaction among children.

6.4 THE FREE PRESCHOOL YEAR

Take-up of the Free Preschool Year (FPSY) scheme among this cohort of children was very high. The scheme was introduced in January 2010, yet by the Wave 3 interview in early 2013, 96 per cent of the children in this study had availed of the FPSY. One-quarter of parents said they would have been unable to send their child to pre-school in the absence of the scheme; the figure rose to over one-third among children from the lowest income group, children in lone parent households and in families where the PCG had low levels of education. Indeed, expansion in access is likely to have been even greater than these parental reports suggest. At age three, before the children became eligible for the scheme, 27 per cent of all children were attending centre-based care⁶¹ and this dropped to only 14 per cent among children from the skilled manual working class. The FPSY has therefore considerably widened access to centre-based care for more disadvantaged children and those in the working class group.

Due to the almost universal take-up of the Free Preschool Year (FPSY) scheme, it was not possible to assess its impact on socio-emotional outcomes, as there was no suitable group of children with whom to compare participants. Research comparing the outcomes of children within different FPSY settings could provide a fruitful avenue for assessing the scheme. We currently do not have access to information on centre characteristics, such as the qualifications of all staff, their length of experience both in the sector and in the current setting, or observational indicators of quality in centres, covering factors such as

⁶¹ This figure refers to main care; the figure is slightly higher (30 per cent) if secondary care arrangements are also included.

responsiveness to child's needs, communication, learning opportunities, consistency, disciplinary approaches. This would provide robust indicators of quality which would allow an examination of socio-emotional outcomes of children attending the FPSY in settings with different characteristics to be compared. Such a study could highlight the dimensions of care and early education that are most important for children's socio-emotional and cognitive outcomes.

Opportunities to assess the FPSY will also arise as the children progress through the school system. As almost the whole cohort of children studied here have attended the FPSY, measures of child outcomes which are due to be collected when the children reach age 9 can be compared to the older cohort of *GUI* children who did not have universal access to pre-school and who were surveyed at age 9 (in late 2007). Future comparisons of the *GUI* children can also be made to the national assessments of reading and mathematics attainment of children in primary school most recently carried out in 2004 and 2009 (Educational Research Centre, 2010).

6.5 POLICY IMPLICATIONS

There are ongoing concerns about the quality of childcare available in Ireland and the cost of these services to parents which have been the focus of much policy discussion and development. For the period since 2008, this policy discussion has taken place against the backdrop of severe economic recession and a high government deficit, which has restricted resources for state investment. As discussed in Chapter 1, prior to the recession childcare and early education policy was shaped by ideological considerations, most notably by a reluctance to invest more in non-parental childcare than in parental childcare. The recovery in the economy and changes in the main political parties' approaches to childcare and early education⁶² suggests that there is an opportunity for further investment in this sector in the coming years. Comparisons with levels of spending in other EU countries suggest that there is considerable scope for increased investment in Ireland. Public investment in childcare in Ireland amounts to less than 0.2 per cent of GDP (Start Strong, 2015)⁶³ compared to an average of 0.8 per cent of GDP in OECD countries (OECD, 2014) and both UNICEF and the Expert Advisory Group on Early Years Strategy recommended that spending be increased to 1 per cent of GDP.

⁶² All of the main political parties, Fine Gael, Fianna Fáil, Labour, Sinn Féin, and the smaller parties – Green, Social Democrats, AAA-PBP – included commitments in their 2016 election manifestos to increase subsidies to parents towards the costs of childcare. The mechanisms proposed differed between parties; direct subsidies to providers, public provision of ECCE, tax credits or subsidies paid to parents, and the degree to which these would be targeted varies across the parties.

⁶³ The published OECD (2014) database figure for Ireland of 0.5 per cent included infant classes; excluding this, pre-school spending in Ireland is 0.16 per cent of GDP.

The introduction of the FPSY in 2010 represented a significant shift in childcare and early education policy in Ireland. The scheme's popularity with parents, as evidenced by the immediate and almost universal take-up and the high levels of parental satisfaction (McGinnity et al., 2015), may be an important factor behind the broadening political consensus in this area.

The most recent budget (2016) announced extensions to the Free Preschool Year scheme which will have the effect of increasing the duration of provision for most children. The lengthening of the provision will assist with the childcare costs of those with children in the eligible age-bracket (from 36 months to school start).

The international evidence reviewed in this study suggests that a continued focus on the quality of care is essential. The introduction of Aistear and Síolta along with commitments under the Preschool Quality Agenda, and recent changes to childcare regulations (addressing staff training, inspections, quality audits etc.) all aim to improve the standard of care in the sector, particularly in formal group centre-based care.

However, recent reviews suggest that there are still significant shortcomings that need to be addressed. The inspection regime has been criticised as under-resourced and relying on inspection personnel who do not have the requisite training or background in early education and care. The Early Years education-focused inspections of the Free Preschool Year were introduced in autumn 2015. A number of recent reviews (Houses of the Oireachtas, 2016; Start Strong 2015; DCYA, 2015b) recommended that this dual system be merged into a single inspectorate, and recommended further reforms including greater standardisation and easier and faster access to inspection reports. International research has also highlighted the need for strong regulation to ensure quality in childcare systems that do not rely on direct state provision of care since consumers (i.e. parents) lack sufficient information to judge quality (Gambaro et al., 2014).

Minimum levels of qualifications for childcare staff have only recently been introduced in Ireland first for staff in FPSY settings in 2010 and subsequently for all staff working directly with children in pre-school settings but the implementation has been postponed until December 2016 (see Chapter 1). Qualification requirements for childcare workers in Ireland are very low according to international comparisons (Eurydice/Eurostat, 2014) and compared to educators in the primary school sector (McKeown et al., 2014), a feature that is not unconnected to the low level of pay and status accorded to workers in this

sector. High levels of staff turnover are also evident in the childcare sector (Pobal, 2015)⁶⁴ which has implications for continuity and quality of care for young children.

Issues of quality of care are also related to the funding mechanism. The OECD review of childcare across 20 countries concluded that ensuring quality of service is best served by direct public funding of services rather than indirect funding through subsidies or tax credits to parents. The review suggests that

direct public funding of services brings, in the majority of countries reviewed, more effective control, advantages of scale, better national quality, more effective training for educators and a higher degree of equity in access and participation than consumer subsidy models (OECD, 2006, p114).

6.6 FUTURE RESEARCH

The current study focuses on children at age 5 just as they enter the formal school system. The children and parents in the *Growing Up in Ireland* study will be revisited at age nine and this will provide an opportunity to assess whether the effects of early childcare experiences found at 5 years are maintained at age 9 years. Research in the UK suggests that the social gradients in child outcomes widen as children age (Feinstein, 2003) and therefore the effects of early care and education in widening or narrowing that gap will be of continuing importance. The availability of data at 9 years will also allow researchers to compare the outcomes (both socio-emotional and cognitive) of the cohort of children that received pre-school early education care through the FPSY and the earlier cohort of *Growing Up in Ireland* children that did not receive this ‘treatment’ (the *Growing Up in Ireland* child cohort were first interviewed at age 9 in 2008 and are currently being re-interviewed at age 17).

The *Growing Up in Ireland* study provides an opportunity to examine childcare in a broad perspective; however, there is a need for further data on childcare from focused surveys in order to investigate childcare settings. There are significant gaps in quantitative data on the Early Years sector. The last childcare census was carried out in 1999/2000 before many of the recent policy developments could usefully be revisited, perhaps drawing on existing administrative data. The annual Pobal survey of providers supplies valuable information on the childcare providers in receipt of government funding. While the introduction of the FPSY scheme means that an increasing proportion of centres are covered, there is an

⁶⁴ Note that the Pobal survey is only sent to facilities in receipt of government funding, either through capital grants or programmes such as the FPSY, CETS or CCS. In 2011 this accounted for 4,363 services, of which 78 per cent responded.

information gap on private providers who are not in receipt of government support. The data and knowledge gap is even greater in the case of childminders, and relative and non-relative carers who care for children in home-based settings. Indeed, *Growing Up in Ireland* is one of the few sources of national data on this sector, which is randomly generated rather than coming from a subset of providers who are registered or belong to a carers' organisation. A first step would be to use the information from the *GUI* carer surveys about qualifications and activities when this becomes available, to see if there is a link between quality of care and socio-emotional and behavioural (and cognitive) outcomes.

Given debates on quality in both the literature and policy debates in Ireland, there is also a need for detailed observational studies of care provision both for centre-based and other care types at a national level. There is growing attention to the qualifications of childcare workers, but the issue of attracting and retaining graduates in this sector of the economy will be tied to working conditions, including factors such as pay, hours, security, autonomy, professionalisation and status. Further data collection and research on carers as employees would inform policy development in this area.

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Appendices

TABLE A.1 Model Results for SDQ Total Difficulties Scores at Age 5

Variable	Parent-rated SDQ		Teacher-rated SDQ	
	B	Sig.	B	Sig.
(Constant)	6.377	.000	5.524	.000
Childcare with relative (ref. In parental care only)	-.355	.025	-.203	.308
Childcare with non-relative	-.267	.074	-.344	.066
Childcare in a centre	-.108	.355	.260	.078
Low birth-weight at Wave 1	.776	.000	.665	.012
Child is female (ref. Male)	-.846	.000	-1.708	.000
(Ref: no illness/disability)				
Ill-health or disability limiting	1.914	.000	1.606	.000
Ill health or disability not limiting	.478	.002	.209	.281
Child has one sibling (ref. Child has no siblings)	-.532	.000	-.204	.218
Child has two siblings	-.632	.000	-.358	.060
Child has three siblings	-1.138	.000	-.242	.318
New sibling at 5 year interview	.410	.000	-.161	.264
PCG age	-.065	.000	-.017	.178
PCG was a lone parent	.585	.001	.920	.000
PCG was born abroad	-.313	.006	.236	.101
PCG stress scores	.174	.000	.069	.000
PCG depression scores	.105	.000	.018	.342
PCG Consistent parenting score	-.462	.000	-.324	.000
PCG Warmth parenting score	-.366	.005	.137	.408
PCG Hostility parenting	1.958	.000	.134	.328
Managerial social class (ref. Professional)	.211	.115	.088	.603
Non-manual	.579	.000	.326	.108
Skilled	.710	.000	.900	.000
Semi or unskilled	.549	.005	.446	.073
No class	.814	.003	1.347	.000
Income poor	.164	.203	.303	.065
In mortgage/rent/utility arrears	.622	.000	.629	.000
Difficult or v. difficult to make ends meet	.213	.038	.260	.044
Low Neighbourhood Quality	.494	.000	.217	.052
Child started school by 5 year interview	.023	.824	.538	.000
N = 8,668	Ad R2=	.222	Adj R2=	.077

Source: *Growing Up in Ireland* Infant Cohort, Waves 1 to 3. Authors' analysis.

Note: All explanatory variables measured at Wave 2 interview (3 yrs.) unless otherwise stated. See Chapter 2 for a full description of all variables including explanation of the scales and other continuous variables.

TABLE A.2 Model Results for SDQ Pro-social Behaviour Scores at Age 5

Variable	Parent-rated SDQ		Teacher-rated SDQ	
	B	Sig.	B	Sig.
(Constant)	6.245	.000	6.880	.000
Childcare with relative (ref. In parental care only)	.109	.064	.239	.005
Childcare with non-relative	-.052	.354	.174	.029
Childcare in a centre	.021	.636	-.078	.211
Low birth-weight (Wave 1)	-.128	.100	-.068	.544
Child is female (ref. Male)	.447	.000	.853	.000
(Ref: no illness/disability)	-.424	.000	-.459	.000
Ill-health or disability limiting				
Ill health or disability not limiting	.015	.790	.028	.729
Child has one sibling (ref. Child has no siblings)	-.023	.638	.069	.326
Child has two siblings	-.118	.036	.071	.379
Child has three siblings	-.167	.019	.219	.033
New sibling at 5 year interview	.010	.816	.137	.025
PCG age	-.002	.521	.005	.307
PCG was a lone parent	-.067	.317	-.147	.127
PCG was born abroad	.097	.022	-.364	.000
PCG stress scores	-.044	.000	-.027	.000
PCG depression scores	-.006	.308	.008	.339
PCG Consistent parenting score	.180	.000	.170	.000
PCG Warmth parenting score	.549	.000	-.006	.933
PCG Hostility parenting	-.375	.000	.061	.290
Managerial social class (ref. Professional)	.065	.198	-.010	.886
Non-manual	.022	.716	-.062	.474
Skilled	-.007	.910	-.214	.023
Semi or unskilled	.133	.070	.072	.498
No class	.171	.090	-.357	.014
Income poor	.083	.084	-.018	.793
In mortgage/rent/utility arrears	-.001	.978	-.086	.259
Difficult or v. difficult to make ends meet	.065	.092	-.081	.141
Low Neighbourhood Quality	-.111	.001	-.047	.321
Child started school by 5 year interview	.116	.003	.107	.053
N = 8,668	Ad R2=	.107	Adj R2=	.061

Source: *Growing Up in Ireland* Infant Cohort, Waves 1 to 3. Authors' analysis.

Note: All explanatory variables measured at Wave 2 interview (3 yrs.) unless otherwise stated. See Chapter 2 for a full description of all variables including explanation of the scales and other continuous variables.

TABLE A.3 Results for Parent-rated SDQ Subscale Scores Depending on Hours of Care at Age 3 Years and Whether Started Care by 9 Months

	Total Difficulties		Pro-social Problems		Conduct Problems		Emotional Problems		Hyper-activity		Peer Problems	
	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.
(Constant)	6.42	.000	6.39	.000	.72	.014	.85	.012	3.31	.000	1.54	.000
>30 hours of care at age 3 years	-.17	.160	.05	.258	-.02	.618	-.07	.143	-.04	.597	-.05	.164
Non-parental care at 9 months	-.17	.096	.00	.962	.01	.889	-.05	.183	-.06	.281	-.07	.032
Controls used?	Yes		Yes		Yes		Yes		Yes		Yes	
Adj R²	.222		.106		.148		.075		.152		.094	

Source: Growing Up in Ireland Infant Cohort, Waves 1 to 3. Authors' analysis.

Note: Models control for child, family and neighbourhood characteristics.

TABLE A.4 Model Results for SDQ Difficulties Subscales: Parent-rated

	Emotional Problems		Conduct Problems		Hyperactivity		Peer Problems	
	B	Sig.	B	Sig.	B	Sig.	B	Sig.
(Constant)	.94	.006	.75	.010	3.13	.000	1.56	.000
Relative care	-.14	.017	-.07	ns	-.08	ns	-.06	ns
Non-relative care	-.14	.014	.02	ns	-.03	ns	-.11	.013
Centre-based care	-.11	.015	.08	.035	.03	ns	-.11	.001
Low birth-weight (Wave 1)	.19	.016	.07	ns	.38	.000	.14	.026
Female	.11	.001	-.16	.000	-.67	.000	-.13	.000
Ill/disability hampered	.51	.000	.20	.003	.70	.000	.52	.000
Ill/disability not hampered	.22	.000	.00	ns	.20	.02	.06	ns
One sibling	-.07	ns	.08	.054	-.32	.000	-.23	.000
Two sibling	-.08	ns	.14	.005	-.44	.000	-.25	.000
Three or more siblings	-.26	.000	.00	ns	-.50	.000	-.38	.000
New sibling Wave 3	.16	.000	.10	.007	.21	.000	-.06	ns
PCG Age	-.02	.000	-.01	.001	-.03	.000	-.01	.017
Lone parent	.00	ns	.18	.002	.25	.007	.15	.006
PCG born abroad	-.18	.000	-.16	.000	-.13	.03	.16	.000
Manager class	.00	ns	.07	.085	.12	.09	.02	ns
Non-manual	.05	ns	.13	.010	.31	.000	.08	.083
Skilled manual	.06	ns	.18	.002	.39	.000	.08	ns
Semi/unskilled	.05	ns	.14	.032	.28	.008	.08	ns
Class miss/never worked	.10	ns	.12	ns	.39	.006	.20	.013
Income poor	-.05	ns	.10	.016	.06	ns	.05	ns
Arrears	.15	.005	.16	.000	.16	.03	.15	.000
Difficult to make ends meet	.05	ns	.04	ns	.14	.010	-.01	ns
Neighbourhood desirability score	.13	.000	.09	.002	.12	.008	.15	.000
PCG stress	.04	.000	.03	.000	.07	.000	.03	.000
PCG depression	.04	.000	.02	.000	.03	.001	.02	.000
Parenting consistency	-.03	ns	-.20	.000	-.15	.000	-.08	.000
Parenting warmth	-.03	ns	-.04	ns	-.15	.03	-.15	.000
Parenting hostility	.32	.000	.71	.000	.79	.000	.14	.000
Child has started school Wave 3	-.07	.082	-.02	.501	.16	.003	-.05	.003
N	8,377		8,377		8,375		8,376	
Adj R sq.	0.076		0.149		0.153		0.095	

Source: *Growing Up in Ireland* Infant Cohort, Waves 1 to 3. Authors' analysis.

Note: All explanatory variables measured at Wave 2 interview (3 years) unless otherwise stated.

TABLE A.5 Model Results for SDQ Difficulties Subscales: Teacher-rated

	Emotional Problems		Conduct Problems		Hyperactivity		Peer Problems	
	B	Sig.	B	Sig.	B	Sig.	B	Sig.
(Constant)	.824	.038	.656	.027	2.957	.000	1.108	.001
Relative care	-.025	.715	-.017	.734	-.156	.137	-.004	.938
Non-relative care	-.190	.004	.034	.480	-.047	.631	-.141	.008
Centre-based care	-.066	.200	.122	.001	.220	.005	-.017	.680
Low birth-weight	.003	.973	-.001	.990	.517	.000	.144	.053
(Wave 1)								
Female	.130	.001	-.367	.000	-1.289	.000	-.185	.000
Ill/disability hampered	.193	.041	.253	.000	.765	.000	.408	.000
Ill/disability not hampered	.082	.223	.048	.336	.074	.466	.005	.934
One sibling	.025	.658	-.057	.178	-.105	.226	-.064	.172
Two sibling	-.050	.445	-.061	.217	-.180	.072	-.063	.240
Three or more siblings	-.080	.339	-.007	.914	-.036	.775	-.109	.111
New sibling (Wave 3)	-.017	.738	-.016	.670	-.098	.197	-.024	.559
PCG Age	.008	.059	-.005	.105	-.018	.006	-.002	.591
Lone parent	.209	.008	.127	.030	.350	.003	.234	.000
PCG born abroad	-.110	.028	.058	.117	.083	.273	.206	.000
Manager class	.006	.918	.033	.451	.067	.450	-.019	.691
Non-manual	.024	.732	.097	.065	.202	.059	.004	.938
Skilled manual	.083	.280	.218	.000	.524	.000	.074	.238
Semi/unskilled	.196	.023	.046	.469	.177	.176	.033	.636
Missing class/never worked	.347	.004	.379	.000	.503	.005	.125	.196
Income poor	.085	.135	.029	.494	.171	.048	.017	.706
Arrears	-.001	.991	.129	.005	.412	.000	.091	.072
Difficult to make ends meet	.063	.162	.011	.750	.140	.039	.047	.199
Neighbourhood	.065	.093	.064	.026	.042	.476	.047	.136
PCG stress	.008	.172	.009	.029	.028	.001	.024	.000
PCG depression	.015	.019	.001	.811	.003	.730	-.002	.703
Parenting consistency	-.064	.032	-.023	.294	-.151	.001	-.087	.000
Parenting warmth	.008	.887	-.005	.899	.107	.217	.023	.619
Parenting hostility	-.037	.437	.094	.008	.103	.155	-.029	.447
Child has started school (Wave 3)	.106	.019	.028	.406	.581	.000	-.179	.000
N	7,811		7,813		7,811		7,810	
Adjusted r square	0.015		0.045		0.101		0.035	

Source: *Growing Up in Ireland* Infant Cohort, Waves 1 to 3. Authors' analysis.

Note: All explanatory variables measured at Wave 2 interview (3 years) unless otherwise stated.



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