Growing Up in Ireland
National Longitudinal Study of Children

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HOW FAMILIES MATTER FOR SOCIAL AND EMOTIONAL OUTCOMES OF 9-YEAR-OLD CHILDREN

CHILD COHORT

REPORT 4

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HOW FAMILIES MATTER FOR SOCIAL AND EMOTIONAL OUTCOMES OF 9-YEAR-OLD CHILDREN

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Elizabeth Nixon

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EXECUTIVE SUMMARY

This report is concerned with how families matter for the social and emotional outcomes of nine-year-olds in the ***Growing Up in Ireland*** study. The analysis considers how these outcomes relate to the characteristics of both the child and the child's family. Data were collected from teachers and mothers on children's social, emotional and behavioural problems using the Strengths and Difficulties Questionnaire (SDQ). Data on child characteristics, the quality of the parent-child relationship, parental depression, and marital satisfaction were gathered from mothers and fathers, while children reported on mothers' and fathers' parenting styles. Data on family structure and income levels were also included in the analysis. The findings presented are based on tests of associations among variables and interpretation requires caution about inferring causality to these relationships.

The findings indicate that the majority of nine-year-olds are developing well without any significant social, emotional or behavioural problems. However, based on mother and teacher reports, approximately 15% to 20% of children were classified as displaying significant levels of difficulty. Girls were more likely than boys to have problems of an emotional nature, while boys were more likely than girls to have problems of a behavioural nature, and to display more difficulties overall. Having a chronic illness or a learning and development difficulty (as reported by mothers) was associated with higher levels of social and emotional problems. Children with temperaments characterised by higher levels of emotionality and lower levels of sociability also displayed more negative outcomes. Together, these findings indicate that certain inherent characteristics render some children more vulnerable than others to poor social and emotional outcomes. Parenting styles and the quality of mother-child and father-child relationships were also associated with social and emotional outcomes. Children whose parents used an authoritarian parenting style (characterised by low levels of responsiveness and high levels of control) had more difficulty, as did children whose parents were neglectful (low responsiveness and low control). In addition, high levels of mother-child and father-child conflict were associated with elevated levels of difficulty, while low levels of closeness in the mother-child relationship were important for girls' but not boys' social and emotional outcomes. Father-child closeness was not associated with children's social and emotional outcomes.

Maternal depression was associated with increased conflict and lower levels of closeness in the mother-child relationship, and with poorer social and emotional outcomes. However, the strength of the association between maternal depression and SDQ scores reduced substantially once the quality of the mother-child relationship was accounted for, suggesting that maternal depression may be important for children's social and emotional outcomes via its association with mother-child relationship difficulties. Data on paternal depression was only available for fathers who were co-resident with their children. Fathers' depression levels were associated with high levels of father-child conflict, but no association between fathers' depression and father-child closeness emerged. In addition, fathers' depression was not associated with children's social and emotional outcomes.

Similar findings emerged in relation to marital satisfaction. Mothers' marital dissatisfaction was related to children's problems – the more dissatisfied mothers felt, the more problems their children exhibited. As was the case with maternal depression, mothers' marital satisfaction was also associated with the quality of the mother-child relationship, while the association between mothers' marital satisfaction and children's outcomes reduced once the quality of the mother-child relationship was taken into account. For those fathers who were co-resident with their children, their marital satisfaction was not associated with children's outcomes.

Social class and family structure gradients emerged in relation to children's SDQ scores. Children in households headed by a single parent, regardless of the number of children, displayed higher levels of difficulty, although the magnitude of differences between children from one-parent and two-parent households was small and there was considerable variability in children's outcomes across all household types. Associations also emerged in relation to family income; children from families with the lowest income levels displayed more problems. However, the associations between family structure, income level and children's outcomes diminished once other factors such as child characteristics and parenting processes were simultaneously considered. The findings suggest that the quality of the parent-child relationship is more important for children's development than the structure or income level of the family. Notwithstanding this,

mother-child conflict, a variable strongly associated with children's outcomes, was higher in all single-parent and low-income households. This suggests that the risk of mother-child conflict may be exacerbated by the stress inherent in households with relatively fewer relational or economic resources.

A number of policy implications arise from these findings. Across all of the models for predicting children's outcomes presented in the report, child characteristics such as gender, health status and temperament were the most important predictors of social and emotional wellbeing, even after accounting for parenting and family factors. This highlights the potential role that child-directed policies could play in identifying and intervening with groups of children who by their nature are at increased risk of poor outcomes. Child-focused programmes which develop children's skills for building relationships, regulating their emotions, and coping with stress may help to improve children's outcomes.

The findings indicate that high levels of conflict in the parent-child relationship are associated with negative consequences for children's social and emotional wellbeing. Thus, policies that increase access to counselling or support for parents to build and maintain strong positive relationships, either with their partners or with their children, are likely to benefit children's wellbeing. The findings also indicate that children can be protected from the potentially damaging effects of parental depression and marital dissatisfaction if positive parent-child relationships can be maintained, despite parents' ongoing personal challenges.

Economic hardship and a lack of relational resources may impair some parents' abilities to be nurturing and responsive parents and to build positive relationships with their children. Therefore, policies aimed at alleviating stress and improving families' access to social and health support, across all types of households, could reduce the risk of poor social and emotional outcomes for children.

Chapter 1

INTRODUCTION & OUTLINE

1.1 INTRODUCTION

It is well established that the family represents an early, pervasive and highly influential context for development, particularly in the years before children begin formal schooling (Parke & Buriel, 2008). Throughout the world, parents are the primary individuals entrusted with the important task of raising and socialising children to become culturally competent members of society (Bornstein & Lansford, 2010). Beyond parents, children interact with and build relationships with other family members such as siblings and grandparents. This yields a complex family system or network of relationships, wherein each family member influences every other member both directly and indirectly (Minuchin, 2002). This report is concerned with understanding a number of these influences in the families of nine-year-old children in Ireland and identifying the familial factors that underlie positive social and emotional adaptation.

The ***Growing Up in Ireland*** (***GUI***) study is underpinned by Bronfenbrenner's bioecological model which postulates that children's development is shaped by the multiple contexts within which they are embedded. Central to more recent formulations of Bronfenbrenner's theoretical approach is the concept of "proximal processes", those enduring interactions that mediate the associations between the individual and their context (Bronfenbrenner & Morris, 2006). Examples of proximal processes include discipline encounters between parents and their children, and the typical interactions between parents and their children that together constitute their relationship. The theory posits that the child's outcomes are most strongly linked to ongoing proximal processes in the micro-system, or immediate contexts within which the child spends time on a regular basis. Of all micro-systems, the family is arguably one of the most significant and within that context the proximal processes, as indicated by parenting behaviours and the quality of the parent-child relationship, are a key focus for this analysis. Furthermore, at the centre of the bio-ecological model, the child is conceptualised as a source of influence, whose static and dynamic characteristics, such as gender, developmental stage, temperament and genetic predispositions, bring something to bear upon these proximal processes. Thus, the analysis considers how parenting and the quality of the parent-child relationship and their associations with child outcomes are moderated by child characteristics.

Finally, parents and their children do not operate in a vacuum; rather they are embedded within and influenced by a range of other systems (such as the inter-parental relationship, extra-familial influences, work sites, schools and neighbourhoods). Therefore, this analysis considers not only the associations between what goes on in families and children's outcomes, but also how family processes themselves are associated with factors such as family structure and socio-economic status.

This paper is concerned with children's socio-emotional outcomes, based on data collected from 8,568 nine-year-old children, their parents and teachers collected at the end of 2007 and the beginning of 2008. A nationally representative sample of 1,105 schools was selected from all primary schools in Ireland and, of these, 910 schools agreed to participate in the study (82%). A sample of children and their families was randomly generated within those schools and the response rate at family level was 57%. The data used throughout the report were statistically adjusted in line with the sample design to ensure that the information is representative of the population of nine-year-olds in Ireland.

The paper begins with a description of children's social and emotional outcomes and then seeks to understand associations between these outcomes and various dimensions of the child and the family contexts in which they live. In seeking to understand associations, the analysis process builds outwards, from the child's inherent characteristics (such as temperament), to relationships with parents and parenting practices, to broader elements of the family context, including socio-economic status and family structure. In each section of the paper, a brief review of relevant literature is provided and the scales used to measure key variables are outlined.

The main research questions addressed in this report are:

1. How are Irish children faring socially and emotionally? To what extent do social and emotional outcomes vary by gender? Are outcomes different for children with chronic illnesses or learning or developmental difficulties? Is child temperament associated with children's social and emotional outcomes?
2. Are parenting processes, such as the quality of the parent-child relationship and parenting styles, associated with children's social and emotional outcomes? Is child temperament associated with parenting processes?
3. To what extent are parental depression and mothers' and fathers' marital satisfaction associated with parenting behaviours and children's social and emotional outcomes?
4. Do parenting processes and children's social and emotional outcomes vary systematically according to family structure and the social-class background of families?

The findings presented in this report are based on tests of association, and causal relationships should not be inferred from these associations. The analysis focuses on what predicts social and emotional outcomes among nine-year-old children; the relationships tested are theoretically driven and derived from previous research. However, in some cases it is equally plausible that what is conceptualised here as a predictor could also represent an outcome (e.g. social and emotional problems could predict parent-child conflict, as well as vice versa).

Chapter 2

HOW ARE CHILDREN FARING SOCIALLY AND EMOTIONALLY?

2.1 INTRODUCTION

The first research question addresses how children in ***GUI*** are faring in terms of their social and emotional wellbeing and whether their outcomes vary according to gender, or the presence of a chronic illness or learning disability. Children's social and emotional outcomes were assessed using the Strengths and Difficulties Questionnaire (SDQ), reported on by both teachers and primary caregivers (hereafter referred to as mothers, as 98% of primary caregivers in the study were mothers). Given that this is the key outcome variable, a brief description of the questionnaire is provided.

The SDQ (Goodman, 1997) is a widely used 25-item behavioural screening questionnaire that taps into a range of positive and negative behaviours and attributes. It can be administered to parents and teachers of children and young people aged four to 16 years. In ***GUI***, the SDQ was completed for each study child by mothers and teachers.

Twenty items of the SDQ comprise a total scale made up of four sub-scales, each containing five items. These sub-scales tap into emotional symptoms (e.g. often unhappy, downhearted or tearful); conduct problems (e.g. often fights with other children or bullies them); hyperactivity/inattention (e.g. restless, overactive, cannot stay still for long); and peer relationship problems (e.g. picked on or bullied by other children). Scores on each sub-scale can range from 0 to 10, where 10 indicates a high degree of difficulty and 0 the absence of any problems in the relevant domain. Scores from the four sub-scales are summed to generate a total difficulties score, which can range from 0 to 40. An additional five-item sub-scale measures pro-social behaviour (e.g. often volunteers to help others) but the score on this sub-scale does not contribute to the total difficulties score. Scores on this sub-scale range from 0 to 10, where higher scores indicate greater pro-social behaviour.

In addition to total difficulties and sub-scale SDQ scores, it is also possible to classify the total and sub-scale scores as 'normal', 'borderline' and 'problematic',[1] according to guidelines stipulated by the author of the scale (www.sdqinfo.org). Classification into the 'problematic' category on the total scale or one of its sub-scales has been used to identify likely 'cases' with mental-health problems. The author of the scale suggests that, in a community sample, 10% of individuals are likely to be classified as 'borderline' and a further 10% as 'problematic'. He cautions, however, that exact proportions are likely to vary from one context to another and that banding and caseness criteria may be adjusted. One study found that multi-informant SDQs identified individuals with a psychiatric diagnosis with a specificity[2] of 94.6% and a sensitivity[3] of 63.3%. Over 70% of individuals with conduct, hyperactivity, depressive and some anxiety disorders were identified as 'cases' on the basis of SDQ scores (Goodman, Ford, Simmons, Gatward & Meltzer, 2000). The authors also concluded that parents and teachers provide information of roughly equal predictive value, depending on the type of disorder. Information from parents is more useful for detecting emotional disorders, while teachers' information is more useful for detecting conduct and hyperactivity problems.

Reliability analyses of ***GUI*** data for mother-rated and teacher-rated SDQs indicated acceptable internal consistency for each of the sub-scales and the total scale scores based on teacher reports. Internal consistency for each sub-scale was lower based on mother report. Total teacher-rated SDQ scores were missing for 4% of the sample (N = 8237), while less than 1% of the sample had missing mother-rated SDQ total scores (N = 8523).

[1] The authors of the scale use the term 'abnormal' but the term 'problematic' is used here.
[2] Specificity refers to the proportion of positives (in this case those with a psychological diagnosis) which are correctly identified as having a condition.
[3] Sensitivity refers to the proportion of negatives (in this case those without a psychological diagnosis) which are correctly identified as not having a condition.

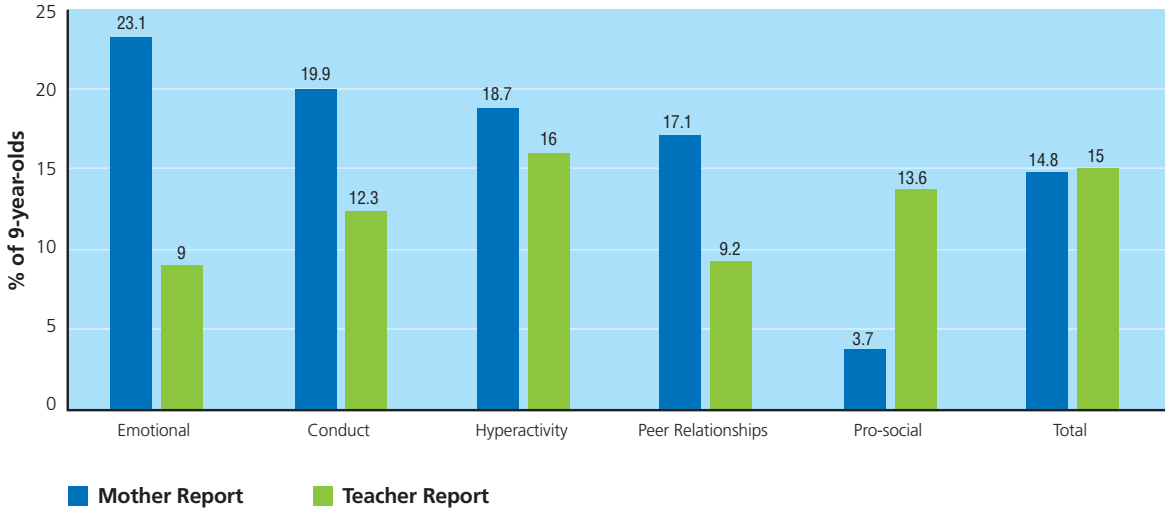
Table 1: Reliability of mother-rated and teacher-rated SDQ sub-scales and total scale

SDQ sub-scale	Cronbach's Alpha	
	Mother-rated	Teacher-rated
Emotional	0.673	0.755
Conduct	0.570	0.728
Hyperactivity	0.744	0.869
Peer relationships	0.515	0.689
Total difficulties (based on four sub-scales)	0.791	0.864
Pro-social behaviour	0.634	0.814

2.2 SOCIAL AND EMOTIONAL OUTCOMES OF CHILDREN IN GUI

On the basis of summed scores, children in ***GUI*** were classified as 'normal', borderline' or 'problematic' on the total scale and the five sub-scales. Drawing on mother report, the majority of the children were doing well, while across the sub-scales that tapped into emotional, conduct, hyperactivity and peer relationship problems, roughly one-fifth of children were classified as exhibiting poor outcomes. Drawing on teacher-completed SDQs, a similar picture emerged. *Figure 1* presents the proportion of children classified as either 'borderline' or 'problematic' on the total scale and each of the sub-scales, based on mother- and teacher-reports.

Figure 1: Percentage of children classified as 'borderline' or 'problematic' based on the SDQ mother report and teacher report



In general, teacher ratings resulted in a lower percentage of children in the 'borderline' and 'problematic' classifications, with the exception of the pro-social sub-scale and the total difficulties scale. *Table 2* highlights the mean scores across the SDQ sub-scales and total scale.[4] Across the emotional, conduct, hyperactivity and peer relationships sub-scales and the total difficulties scale, scores rated by mothers were significantly higher than teacher scores (higher scores indicating more difficulty). In terms of the pro-social sub-scale, the reverse pattern was true: mothers were more likely than teachers to rate their children as higher in pro-social behaviour (higher scores indicating more pro-social behaviour). In all cases, the actual difference in mean scores was small (as indicated by small Cohen's d effect size), with the exception of the peer relationship sub-scale where the effect size was negligible.

[4] The authors of the SDQ state that different criteria should be applied to parent and teacher SDQ scores when 'borderline' and 'abnormal' classifications are being derived (www.sdqinfo.org). On parent-completed SDQs, a score of 14-16 is classified as 'borderline' and a score of 17-40 is classified as 'abnormal'. On teacher-completed SDQs, a score of 12-15 is classified as 'borderline' and 16-40 as 'abnormal'.

Table 2: Means (95% confidence intervals) of SDQ sub-scales and total difficulties scale based on mother report and teacher report

(Significantly higher scores based on t-tests are highlighted in boldface)

SDQ sub-scale	Mother	Teacher	Effect size[5]
Emotional	**2.14** (2.10-2.19)	1.42 (1.38-1.46)	0.36 (small)
Conduct	**1.37** (1.34-1.40)	0.83 (0.80-0.87)	0.35 (small)
Hyperactivity	**3.23** (3.17-3.28)	2.61 (2.55-2.67)	0.23 (small)
Peer relationships	**1.25** (1.22-1.29)	1.05 (1.02-1.09)	0.13 (negligible)
Total difficulties (based on four sub-scales)	**7.99** (7.88-8.11)	5.91 (5.79-6.04)	0.37 (small)
Pro-social behaviour	**8.88** (8.85-9.91)	8.27 (8.22-8.31)	0.34 (small)

Previous research has similarly documented differences in mothers' and teachers' ratings on the SDQ, where parents have a tendency to report more problematic symptoms than teachers (e.g. Mathai, Anderson & Bourne, 2002; Papageorgiou, Kalyva, Dafoulis & Vostanis, 2008). One could argue that teachers are well placed to evaluate a child's behaviour in comparison to their peer group, yet their exposure to children's behaviour is limited to the school setting.

As illustrated in *Table 3*, comparison of ***GUI*** SDQ data with norms from Britain (Meltzer, Gatward, Goodman & Ford, 2000) and Australia (Mellor, 2005) reveal similar discrepancies between mother and teacher reports. Means and standard deviations across all sub-scales in the ***GUI*** data were similar to those in the different samples (including a United States-based sample, National Health Interview Survey, 2001), despite the variation in age profiles across the samples. Thus the SDQ data arising from the ***GUI*** survey (including the discrepancy between parent and teacher scores) are comparable with what has emerged from international studies.

Table 3: Means (SD) of SDQ sub-scale and total difficulties scores based on mother report (top table) and teacher report (bottom table) from *GUI* and other cohort studies

SDQ sub-scale	GUI (N = 8568) 9-year-olds	Britain (N = 5855) 5-10 year-olds	Australia (N = 910) 7-17 year-olds	United States (N = 2064) 8-10 years
Emotional	2.14 (2.05)	1.9 (2.0)	2.1 (2.0)	1.5 (1.9)
Conduct	1.37 (1.51)	1.6 (1.7)	1.5 (1.6)	1.3 (1.7)
Hyperactivity	3.22 (2.5)	3.6 (2.7)	3.1 (2.4)	2.9 (2.6)
Peer relationships	1.25 (1.49)	1.4 (1.7)	1.6 (1.9)	1.5 (1.6)
Total difficulties	7.98 (5.31)	8.6 (5.7)	8.18 (6.06)	7.2 (5.8)
Pro-social behaviour	8.87 (1.45)	8.6 (1.6)	8.3 (1.7)	8.8 (1.7)

SDQ sub-scale	GUI (N = 8568) 9-year-olds	Britain (N = 5855) 5-10 year-olds	Australia (N = 910) 7-17 year-olds	
Emotional	1.42 (1.95)	1.5 (1.9)	1.4 (1.7)	
Conduct	0.83 (1.57)	0.9 (1.6)	1.0 (1.5)	United States –
Hyperactivity	2.61 (2.78)	3.0 (2.8)	2.5 (2.6)	teacher norms
Peer relationships	1.05 (1.65)	1.4 (1.8)	1.6 (1.8)	not available
Total difficulties	5.92 (5.88)	6.7 (5.9)	6.51 (6.03)	
Pro-social behaviour	8.27 (2.11)	7.3 (2.4)	7.8 (2.1)	

[5] Effect size is measured using Cohen's d. The magnitude of Cohen's d is interpreted in the following way: negligible effect (> = -0.15 and < 0.15); small effect (>= 0.15 and < 0.40); medium effect (>=0.40 and < 0.75); large effect (>=0.75 and < 1.10); very large effect (> =1.10 and < 1.45) and huge effect (> 1.45).

2.3 GENDER AND SOCIAL & EMOTIONAL OUTCOMES

The issue of child gender in relation to SDQ outcomes was explored next. Previous epidemiological studies have highlighted gender patterns in the types of social and emotional problems that boys and girls typically exhibit, perhaps reflecting biologically based differences in neurodevelopmental maturity (Verhulst & Achenbach, 1995). Based on a nationally representative sample of 2,406 children in Germany, Rothenberger and colleagues (2008) reported that parent ratings of children's emotional symptoms and pro-social behaviour were significantly higher for girls than boys. In Australia, Mellor (2005) reported that on at least one of the informant versions of the SDQ (parent, teacher and child self-report), each of the five sub-scales and the total difficulty scale demonstrated significant gender differences, with boys scoring higher on all scales apart from the emotional and pro-social scales, where girls score higher. Similarly, based on self-reports of 1,194 Greek adolescents aged 11-17 years, Giannakopoulos *et al* (2009) found that girls reported more emotional symptoms and more pro-social behaviour than boys.

Boys made up 51% of the ***GUI*** sample of nine-year olds. Boys' and girls' scores on the mother and teacher SDQs were compared. Table 4 illustrates sub-scale scores and the total difficulties score for boys and girls, based on mother report and teacher report (significantly higher mean scores are highlighted in boldface). First, based on mother report, girls received significantly higher scores on the emotional sub-scale, suggesting that girls have more emotional symptoms than boys. Girls were also rated as significantly more pro-social than boys. In contrast, boys were rated significantly higher on the conduct and hyperactivity sub-scales, and on the total difficulties scale. No differences emerged between boys and girls on peer-relationship problems.

Based on teacher report, similar significant patterns emerged. Boys scored higher on conduct and hyperactivity sub-scales and on total difficulties, while girls scored higher on emotional difficulties and on pro-social behaviour. In contrast to mothers' report, teachers rated boys significantly higher than girls on peer-relationship problems. These gender-related patterns are similar to findings from previous research, with girls exhibiting a tendency towards difficulties of an internalizing nature (emotional sub-scale), and boys being more likely to show externalizing difficulties (conduct and hyperactivity sub-scales). Effect sizes revealed that generally the magnitude of these gender differences was negligible or small. However, medium effect sizes were found for teacher ratings of hyperactivity and total difficulties.

Table 4: Means (95% confidence intervals) of SDQ sub-scales and total difficulties scores based on mother report and teacher report for boys and girls

(Significantly higher scores based on t-tests are highlighted in boldface)

	Mother report		
SDQ sub-scale	**Boys**	**Girls**	**Effect size**
Emotional	2.01 (1.95-2.07)	**2.28** (2.22-2.35)	0.13 (negligible)
Conduct	**1.43** (1.39-1.48)	1.30 (1.26-1.35)	0.09 (negligible)
Hyperactivity	**3.54** (3.46-3.62)	2.90 (2.83-2.97)	0.26 (small)
Peer relationships	1.25 (1.20-1.29)	1.26 (1.22-1.31)	0.01 (negligible)
Total difficulties	**8.23** (8.06-8.39)	7.74 (7.58-7.90)	0.09 (negligible)
Pro-social behaviour	8.70 (8.66-8.75)	**9.07** (9.03-9.11)	0.26 (small)

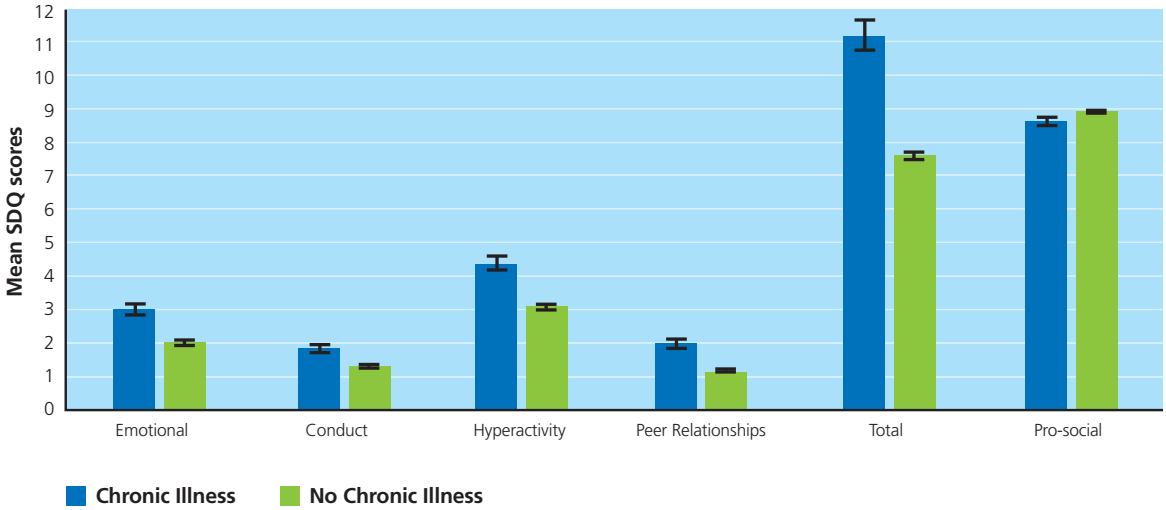
	Teacher report		
SDQ sub-scale	**Boys**	**Girls**	**Effect size**
Emotional	1.35 (1.29-1.40)	**1.50** (1.44-1.56)	0.08 (negligible)
Conduct	**1.03** (0.98-1.08)	0.63 (0.58-0.67)	0.26 (small)
Hyperactivity	**3.19** (3.10-3.28)	2.00 (1.93-2.08)	0.44 (medium)
Peer relationships	**1.13** (1.08-1.18)	0.97 (0.92-1.02)	0.09 (negligible)
Total difficulties	**6.70** (6.51-6.88)	5.11 (4.94-5.26)	0.45 (medium)
Pro-social behaviour	7.82 (7.75-7.89)	**8.74** (8.68-8.79)	0.28 (small)

2.4 PRESENCE OF CHRONIC ILLNESS AND LEARNING OR DEVELOPMENT DIFFICULTIES AND SOCIAL & EMOTIONAL OUTCOMES

Another characteristic of children that may make them more vulnerable to social or emotional difficulties is the presence of a chronic illness. Previous research has demonstrated that children with a chronic illness exhibit an increased risk of emotional and behavioural problems (Lavigne & Faier-Routman, 1992; Glazebrook, Hollis, Heussler, Goodman & Coates, 2003; Hysing, Elgen, Gillberg & Lundervold, 2009; Le Blanc, Goldsmith & Patel, 2003). Parents in ***GUI*** were asked to report on whether or not their child had a chronic illness. While specific details on the nature of the illness were attained and coded, for the purpose of this analysis a categorical yes/no variable is used. A total of 11% of the children were classified as having a chronic illness. Prevalence of chronic illness was higher among boys (12.5%) than girls (9.7%). Of those with a chronic illness, 57% were boys, and 43% were girls. *Figure 2* illustrates sub-scale and total difficulties scores for those with and without a chronic illness, based on mother reports. Across all difficulties sub-scales, those with a chronic illness were rated as having higher scores than those without a chronic illness, indicating a higher level of difficulty.

Figure 2: Mean SDQ sub-scale and total scores for those with and without a chronic illness (based on mother report)

(Error bars represent 95% confidence intervals)



These patterns also held based on teacher report (*Table 5*). Both mothers and teachers reported higher levels of pro-social behaviour among those without a chronic illness than those with chronic illness. Further analysis revealed a medium effect size in emotional, hyperactivity, peer relationship and total SDQ scores between those with and without a chronic illness. The differences in pro-social and conduct scores were small in magnitude.

Table 5: Means (95% confidence intervals) of SDQ sub-scales and total difficulties scores based on mother report and teacher report for those with and without a chronic illness

(Significantly higher scores based on t-tests are highlighted in boldface)

	Mother report		
SDQ sub-scale	**Chronic illness**	**No chronic illness**	**Effect size**
Emotional	**3.02** (2.86-3.18)	2.03 (1.99-2.08)	0.49 (medium)
Conduct	**1.83** (1.71-1.95)	1.31 (1.28-1.34)	0.35 (small)
Hyperactivity	**4.36** (4.17-4.55)	3.09 (3.03-3.14)	0.52 (medium)
Peer relationships	**1.99** (1.86-2.12)	1.16 (1.13-1.19)	0.56 (medium)
Total difficulties	**11.20** (10.76-11.64)	7.59 (7.48-7.71)	0.69 (medium)
Pro-social behaviour	8.62 (8.51-8.73)	**8.92** (8.88-8.95)	0.20 (small)

	Teacher report		
SDQ sub-scale	**Chronic illness**	**No chronic illness**	**Effect size**
Emotional	**2.11** (1.95-2.26)	1.33 (1.29-1.38)	0.40 (small)
Conduct	**1.32** (1.18-1.45)	0.77 (0.74-0.81)	0.36 (small)
Hyperactivity	**3.60** (3.39-3.81)	2.48 (2.42-2.55)	0.40 (small)
Peer relationships	**1.76** (1.61-1.91)	0.96 (0.93-1.00)	0.49 (medium)
Total difficulties	**8.78** (8.29-9.28)	5.58 (5.43-5.68)	0.56 (medium)
Pro-social behaviour	7.82 (7.66-7.97)	**8.32** (8.28-8.37)	0.24 (small)

Similar patterns emerged when children with difficulties with learning or development were compared with those without learning or development difficulties (hereafter referred to as LDD). Overall, 11% of children (62% boys, 38% girls) were identified by their mother as having a specific learning disability, or communication or co-ordination disorder; of these, 69.3% had been diagnosed by a professional. Among the disabilities/disorders included were dyslexia (n = 361, 4.2% of children), ADHD (n = 116, 1.4%), autism (n = 26, 0.3%), Asperger's (n = 48, 0.6%), speech and language difficulty (n = 186, 2.2%), dyspraxia (n = 79, 0.9%), slow progress at school (n = 260, 3%), other reading or dyslexia-type problem (n = 21, 0.2%), other co-ordination or motor problem (n = 18, 0.2%), and other concentration or memory difficulty (n = 18, 0.2%). One-third of those with an LDD also had a chronic illness. Incidence of LDD was higher among boys (12.8%) than girls (8.2%).

Given that the SDQ (in particular the hyperactivity sub-scale) taps into behaviours that are symptomatic of ADHD, it is not surprising to find that children with ADHD had significantly higher scores on the SDQ. In relation to the other disorders categorised in ***GUI*** as LDD, previous research illustrates that higher levels of behaviour problems are evident among children with specific speech and language difficulties (Lindsay & Dockrell, 2000), dyslexia (Maughan & Carroll, 2006) and developmental co-ordination disorders (Green, Baird & Sugden, 2006). As was the case for children with chronic illness, children with LDD had higher scores across all SDQ sub-scales and the total SDQ scale, indicating higher levels of difficulty than those without LDD. Levels of pro-social behaviour were lower among those with LDD.

Figure 3: Mean SDQ sub-scale and total scores for those with and without an LDD (based on mother report)

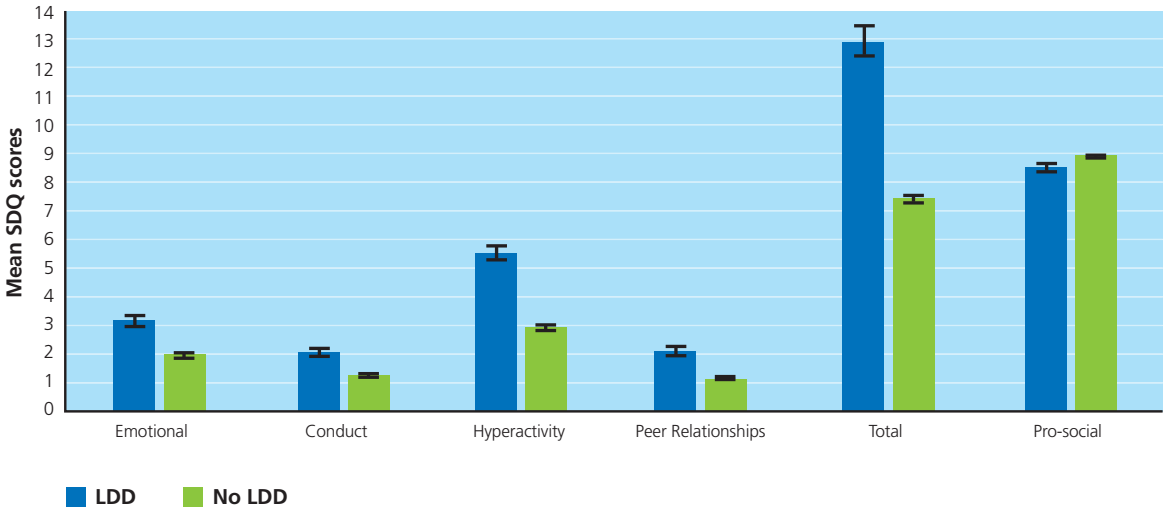


Table 6 illustrates that patterns of difference between those with and without LDD were similar when teacher reports were considered. Effect sizes in emotional, conduct, peer relationships and pro-social SDQ scores were medium. The magnitude of effect sizes for total difficulties and hyperactivity were large. The differences between the groups in pro-social and conduct scores were small in magnitude.

Table 6: Means (and 95% confidence intervals) of SDQ sub-scales and total difficulties scale based on mother report and teacher report for those with and without an LDD

(Significantly higher scores based on t-tests are highlighted in boldface)

	Mother report		
SDQ sub-scale	**LDD**	**No LDD**	**Effect size**
Emotional	**3.19** (3.02-3.35)	2.02 (1.98-2.07)	0.58 (medium)
Conduct	**2.09** (1.96-2.22)	1.28 (1.25-1.32)	0.54 (medium)
Hyperactivity	**5.51** (5.33-5.69)	2.96 (2.90-3.01)	1.07 (large)
Peer relationships	**2.14** (2.01-2.27)	1.15 (1.12-1.18)	0.68 (medium)
Total difficulties	**12.92** (12.50-13.35)	7.41 (7.30-7.52)	1.09 (large)
Pro-social behaviour	8.52 (8.41-8.64)	**8.93** (8.89-8.96)	0.28 (small)

	Teacher report		
SDQ sub-scale	**LDD**	**No LDD**	**Effect size**
Emotional	**2.21** (2.05-2.36)	1.33 (1.29-1.37)	0.46 (medium)
Conduct	**1.51** (1.37-1.65)	0.75 (0.72-0.79)	0.49 (medium)
Hyperactivity	**5.07** (4.86-5.27)	2.32 (2.26-2.38)	1.04 (large)
Peer relationships	**2.03** (1.87-2.18)	0.94 (0.90-0.97)	0.68 (medium)
Total difficulties	**10.81** (10.32-11.29)	5.34 (5.21-5.46)	0.99 (large)
Pro-social behaviour	7.45 (7.28-7.62)	**8.37** (8.32-8.41)	0.44 (medium)

These findings indicate that children with chronic illness and LDD are at increased risk of emotional, conduct, hyperactivity and peer relationship problems, than children not affected by chronic illness or LDD. Maughan and Carroll (2006) suggest that there are a variety of mechanisms through which LDD and emotional and behavioural difficulties are associated. Both may share common risk factors, whether they are neurological, psychological, genetic or social. Alternatively, one disorder may increase the risk of another. For example, the presence of an LDD may impede progress at school, and frustration arising from learning difficulties may exacerbate behaviour problems. Bidirectional influences may also be at work, such that disruptive behaviours further contribute to delayed progress at school.

2.5 CHILD TEMPERAMENT AND SOCIAL & EMOTIONAL OUTCOMES

Temperament refers to a biologically based individual difference in behavioural style and is believed to represent the core of personality (Rothbart & Bates, 2008). Three dimensions of temperament have consistently emerged from different sets of data: negative emotionality (also called reactivity), self-regulation, and inhibition/sociability. Negative emotionality refers to irritability and a tendency to react intensely and negatively. Self-regulation describes effortful emotional and attentional control, while inhibition/sociability (also called approach/withdrawal) refers to a tendency to approach or withdraw from novel situations or people (Sanson, Hemphill & Smart, 2004).

Considerable research has examined the relationship among various dimensions of temperament and social and behavioural outcomes. Key dimensions of temperament appear to be linked with later dimensions of adjustment. Temperamental negative emotionality or irritability tends to predict both internalizing and externalizing problems. Children who display high levels of emotionality tend to exhibit higher levels of externalizing behaviour problems, internalizing problems and poor social skills (Brendgen, Wanner, Morin & Vitaro, 2005; Eisenberg *et al*, 2000; Rubin, Burgess, Dwyer & Hastings, 2003; Sanson, Oberklaid, Pedlow & Prior, 1991). Temperamental inhibition tends to predict later internalizing problems more than externalizing problems, while weak effortful control (or self-regulation) tends to predict later externalizing problems more than internalizing problems (Zentner & Bates, 2008).

These patterns of direct linkage between temperament dimensions and adjustment outcomes have been well documented, including in a number of longitudinal studies (Rothbart & Bates, 2006). The authors suggest that early temperamental differences do not in and of themselves constitute negative or positive adjustment. Rather these differences predispose individuals to particular transactions with their environment which in turn might shape adjustment (Rothbart & Bates, 1998). However, the outcome associated with particular temperamental dimensions might be different depending on the environmental conditions. Research by Kochanska and colleagues has demonstrated how parenting processes interact with temperament to affect adjustment outcomes (in this case the development of morality and self-control). Children high in fearfulness developed best in the context where mothers exerted control in a gentle and not harsh manner. The positivity in the mother-child relationship was not related to successful moral development for those children high in fearfulness. In contrast, successful socialization of children who are low in fearfulness occurred when parents capitalized on the positive parent-child relationship – for these children warmth and fun in the mother-child relationship was related to positive outcomes for children (Kochanska, Aksan & Joy, 2007). This study is just one of a myriad which highlight the significance of the 'goodness of fit' between parenting processes and children's temperament characteristics for positive child outcomes (Thomas & Chess, 1977).

The measurement of temperament has been the subject of much debate; one aspect of this debate is the usefulness of parent-rated questionnaires. Parents who have the opportunity to observe their child across time and in a range of contexts are well placed to rate their child's overall behavioural style. Parental ratings of temperament and observational measures converge (Allen & Prior, 1995; Goldsmith & Rothbart, 1991), as do parent ratings and teacher ratings (Bishop, Spence & McDonald, 2003). Nevertheless, parent reports reflect a combination of objective as well as subjective factors and may be influenced by factors such as maternal stress or depression (Mednick, Hocevar, Schulsinger & Baker, 1996). Notwithstanding these issues, Rothbart and Bates (2008) conclude that parental reports of temperament have demonstrated sufficient validity with respect to key criteria and in large enough degree to warrant being of scientific value.

The EAS temperament scale (Buss & Plomin, 1984) was used to measure the temperament of children in ***GUI***. The EAS taps into Emotionality (Irritability and Anger), Activity, Sociability (Positive Affect, including Approach) and Shyness (Fear) dimensions of temperament. Boer and Westenberg (1994) investigated the reliability and validity of the EAS and found that all four sub-scales of the EAS were internally consistent, but suggested that shyness and sociability may not be clearly distinguishable among young children. Mathieson and Tambs (1999) examined the factor structure and psychometric properties of the EAS among Norwegian children and confirmed the structure and stability of the EAS over three years among young children.

The scale, completed by mothers, consists of four sub-scales tapping into Emotionality (e.g. child reacts intensely when upset), Activity (e.g. child is very energetic), Sociability (e.g. child is very friendly with strangers) and Shyness (e.g. child tends to be shy). Each item on the scale is scored from one (not characteristic) to five (very characteristic). Scores for each sub-scale are obtained by summing the numeric response chosen for each item. The total scores for each sub-scale range from five (low on that dimension) to 20 (high on that dimension). Cronbach alpha coefficients ranged from 0.540 to 0.795. EAS scores were missing for less than 1% of the sample (N = 8550).

Table 7: Reliability of EAS sub-scales (N = 8550)

EAS Sub-scale	Cronbach Alpha
Emotionality	0.795
Sociability	0.540
Shyness	0.676
Activity	0.693

In interpreting associations between temperament and SDQ outcomes in ***GUI***, the issues of measurement contamination and source bias need to be considered. Sanson, Prior and Kyrios (1990) have argued that associations between scores on a temperament measure and an adjustment measure may be a function of overlap in content between the two scales. This is certainly the case with the SDQ measure and the EAS temperament scale used in ***GUI***, and this overlap arises because social and emotional outcomes, and dimensions of temperament are conceptually very similar (e.g. the 'hyperactivity' SDQ sub-scale and the 'activity' sub-scale of the EAS tap into similar behaviours). Thus, a statistical association may not represent a true association per se; it may reflect the fact that the two behaviours are one and the same. Another issue of source bias (Rothbart & Bates, 2008) also arises: when associations are observed between two constructs (such as SDQ outcome and an EAS temperament dimension) which have been measured via the same source (such as mother), the relation may be a function of bias in the mind of the informant, rather than the actual behaviour of the child. To overcome the potential difficulty of source bias, teacher-reported SDQ total score was selected as the indicator of adjustment rather than the mother report. These important caveats must be considered when interpreting some of the findings presented.

A series of regressions[6] was conducted to explore the predictive value of the four temperament dimensions in relation to the SDQ sub-scales scores (emotional, conduct, peer, hyperactivity) and total difficulties score.

Table 8: Regression (standardised beta coefficients) for temperament (mother report) on SDQ scores (teacher report) (n = 8150)

EAS sub-scale	Total Score	Emotional	Conduct	Hyperactivity	Peer
Emotionality	0.217***	0.172***	0.132***	0.180***	0.132***
Activity	0.064***	-0.004	0.087***	0.088***	-0.002
Sociability	-0.100***	-0.050***	-0.079***	-0.062***	-0.112***
Shyness	-0.047***	0.056***	-0.065***	-0.097***	-0.008
Adjusted R2	0.048	0.041	0.023	0.038	0.028

(*** $p < 0.001$)

The models suggest that the various dimensions of temperament are related in different ways to internalizing (emotional sub-scale), externalizing (hyperactivity, conduct sub-scales) and peer problems. Across all domains, high levels of emotionality are positively related to levels of difficulty. Activity levels are positively related to total levels of difficulty, as well as conduct and hyperactivity problems, but not emotional or peer problems. Sociability is negatively related to all levels of difficulty, such that lower levels of sociability are associated with higher levels of difficulty. Finally, lower levels of shyness are related to higher total, conduct and hyperactivity difficulties, and higher levels of shyness are related to emotional problems. Shyness does not predict peer problems. These dimensions of temperament predict only 4.8% of the variance in total SDQ difficulties scores.

[6] In all regression analyses, the potential for multicollinearity was checked by examining the bivariate correlations between the independent variables, the tolerance and the VIF values.

2.6 CONCLUSION

This chapter has considered how children in ***GUI*** are faring in terms of their social and emotional development. The proportion of nine-year-old children in Ireland displaying social and emotional problems is broadly similar to those in other large-scale international studies. The findings indicate that a number of characteristics intrinsic to the child may exacerbate the risk of adverse social or emotional outcomes. Although the differences between boys and girls were small, boys may be more vulnerable than girls to externalizing types of behavioural difficulties, and overall levels of difficulty, while girls may be more vulnerable to displaying problems of an internalizing nature. These findings are in accordance with previous research. Having a chronic illness or LDD is also associated with an elevated risk of social and emotional problems. It is possible that having a chronic illness or LDD may result in those children being deprived of important socialization experiences which are vital for successful emotional and behavioural adaptation. Another possibility is that a chronic illness or LDD may stem from risk factors that also underpin maladaptive social and emotional development.

The findings presented here also highlight the significance of temperament for social and emotional outcomes. Although temperament variables accounted for only a small proportion of the variance in SDQ outcomes, higher levels of emotionality and lower levels of sociability were significantly associated with negative outcomes. Higher levels of activity and lower levels of shyness were associated with conduct and hyperactivity problems, and higher levels of shyness were associated with emotional problems. Given the significance of these intra-child variables for SDQ outcomes, the analyses presented in the following chapters control for temperament, child gender and presence of a chronic illness and LDD.

Chapter 3

PARENTING PROCESSES AND CHILDREN'S SOCIAL & EMOTIONAL OUTCOMES

3.1 INTRODUCTION

The second research question addresses the association between parenting processes and children's social and emotional outcomes. The quality of parenting and the parent-child relationship have been repeatedly implicated as correlates of positive social and emotional development. A variety of mechanisms underpinning this association has been elucidated (Collins, Maccoby, Steinberg, Hetherington & Bornstein, 2000). The attachment relationship that develops between a child and parent has been a focus of much research, and the association between a secure/insecure attachment and a plethora of behaviours associated with competence and maladaptation has been well documented (Cassidy & Shaver, 1999). Through the presence of a secure attachment figure, children develop the tools to deal with stress and regulate their emotions. Aside from attachment, there are a number of other ways in which parents both directly and indirectly influence their children's social development. Through direct interaction with children, parents teach and impart skills and knowledge, and shape behaviour through reward and punishment. Parents provide the earliest context for children's development and shape many aspects of the daily context which their child will experience, including access to a particular peer group, educational setting, and cultural and recreational opportunities (Masten & Shaffer, 2006).

A dominant approach in attempting to elucidate the association between parenting processes and children's outcomes has been reflected in the parenting styles research. This research has focused on two dimensions of parenting behaviour (warm/responsive – unresponsive/rejecting, and restrictive/demanding – permissive/undemanding), which cluster together to form one of four parenting styles (Maccoby & Martin, 1983): authoritative, authoritarian, permissive and neglectful. Substantial research has identified an authoritative parenting style – characterised by high levels of responsiveness coupled with demands for appropriate behaviour – as optimal for positive developmental outcomes (Steinberg, Elmen & Mounts, 1989; Steinberg, Lamborn, Dornbusch & Darling, 1992).

Authoritarian parenting, defined as being high in demandingness and low in responsiveness, has been associated with more hostility and/or shyness with peers, being less invested in achievement, and overly dependent on parents (Baumrind, 1973; Darling & Steinberg, 1993). The permissive-indulgent parenting style is characterised by high levels of nurturance and warmth, and low levels of control and maturity demands. Parents do not exert control over their children's behaviour, nor closely monitor their children's activities. Permissive parenting has been associated with high levels of impulsivity and aggression in children, and a lack of self-control and independence (Baumrind, 1967). Thus, Baumrind concluded that, despite the appearance of being opposite parenting styles, both authoritarian and permissive parenting styles minimize children's opportunities to learn to cope with stress (Baumrind, 1973).

The neglectful or uninvolved parenting style is identified by low warmth and low demands and control (Maccoby & Martin, 1983; Teti & Candelaria, 2002). This style has been associated with high levels of aggression and externalizing anti-social behaviour (Patterson, Reid & Dishion, 1992; Radziszewska, Richardson, Dent & Flay, 1996) and, it has been suggested, results in the most negative developmental outcomes for children. While this typological approach is widely regarded, it is not without criticism. In particular, recent research has raised concerns about the generalizability of these styles across diverse socio-economic status and ethnic/cultural groups (Parke & Buriel, 2008). Furthermore, clarity is lacking about the direction of effects (especially when cross-sectional data are used) and the extent to which styles adopted by parents are at least partly in response to the individual characteristics of the child.

3.2 PARENTING STYLE AND CHILDREN'S SOCIAL & EMOTIONAL OUTCOMES

The relationship between parenting style and children's social and emotional outcomes in ***GUI*** is examined here. The Parenting Style Inventory II (Darling & Toyokawa, 1997) was used in ***GUI*** to assess the construct of parenting style, or emotional climate in which parent-child interactions occur. The scale consists of three sub-scales: Responsiveness, Demandingness, and Psychological Autonomy-Granting. Participants are required to

respond on a five-point scale from 'strongly disagree' to 'strongly agree', facilitating positive, neutral and negative representations of their parents. Two sub-scales of the Parenting Style Inventory II – Responsiveness and Demandingness, each consisting of five items – were used in ***GUI***. Parental responsiveness refers to "the extent to which parents intentionally foster individuality, self-regulation, and self-assertion by being attuned, supportive, and acquiescent to children's special needs and demands" (Baumrind, 1991, p. 62). Sample items on this scale include: "I can count on my mother to help me out if I have a problem" and "My mother spends time just talking to me". Demandingness, also referred to as behavioural control, refers to "the claims parents make on children to become integrated into the family whole, by their maturity demands, supervision, disciplinary efforts and willingness to confront the child who disobeys" (Baumrind, 1991, pp. 61-62). Sample items on this scale include: "My mother really expects me to follow family rules" and "My mother really lets me get away with things". The Psychological Autonomy-Granting sub-scale was not included as it was not considered to be appropriate for nine-year-olds, given that it was originally developed for adolescents. Furthermore, in line with other studies, the Psychological Autonomy sub-scale was omitted because parenting styles (based on Baumrind's model) are derived from the responsiveness and demandingness dimensions (Carlo, McGinley, Hayes, Batenhorst & Wilkinson, 2007; Eisenberg, Fabes & Spinrad, 2006; Nijhof & Engels, 2007).

Children in ***GUI*** responded to the 10 items of the responsiveness and the demandingness sub-scales on a three-point scale, by agreement with the authors of the scale. Parenting style was derived from the combination of scores on the responsiveness and demandingness sub-scales. Scores on each sub-scale ranged from five to 15 and were classified as low (5-10) or high (11-15). High scores on both the demandingness and responsiveness sub-scales were classified into an authoritative parenting style; high scores on demandingness and low scores on responsiveness yielded an authoritarian parenting style. Low scores on demandingness and high scores on responsiveness were categorised into a permissive style, while low scores on both sub-scales denoted a neglectful parenting style. Children completed the PSI-II scale for mother, father and mother's partner, though only parenting styles for mother and father will be considered here. Data on mother's parenting style were available for 94% of the sample (N = 8058) and data on father's parenting style for 87% of the sample (N = 7445). Missing data on father's parenting style was clearly associated with family structure. A total of 8% of data on father's responsiveness and demandingness was missing from families headed by a couple, while 43% of data on father's responsiveness and demandingness was missing from families headed by a single parent. Thus, subsequent analysis using father's parenting style is limited in the extent to which it can be generalised to all families, given the preponderance of missing data on this variable from single-parent families.

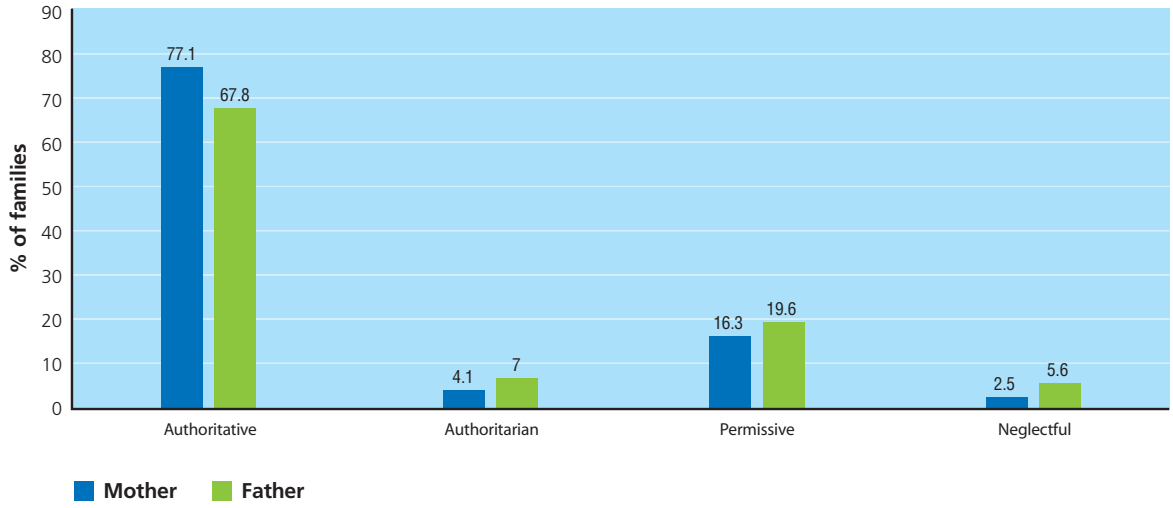
Reliability coefficients for the Parenting Styles Inventory sub-scales ranged from 0.457 to 0.680, suggesting that there may be issues with the reliability of this scale within the sample.

Table 9: Reliability of Parenting Style Inventory (N = 8058 for mothers; N = 7445 for fathers)

Parenting Style Sub-scale	Cronbach Alpha
Demandingness (mothers)	0.457
Responsiveness (mothers)	0.588
Demandingness (fathers)	0.514
Responsiveness (fathers)	0.680

The majority of mothers and fathers were reported by children in ***GUI*** to adopt an authoritative style of parenting. Following this, permissive parenting was the most common. Authoritarian and neglectful parenting styles were the least commonly reported styles.

Figure 4: Classifications of parenting styles of mothers and fathers (based on the Parenting Styles Inventory II, child report)



As illustrated in *Table 10,* boys were more likely to experience authoritarian and neglectful parenting by their mothers than girls, while girls were more likely to experience a permissive parenting style. In terms of father's parenting, boys were more likely to experience authoritarian parenting, while girls were more likely to experience permissive parenting.

Table 10: Percentages of boys and girls who experience each of the four parenting styles
(Significant differences between boys and girls based on Chi-Square analyses are highlighted in boldface)

	Mother's parenting style (N = 7992)		Father's parenting style (N = 7331)	
Parenting style	**Boys**	**Girls**	**Boys**	**Girls**
Authoritative	76.8	77.3	70.1	65.2
Authoritarian	**5.9**	2.2	**8.3**	5.7
Permissive	14.2	**18.5**	16.1	**23.3**
Neglectful	**3.1**	1.9	5.5	5.8

Comparing mother's and father's parenting styles of children with and without LDD revealed no differences. A slightly higher proportion of children with chronic illnesses experienced authoritarian parenting (6% mother and 9.5% for father), in comparison with children without chronic illness (3.9% for mother and 6.8% for father).

The relationship between parenting styles and children's total SDQ scores was explored next (*Table 11*). Regression analysis was used to examine whether mother's parenting style (as rated by children) was a predictor of SDQ outcomes (as rated by mothers and teachers), both before and after including gender, and presence of a chronic illness and LDD, which are known to be related to SDQ outcomes.

Table 11: Regression results (standardised beta coefficients) for child characteristics and mother's parenting style on SDQ total score

(Mother SDQ report on left, N = 7885; teacher SDQ report on right, N= 7626)

Independent variable	Child Characteristics Model	Parenting Style Model	Child Characteristics Model	Parenting Style Model
Male	0.029**	0.022*	0.114***	0.108***
Presence of chronic illness	0.140***	0.138***	0.097***	0.095***
Presence of LDD	0.281***	0.282***	0.253***	0.252***
Mother's parenting style *(ref Authoritative)*				
Authoritarian		0.059***		0.054***
Permissive		-0.013		0.008
Neglectful		0.022*		0.040***
Adjusted R^2	0.118	0.122	0.102	0.106
R^2 Change		0.004		0.004

* p < 0.05 ** p < 0.01 *** p < 0.001

As expected, boys and children with a chronic illness or LDD had higher SDQ difficulties. These remained important predictors, even after parenting style was introduced into the models. In comparison with children with authoritative parents, those with authoritarian mothers and neglectful mothers had higher SDQ total scores. Having a permissive mother was not related to SDQ outcome. In both models, the child characteristics accounted for 10–12% of the variance in SDQ total outcomes; the addition of parenting did not substantially improve the explanatory power of the model. *Table 12* presents the model exploring the predictive value of father's parenting style for children's SDQ outcomes. Generally the same patterns emerged.

Table 12: Regression results for child characteristics and father's parenting style on SDQ total score

(Mother SDQ report on left, N = 7300, teacher SDQ report on right, N = 7047)

Independent variable	Child Characteristics Model	Parenting Style Model	Child Characteristics Model	Parenting Style Model
Male	0.027*	0.26*	0.111***	0.110**
Presence of chronic illness	0.142***	0.140***	0.089***	0.088***
Presence of LDD	0.267***	0.267***	0.243***	0.242***
Father's parenting style *(ref Authoritative)*				
Authoritarian		0.044***		0.030**
Permissive		0.012		0.006
Neglectful		0.036**		0.041***
Adjusted R^2	0.109	0.112	0.093	0.095
R^2 Change		0.003		0.002

* p < 0.05 ** p < 0.01 *** p < 0.001

Together, these findings suggest that particular child characteristics remain the most significant predictors of children's SDQ outcomes. The addition of parenting-style variables did not reduce the association between child characteristics and SDQ outcomes. Overall, having an authoritarian or neglectful parent (either mother or father) is associated with negative SDQ outcomes.

3.3 QUALITY OF PARENT-CHILD RELATIONSHIP AND SOCIAL & EMOTIONAL OUTCOMES

A second approach to understanding the association between parenting processes and children's social and emotional outcomes moves beyond the parenting style approach to focus on the quality of the parent-child relationship. This is termed the *parent-child interactional approach*. The style of interactions that constitute the parent-child relationship has been linked to children's social competence (Parke & Buriel, 2008). High levels of warm engagement and positive synchrony between parents and children are related to school and social adjustment in children (Putallaz, 1987; Harrist, Pettie, Dodge & Bates, 1994) while relationships characterised by negative interactions give rise to more negative developmental outcomes. The emphasis in this interactional approach is on the dynamics of the parent-child relationship. Thus, unlike the parenting styles approach, this perspective emphasises socialization not as a one-way process, but as a bi-directional process to which both parent and child contribute (Kuczynski & Parkin, 2007).

The quality of the parent-child relationship was examined using the Pianta Child-Parent Relationship Scale (Pianta, 1992a) which was completed by mothers and fathers. This scale was adapted from the Student-Teacher Relationship Scale (STRS, Pianta, 1992b). The Child-Parent Relationship Scale is a 30-item scale that assesses the parents' perceptions of the quality of their relationship with their child. The scale consists of three sub-scales tapping into positive aspects of, and conflict and dependency in the relationship. Each item on the scale is scored from one (definitely does not apply) to five (definitely applies). Scores for each sub-scale are obtained by summing the numeric response chosen for each item. Four items were removed from the scale as they did not load onto one of the factors. The *Positive Aspects* of relationship sub-scale (e.g. 'I share an affectionate warm relationship with my child') consists of 10 items. The score ranges from 10 (low) to 50 (high), with 30 at the mid-range. The *Conflict* sub-scale (e.g. 'My child sees me as a source of punishment and criticism') contains 12 items. Its score range is between 12 (low) and 60 (high), with 36 at mid-range. Finally, the *Dependence* sub-scale (e.g. 'My child reacts strongly to separation from me') comprises four items. Its score range is from four to 20, with 12 at mid-range.

There are no published norms for this 30-item version of the Pianta scale and there are no cut-offs or ranges. A shortened form of the Pianta scale (15 items) has been used by the National Institute of Child Health and Human Development (NICHD) study, which commenced in 1995. In addition, the short form has been used by the Millennium Cohort Study in the UK and the Australian Children and Family Life research project (Wise, 2003). The shortened forms used in these studies consist of trimmed-down versions of the Positive Aspects and Conflict sub-scales, while the Dependence sub-scale has been dropped. In light of this and given that the Dependence sub-scale consists only of four items, only the Positive Aspects (termed *Closeness* from here on) and Conflict sub-scales were used in this analysis.

Based on scale completion by the mother, levels of conflict ranged from 12 (lowest possible score) to 59 (where 60 is the highest possible score), with an average score of 21.85 (SD = 7.87). Closeness ranged from 10 (lowest possible score) to 50 (highest possible score), with an average score of 44.74 (SD = 3.87). Based on scale completion by the father, levels of conflict ranged from 12 to 59, with an average score of 22.02 (SD = 8.67). Closeness ranged from 12 to 50, with an average score of 43.86 (SD = 4.23). These findings indicate that the scores on this scale are positively skewed and almost all children are reported by their parents to enjoy relationships which are classified as low in conflict and high in closeness.

Data on the mother-child relationship were available for 99% of the sample (N = 8536) and data on the father-child relationship for 76% (N = 6505). However, data are not available from fathers who did not reside with the child. Thus, father-child relationship data presented here pertain only to those living in households headed by a couple. This is an important caveat in interpreting these findings: they do not reflect family processes among single-parent households. As well, a total of 8% of data on father-child relationships was missing from families headed by a couple. Reliability coefficients for the Pianta sub-scales ranged from 0.557 to 0.843. Reliability for the closeness sub-scale was low, while reliability for the conflict sub-scale was high.

Table 13: Reliability of Pianta Child-Parent Relationship Scale (N = 8536 for mothers; N = 6505 for fathers)

Parenting Style Sub-scale	Cronbach Alpha
Closeness (mothers)	0.577
Conflict (mothers)	0.847
Closeness (fathers)	0.625
Conflict (fathers)	0.822

Research has not consistently indicated differences in qualities of parent-child relationships between boys and girls (Russell & Saebel, 1997). Comparison of conflict and closeness scores in ***GUI*** revealed that there were no differences between boys and girls in terms of conflict with mothers or fathers, or in terms of closeness to fathers. In contrast, girls had higher levels of closeness with their mothers than boys did, although the magnitude of this difference was small (d = 0.26).

Table 14: Mean scores (95% confidence intervals) for closeness and conflict scores in relationships with mothers (N = 8536) and fathers (N = 6505) for boys and girls

Relationship dimension	Girls	Boys	Effect size
Closeness to mothers	45.26 (45.15-45.37)	44.25 (44.13-44.37)	0.26 (small)
Closeness to fathers	43.72 (43.58-43.87)	43.98 (43.84-44.13)	0.05 (negligible)
Conflict with mothers	22.27 (22.01-22.54)	21.77 (21.52-22.03)	0.06 (negligible)
Conflict with fathers	21.65 (21.37-21.92)	22.00 (21.74-22.27)	0.05 (negligible)

Comparison of conflict and closeness scores revealed some significant differences in the quality of parent-child relationships for those with and without chronic illness and LDD. As illustrated in *Table 15*, children with a chronic illness and LDD had higher levels of conflict and lower levels of closeness with mothers and fathers. However, the magnitude of these differences was negligible or small, with the exception of conflict between children with LDD and their parents, where medium effect sizes were observed.

Table 15: Mean scores (and 95% confidence intervals) for closeness and conflict scores in relationships with mothers (N = 8536) and fathers (N = 6505), for those with and without a chronic illness (top table) and LDD (bottom table)

Relationship dimension	Chronic illness	No chronic illness	Effect size
Closeness to mothers	44.13 (43.86-44.41)	44.81 (44.73-44.91)	0.18 (small)
Closeness to fathers	43.43 (43.07-43.78)	43.91 (43.80-44.02)	0.11 (negligible)
Conflict with mothers	24.71 (24.05-25.36)	21.68 (21.49-21.87)	0.35 (small)
Conflict with fathers	24.11 (23.40-24.82)	21.57 (21.38-21.78)	0.32 (small)

Relationship dimension	LDD	No LDD	Effect size
Closeness to mothers	43.66 (43.36-43.96)	44.87 (44.79-44.96)	0.31 (small)
Closeness to fathers	43.35 (43.00-43.71)	43.92 (43.81-44.02)	0.13 (negligible)
Conflict with mothers	26.10 (25.45-26.74)	21.54 (21.35-21.73)	0.53 (medium)
Conflict with fathers	25.03 (24.33-25.74)	21.48 (21.29-21.68)	0.45 (medium)

Regression analysis was used to examine whether the quality of children's relationships with their mothers and fathers was related to SDQ outcomes. Because the parent-child relationship was assessed based on parent report, the SDQ total score based on teacher report was used as the outcome variable, in order to avoid the issue of source bias that can occur when the same person reports on both the predictor and the outcome.

Table 16: Regression results for child characteristics and parent-child closeness and conflict on SDQ total (teacher report, N = 6231)

Independent variable	Child Characteristics Model	Parent-Child Relationship Model
Male	0.128***	0.126***
Presence of chronic illness	0.063***	0.048***
Presence of LDD	0.262***	0.234***
Conflict with mother		0.134***
Closeness to mother		-0.037**
Conflict with father		0.072***
Closeness to father		0.031*
Adjusted R^2	0.101	0.135
R^2 Change		0.034

* p < 0.05 ** p < 0.01 *** p < 0.001

This model indicates that higher levels of conflict with mothers and fathers and lower levels of closeness to mothers were associated with higher SDQ scores. Unexpectedly, higher levels of closeness with fathers were associated with higher SDQ scores, although this relationship was less significant than the others. Parent-child relationship quality explained an additional 3.4% of variance in SDQ outcomes and child characteristics remained significant following the inclusion of the parent-child relationship variables.

3.4 PARENTING PROCESSES, CHILD TEMPERAMENT AND SOCIAL & EMOTIONAL OUTCOMES

The next analysis considered the association between parenting processes and temperament. *Table 17* indicates that few patterns relating parenting style and characteristics of children's temperament were evident. Based on analyses of variance, levels of activity were lower among children with authoritarian mothers than children with permissive mothers [$F(3, 7904) = 2.991$, $p < 0.05$]. Levels of sociability were lower among children of authoritarian mothers than children of authoritative and permissive mothers [$F(3, 7861) = 9.774$, $p < 0.001$]. Levels of activity were lower among children of authoritarian fathers than children of authoritative and permissive fathers [$F(3, 7314 = 9.407$, $p < 0.001$]. However, the magnitude of these differences was small and there were no differences in parenting style according to emotionality or shyness. These findings were somewhat surprising as one might expect to find that children with particular temperamental characteristics elicit particular parenting styles. However, as reported by Putnam, Sanson and Rothbart (2002), several published studies have indicated no association between temperament and parenting.

Table 17: Mean scores (95% confidence intervals) on temperament dimensions according to mother's (top table, N = 7992) and father's (bottom table, N = 7332) parenting style

	Mother's Parenting Style			
EAS dimension	**Authoritative**	**Authoritarian**	**Permissive**	**Neglectful**
Emotionality	2.17 (2.15-2.19)	2.25 (2.15-2.36)	2.15 (2.10-2.20)	2.18 (2.05-2.32)
Activity	4.07 (4.05-4.09)	3.96 (3.87-4.06)	4.10 (4.06-4.14)	4.12 (4.00-4.25)
Sociability	3.65 (3.63-3.66)	3.47 (3.39-3.55)	3.67 (3.63-3.71)	3.55 (3.46-3.64)
Shyness	2.27 (2.24-2.29)	2.36 (2.28-2.44)	2.28 (2.24-2.32)	2.19 (2.08-2.30)

	Father's Parenting Style			
EAS dimension	**Authoritative**	**Authoritarian**	**Permissive**	**Neglectful**
Emotionality	2.14 (2.11-2.16)	2.18 (2.10-2.26)	2.15 (2.10-2.19)	2.19 (2.09-2.28)
Activity	4.10 (4.08-4.12)	3.93 (3.85-4.00)	4.04 (4.00-4.09)	4.06 (3.97-4.14)
Sociability	3.66 (3.64-3.68)	3.61 (3.55-3.67)	3.64 (3.61-3.68)	3.60 (3.53-3.67)
Shyness	2.24 (2.22-2.27)	2.32 (2.25-2.38)	2.31 (2.27-2.35)	2.25 (2.19-2.33)

The quality of the parent-child relationship (based on the Pianta scale) and its association with child temperament was explored next. The model presented in *Table 18* suggests that all dimensions of child temperament were associated with closeness in both the mother-child and father-child relationship. Emotionality was positively associated with conflict in both the mother-child and father-child relationship, while sociability was negatively associated with mother-child conflict, but not father-child conflict. An important caveat in interpreting the findings on the mother-child relationship is that the mother was the sole source of data used in this analysis; thus concerns about source bias apply (this issue does not apply for the findings on the father-child relationship).

Table 18: Regression results for temperament on closeness and conflict in parent-child relationships

Temperament dimension	Mother-Child Relationship (N = 8442)		Father-Child Relationship (N = 6436)	
	Conflict	Closeness	Conflict	Closeness
Emotionality	0.470***	-0.066***	0.279***	-0.082***
Activity	-0.020	0.061***	-0.019	0.087***
Sociability	-0.033**	0.166***	-0.026	0.068***
Shyness	0.014	-0.098***	0.021	-0.085***
Adjusted R2	0.228	0.071	0.083	0.043

(*** p < 0.001; ** p < 0.01; * p < 0.05)

Altogether, dimensions of children's temperament explained a substantial proportion of variance in mother-child conflict (22.8%), but were less important for predicting mother-child closeness (7.1% of variance). Child temperament explained less variance for father-child conflict (8.3%) and father-child closeness (4.3%). This may indicate that child temperament is associated less with the quality of the father-child relationship than the mother-child relationship. It may also suggest that the associations between child temperament and the mother-child relationship are at least partly a function of source bias (i.e. mothers completed both temperament measure and mother-child relationship scale).

The findings presented above and in the previous chapter indicate that child temperament is associated with SDQ outcomes and with closeness and conflict in relationships with both mothers and fathers. In the following analyses, presented in *Tables 19* and *20*, we take into account child-level characteristics (presence of chronic illness and LDD) when exploring the associations between child temperament and parent-child relationship qualities and SDQ outcomes. Separate models were run for boys and girls and for mothers' and fathers' parenting/relationships with children.

For the first model, presented in *Table 19* and involving maternal parenting processes, data were available for 88% of boys (N = 3853) and 88% of girls (N = 3676). Data on mother's parenting styles were missing for 7% of boys and 8% of girls, and data on teacher-rated SDQ outcomes were missing for 4% of both boys and girls. Less than 1% of data were missing for the other measures included in the regression models.

Looking first at the model for boys (N = 3853), conflict with mothers was positively related to SDQ outcomes, after controlling for presence of a chronic illness, LDD and temperament. All child characteristics remained significant after the introduction of parenting variables. Closeness to mothers was not significantly related to SDQ outcomes; however, relative to boys with authoritative mothers, boys with authoritarian and neglectful mothers had significantly higher levels of SDQ difficulties. Overall, the model accounted for 16.8% of variance in boys' SDQ outcomes based on teacher report. The addition of parenting process variables contributed 3.1% explanation of variance to the model.

Looking next at the model for girls (N = 3676) (figures for girls' model in *Table 19* are in parentheses), conflict with mothers was positively related to SDQ outcomes, and closeness to mothers was negatively related to SDQ outcomes, after controlling for child characteristics. Only the emotionality and activity dimensions of temperament remained significant, after parenting variables were introduced into the model. In terms of parenting style, relative to girls with authoritative mothers, girls with neglectful maternal parenting styles had significantly higher levels of SDQ difficulties. Overall, this model accounted for 10.1% of variance in girls' SDQ outcomes based on teacher report. Parenting process variables contributed an additional 1.4% explanation of variance to the model.

Table 19: Regression results for child characteristics, temperament, quality of mother-child relationship and mother's parenting style on SDQ total score (teacher report)

(Gender-specific models; figures for girls' model are in parentheses; N = 3853 for boys' model, N = 3676 for girls' model)

Independent variable	Child Characteristics	+ Temperament	+ Parenting Styles, Conflict & Closeness
Presence of chronic illness	0.089*** (0.111***)	0.069*** (0.100***)	0.057*** (0.098***)
Presence of LDD	0.285*** (0.219***)	0.254*** (0.201***)	0.236*** (0.193***)
Emotionality		0.182*** (0.156***)	0.103*** (0.109***)
Activity		0.081*** (0.027 ns)	0.078*** (0.037*)
Sociability		-0.109*** (-0.035 *)	-0.095*** (-0.023 ns)
Shyness		-0.055** (-0.030 ns)	-0.060*** (-0.031 ns)
Mother-child conflict			0.183*** (0.089***)
Mother-child closeness			-0.009 ns (-0.057 **)
Parenting style *(Ref authoritative)*			
Authoritarian			0.057*** (0.010 ns)
Permissive			0.012 ns (0.010 ns)
Neglectful			0.032* (0.048**)
Adjusted R^2	0.104 (0.067)	0.137 (0.088)	0.168 (0.101)
R^2 Change		0.036 (0.022)	0.031 (0.014)

(***p < 0.001; ** p < 0.01, * p < 0.05)

Gender-specific models which consider father's parenting style and father-child relationships are presented in *Table 20*. For this model, data were available for 69% of boys (N = 3026) and 65% of girls (N = 2715). Data on father's parenting styles were missing for 13% of boys and 16% of girls; data on father-child relationship quality were missing for 22% of boys and 26% of girls, and data on teacher-rated SDQ outcomes were missing for 4% of both boys and girls. Less than 1% of data were missing for the other measures included in the regression models. As highlighted previously, the missing data on father-child relationship quality relates for the most part to children living in households headed by a single parent. Thus, the model presented in *Table 20* relates to children who live with their fathers.

Table 20: Regression results for child characteristics, temperament, quality of father-child relationship and father's parenting style on SDQ total score (teacher report)

(Gender-specific models; figures for girls' model are in parentheses; N = 3026 for boys' model, N = 2715 for girls' model)

Independent variable	Child Characteristics	+ Temperament	+ Parenting Styles, Conflict & Closeness
Presence of chronic illness	0.034 ns (0.087***)	0.19 ns (0.075***)	0.010 ns (0.072***)
Presence of LDD	0.289*** (0.205***)	0.265*** (0.188***)	0.258*** (0.179***)
Emotionality		0.153*** (0.164***)	0.128*** (0.134***)
Activity		0.054** (0.005 ns)	0.060** (0.010 ns)
Sociability		-0.083*** (0.001 ns)	-0.079*** (0.001 ns)
Shyness		-0.033 ns (0.045*)	-0.035 ns (-0.043*)
Father-child conflict			0.102*** (0.120***)
Father-child closeness			0.015 ns (0.005 ns)
Parenting style			
(Ref Authoritative)			
Authoritarian			0.041* (0.002 ns)
Permissive			0.007 ns (-0.026 ns)
Neglectful			0.046** (0.027 ns)
Adjusted R2	0.089 (0.052)	0.112 (0.076)	0.124 (0.089)
R2 Change		0.024 (0.025)	0.013 (0.015)

(***p < 0.001; ** p < 0.01, * p < 0.05)

Conflict with fathers was positively related to boys' and girls' SDQ outcomes, after controlling for child characteristics. Father-child closeness was not associated with SDQ outcomes for boys or girls. In terms of parenting style, relative to those with an authoritative father, boys with an authoritarian or neglectful father had significantly higher levels of SDQ difficulties. Father's parenting style was not associated with girls' SDQ outcomes. Overall, the model accounts for 12.4% of variance in boys' SDQ outcomes and 8.9% of variance in girls' SDQ outcomes. The addition of paternal parenting processes contributed 1.3% and 1.5% to the variance explained in the model for boys and girls respectively.

3.5 CONCLUSION

Overall, the findings presented in this chapter highlight the significant contribution that mothers' and fathers' parenting styles and the quality of relationships between children and their parents make to predicting SDQ total outcomes. Being a boy and having a chronic illness or LDD also increase the likelihood of SDQ difficulties, and these associations remain after the inclusion of parenting variables. Children's temperament, in particular emotionality, is significantly related to SDQ outcomes. As highlighted previously, these models must be interpreted with the caveats that there may be overlap between some of the LDD diagnoses and the EAS dimensions, and the measurement of child outcomes, and that there are limitations involved in using the same informant to report on predictors and outcomes. Furthermore, models involving fathers' parenting processes and the quality of the father-child relationship pertain only to those who live with their fathers. It is plausible that these processes may operate differently, and may have different associations with SDQ outcomes, in a context where fathers and children live apart.

The findings also indicate that there are overlapping patterns of association with SDQ outcomes for boys and girls, as well as some distinct associations. Of particular significance is conflict with mothers and fathers, which is associated with SDQ outcomes for both boys and girls. Closeness to fathers does not appear to be associated with SDQ outcomes for either boys or girls, while closeness to mothers is significantly associated with SDQ outcomes for girls, but not for boys. These findings suggest that experiencing conflict with either parent may have deleterious consequences for children's adjustment, while mother-daughter closeness may serve a protective function. Boys were more likely than girls to experience authoritarian parenting, and this style of parenting was associated with an increased likelihood of SDQ difficulties for boys. In contrast, for girls, neglectful parenting on the part of the mother was associated with negative SDQ outcomes. These findings suggest that authoritarian parenting adversely affects boys in particular. One hypothesis is that high levels of control inherent in authoritarian parenting may be particularly difficult for boys in light of gender-typed expectations that boys are dominant and assertive. Boys also appear to be vulnerable to the impact of neglectful fathering, in ways that girls are not. Developmental theory suggests that fathers represent an important model of masculine identity for their sons (Golombok & Fivush, 1994), and thus neglectful fathering may carry more negative consequences for boys than girls.

Chapter 4

PARENTS' CHARACTERISTICS, PARENTING PROCESSES AND CHILDREN'S SOCIAL & EMOTIONAL OUTCOMES

4.1 INTRODUCTION

The third research question asks to what extent parental depression and marital[7] satisfaction are associated with parenting behaviours and children's social and emotional outcomes. The focus on parental psychological wellbeing and the quality of inter-parental relationship represents a shift away from parent-child dyads to consider other systems within the family unit that may be associated with child outcomes.

It is well established that parental depression represents a risk for adjustment problems in children (Cummings, Keller & Davies, 2005). Children whose mothers are depressed suffer higher rates of internalizing problems, as well as social impairment (Martins & Gaffan, 2000; Weissman, Warner, Wickramaratne, Moreau, & Olfson, 1997). There is a variety of processes that may underpin the association between parental depression and child outcomes. Family process models implicate parenting, child characteristics and marital functioning as possible pathways of risk. Maternal depression is associated with family relationships characterized by lower levels of cohesion, warmth, and expressiveness and higher levels of conflict and disorganization in family activities and roles (Goodman & Gotlib, 2002; Sagrestano, Paikoff, Holmbeck, Fendrick, 2003). Depressed parents have been found to demonstrate more negative affect and be more irritable, critical, and controlling with their children than non-depressed parents (Lovejoy, Graczyk, O'Hare & Neuman, 2000). Goodman and Gotlib (2002) suggest that symptoms of depression may render parents unable to create and maintain a positive parent-child relationship, and manage children's behaviour. Relative to maternal depression, much less research has considered the impact of paternal depression on children's adjustment.

The quality of the marital relationship is also related to children's adjustment. Exposure to marital conflict and discord is associated with poor interpersonal functioning and higher levels of internalizing and externalizing problems (Grych & Fincham, 2001). Marital satisfaction may exert its influence on children's outcomes in both direct and indirect ways (Parke & Buriel, 2008). Theoretical frameworks have typically conceptualised the indirect influences of marital conflict as an influence on children's adjustment through its effect on the quality of parenting. Numerous studies have documented that marital conflict disrupts parenting processes. In their meta-analytic review, Erel and Burman (1995) found a positive association between the quality of the inter-parental relationship and the quality of the parent-child relationship. Similarly, Krishnakumar and Buehler (2000) found that marital conflict was positively associated with harsh discipline and lower levels of warmth between parents and children. This research supports what is known as the spillover hypothesis – that marital conflict and dissatisfaction affect parents' parenting behaviour which in turn affects children. However, Erel and Burman (1995) report that the effect of marital dissatisfaction is lower than the effect for marital conflict. Research which does not support an association between marital dissatisfaction and poor parenting behaviours supports the compensatory hypothesis, which suggests that positive parent-child relationships can be maintained even when marital dissatisfaction is present and can act as a buffer for children. This may reflect efforts by parents to compensate for their unsatisfactory partnership by building a positive relationship with their child (Parke & Buriel, 2008).

Two standardised measures were used in ***GUI*** to measure parental depression and marital satisfaction. Parental depression will be considered first.

4.2 PARENTAL DEPRESSION & PARENTING PROCESSES

Mothers' and fathers' psychological wellbeing was measured using the Centre for Epidemiological Studies Depression Scale (CES-D) (Radloff, 1977). This is a widely used screening tool to assess depression in the general population. It is a 20-item scale in which individuals are asked to report how they have been feeling for the past week on a four-point scale ranging from 'rarely or none of the time' (score of 0) to 'most or all of the time' (score of 3). A short (8-item) version of the scale was used in ***GUI***, in line with other research (DiClemente *et al*, 2005). Sample items include: 'I felt that I could not shake off the blues even with help from my family or friends', 'My sleep was restless' and 'I felt sad'. The range of possible scores is from 0 to 24,

[7] The term marital is used here to denote the relationship between adults living as a couple, although it is acknowledged that some of these relationships are cohabiting rather than married relationships.

with higher scores indicative of more symptomatology. Mothers in ***GUI*** scored from 0 to 24, with a mean score of 2.23 (SD = 3.51). Fathers in ***GUI*** scored from 0 to 24, with a mean score of 1.40 (SD = 2.41). These findings indicate that levels of depressive symptoms among the parents in the sample were low.

Based on the guidelines stipulated by the authors of the scale, parents who scored above six were classified as being depressed. On the basis of this cut-off point, 9.3% of mothers and 4.1% of fathers were categorised as depressed. A total of 14% of mothers had previously been treated for depression and 6.2% of fathers. For the purpose of further analysis, the raw CES-D scores for mothers and fathers were used. CES-D data were available for 87.6% (N = 7504) of mothers and 66.5% (N = 5696) of fathers. As was the case with the data on father-child relationship quality and father's parenting style, the missing data on father's depression is associated with household structure such that data is not available from single-parent households. The internal consistency of the CES-D with the present sample was acceptable (0.876 for mothers and 0.800 for fathers).

The association between parental wellbeing and parenting style, and the quality of the parent-child relationship was examined using analyses of variance and regression analyses. There were no differences in depression scores of mothers and fathers according to their parenting styles [$F(3, 7188) = 0.533$, $p > 0.05$ for mothers; $F(3, 5401) = 0.959$, $p > 0.05$ for fathers]. As illustrated in *Table 21*, maternal depression was positively associated with mother-child conflict ($\beta = 0.169$, $p < 0.001$, Adjusted $R^2 = 0.029$) and was negatively associated with mother-child closeness ($\beta = -0.038$, $p < 0.01$, Adjusted $R^2 = 0.001$). Paternal depression was positively associated with father-child conflict ($\beta = 0.081$, $p < 0.01$, Adjusted $R^2 = 0.006$) but was not significantly associated with father-child closeness. The proportion of variance in parent-child conflict and closeness accounted for by parental depression was low.

Table 21: Regression results for mother's depression on mother-child conflict (N = 7476) and closeness (N = 7684), and for father's depression on father-child conflict (N = 5781) and closeness (N = 5774)

Parental Depression	Parent-Child Relationship Dimension	
	Conflict	Closeness
Mother's depression	0.169***	-0.038**
Father's depression	0.081***	-0.022

(*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$)

Thus, parents who display higher levels of depression have more conflict with their children, and mothers who are depressed have less closeness with their children.

4.3 MARITAL SATISFACTION & PARENTING PROCESSES

Marital satisfaction was examined next, and its association with parenting styles and the quality of the parent-child relationship was explored. The Dyadic Adjustment Scale (DAS), originally developed by Spanier (1976) to provide a multidimensional view of marriage, was used to assess marital satisfaction in ***GUI***. The original scale consisted of 32 items, and various shortened forms have since been developed. A seven-item form (Sharpley & Rogers, 1984) was used in ***GUI***.

Six items require the respondent to rate the extent of agreement with the partner on certain issues and how often certain events occur with the partner. A final item asks the respondent to represent the degree of happiness in their relationship. All items are scored on a scale from 0 to 5. Following reverse scoring of particular items, a total dyadic adjustment score is calculated based on the sum of all items. The range of possible scores is from 0 to 36, with higher scores indicative of more satisfaction.

Data were available for 6,125 mothers (71.4%) and for 5,649 fathers (65.9%). Data on the marital adjustment of mothers and fathers were missing from households classified as single parent-headed households. Data were available for 87% of mothers and for 80% of fathers who were from households headed by a couple. Mothers in ***GUI*** scored from one to 36, with a mean score of 24.50 (SD = 5.49). Fathers in ***GUI*** scored from one to 36, with a mean score of 24.65 (SD= 5.30). These findings indicate that levels of marital satisfaction were relatively high, and there were no differences between mothers' and fathers' overall levels of satisfaction. The internal consistency of the DAS with the present sample was acceptable (0.740 for mother and 0.741 for fathers). Based on analysis of variance tests, there were no differences in mothers' or fathers' satisfaction scores according to parenting style [$F(3, 5761) = 2.685$, $p = 0.05$) for mothers; $F(3, 5259) = 1.758$, $p > 0.05$) for fathers].

As illustrated in *Table 22*, mother's marital satisfaction was negatively associated with mother-child conflict ($\beta = -0.156$, $p < 0.001$) and positively associated with mother-child closeness ($\beta = 0.120$, $p < 0.001$). Thus, higher levels of marital satisfaction were associated with less conflict and more closeness with the child. Father ratings of marital satisfaction were not associated with the mother-child relationship. Father's marital satisfaction was negatively associated with father-child conflict ($\beta = -0.115$, $p < 0.001$) and mother's marital satisfaction was also negatively related to father-child conflict ($\beta = -0.068$, $p < 0.001$). Thus, father's and mother's marital satisfaction were associated with father-child conflict. Father's marital satisfaction was positively associated with father-child closeness ($\beta = 0.168$, $p < 0.001$) but mother's marital satisfaction was not associated with father-child closeness.

Table 22: Regression results for mother's and father's marital satisfaction on mother-child and father-child relationships (N = 5132)

Dyadic Adjustment	Mother-Child Relationship		Father-Child Relationship	
	Conflict	Closeness	Conflict	Closeness
Mother's marital satisfaction	-0.156***	0.120***	-0.068***	-0.007
Father's marital satisfaction	-0.025	-0.012	-0.115***	0.168***
Adjusted R^2	0.028	0.013	0.024	0.027

(*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$)

These findings suggest that marital satisfaction matters for the quality of the parent-child relationship, thus supporting the spillover model of marital dissatisfaction. However, while these associations were significant, the proportion of variance in mother- and father-child conflict and closeness accounted for by parental marital satisfaction was less than 3%.

4.4 PARENTAL DEPRESSION, MARITAL SATISFACTION AND SOCIAL & EMOTIONAL OUTCOMES

Table 23 shows the results of regression analyses for examining the associations between SDQ total difficulties and maternal depression, mother's satisfaction with the inter-parental relationship, parenting processes and child characteristics. Mother's marital satisfaction alone was negatively associated with SDQ total difficulties ($\beta = -0.044$, $p < 0.001$). However, when mother's marital satisfaction was entered into the model alongside maternal depression, parenting processes and child characteristics, its association with SDQ outcomes became non-significant. In relation to mothers, depression was significantly associated with SDQ total difficulties. However, the significance of the association between maternal depression and SDQ outcomes decreased but remained significant following the introduction of parenting processes and child characteristics into the model. Regression models were also run, including paternal depression and father's

satisfaction with the inter-parental relationship. However, these variables were not associated with SDQ outcomes (β = -0.008, p > 0.05 for father's depression; β = -0.026, p > 0.05 for father's marital satisfaction).

Table 23: Regression results for mother's depression, mother's marital satisfaction, parenting processes involving mothers and child characteristics on SDQ total score (teacher report) (N = 5276)

Independent variable	Depression	+ Marital Satisfaction	+ Parenting Style, Conflict & Closeness	+ Child Characteristics
Parental depression	0.078***	0.074***	0.048***	0.034*
Marital satisfaction		-0.025	0.014	0.009
Parent-child conflict			0.196***	0.137***
Parent-child closeness			-0.075***	-0.044**
Parenting Style *(Ref Authoritative)*				
Authoritarian			0.046**	0.036**
Permissive			0.004	0.009
Neglectful			0.033*	0.023
Male				0.129***
Presence of chronic illness				0.041**
Presence of LDD				0.218***
Emotionality				0.097***
Activity				0.042**
Sociability				-0.057***
Shyness				-0.030*
Adjusted R^2	0.006	0.007	0.060	0.145
R^2 Change		0.001	0.054	0.086

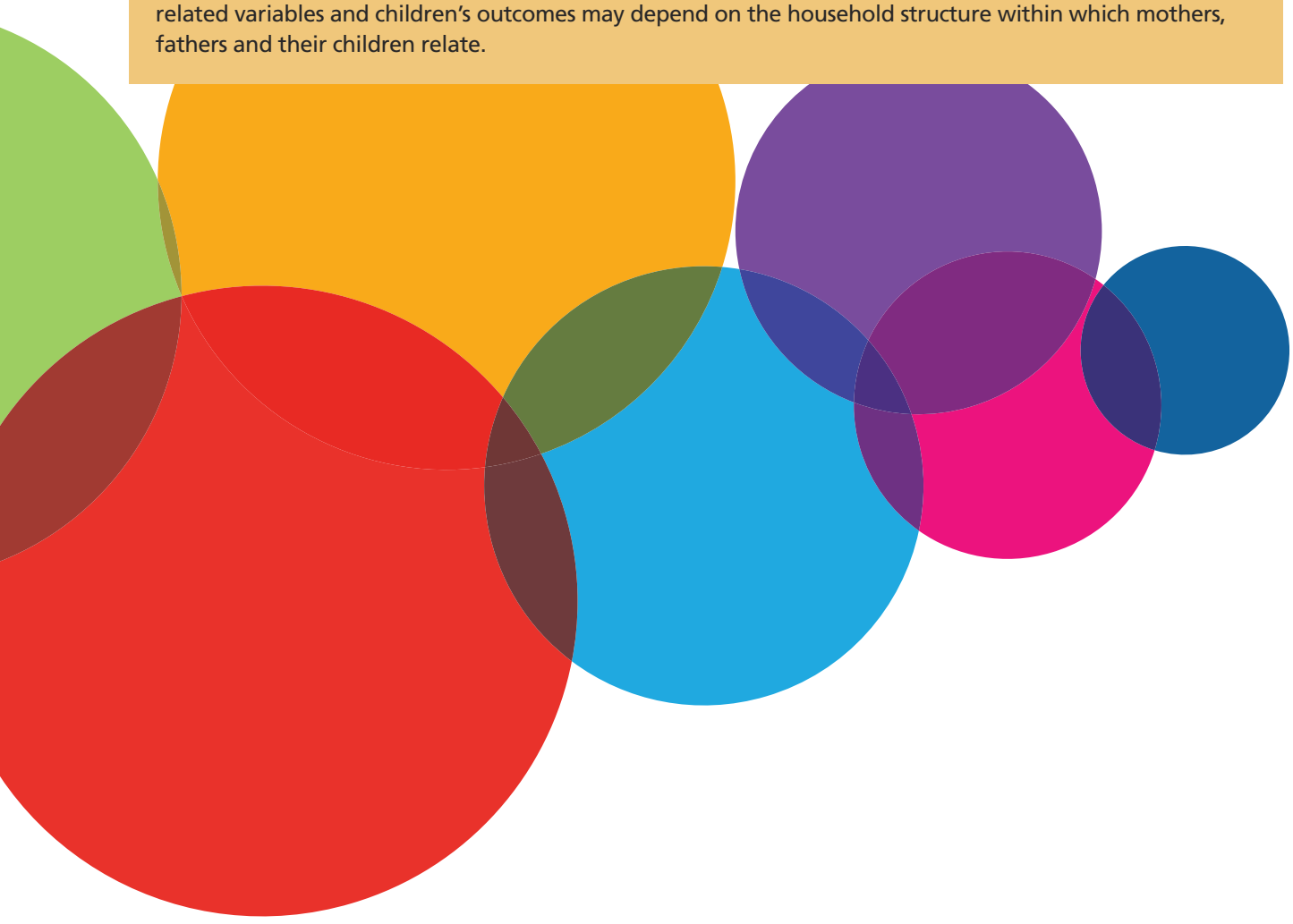
(***p < 0.001; ** p < 0.01, * p < 0.05)

These findings illustrate that mother's depression contributes little explanation (less than 1%) of variance in children's SDQ outcomes, and that child characteristics continue to account for most of the explanation of variance in children's outcomes (8.6%).

4.5 CONCLUSION

The findings presented in this chapter highlight the significance of parental depression and the quality of the marital relationship for both parenting processes and children's SDQ outcomes. Higher levels of mother's depression were associated with more conflict and less closeness in the mother-child relationship. Higher levels of maternal depression were also associated with poorer SDQ outcomes, although the significance of this association diminished once parenting processes were accounted for. Together these findings suggest that mothers' parenting processes may be implicated in the association between maternal depression and SDQ outcomes. Mothers' satisfaction with their marriage appeared to matter for children's relationships with both mothers and fathers. However, mothers' marital satisfaction was unrelated to children's SDQ outcomes once these parenting processes were accounted for.

In contrast, father's depression was associated with more conflict but not less closeness in the father-child relationship. Father's marital satisfaction was associated with father-child conflict, but not father-child closeness or the mother-child relationship. Father's depression and marital dissatisfaction did not significantly relate to child outcome. Thus, aside from the associations between father's depression and marital satisfaction, and more conflict in the father-child relationship, these variables do not appear to represent a risk for children's social and emotional outcomes. An important caveat in interpreting these findings relates to the absence of data on depression and inter-parental relationship satisfaction among fathers who are not residing with their children. It is plausible that the associations between these father-related variables and children's outcomes may depend on the household structure within which mothers, fathers and their children relate.



Chapter 5

FAMILY STRUCTURE, SOCIO-ECONOMIC STATUS, PARENTING PROCESSES AND CHILDREN'S SOCIAL & EMOTIONAL OUTCOMES

5.1 INTRODUCTION

The final research question considers how parenting processes and children's social and emotional outcomes vary according to family structure and socio-economic status. A plethora of research has indicated that growing up in a family structure headed by a single parent carries negative implications for children's developmental outcomes (Pryor & Rodgers, 2001; McLanahan & Sandefur, 1994). Amato (1995) has argued that what is disadvantageous about single-parent families relates to the child's access to social networks and resources. Two parents provide more direct practical assistance, care, supervision and economic resources than one. Moreover, the indirect effect of support from one parent to another confers benefits for children's development.

Some of the association between family structure and children's outcomes can also be accounted for by parents' social and economic status. All other things being equal, two-parent families are generally better off than one-parent families, and one-parent families have a consistently higher risk of poverty (Simons & Associates, 1996). However, based on a review of 12 studies, McLanahan (1997) concluded that coming from a non-intact family (including single-parent and stepfamilies) reduces a child's chance of success, even after low income is accounted for; thus family structure effects persisted after income was accounted for. Deater-Deckard and Dunn (1999) have highlighted the diversity of risks associated with single parenting, parental separation, remarriage and family reconstitution. Their study, based on a large representative sample of children in the UK, revealed that a number of risk factors, including poverty, neighbourhood crime, violence, harsh and neglectful parenting, maternal depression, child gender, temperament and illness were all predictive of children's outcomes. However, their evidence suggested that difficulties in the home environment and parenting – specifically maternal negativity, depression, parenting stress and the use of physical punishment – were particularly important predictors of children's adjustment, and these patterns of prediction were similar across different family types.

Children living in families from low socio-economic backgrounds also exhibit an elevated risk of poor developmental outcomes. The mechanisms underpinning these associations are multifaceted and complex. Children from low socio-economic status (SES) backgrounds are more likely to experience multiple stressors, including medical problems, parental psychological problems, marital discord and overcrowding in the home (Duncan, Brooks-Gunn & Klebanov, 1994). It is the cumulative effect of stressors such as these that exacerbate the risk for poor developmental outcomes for these children (Sameroff, 2006). SES may also exert its effects indirectly through affecting parenting processes. Substantial research has indicated how SES is associated with parenting beliefs and goals, parenting practices and the styles that parents adopt. The developmental outcomes and goals that parents hold for their children may vary as a function of SES, although there is likely to be substantial within-class variability. For example, low SES parents tend to value conformity while parents from higher SES backgrounds value self-direction (Tudge, Hogan, Snezhkove, Kulakova & Etz, 2000). Lower SES parents also have less self-efficacy and believe they have less control over their children's development and outcomes than high SES parents (Brody, Flor & Gibson, 1999); these differences affect parenting goals and practices. Considerable research has also documented that parents from low SES backgrounds are less likely to engage in authoritative parenting, and that parental education is positively associated with authoritative parenting (Hoff, Laursen & Tardif, 2002). However, it must also be considered that while authoritative parenting is widely associated with positive developmental outcomes, this relationship may not hold true for parents in low-income or minority families (Brody & Flor, 1998; McGroder, 2000). Baldwin, Baldwin and Cole (1990) reported that children of poor minority parents were better adjusted when the parents adopted an authoritarian as opposed to an authoritative style, suggesting that this style is adaptive in this particular context.

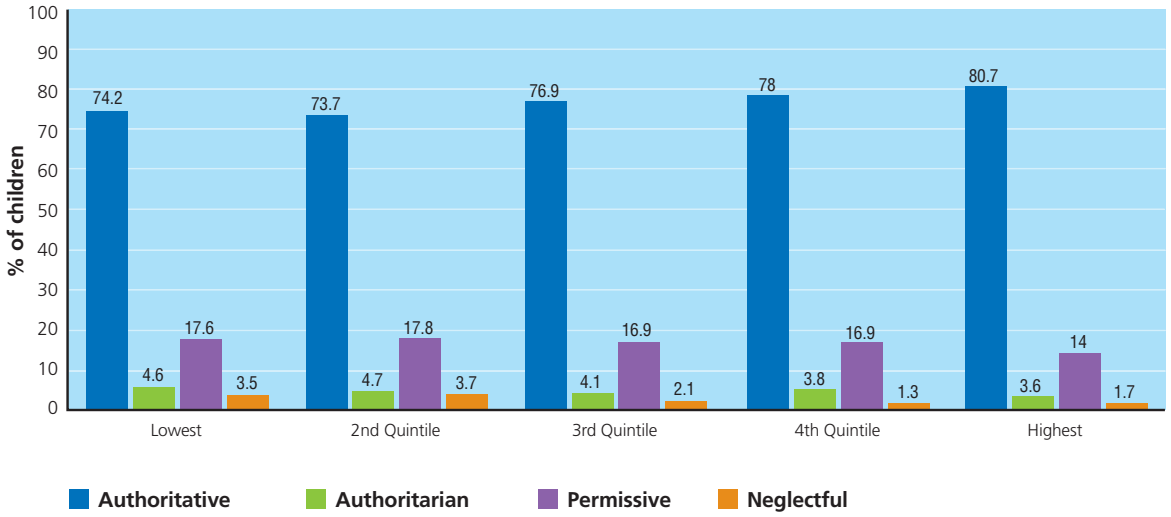
For the purpose of this analysis, two variables from ***GUI*** were selected for analysis: income quintile as an indicator of SES and a four-way classification of family structure (single parent with one or two children, single parent with three or more children, couple with one or two children, and couple with three or more children). First, the associations between income and parenting processes and between family structure and

parenting processes are considered. Following this, associations between income and family structure and teacher-reported SDQ total difficulties are considered.

5.2 INCOME, FAMILY STRUCTURE & PARENTING PROCESSES

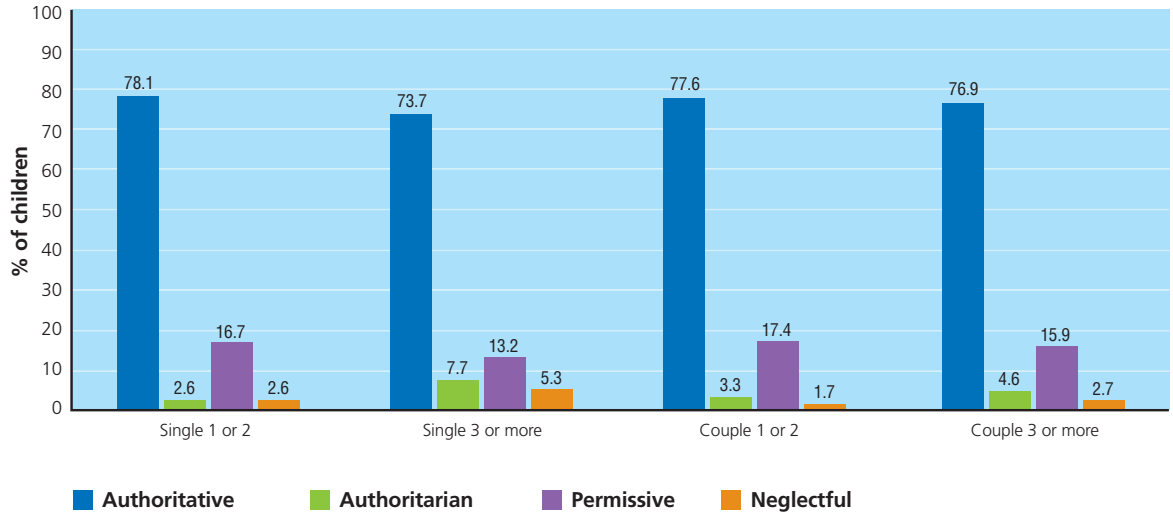
The association between family structure, income quintiles and parenting processes was investigated using Chi-square and regression analyses. Mothers' parenting styles were broadly similar across the income quintiles. However, mothers in the lowest and second income quintiles were somewhat more likely to use neglectful parenting, and parents in the fourth and highest income quintile were less likely to use permissive and neglectful parenting ($\chi^2 = 46.837$, df = 12, $p < 0.001$) (*Figure 5*). The same patterns emerged when fathers' parenting styles were compared across the different income quintiles ($\chi^2 = 65.392$, df = 12, $p < 0.001$) (N = 6851).

Figure 5: Mother's parenting style by income quintile (N = 7412)



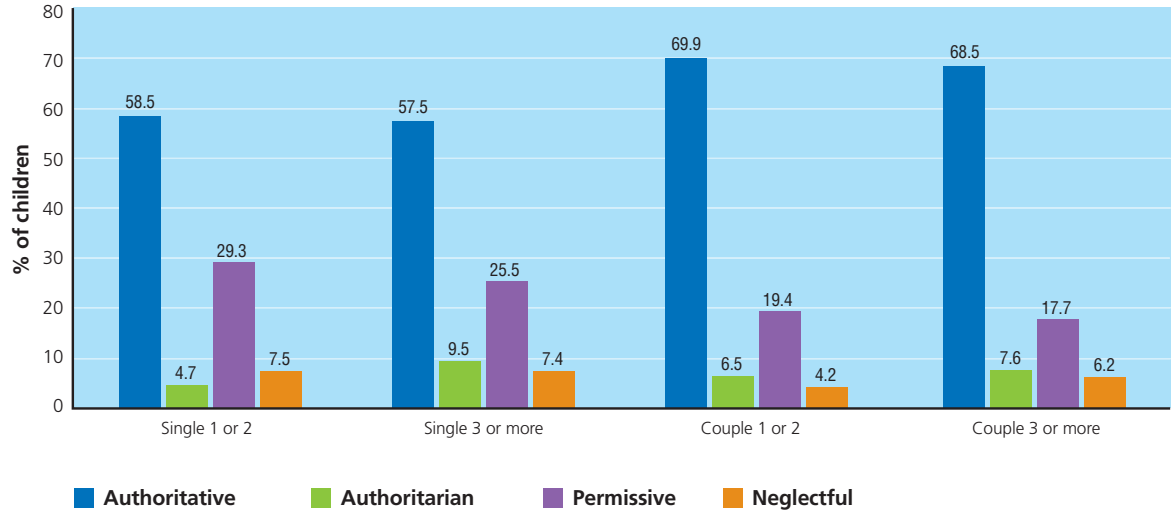
A comparison of mother's parenting style across family structures revealed small but significant differences in relation to authoritarian and neglectful parenting styles ($\chi^2 = 57.845$, df = 9, $p < 0.001$). These are illustrated in *Figure 6.* Specifically, mothers parenting in a couple with one or two children were less likely to use a neglectful parenting style, while single mothers with three or more children were more likely to use neglectful parenting. Single mothers with one or two children and mothers in a couple with one or two children were less likely to use authoritarian parenting, while single mothers with three or more children were more likely to be authoritarian. However, these differences were quantitatively small, and across all income and family structure groups, the majority of mothers used an authoritative parenting style, followed by permissive parenting. Only a minority of mothers used authoritarian and neglectful parenting.

Figure 6: Mother's parenting style by family structure (N = 7922)



In terms of father's parenting style (*Figure 7*), analyses revealed that in the case of children in single-parent households (regardless of the number of children), fathers were more likely to engage in permissive parenting and less likely to engage in authoritative parenting ($\chi^2 = 81.728$, df = 9, $p < 0.001$).

Figure 7: Father's parenting style by family structure (N = 7333)



The majority of fathers in single-parent families were non-resident; the increased likelihood of permissive parenting among these fathers is a common finding in the research. Fathers who spend limited time with their children may be indulgent and permissive to ensure that children enjoy themselves during their time together (Amato & Gilbreth, 1999).

Based on analysis of variance, levels of mother-child conflict differed according to household structure [$F(3, 8534) = 31.452$, $p < 0.001$]. Based on Dunnet's C *post hoc* tests, levels of mother-child conflict were higher in single-parent households with one or two children (M = 23.76) in comparison with couple households with one or two children (M = 21.47, d = 0.4 medium effect), and couple households with three or more children (M = 21.69, d = 0.36, small effect) but not in comparison with single-parent households with three or more children (M = 24.22). Furthermore, levels of mother-child conflict were higher in single-parent households

with three or more children (M = 24.22) in comparison with couple-headed households with one or two children (M = 21.47, d = 0.48, medium effect) and with three or more children (M = 21.69, d = 0.44, medium effect). Children living in households headed by a couple with three or more children did not differ from children living in a household headed by a couple with one or two children in relation to mother-child conflict. Levels of mother-child closeness did not differ according to family structure [$F(3, 8539) = 0.959$, $p > 0.05$].

Thus, living in a one-parent household is associated with higher levels of mother-child conflict than living in a two-parent household, regardless of the number of children present. Data on father-child conflict and closeness in the case of children living in single-parent households were not available, so the association between family structure and father-child relationships could not be examined here.

Similar analyses considered differences in mother-child conflict and closeness according to income quintile of families. As was the case for family structure, levels of mother-child conflict differed according to income quintile [$F(4, 7976) = 5.419$, $p < 0.001$]. Based on Dunnet's C *post hoc* tests, levels of mother-child conflict were significantly higher in the lowest income-quintile households (M = 22.77) in comparison with the highest income-quintile households (M = 21.35). However, the magnitude of this difference was small (d = 0.16). None of the other comparisons was significant. Levels of father-child conflict did not differ according to income quintile [$F(4, 6077) = 0.751$, $p > 0.05$]. Levels of mother-child closeness or father-child closeness did not differ according to income quintile [$F(4, 7981) = 0.559$, $p > 0.05$ for mothers; $F(4\ 6070) = 0.143$, $p > 0.05$ for fathers].

Together, these findings converge to suggest that mother-child conflict represents an important family process which differentiates children living in different household structures. Differences in mother-child conflict were apparent only between those in the highest and lowest income groups.

5.3 INCOME, FAMILY STRUCTURE AND SOCIAL & EMOTIONAL OUTCOMES

The analyses presented in this section consider associations between income and family structure, and SDQ outcomes. *Figures 8* and *9* reveal clear social class and family structure associations with SDQ total difficulties. *Figure 8* indicates that SDQ scores are inversely related to income quintile: those in the 1st and lowest income quintiles have higher SDQ scores. SDQ scores were significantly different in all income quintiles, with the exception of the 4th and 5th quintiles which did not differ significantly [$F(4, 7700) = 86.433$, $p < 0.001$]. Effect sizes ranged from medium to negligible. Specifically, the differences between those in the 1st income quintile and the 3rd, 4th and 5th quintiles were of a medium magnitude (d = 0.46, 0.55 and 0.58 respectively). The differences between those in the 2nd income quintile and the 3rd, 4th and 5th quintiles were of a small magnitude (d = 0.15, 0.24 and 0.27 respectively), and the differences between those in the 3rd income quintile and the 4th and 5th quintiles were of negligible magnitude (d = 0.09 and 0.04 respectively).

Figure 8: Mean SDQ total scores by income quintile

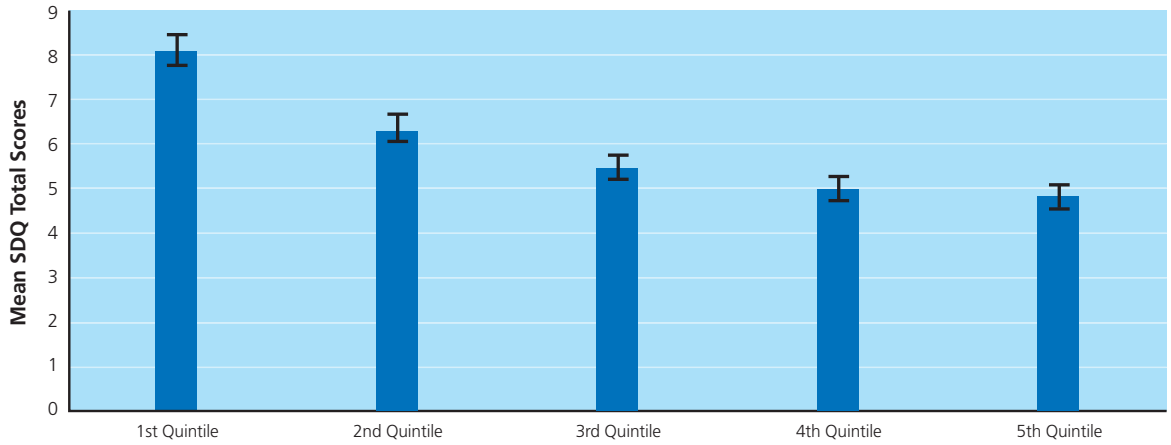
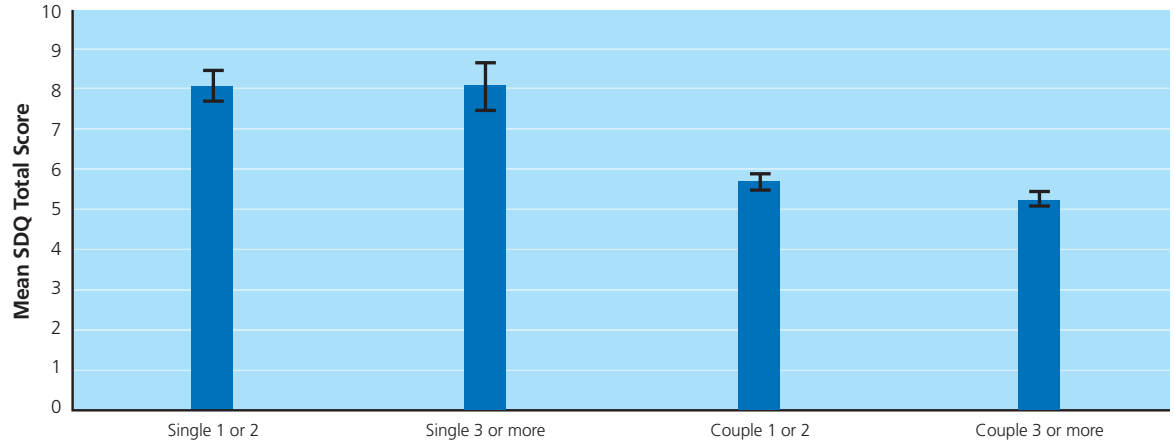


Figure 9 similarly indicates that children in single-parent family structures have higher SDQ scores than children in families headed by a couple, regardless of the number of children [$F(3, 8232) = 84.359$, $p < 0.001$]. The differences in SDQ scores between those in the single-parent households with one or two children and those in the couple-headed households with one or two children and with three or more children were of medium magnitude (d = 0.41 and 0.48 respectively). The difference in SDQ scores between those in the single-parent households with three or more children and the couple-headed households with one or two children and with three or more children were also of medium magnitude (d = 0.40 and 0.47 respectively).

Figure 9: Mean SDQ total scores by family structure



Together, these findings support the extensive research which indicates that children living in single-parent households and in families characterised by economic disadvantage are at risk of poorer developmental outcomes.

A series of regression models was developed to explore the contribution of income and family structure on SDQ total difficulties. Models were developed only in relation to mothers' parenting, because data on fathers was not available for single-parent families. In the first model (not presented), family structure accounted for 3.7% of variance in SDQ outcomes, and the association between family structure and SDQ total difficulties remained significant even after the inclusion of maternal depression, mother's parenting

style, the quality of the mother-child relationship and child characteristics. As illustrated in *Table 24*, adding income quintiles into the model at the second step increased the explanatory power of the overall model from 17.6% to 19.3%, although family structure and income quintiles together accounted for only 6% of the variance in SDQ outcomes. Following the introduction of the parenting variables, income only remained significant for those in the lowest and second income quintiles, and maternal depression became non-significant following the introduction of parenting variables. Together, the model highlights that family structure and income were associated with emotional and behavioural adjustment, though parenting processes and child characteristics remain the key predictors.

Table 24: Regression results for family structure, income quintile, mother's depression, mother's parenting and child characteristics on SDQ total score (teacher report) (N = 6838)

Independent variable	+ Family Structure + Income	+ Maternal Depression	+ Mothers' Parenting Styles, Conflict and Closeness	+ Child Characteristics & Temperament
Family structure (Ref Couple 1 or 2)				
Single 1 or 2	0.121***	0.166***	0.106***	0.102***
Single 3 or more	0.049***	0.044**	0.026*	0.025*
Couple 3 or more	-0.061***	-0.061***	-0.067***	-0.065***
Income quintile (Ref Highest)				
Lowest	0.169***	0.166***	0.162***	0.143***
2nd Quintile	0.070***	0.068**	0.065***	0.057***
3rd Quintile	0.033*	0.032*	0.025	0.019
4th Quintile	-0.011	-0.002	-0.007	-0.006
Maternal depression		0.046***	0.016	0.006
Mother-child conflict			0.196***	0.139***
Mother-child closeness			-0.064***	-0.037**
Parenting style (Ref Authoritative)				
Authoritarian			0.053***	0.042***
Permissive			-0.003	0.003
Neglectful			0.046***	0.038**
Male				0.122***
Presence of chronic illness				0.063***
Presence of LDD				0.199***
Emotionality				0.079***
Activity				0.052***
Sociability				-0.059***
Shyness				-0.043***
Adjusted R^2	0.060	0.062	0.115	0.193
R^2 Change		0.002	0.054	0.078

(***p < 0.001; ** p < 0.01, * p < 0.05)

In conclusion, *Table 25* presents a parsimonious model for the prediction of SDQ total difficulties. The purpose of this model is to account for the maximum amount of variance with the least number of predictors possible. A series of models was tested incorporating predictors which have been identified throughout the report as contributing significantly to SDQ outcomes, and whose association remains significant even after controlling for other variables. The final model presented incorporated child characteristics of gender and presence of a learning or development difficulty and the emotionality dimension of temperament. Mother-child conflict was included as previous analysis has indicated that it is significantly associated with SDQ outcomes, as well as maternal depression and marital satisfaction, family structure and income. Finally, income quintile was selected over family structure (household type), as it explained more variance in SDQ outcomes when included in the model (3.8% versus 2.9%).

Table 25: Regression results for income, mother-child conflict and child characteristics on SDQ total score (teacher report) (N = 8202)

Independent variable	Income	+ Mother-Child Conflict	+ Child Characteristics & Temperament
Income quintile (Ref Highest)			
Lowest	0.205***	0.193***	0.179***
2nd Quintile	0.086***	0.080***	0.075***
3rd Quintile	0.031*	0.025	0.022
4th Quintile	-0.005	-0.010	-0.009
Mother-child conflict		0.214	0.145***
Male			0.133***
Presence of LDD			0.231***
Emotionality			0.076***
Adjusted R^2	0.038	0.084	0.166
R^2 Change		0.046	0.082

(***p < 0.001; ** p < 0.01, * p < 0.05)

The regression indicates that being a boy, having a learning or development difficulty, and temperament characterised by high levels of emotionality, living in a family with high levels of mother-child conflict and in the lowest and second income quintiles were all associated with elevated levels of behavioural and emotional problems of nine-year-olds. This model explains 16.6% of variance in total SDQ difficulties and is as powerful in terms of explaining SDQ outcomes as previous models presented in the report. However, while these variables emerged as significant predictors of SDQ outcomes and the model is comparable, in terms of the level of variance explained, as similar models based on other cohort studies (Sanson, Smart & Mission 2010), 83% of variance in SDQ outcomes still remains unexplained. These findings suggest that there is a range of unobserved variables or interactions among variables that are significant for understanding children's social and emotional outcomes at nine years.

5.4 CONCLUSION

The findings presented in this chapter point to the significance of broader characteristics of the family setting for parenting processes and children's social and emotional outcomes. Mother-child conflict and parenting styles were associated with income and family structure. Furthermore, children's SDQ outcomes varied according to household structure and income level; children in households headed by a single parent exhibited higher SDQ scores than children in households headed by a couple. Similarly, an inverse linear association was found between SDQ outcomes and income quintile; those in the lower income quintiles displayed the highest SDQ scores. Despite these significant patterns, the associations between income and family structure, and SDQ outcomes were small, once parenting processes and child characteristics were accounted for. These findings may suggest that coming from a lower socio-economic background or single-parent family structure may elevate a child's risk for poorer social and emotional outcomes. However, processes within the family and child characteristics remain the key factors that are associated with children's social and emotional outcomes.

Chapter 6

CONCLUSIONS & POLICY IMPLICATIONS

6.1 CONCLUSIONS

In this report, I have drawn upon Bronfenbrenner's conceptual system to understand how parenting and parent-child relationships are associated with children's social and emotional outcomes at age nine. I have also examined how these parenting processes are associated with child characteristics, such as gender, health and temperament, and how parenting processes are associated with characteristics of the family context, such as parental depression, marital satisfaction, economic circumstances and family structure. The findings presented in the report are based on tests of association and caution needs to be exercised in interpreting these associations as causal. The findings presented in this report have policy implications in terms of identifying (a) children who may be at risk for poorer social and behavioural outcomes and (b) elements of their context that may be most amenable to intervention. The models reported in this chapter explained at best approximately one-fifth of the variance in children's SDQ outcomes, suggesting that other important processes are at play. Key risk factors for poorer social and behavioural outcomes include being a boy, having a learning or development difficulty, high levels of emotionality, high levels of mother-child conflict and living in a family in the second or lowest income quintiles. While the contribution of each of these risk factors individually might be small, the accumulation of multiple negative influences characterises those nine-year old children in Ireland who are at particular risk of maladjustment.

The findings illustrate that the majority of nine-year old children are developing well without any significant social, emotional or behavioural problems. However, in line with other international cohort studies, approximately 15% to 20% of ***GUI*** children are classified as exhibiting difficulties. This amounts to at least 1,200 children in the sample who are displaying emotional or behavioural difficulties at age nine and who may be at risk of later life difficulties as a result. Similarly in line with previous research, the nature of boys' and girls' problems was somewhat distinct, with girls tending to display problems of an internalizing nature and boys to display problems of an externalizing nature, although the magnitude of these gender differences was small. Based on teacher report, boys showed higher levels of overall difficulty than girls, with a medium effect size. Subsequent analyses controlling for gender continued to highlight that boys are at greater risk of poorer social and emotional outcomes, even after accounting for other factors.

In addition to gender, the findings further revealed that other child characteristics remained as the most significant predictors of SDQ outcomes, even after controlling for other variables. Those with a chronic illness and learning or development difficulty exhibited higher levels of difficulty, based on both mother and teacher report. The findings are broadly in line with existing literature which also identifies characteristics such as child gender and presence of a learning difficulty as risk factors for poor developmental outcomes (Glazebrook *et al*, 2003; Green *et al*, 2006; Maughan & Carroll, 2006). Dimensions of child temperament also emerged as important child-level characteristics: in particular, high levels of emotionality and low levels of sociability were associated with higher SDQ scores; these remained important predictors of SDQ outcomes, even after controlling for other variables. In interpreting these associations, the conceptual overlap between how social and emotional outcomes, temperament and learning and development difficulties are defined and measured in ***GUI*** must be taken into account. Furthermore, the causal mechanisms underpinning these associations cannot be inferred, given the cross-sectional nature of the data.

In line with extensive research, both mothers' and fathers' parenting styles were significantly associated with SDQ outcomes (Patterson, Reid & Dishion, 1992; Radziszewska, Richardson, Dent & Flay, 1996; Teti & Candelaria, 2002). Relative to authoritative parenting, authoritarian parenting and, to a lesser extent, neglectful parenting were most strongly related to SDQ total difficulties. High levels of conflict and low levels of closeness with mothers and fathers were also associated with SDQ outcomes. At present the directional nature of this relationship is unclear: it may be that because children display emotional and behavioural problems, relationships with their parents become strained. On the other hand, high levels of conflict and low levels of closeness in parent-child relationships may give rise to emotional or behavioural

problems or may even exacerbate existing risk for problems. Relative to other dynamics of the parent-child relationship, the magnitude of coefficients was largest in relation to mother-child conflict, highlighting this as a process that presents a particular risk for negative outcomes. It is likely that the association between parent-child dynamics and SDQ outcomes reflects a transactional process whereby parenting processes and behavioural problems mutually influence each other over time. The collection of longitudinal data on this sample of children at age 13 will greatly facilitate our understanding of the processes at work here.

Further insight into the significance of parent-child conflict was revealed when associations between parental depression and SDQ outcomes were investigated. Consistent with previous research, maternal depression was associated with more negativity in parent-child relationships (Lovejoy *et al*, 2000; Goodman & Gotlib, 2002), while paternal depression was associated with father-child conflict but not father-child closeness or SDQ outcomes. Although maternal depression was associated with SDQ outcomes, the strength of the association was very small and reduced considerably when quality of the parent-child relationship was accounted for. These findings suggest that maternal depression may be important in terms of children's outcomes, through its association with higher levels of mother-child conflict and lower levels of closeness in the mother-child relationship.

Similar patterns emerged in relation to marital satisfaction. Both parents' satisfaction with the inter-parental relationship was related to the quality of the mother-child relationship, and mothers' marital satisfaction was also associated with the quality of the father-child relationship. This lends support to the spillover hypothesis which highlights the link between partners' relationship quality and the parent-child relationship (Parke & Buriel, 2008). Mother's marital satisfaction was negatively associated with SDQ problems, but father's marital satisfaction was not related to child outcomes. The association between mother's marital satisfaction and SDQ outcomes appeared to be underpinned by its association with parenting processes; its association with outcomes became insignificant once parenting processes were accounted for. Together, these findings suggest that an important mechanism for buffering children from the deleterious effects of parental depression (and in particular maternal depression) and poor inter-parental relationships rests in supporting these parents to maintain positive relationships with their children despite their ongoing personal challenges. An important caveat in interpreting the findings relating to father's depression and marital satisfaction and children's outcomes is that the findings presented here pertain only to households where parents are cohabiting and thus may not be generalisable to families where parents live apart.

Finally, the broader context incorporating family structure and income levels was investigated in relation to SDQ outcomes and parenting processes. Social class and family structure gradients emerged; children in households headed by a single parent, regardless of the number of children, were more likely to display more SDQ difficulties, as were children from lower income quintiles. Although these findings concur with extensive previous research which highlights the risk for negative outcomes that are associated with living in a single-parent household and in contexts of economic disadvantage (Pryor & Rodgers, 2001; Hoff *et al*, 2002), the magnitude of these differences was small and there was considerable variability in SDQ outcomes across family types and income groups. The associations between family structure and income, and SDQ outcomes diminished once parenting processes and child-level characteristics were taken into account, suggesting that family processes matter more for children's outcomes than family structure or income level of family, *per se*. However, mother-child conflict was higher in all single-parent households than couple-headed households, and was also higher in families with lower incomes. These findings suggest that mother-child conflict is a family process that may be exacerbated by stress inherent in households with relatively fewer relational or economic resources.

6.2 POLICY IMPLICATIONS

- Across all of the models presented in this report, child characteristics – including gender, health status and temperament – remained the most robust predictors of social and emotional outcomes, even after controlling for family factors, parents' characteristics and parenting processes. This highlights the potential role that child-directed policies could play in identifying and intervening with groups of children who exhibit elevated risk of poor social and emotional outcomes. Child-focused programmes which develop children's skills for building relationships, regulating their emotions, and coping with stress may help to improve children's outcomes.

- In addition to child-focused programmes, programmes for parents may help to improve parenting, which in turn will have positive effects on children's outcomes. The findings indicate that high levels of conflict in the parent-child relationship are associated with deleterious consequences for children's social and emotional wellbeing. Thus, facilitating parents and children to manage conflict in their relationship may represent a worthy avenue for intervention. Efforts to support families and provide optimal relationship experiences should be a key concern of policymakers and practitioners who work with children and families. Policies that increase access to counselling or therapy, or support for parents to strengthen relationships, either with their partners or with their children, are likely to benefit children's wellbeing.

- Maternal depression and marital satisfaction were somewhat important for children's wellbeing, but their associations with children's outcomes were substantially reduced once parenting processes and child characteristics were taken into account. This suggests that supporting mothers who are experiencing difficulties themselves to maintain positive relationships with their children may help to buffer children from the potentially negative influence of marital problems or maternal psychological difficulty.

- Economic hardship and a lack of relational resources may impair the family's ability to provide nurturant parenting and positive relationship experiences for children, which cascades into negative influences on children's wellbeing. Income and family type were important, but not overwhelmingly so. Therefore, policies aimed at alleviating stress and improving families' access to social and health support, across all types of households, could prevent this cycle and reduce the risk of poor social and emotional outcomes for children.

- Key risk factors for poor social and emotional outcomes range from intra-individual to inter-personal to contextual, suggesting that the task of promoting competence in all children demands attention to a range of processes and ecological factors. From a policy perspective, full recognition of the complex myriad of factors associated with child development is central to the design of effective interventions. Cumulative protection efforts that seek to eliminate multiple risks, rather than targeting single risk factors, will no doubt give rise to better outcomes for children and their families.

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