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Family structure and risk factors: An investigation into emotional and behavioural outcomes for nine-year-olds.

Zara Lafferty

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Abstract

This study examined the relationship between family structure and risk factors for children’s emotional and behavioural outcomes at 9 years of age. Family structure in this study is defined as; married, separated, divorced, widowed and never married families. Three risk factors were identified from the literature; economic deprivation, maternal depression and life events. This study is a cross sectional quantitative analysis of the ‘Growing Up in Ireland’s’ child cohort (9 year olds) dataset. This is nationally representative sample of 9 year old children living in Ireland; the sample was collected through a two-stage, stratified random sampling approach. Of the 8,568 respondents in the sample, 8,209 meet the criterion of this study, which required that the respondents were female and had identified their marital status. The Strengths and Difficulties Questionnaire (SDQ) was used to measure emotional and behavioural outcomes. Annual income, the Basic Deprivation Scale, Centre for Epidemiological Studies Depression Scale (CESD-8) and a life events question were used to measure risk factors. The data was analysed using frequencies, chi-square tests and configural analysis, which were performed through PASW (Predictive Analytics Software). Findings indicated that children from married families are more likely to have better developmental outcomes, compared to children from alternative family structures. Findings also showed that the risk factors identified in this study, were associated with poorer developmental outcomes and may have some moderating effect on the relationship between family structure and developmental outcomes at 9 years of age. Furthermore, the findings provided some support for the cumulative effect of risk factors on developmental outcomes, as the findings indicated that as the number of risk factors increased, optimal developmental outcomes tended to decline. As a cross sectional study, causal mechanisms can not be determined, however the findings suggest that risk factors may be more important than family structure in influencing developmental outcomes at 9 years of age. Further analysis of this data and a longitudinal analysis (once the data set for the second wave of the child cohort interviews have been released) would be beneficial in further determining the importance of family structure and risk factors for children’s developmental outcomes.
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GLOSSARY OF TERMS

Alternative family structures: Separated, divorced, widowed and never married families.

Developmental outcomes: Emotional and behavioural outcomes for 9-year-olds as measured by the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997).

Family structure: Married, separated, divorced, widowed and never married families with children.

Married: Married and living with husband.

Separated: Married and not living with husband.

Divorced: Divorced and not living with ex husband.

Widowed: Mothers who lost their husband through bereavement.

Never married: Never married cohabitating mothers, and never married mothers not living with a partner.

SDQ borderline/abnormal range: 9-year-old children within this range are more like to have poorer emotional and behavioural outcomes (Goodman, 1997).

SDQ normal range: 9-year-old children within this range are more likely to have optimal emotional and behavioural outcomes (Goodman, 1997).
CHAPTER ONE

1.1 Introduction
This study examines the relationship between family structure and risk factors for children’s emotional and behavioural outcomes. This chapter will describe the context, aims and rational of this study, and provide an outline of the study.

1.2 Context of Present Study
This study used the Growing Up in Ireland (GUI), quantitative child cohort (nine-years-old) dataset to examine children’s developmental outcomes. GUI is a national study of children commissioned by the Irish Government. This study is a two phase longitudinal study, with children and their families being interviewed in two different waves, approximately four years apart (Greene et al, 2010a). The current study used the first wave of the child cohort interviews, as the second wave is not currently available. GUI used a pre-stratified randomised sampling approach to ensure that the sample was nationally representative (Irish Social Science Data Archive, 2010).

1.3 Aims of the Study
The aim of this study is investigate the role of family structure and risk factors in the emotional and behavioural outcomes for nine-year-olds.

This study aims to answer five research questions:

1. Is there a relationship between family structure and risk factors?
2. Is there a relationship between family structure and child developmental outcomes?
3. Is there a relationship between risk factors and child developmental outcomes?
4. Do risk factors moderate the relationship between family structure and child developmental outcomes?
5. Do risk factors act in a cumulative manner on child developmental outcomes?

The purpose of these interdependent research questions is to provide a differentiated analysis of risk factors within the context of different family structures and its impact on children’s development at nine-years of age. There have been significant changes to family structures in Ireland, while the majority of children are still raised in the traditional married families; the 2011 census shows that divorce and separation has increased by 22.3% between 2006 and 2011 (Central Statistics Office, 2012). This means that the likelihood of children growing up or spending time is alternative family structure is increasing. Compared to the large amount
of international research on alternative family structures, there is a deficit of research in the Irish context. However, based on strong empirical evidence from international research, this study expects to find that:

1. Alternative family structures will experience more risk factors than married families.
2. Nine-year-old children from alternative family structures will have poorer developmental outcomes compared to nine-year-old children from married families.
3. Economic deprivation, maternal depression and life events will be significantly associated with poorer developmental outcomes for nine-year-olds.
4. Risk factors, compared to family structure, will better predict poorer developmental outcomes for nine-year-olds.
5. As the number of risk factors increase, the probability of optimal development for nine-year-olds will decrease.

1.4 Rationale
Through examining the relationships between family structure, risk factors and child developmental outcomes, this study endeavours to contribute to our understanding of the different contributors to child development at nine-years of age.

In Ireland, there has been a significant increase in the number of children growing up in divorced, separated and never married families in recent times (Central Statistics Office, 2012). There are a substantial number of large scale international studies on child well-being within these alternative family structures. However, there is a very limited amount of this research for Irish children. The availability of the GUI child cohort data presented the opportunity to research child development using a high quality pre-stratified random sample of nine-year-olds and their families.

Children at nine-years are confronted with important developmental tasks, such as emotional control and regulation (Rathus, 2011). Therefore, it is important to assess the influence of different factors on poor developmental outcomes, as children who experience difficulties in middle childhood, may continue to have problems in later years (Ha, Sharp & Goodyer, 2011). Previous research has identified a number of important factors that can have a negative effect on child developmental outcomes; family structure (Kerr, & Michalski, 2007), economic deprivation (McLanahan and Sandefur, 1994), maternal depression (Munson, McMahon, & Spieker, 2001), and life events (Wertlieb, Wergil & Feldstein, 1988). However, there have been inconsistent findings on the importance of these factors for child
development. For example, Furstenberg and Kiernan, (2001), argue that focusing on family structure alone may overstate its importance. While Ram and Hou, (2003), have found that economic deprivation is more important for some outcomes than others. Therefore, this study aims to contribute understanding on how these identified risk factors influence child development.

**1.5 Outline of the study**
Chapter One provides an outline of this research study, the context of the study, the aims of the study and the rational behind the study.

Chapter Two presents the literature review. This review begins by discussing child development in the context of middle childhood; from here the family structure is discussed, highlighting the important empirical findings for the family types that are being studied. Following this, the risk factors; economic deprivation, maternal depression and life events are discussed in terms of their importance for child development. The cumulative hypothesis is then detailed, and finally, the literature review is concluded with a summary of the key points.

Chapter Three outlines the methodology of the current study, this begins by discussing the advantages and disadvantages of using secondary data, and the important ethical issues associated with the use of secondary data. From here the sample, interview process and reweighting are discussed. Then the research instruments and data analysis are outlined.

Chapter Four presents the findings from the analysis of the data. This chapter begins by presenting the descriptive statistics and then details the findings in order of the research questions.

Chapter Five begins by discussing the findings from Chapter Four. The limitations of the study are then considered and recommendations are advanced. Finally, this chapter concludes with a summary of the important findings from this study.


CHAPTER TWO

2.1 Introduction
This chapter presents a review of the literature on emotional and behavioural outcomes for children. The chapter begins by detailing the importance of middle childhood as a developmental stage and the adverse emotional and behavioural outcomes that can arise. From here we discuss the influence of family structure on child outcomes and the findings from empirical evidence on the associations between different family structures and child outcomes. The next section details some of the main risk factors for child outcomes that have been identified in the literature; household income, maternal depression, life events and gender. An alternative explanation for the interaction of risk factors and child outcomes is then discussed by outlining the cumulative effect hypothesis. Finally a summary of this chapter is presented.

2.2 Middle Childhood
There is a general consensus that the age range from 5 to 12 years old constitutes ‘middle childhood’ (Rathus, 2011). Middle childhood is an important developmental stage, in which children develop competence in cognitive and social domains (Rathus, 2011). In this stage, children acquire greater emotional control and are more emotionally stable. They learn to broaden their coping strategies to manage a range of emotional situations (Greene et al, 2010b). Different developmental stages are associated with different developmental tasks. Middle childhood as a time where children develop self-regulation, is an important developmental stage that requires parents to set boundaries for their children (Moore, Evans, Brooks-Gunn & Roth, 2001).

Peer relationships are very important in middle childhood. Children at this age are increasingly sociable and peer relationships become an important source of social support (Skuse, Brue, Dowdney & Mrazek, 2011). They have a better understanding of themselves as individuals and are more conscious of how they compare to their peers (Rathus, 2011). Peer problems develop in middle childhood when children have difficulties in creating and maintaining relationships with other children. Children with emotional difficulties are more inclined to struggle with these social interactions (Groeben, Perren, Stadelmann & Klitzing, 2011). Children who are victimised or rejected by their peers are more likely to experience
emotional and behavioural problems (Rubin, Bukowski, & Parker, 1998). While children in this age range are becoming more independent of their parents and expanding their social network, the family unit is still the primary influence on their lives (Greene et al, 2010b).

During this development period, children gain an understanding of other people’s perspective and motivations (Raikes & Thompson, 2005). This aids the development of pro-social behaviours which are characterised as the consideration of others needs and interests. These include helping and caring behaviours within interactions, with pro-social children being more likely to co-operate with, and offer assistance to, others (Groeben et al, 2011).

Conduct problems are most likely to be first identified in this developmental stage (Rathus, 2011). Conduct problems are characterised by anti-social behaviours, such as aggression and disobedience, which negatively impact others and are outside of social behavioural norms (Ha et al, 2011). Family stress and socioeconomic status, amongst others, have been identified as risk factors for conduct problems (Ha et al, 2011). It is important to address conduct problems in childhood as they have been shown to continue into adolescence and adulthood (Ha et al, 2011). More serious conduct problems can develop into mental health issues and criminal behaviour in later years (Aguilar, Sroufe, Egeland & Carlson, 2000).

2.3 Family Structure
Family structure in Ireland has changed dramatically in recent decades. The traditional Irish family characterised by two married parents is still the dominant family structure however different family forms now count for a significant minority. Since 2006, divorce and separation has increased by 22.3% (CSO, 2012). There is significant support within family research to suggest that family structure plays an important role in influencing child outcomes (Kerr, & Michalski, 2007). Children in families with married biological parents have been shown to have a greater advantage over children in alternative family structures. There is empirical evidence that children from alternative family structures score lower on all outcomes measures in comparison (Ram & Hou, 2003).
2.3.1 Married Families
Married families are associated with a number of benefits. For example, married couples are more likely to be financially secure and to be in better physical and mental health (Amato & Maynard, 2007). Research consistently shows that children who are not raised in married families are at greater risk of psychological and behavioural problems (Ram & Hou, 2003). From a socialisation perspective the married families are the ideal family structure in which to raise children (Foster, & Kalil, 2007). In married families parental supervision can be shared, whereas lone parent families are associated with lower levels of parental interaction and stimulation (Carlson & Corcoran, 2001). Children of lone-parents are hindered by reduced supervision, especially with regard to the input of male supervision (McLanahan & Sandefur, 1994; Kerr, & Michalski, 2007).

For disrupted families the transfer of social capital is restricted especially co-parent social capital (Amato, 1998). From a socialisation perspective a father’s presence in the home is thought to be very important as it provides children with a male role model (Foster, & Kalil, 2007). Boys are thought to experience more difficulties in single mother families as they lack a same sex role model in the household (Zeiders, Roosa & Tein, 2001). Fathers can also play an important role in providing for children’s financial and emotional needs (Amato, 1998). Children from intact families have more opportunity to avail of these positive inputs. For non-resident fathers the conditions are less favourable as they have less time and access to their children (Kerr, & Michalski, 2007).

The standard family environment model assumes that dysfunctional two-parent families and many single parent families place children at a greater risk of developing problems. These families provide some of the least effective environments for promoting healthy child development and socialisation (Amato & Cheadle, 2008). Therefore married families do not always provide the most optimal environment for healthy child development. Researchers have found that children in intact families with high levels of inter-parental conflict have poorer outcomes. Hostile and aggressive behaviour between parents can adversely affect children’s mental health and these effects can continue into adulthood (Greene et al, 2010b). Children can adopt their parents’ aggressive behaviour and can subsequently learn to handle disagreements in a combative manner (Henderson, Sayger & Home, 2003). There is evidence to suggest that when parents remain together in high-conflict relationships, their children will have greater adjustment problems than children of parents that separate (Jekielek, 1997).
2.3.2 Divorced and Separated Families
Children who experience parental separation are at a greater risk of emotional and behavioural problems (Baxter, Weston & Qu, 2011). There is a large body of research that finds that children of divorce score lower on a considerable number of outcomes, from academic achievement to psychological well-being (Amato, 2001). A range of cultural studies have shown that children from a variety of cultural backgrounds experience similar difficulties as a result of divorce (Rathus, 2011). Children of separated and divorced families often experience parental conflict before and after their parents separate. Inter-parental conflict is strongly associated with adverse child outcomes (Baxter et al, 2011). Divorce is associated with a number of changes that can be stressful for children. Children may have to move, may lose contact with a parent and parents’ behaviour may be adversely affected by the stress of the divorce (Raley & Wildsmith, 2004).

According to the family conflict perspective, the negative effects of parental separation are derived from the high levels of inter-parental conflict that children are exposed to. Some studies have found that changes in family structure alone do not adversely affect child development (Amato & Keith, 1991). Numerous studies have found that children in high conflict families were exhibiting severe behavioural and emotional problems before their parents separated (Amato & Booth, 1997). Ram and Hou (2003) contend that divorce or separation may prove beneficial for these children as they are removed from the high-conflict environment.

It is important to note that the difference in outcomes between children of divorce and children from intact families are not overwhelming. There is diversity within these two groups. Children of divorce are not pre-determined to have poorer outcomes than children from intact families. The degree to which a child will adjust to parental separation will depend on the number of stressors they are exposed to, their own resilience and the amount of social support they receive (Amato, 2001). While there are modest differences in emotional and behavioural outcomes for children of divorce and children in intact families, there are a substantial number of children who fare poorly as a result of divorce (Amato, 2000).
2.3.3 Widowed Families
Some researchers argue that the loss of a parent presents children with serious developmental challenges which significantly increase their risk of poor mental health outcomes (Rutter & Taylor, 2005). These adverse effects may not be immediately apparent. This delay might be explained by the fact the full consequences of losing a parent do not immediately unravel (Rutter & Taylor, 2005).

Studies have found that children from divorced and widowed families have higher levels of emotional and behavioural problems (Biblarz & Gottainer, 2000). However, Biblarz & Gottainer (2000) also found that in comparison, children of divorced mothers had poorer outcomes. This was explained by widowed mothers having higher levels of financial and psychological well-being. While both family types have to deal with the struggles of being a single parent, widows may be in a better financial situation compared to divorced mothers, as they do not have to split assets or move home and may have access to a life insurance payment from their partners’ death (Biblarz & Gottainer, 2000).

Kranzler, Shaffer, Wasserman and Davies (1990) identified depression in the bereaved parents as having the most negative influence on a child’s developmental outcomes. Both widowed and divorced parents experience the stress of losing a partner, which increases their chances of developing mental health problems. Yet, the loss is different for both family types. It may be a positive change for those who divorce, especially those who were in high conflict relationships (Biblarz & Gottainer, 2000). However despite these concerns, a large number of studies find that childhood bereavement is not linked to a significant risk of psychopathology (Rutter & Taylor, 2005).

2.3.4 Never Married Families

Never married families can be described as a proxy for two family structures, cohabitating families and lone parent families. Despite the different household structures never married families are associated with poor child outcomes.

There has been a significant increase in the number of children living in cohabitating households. Research indicates that children in cohabiting families have poorer outcomes than other family types (Manning & Lamb, 2003). Raley and Wildsmith (2004) suggests that these poorer outcomes maybe due to higher levels of instability in cohabiting families. Brown
found that children aged between 6 and 11 years from cohabiting families has poorer outcomes than children from married families. These poorer outcomes were attributed to cohabitating families having generally less resources at their disposal. Cohabiting parents have also been found to have higher levels of depression compared to married parents (Brown, 2000).

MacCallum and Golombok (2004) reported that children who grew up in fatherless families from infancy were developing as well as those who grew up in two parent households as they approached adolescence. While, Afifi, Cox and Enns (2006) did not find a difference in depression levels for never married and married mothers. However there is some evidence that single mothers are less consistent in establishing rules and setting boundaries for their children, through lower levels of supervision compared to married mothers (McLanahan & Sandefur, 1994). The setting of boundaries has been shown to be an important parental task in middle childhood (Moore et al, 2001). MacCallum and Golombok (2004) found that children raised without a father from a young age who did not experience any additional risk factors, had similar outcomes to children raised in married families.

2.3.5 The Importance of Family Structure

Despite the large amount of research on the relationship between different family structures and child outcomes, there is no consensus on the importance of family structure for child development (Foster, & Kalil, 2007). Although much of the research suggests that children from married families do have an advantage over other family forms (Kerr, & Michalski, 2007), longitudinal studies indicate that it is not family structure but other family characteristics that lead to children experiencing emotional and behavioural difficulties. These studies have found that children in disrupted families were exhibiting problems long before they experienced parental separation (Ram & Hou, 2003). Some researchers have found family structure to be significantly less important than family processes in explaining differences in child well-being (Lansford, Ceballo, Abbey & Stewart, 2001). Golombok, Tasker and Murray (1997) notes that children raised in single parent families from birth or an early age did not have more negative emotional and behavioural outcomes than children raised in two parent households. Variations between married families and other family structures have been found to be better predictors of child outcomes, rather than family structure on its own (Skuse, Bruce, Dowdney & Mrazek, 2011). Therefore it is important to
take other risk factors into account, so as to reduce the risk of overstating the impact of family structure on children’s wellbeing (Furstenberg & Kiernan, 2001).

2.4 Economic Deprivation
Family income has been shown to predict positive child outcomes, which may explain the disparity in outcomes associated with different family types (Amato, 2001). The economic hardship perspective posits that children in single parent families have a higher risk of poorer outcomes because they are more likely to be economically disadvantaged as a consequence of their family structure (Amato, 1993). Poverty is associated with a number of compounding factors that produce poorer developmental outcomes for children which continue into adulthood. McLanahan and Sandefur (1994) found that a family’s economic situation explained differences in child outcomes between one and two parent families for around 50% of their sample. They concluded that the negative outcomes for children of single mothers can be largely attributed to their economic disadvantage. Dearing, McCartney, & Beck (2006) found that the relationship between family structure and child behavioural problems was only evident when low income and poverty were also present.

According to Brooks-Gunn & Duncan (1997) poverty places younger children at the greatest disadvantage. Single mothers are more exposed to financial difficulties than their partnered counterparts. Lone-parent families tend to report lower income and greater financial strain than two-parent families (Carlson & Corcoran, 2001). McKeown, Pratschke and Haase (2003) found that in Ireland, unmarried parents were over represented in lower income groups. Single mothers are more likely to experience a number of conditions that limit their earning capacity, such as poor health, poor education and having three or more children (Kalil & Ryan, 2010). Married couples have an economic advantage over other family types as they have potentially two economically active adults in the household which can increase the household income and lessen the impact of one parent losing a job or succumbing to illness (Amato & Maynard, 2007). In Ireland, lone parent families report the highest level of poverty and deprivation. 35.5% of lone parent families are at risk of poverty, while over 44% of lone parent families have reported experiencing two or more items of deprivation (Central Statistics Office, 2011).
Kalil and Ryan, (2010) contend that there are three primary economic factors that produce and aggravate the economic hardship that many female headed one-parent families experience; low wages, few assets and living arrangements.

Lone mothers tend to have a lower level of education than their married counterparts. Educational attainment is positively related to economic security (Lansford, et al, 2001) and poor education significantly reduces opportunities for well-paid employment (Kalil & Ryan, 2010). For example, welfare recipients with post secondary education have been shown to increase the likelihood of entering secure employment and reducing the chances of returning to welfare (Zhan, 2006). A disproportionate number of lone mothers give birth to their first child at a young age. This interferes with their ability to continue with and complete their education (Kalil & Ryan, 2010). This may explain why there is some support in the research for the benefits of being a lone father over a lone mother, as fathers have been shown to have greater earning potential which positively influences child development (Amato & Keith, 1991).

The accumulation of assets is a useful resource when faced with financial difficulties. Assets can be tapped into when there is a reduction in wages or a job loss. A common asset is the ownership of a house which could potentially be remortgaged or sold if finances become significantly strained. Lone parents are less likely to be able to accumulate the wealth needed to purchase such assets and have fewer resources to draw on when faced with financial difficulties. Therefore single mothers are more exposed to changes in the economy because of their reliance on wages (Kalil & Ryan, 2010).

The wage or wage potential for two parent families provides a consistent and dependable economic resource which lone parent families do not have access to (Kalil & Ryan, 2010). The lack of spousal support can also act as a barrier to employment (Baxter & Alexander, 2008). Working single mothers are disadvantaged by the lack of social support they receive, which increases the amount of ‘time based’ demands that they have to manage. Even though partnered mothers do not receive equal amounts of support from their partners, research shows that they are much more likely to have extra support in the home (Baxter & Alexander, 2008).
Economic pressures have been found to be associated with parental depression (Conger, Conger, Elder, Jr, Lorenz, Simons, & Whitbeck, 1992). Single parents are both the primary caregiver and the primary breadwinner. The pressure of these duelling roles may explain why single parents report higher levels of stress and depression (Osborne, Berger & Magnuson, 2012). Positive parenting practices may be one of the most important ways in which children can be supported when growing up in a low income household. This can reduce some of the negative outcomes which are associated with poverty (Westbrook & Harden, 2010). Financial pressure and poor health reduces resources for coping with family and work demands and therefore single parents may not be able to buffer the effects of low income and deprivation on their children (Ciabattari, 2007).

A number of studies have found that effects of economic disadvantage are greater for cognitive and academic outcomes rather than emotional and behavioral outcomes (McLoyd, 1998). Reduction in economic conditions after family disruption has been shown to explain lower academic achievement but not necessarily increased emotional and behavioural problems (Ram & Hou, 2003). While economic factors contribute to the discrepancy of emotional and behavioural outcomes between children from intact and disrupted families, some researchers have found that this contribution is not significant enough to satisfactorily explain these discrepancies (Ram & Hou, 2003).

2.5 Maternal Depression
Economic pressure is associated with maternal depression (Conger et al, 1992). However, Ram & Hou (2003) argue that the loss of family resources, through parental depression, influences emotional and behavioural outcomes in children to a much greater extent than economic factors.

There is strong empirical evidence to suggest that maternal depression adversely effects child development. Maternal depression has been found to significantly increase the risk of emotional and behavioural problems in children (Munson, McMahon, & Spieker, 2001). Single parent families have higher levels of maternal depression and other self reported stressors compared to two parent families (Barrett & Turner, 2006). The relationship between child behavioural problems and maternal depression has been found across all child developmental stages, from preschool to adolescence (Gartstein & Sheeber, 2004). However,
Parents’ reports on their child’s wellbeing may be biased by their own feelings. Parents may overlook problems as they are focused on their own or they may overstate their child’s problems, as they struggle to cope with their parenting role (Baxter et al, 2011). For example, researchers have shown that depressed mothers may be more likely to negatively assess their child’s behaviour due to their lower tolerance levels (Dawson, 1991).

Maternal depression is seen to impact on a child’s wellbeing though ineffective parenting and its adverse affect on the parent child relationship (Gartstein & Sheeber, 2004). Poor mental health is likely to compound a single mother’s situation by reducing her mental and emotional reserves for coping with difficulties. This limits her ability to perform their parenting tasks (Burton, 2007). This is one of the most important ways in which maternal depression is thought to impact on child development. If a parent is suffering from depression, their ability to parent may be impaired. The symptoms of depression such as sadness and lethargy, can severely limit their ability to manage everyday tasks (Greene et al, 2010b). For example, Bluestone & Tamis-LeMonda (1999) found that maternal depression was associated with less child-centred behaviours. While Westbrook and Harden (2010) reported that depressed parents were more likely to express less warmth towards their children and to be less authoritative in their parenting style. Parental warmth and authoritative parenting style are associated with positive child outcomes (Greene et al, 2010b).

Studies have shown that mothers of young children who display more emotional problems, have higher levels of stress and depression than other mothers (Crockenberg and Leerkes 2003). Gartstein & Sheeber (2004) point to the role of “child effects”, whereby children also influence parents and the family environment. In their study of child behavioural problems and maternal depression, Gartstein and Sheerber, (2004), found support for their hypothesis that children’s behavioural problems can contribute to an increase in maternal depression over time. From this perspective marital conflict or parental behaviours may be a reaction to and not the cause of child misbehaviour (Amato & Cheadle, 2008).

The higher rates of psychiatric problems amongst children of depressed mothers may be explained by genetics. Children may inherit their parents personality traits or mental health problems that contributed to the breakdown of the relationship, which may explain why
children of single parents exhibit higher levels of emotional and behavioural problems (Amato, 2010). The passive genetic model emphasises the role of genetics in child behaviour problems. Through behavioural genetic research there is some evidence for the role of genetics in explaining how some children are more prone to problems than others. These studies tend to use twins or sibling pairs to show that behavioural and personality traits can be passed from parent to child. (Reiss, Neiderhiser, Hetherington and Plomin, 2000). According to the passive genetic model, parents are not predisposed to divorce but are predisposed to certain behaviours which can make the maintenance of a long term relationship difficult. For this reason they are more likely to divorce or separate from the union in which the child was born. As the child shares the parents genetics, they are also predisposed to these behavioural and personality traits which can lead to emotional and behavioural difficulties (Amato & Cheadle, 2008). However, while parents do pass on their genes they also provide the environment in which the child develops. This research can not sufficiently explain whether these behaviours are natural occurring or nurtured in the family environment (Amato & Cheadle, 2008).

2.6 Life Events
It is important for a child to have consistency in their relationships and routines (Fomby & Cherlin, 2007). Any changes in a child’s life can be stressful. Stressful life events play a significant role in a child’s adjustment (Greene et al, 2010b). Wertlieb, Wergil & Feldstein (1988) found that stressful life events were strongly associated with psychopathology in children. Similar events can be more challenging to some children than to others. Individual characteristics such as hereditary traits can influence a child’s response to stressful events. Some children may be more resilient than others depending on the stressor (Skuse et al, 2011). Children who struggle to cope with stressful events may have long term adjustment problems (Greene et al, 2010b). Previous studies into family transitions have shown that multiple transitions can lead to behavioural and emotional problems (Amato & Maynard, 2007). The extent of influence that a life event will have on a child will depend on the type of event, the duration and the amount of support that the child can rely on (Brown and Harris, 1978). For children whose parents separate or divorce the greater the number of transitions they experience when the family unit breaks down, the greater the risk of maladjustment (Amato, 2010).
2.7 Cumulative Risk
There is support in the literature for the role of cumulative risk in explaining child outcomes. The cumulative risk hypothesis contends that poorer child outcomes are the result of multiple environmental and genetic factors (Goodyer, 1990). From this perspective the greater the number of risk factors that a child experiences, the poorer their developmental outcomes (Appleyar, Egeland, Manfred, Van Dulmen & Sroufe, 2005). Therefore the presence of one risk factor will not significantly influence child outcomes, but as the number of risk factors increase the probability of adverse developmental outcomes multiplies (Flouri, & Tzavidis, 2008). Rutter, Cox, Tupling, Berger and Yule (1975) identified a number of risk factor for child maladjustment, including poor maternal mental health and low social status. Rutter et al (1975) found that no single risk factor significantly influenced maladjustment, but when risk factors accumulated, maladjustment was predicted. The cumulative risk hypothesis may explain why there have been inconsistent findings on the role of risk factors for child outcomes.

2.8 Conclusion
The purpose of this study is to develop our understanding of children’s emotional and behavioural outcomes in the Irish context. Middle childhood is an important time for emotional and behavioural development where the consequences of poor developmental outcomes can persist into adolescence and adulthood. There is strong empirical evidence that family structure influences child outcomes. Children from married biological families have been found to score better on all developmental outcomes compared to other family structures. There are three important risk factors identified in the literature that are associated with poorer emotional and behavioural outcomes; economic deprivation, maternal depression, and life events. This review of the literature shows that there is a lack of consensus as to the importance of these risk factors for children’s emotional and behavioural outcomes. The cumulative effects hypothesis provides an alternative approach to understanding the role of risk factors. This approach suggests that the lack of consensus on risk factors may be due to that fact that a single risk factor can not sufficiently predict negative outcomes, but that the accumulation of risk factors can.
CHAPTER THREE

3.1 Introduction
The purpose of this study is to gain further insight into the positive and negative influences on emotional and behavioural outcomes for children aged nine-years. This will be achieved through examining the relationships between family structure, risk factors and developmental outcomes. The research questions being studied are outlined in Chapter One.

This chapter describes the research methodology utilised in this study. The chapter begins by discussing the use of secondary data in this study and the advantages and disadvantages of secondary data. From here the ethical issues surrounding secondary data are discussed. The research methodology is then outlined, and the sampling approach, sample reweighting and survey interviews are discussed. The research instruments used in this study are then outlined. Finally this chapter will conclude with a summary of the research methodology.

3.2 Secondary Data
This study employed the quantitative data set from Growing Up in Ireland – The National Longitudinal Study of Children in Ireland. Growing Up in Ireland (GUI) is a nationally representative study of children lives that was commissioned by the Irish Government. GUI consists of two cohorts of children, the infant cohort (nine-month-old) and the child cohort (nine-year-old). The current study utilised the child cohort data set to examine the emotional and behavioural outcomes for nine-year-olds in Ireland (Greene et al, 2010a). While GUI is a longitudinal study, the data set for the second wave of the child cohort was not available at the time of this study.

Secondary data is data that has already been collected by other researchers (Vartanian, 2011). This study utilised secondary data which entails a number of advantages and disadvantages. Secondary data enables the researcher to utilise a comprehensive nationally representative data set that was produced by an expert team of researchers with the budget and resources beyond the scope of the researcher (Walliman, 2011). This provides the researcher with the opportunity to analysis high quality representative data which they would not have the time, means or access to collect on their own (Vartanian, 2011).

The use of secondary data reduces the response burden for respondents, as partaking in a survey is time consuming and respondents are rarely paid for their time (Bryman, 2012). As
there is a significant number of large scale research data sets in existence therefore it is important to ensure that new data is only collected when there is no existing data on the topic being researched (Bryman, 2012).

One of the disadvantages of using secondary data is that the researcher does not have the opportunity to develop their data collection skills (Walliman, 2011). While the researcher did not take part in the data collection for this study, they did work as a field interviewer for GUI during the second wave of interviews for the child and infant cohorts. All of the research instruments used in this study were used in the second wave studies to collect longitudinal data. Therefore the researcher is experienced in collecting primary data and in particular interviewing families under the same conditions as the current data set was collected.

Many secondary data sets include large samples and include data on a large number of topics. Therefore researchers are faced with a complex data set that they have not produced themselves and it may take some time to become familiar with (Vartanian, 2011). The Researcher attended a data workshop hosted by GUI which provided a comprehensive overview of the study and the data set. This aided the researcher in familiarising themselves with the data and afforded the opportunity to clarify any questions that they had about the data set and research instruments. The data set supplied by GUI was also accompanied by detailed documentation on the design, implementation and procedures used in the study (Murray et al, 2011).

Vartanian (2011) recommended considering a number of factors when choosing secondary analysis:

1. Is the original sample appropriate for the current research? Both the original GUI study and the current study were interested in developing our understanding of children lives in the Irish context. Olsen (2008) emphasises that it is not important whether data is primary or secondary but that the data contains the necessary information to research the problems at hand. The GUI data set recorded information on a large number of topics, including the topic that this study aimed to examine.

2. Are the variables being researched included in the data set? The data set does include all the variables being researched, detailed information on the variables are described in section 2.4.

3. Does the data set include adequate identifiers for target group? The data set included the necessary identifiers for family structure and gender.
4. Can you generalise the findings? The sample is nationally representative therefore the findings can be generalised to all families living in Ireland with nine-year-olds.

5. Can you access the data? The data was accessed through the Irish Social Science Data Archive (ISSDA). The researcher completed a data contract with the ISSDA to use the GUI child cohort data set.

3.3 Ethical Issues
Using secondary data in research reduces the number of potential ethical issues that a researcher may face as they do not have any interaction with the participants or any control over how the original study is implemented. However it is still the responsibility of the researcher to ensure that the data they use was collected ethically. GUI performed extensive ethical reviews and received ethical approval from the Health Research Board’s Research Ethics Committee (Murray et al, 2011). There are a number of other important ethical considerations for the secondary researcher. It is important when designing research that the problem we choose to study is beneficial and contributes to current research (Punch, 2005). As discussed in Chapter One, this study aims to contribute to the current research, by developing our understanding of child developmental outcomes.

Mertens and Ginsberg (2009) put forward a number of ethical considerations for researchers using secondary data:

1. The researcher must not use the data to identify participants: All identifying details were removed from the data file used in this research which ensured the anonymity of the research participants. Additionally, once the current study has been handed over for review, the data file will be destroyed.

2. The researcher has a responsibility to the original researchers and participants to use the data correctly: The Researcher has made use of all available opportunities to study the data and the design, implementation and procedures of the GUI study to ensure competency in analysing the data (Murray et al, 2011). This was achieved through attending a data workshop and studying the technical documentation and publications produced by GUI.
3.4 Research Methodology
This is a cross-sectional study, whereby participants have been interviewed at one point in time (Babbie, 2010). The research method chosen for this study was a survey design. A survey design provides a quantitative description of responses from participants on the measures being studied. Though surveying a sample of the population being studied, survey designs allow researcher to generalise their findings to the population (Creswell, 2009).

3.5 Sample
The criterion for this sample was that respondents were female and had confirmed their marital status. The sample used in this study consists of 8,209 mothers of nine-year-olds. In total, 8,568 families of nine-year-olds completed the GUI survey (Murray et al, 2011), however, of total sample there were 141 male respondents and 218 respondents that did not confirm their marital status, and therefore they did not meet the sample criterion to be included in the present study. However, of the 8,209 respondents, data was missing on some of the measures being tested, for example, 39 respondents did not complete the Strengths and Difficulties Questionnaire, therefore sample number in the findings section may not equal 8,209. Table 1 shows the breakdown of the sample by family structure.

Table 1: Sample by Family Structure

<table>
<thead>
<tr>
<th>Family structure</th>
<th>%</th>
<th>N=8209</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>77.6</td>
<td>6367</td>
</tr>
<tr>
<td>Separated</td>
<td>6.1</td>
<td>498</td>
</tr>
<tr>
<td>Divorced</td>
<td>2</td>
<td>168</td>
</tr>
<tr>
<td>Widowed</td>
<td>.9</td>
<td>73</td>
</tr>
<tr>
<td>Never married</td>
<td>13.2</td>
<td>1103</td>
</tr>
</tbody>
</table>

To ensure that the sample was nationally representative, GUI utilised a stratified random sampling approach (Irish Social Science Data Archive, 2010). The purpose of this approach is to ensure that every member of the population being studied has a near equal chance of being chosen to participate in the study (Gomm, 2008). The sample was identified through a two-stage clustered approach. In the first stage, 1,105 schools were selected to participate in the study, these schools were selected from the total stratified population of primary schools. Primary schools were stratified on the basis of; county, gender mix, disadvantaged status, religious denomination and population size of nine-year-olds within the school. 910 schools
participated in the study, through the second stage of sampling, a random sample of children and their families were selected to participate in this study\(^1\) (Irish Social Science Data Archive, 2010).

3.6 Survey Interviews
The data was collected in a two stage process between March 2007 and July 2008, children completed the academic section of the survey in their school, and at a later date a field interviewer called to the participants’ home to complete the remainder of the survey. The data utilised in this study was collected through interviews with the child’s mother in their own home. Trained field interviewers administered the survey through a Computer Assisted Personal Interview (CAPI) using a laptop. The interviewer had a selection of paper surveys that had been translated into a number of languages to aid participants who did not have English as a first language. More sensitive questions, such as symptoms of depression, were self-completed separately by the respondent, on a paper questionnaire (Murray et al, 2011).

3.7 Reweighting
The data set was statistically reweighted to compensate for low responses within the population being studied, as to ensure that the sample was nationally representative\(^2\) (Irish Social Science Data Archive, 2010).

3.8 Research Instruments\(^3\)

_Strengths and Difficulties Questionnaire_ (SDQ) (Goodman, 1997), is a brief 25-item scale, with five subscales, designed to measure emotional health and behavioural outcomes for children between 4 to 16 years old. The questionnaire is designed to be completed by parents or teachers (Goodman, 1997). In this study, mothers was given 25 statements and asked to assess whether each statement was ‘Certainly true’, ‘Somewhat true’ or ‘Not true’ for their child. Total difficulties are summed from the four deficit subscales; emotional symptoms, emotional symptoms, emotional symptoms, emotional symptoms.

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\(^1\) For a detailed review of the sampling approach used in this study, please refer to the ‘Sample Design and Response in Wave 1 of the Nine-Year Cohort of Growing Up in Ireland’ document available at http://www.ucd.ie/issda/static/documentation/esri/GUI-SampleDesign9YearCohort.pdf


\(^3\) Please refer Growing Up In Irelands website to see the research instruments http://www.growingup.ie/fileadmin/user_upload/documents/Questionnaires/9_Year_Cohort_Mother_or_Lone_Father_Main_Questionnaire.pdf,
conduct problems, hyperactivity/inattention, and peer relationship problems. The summed scores range from 0-40. Higher scores suggest that children are more likely to have emotional and behavioural problems. Goodman (1997) suggests that summed total difficulty scores can be classified into normal (0-13), borderline (14-16) and abnormal (17-40).

Goodman and Goodman (2009) found that children with higher SDQ scores were more likely to have clinical disorders. While, in an in-depth multicultural study of the application of the SDQ, Achenbach, Becker, Döpfner, Heiervang, Roessner, Steinhausen and Rothenberger (2008) reported that the SDQ is suitable for use in different cultures. The SDQ has been also been found to have good internal consistency (Cronbach’s alpha: 0.73) and reliable retest stability (mean: 0.62) (Goodman, 2001).

*Life events.* Mothers were asked if their children had experienced a number of stressful life events in the last twelve months. GUI adapted this question from the National Longitudinal Survey of Children and Youth (Murray et al, 2011). Based on research that indicates that the more stressful events a child experiences the greater the risk of experiencing difficulties (Greene et al, 2010b), life events were classified into two groups; one or less life event and two or more life events.

*Centre for Epidemiological Studies Depression Scale* (CESD-8) (Melchior, Hubs, Brown & Reback, 1993) is short 8 item scale that measures depression in the general population and was used in this study to assess depressive symptoms in the primary caregiver. This scale does not assess clinical depression but has been shown to be reliable in the assessment of general depressive symptoms (Murray et al, 2011). The CESD-8 scale has been shown to have good validity and reliability (Melchior et al, 1993). Participants were given eight statements and asked how often they have experienced these in the last week. The scoring range for this scale is 0-24, respondents who scored on total 7 or above, where assessed as having depressive symptoms, based on the recommendation of the authors of the scale (Murray et al, 2011). Mothers self-completed this scale as part of the sensitive interview. This increased the likelihood of truthful answers as the interviewer did not see the responses (Murray et al, 2011).

*Annual Income:* Income is based on respondents’ answers as to what the annual income was after tax and social insurance deductions (Murray et al, 2011). To compare low and high
income groups, annual income for the sample was split by the median (Table 2), those reporting income below the median were classified as having low incomes, and those reporting incomes above the median were classified as having high incomes.

**Table 2: Median Annual Income**

| N= 7828 |
|---|---|
| Annual Median Income 16,616.88 |

_The Basic Deprivation Scale (BDS) (Economic and Social Research Institute) consists of 11 items that are considered to relate to material deprivation (Murray et al, 2011). For each item participants were asked whether they had the item being measured and if not, is it because they either can not afford it or for some other reason. A person lacking two or more of the items on the scale is considered to be experiencing deprivation (Government of Ireland, 2007). This scale has been shown to have strong reliability and validity (Murray et al, 2011). The BDS compliments the income scale as it provides a greater insight into household disadvantage by capturing non-monetary deprivation across a number of domains (Government of Ireland, 2007)._  

### 3.9 Data Analysis

The data set was analysed using Predictive Analytics Software (PASW, this product has since been renamed as SPSS) version 17. The GUI data set was received in PASW format. GUI had recoded the SDQ deficit subscales into a SDQ total difficulties variable and the CESD-8 scale into a total score variable.

A number of variables were dichotomised for analytical purposes and in accordance with recommendations from the authors of the scales, as outlined in section 2.5. The SDQ total difficulties scores were split normal and borderline/abnormal groups. The CESD-8 total score was split into depressed (≥7) and not depressed (≤6). Annual income was split by the median into low income and high income. The number of life events was recoded into a summed total, which was then split by life events of one or less, and two or more. The number of items of deprivation was also recoded into a summed variable, and then split into no deprivation (<1) and deprivation (≥2).
All PASW tests were run by the weighted data to ensure that the findings were representative of the population being studied, see section 3.7. Frequencies were used to report the descriptive statistics of this study. This study used chi-square tests to determine whether there were statistically significant associations between the categorical variables; this test shows whether associations between variables occurred by chance (Field, 2009). The chi-square tests were used to determine whether there were significant associations between family structure, risk factors and developmental outcomes.

A configurational analysis was used to assess whether risk factors had a cumulative effect on developmental outcomes. Based on the structure of Belsky’s configurational analysis (Belsky & Isabella, 1988), no deprivation, no maternal depression and no life events were indicative of no risk factors (+), and deprivation, maternal depression and two or more life events were indicative of the presence of risk factors (-). Using these three risk factors, with each risk factor containing a positive and negative score, a table was created for each family structure. This table contained eight configurational patterns. These configurational patterns represented eight subgroups within the particular family structure. One subgroup had no risk factors (++++), three subgroups had one risk factor in three different combinations (+--), three subgroups had two risk factors in three different combinations (---), and one subgroup had all three risk factors (---). The percentage of normal developmental outcomes for each subgroup was then entered into the configurational table, with the average score of the three subgroups with one risk factor and for the three subgroups with two risk factors. The purpose of this analysis is to determine whether the percentage of normal developmental outcomes decline as the number of risk factors increases.

3.10 Conclusion
This chapter has detailed the research methodology for this study. The current study is a cross-sectional study using secondary quantitative data. The rational for using secondary data was detailed, followed by an explanation of the sample and data collection process. The research instruments were then detailed, and finally, the data analysis used in this study was discussed.
CHAPTER FOUR

4.1 Introduction
The chapter will present the findings from the analysis of the data. The sections are organized by the research questions which were detailed in Chapter One. The key issues being considered in this chapter are whether there is a relationship between risk factors, family structure and developmental outcomes, and whether risk factors have a cumulative effect on children’s developmental outcomes at nine-years-old.

4.2 Descriptive Statistics
Figure 1 shows the percentage of deprivation within the sample. 11.7% of families were identified as experiencing deprivation. Figure 2 shows the percentage of mothers within the sample that were categorized as having depressive symptoms, at 9.3%, this is relatively low. Figure 3 shows the breakdown of the sample by life events, this shows that a large number of children (43.5%) within the sample experienced two or more life events.

<table>
<thead>
<tr>
<th>Figure 1: Sample by percentage of deprivation (N=8205)</th>
<th>Figure 2: Sample by percentage of depression (N=7535)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deprivation</td>
<td>No deprivation</td>
</tr>
<tr>
<td>11.7%</td>
<td>88.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Figure 3: Sample by percentage of life events (N=8209)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 2 Life events</td>
</tr>
<tr>
<td>43.5%</td>
</tr>
</tbody>
</table>
4.3 Family Structure and Risk Factors
The section presents the results on the relationship between family structure and each of the identified risk factors.

4.3.1 Family Structure and Income
Figure 4 shows that 73% of families who were not married were in the low income group, compared to 42.5% of married families. A chi-square test was performed to determine if low and high incomes were distributed differently across family structure, the results indicate that there was a significant difference between the two groups $X^2 (1) = 501.7$, $p<.01$.

Figure 5 shows that separated families tended to have the lowest income, with 77.4% in the low income group. The other alternative family structures had similarly high rates of low income. A chi-square test was performed to determine if low and high incomes were distributed differently across family structure, the results indicate that there was a significant difference between the five groups $X^2 (4) = 508.69$, $p<.01$. These results demonstrate that the differences between family structures are statistically significant.

4.3.2 Family Structure and Deprivation
Figure 6 shows that 21.3% of alternative families experienced deprivation compared to just 8.9% of married families. A chi-square test was performed to determine if deprivation was distributed differently across family structure, the results indicate that there was a significant association between family structure and deprivation $X^2 (1) = 211.04$, $p<.01$. 

![Figure 4: Percentage of Married and Alternative Family structure by Income (N= 7675)](image)

![Figure 5: Percentage of Family structure by Income (N= 7675)](image)

![Married Alternative Family structure](image)

![Married Separated Divorced Widowed Never Married](image)
Figure 7 indicates that across family structure divorced families had the highest rate of deprivation, at 31.5%. A chi-square test was performed to determine if deprivation was distributed differently across family structure, the results indicate that there was a significant association between the five groups $X^2(4) = 231.36, p<.01$.

### Figure 6: Percentage of Married and Alternative Family Structures by Deprivation (N=8205)

<table>
<thead>
<tr>
<th>Family Structure</th>
<th>No Deprivation</th>
<th>Deprivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>91.1%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Alternative family</td>
<td>78.7%</td>
<td>21.3%</td>
</tr>
</tbody>
</table>

### Figure 7: Percentage of Family Structure by Deprivation (N=8205)

<table>
<thead>
<tr>
<th>Family Structure</th>
<th>No Deprivation</th>
<th>Deprivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>91.1%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Separated</td>
<td>80.1%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Divorced</td>
<td>68.5%</td>
<td>31.5%</td>
</tr>
<tr>
<td>Widowed</td>
<td>75.3%</td>
<td>24.7%</td>
</tr>
<tr>
<td>Never married</td>
<td>79.9%</td>
<td>20.1%</td>
</tr>
</tbody>
</table>

### 4.3.3 Family Structure and Maternal Depression

Figure 8 shows that 18.1% of mothers from alternative family structure reported depressive symptoms, compared to just 6.9% of married mothers. A chi-square test was performed to determine if depression was distributed differently across family structure, the results indicate that there was a significant association between the two groups $X^2(1) = 187.9, p<.01$.

Figure 9 shows that widowed mothers had the highest rates of depressive symptoms at 29.7%. Separated mothers had the second highest rate at 24.3%. A chi-square test was performed to determine if depression was distributed differently across family structure, the results indicate that there was a significant association between depression and family structure $X^2(4) = 231.84, p<.01$. 


4.3.4 Family Structure and Life Events

Figure 10 shows that there was a large difference in life events for family structure. 73.2% of children from alternative families experienced two or more life events compared to 34.9% of children from married families. Children from alternative families were more than twice as likely as children from married families to experience two or more life events. A chi-square test was performed to determine if life events were distributed differently across family structure, the results indicate that there was a significant association between family structure and life events $X^2 (1) = 853.58$, $p<.01$.

As Figure 11 shows, children from alternative families experienced high rates of two or more life events. Children from separated families experienced the highest at 86.5%. A chi-square test was performed to determine if life events were distributed differently across family structure, the results indicate that there was a significant association between family structure and life events $X^2 (4) = 916.65$, $p<.01$. 
4.4 Developmental Outcomes (SDQ) by Family Structure

This section presents the results of the analysis on developmental outcomes and family structure.

Figure 12 shows that children from married families had better developmental outcomes with 87.7% scoring in the normal range, compared to 76.7% of children from alternative family structures. A chi-square test was performed to determine if developmental outcomes were distributed differently across family structure, the results indicate that there was a significant association between family structure and developmental outcomes $X^2 (1) = 136.85$, $p<.01$.

Figure 13 shows that children from widowed families reported the highest rate of borderline/abnormal developmental outcomes, with 44.4% scoring in this range. For alternative family structures, children from divorced families had the lowest rate in the borderline/abnormal range, with 13.7% scoring in this range. A chi-square test was performed to determine if developmental outcomes were distributed differently across family structure, the results indicate that there was a significant difference between family structure and developmental outcomes $X^2 (4) = 174.06$, $p<.01$. 
4.5 Developmental Outcomes (SDQ) by Risk Factors
The section will report the findings for developmental outcomes by income, deprivation, depression and life events.

4.5.1 Developmental Outcomes by Income
Figure 14 shows that children from low income families had poorer developmental outcomes, with 18.6% scoring in the borderline/abnormal range, compared to 11.7% for children from high income families. A chi-square test was performed to determine if developmental outcomes were distributed differently across income groups, the results indicate that there was a significant association between income and developmental outcomes $X^2 (1) = 71.08$, $p<.01$.

4.5.2 Developmental Outcomes by Deprivation
Figure 15 shows that children from deprived families had higher rate of borderline/abnormal development outcome at 25.2%, compared to 13.5% of children from families with no deprivation. A chi-square test was performed to determine if developmental outcomes were distributed differently across deprivation groups, the results indicate that there was a significant association between deprivation and developmental outcomes $X^2 (1) = 92.53$, $p<.01$.

4.5.3 Developmental Outcomes by Depression
Figure 16 shows that children with depressed mothers were more than twice as likely to score in the borderline/abnormal range as children who mothers did not report depressive
symptoms, 32.1% and 12.5% respectively. A chi-square test was performed to determine if developmental outcomes was distributed differently across depression, the results indicate that there was a significant association between depression and developmental outcomes $X^2 (1) = 201.25$, p<.01.

4.5.4 Developmental Outcomes by Life Events
Figure 17 shows that children who had experienced two or more life events scored 19.9% in the borderline/abnormal range, compared to 11.1% for children who experiences one or less life event. A chi-square test was performed to determine if developmental outcomes were distributed differently across life events, the results indicate that there was a significant association between the life events and developmental outcomes $X^2 (1) = 125.19$, p<.01.
Figure 14: Developmental outcomes by Income (N=7790)

- High Income: 88.3% Normal, 11.7% Borderline/Abnormal
- Low Income: 81.4% Normal, 18.6% Borderline/Abnormal

Figure 15: Developmental Outcome by Deprivation (N=8333)

- No deprivation: 86.5% Normal, 13.5% Borderline/Abnormal
- Deprivation: 74.8% Normal, 25.2% Borderline/Abnormal

Figure 16: Developmental Outcome by Depression (N=7531)

- Not depressed: 87.5% Normal, 12.5% Borderline/Abnormal
- Depressed: 67.9% Normal, 32.1% Borderline/Abnormal

Figure 17: Developmental Outcome by Life events (N=8338)

- ≤1 life events: 88.9% Normal, 11.1% Borderline/Abnormal
- ≥2 life events: 80.1% Normal, 19.9% Borderline/Abnormal
4.6 Risk Factors, Family Structure and Developmental Outcome

This section will present the findings from the analysis of risk factors, family structure and development outcomes. The purpose of this analysis is to assess whether risk factors moderate the relationship between family structure and developmental outcomes.

4.6.1 Income, Family Structure and Developmental Outcomes

As previously noted in this chapter, children from married families were found to be more likely to report normal developmental outcomes compared to children from alternative family structures. Figure 18 shows that 15.5% of low income married families scored in the borderline/abnormal range compared to 10.3% of high income married families. There was only a very small difference in developmental outcomes between high and low income for alternative family structures; however, children from alternative family structures had significantly higher rates of borderline/abnormal developmental outcomes compared to children from married families. 21.9% of high income alternative families scored in the borderline/abnormal range compared to 23.9% of low income alternative families. A chi-square test was performed to determine if developmental outcomes were distributed differently across the two income groups for married families, the results indicate that there was a significant association between the married income groups $X^2 (1) = 36.202, p<.01$, however a significant difference was not found between alternative family structure income groups $X^2 (1) = .76, p>.05$. These results indicate that there was no significant association between income and developmental outcomes for alternative family structures. This suggests that income does not moderate the relationship between income and developmental outcomes for alternative family structures.

Further analysis within the group of alternative family structures in Figure 19 shows that developmental outcomes tended to be similar for high and low income groups. Widowed families were the only family structure to have a large difference in the borderline/abnormal range for high and low income, 30.8% and 53.3% respectively. A chi-square test was performed to determine if developmental outcomes were distributed differently within alternative family structure income groups. Individual chi-square tests were produced for each alternative family structure group. The results failed to show that there was a significant difference between developmental outcomes and income, within each alternative family income group; separated $X^2 (1) = .34, p>.05$, divorced $X^2 (1) = .14, p>.05$, widowed $X^2 (1) = 3.38, p>.05$ and never married $X^2 (1) = .22, p>.05$. These results indicate that whilst all alternative family types were associated with higher levels of developmental difficulties than
married families, there is no significant association between developmental outcomes for alternative family high and low income groups.

**Figure 18: Developmental Outcomes as a Function of Income for Married and Alternative Family Structures (N=7635)**

- **Married - High income**: 89.7% Normal, 10.3% Borderline/Abnormal
- **Married - Low income**: 84.5% Normal, 15.5% Borderline/Abnormal
- **Alternative family structure - High income**: 78.1% Normal, 21.9% Borderline/Abnormal
- **Alternative family structure - low income**: 76.1% Normal, 23.9% Borderline/Abnormal
4.6.2 Deprivation, Family Structure and Development Outcome

Figure 20 shows that families with deprivation had higher scores in the borderline/abnormal range than families with no deprivation. A chi-square test was performed to determine if deprivation was distributed differently within family structure, the results indicate that there was a significant difference within married families $X^2 (1) = 27.97$, $p<.01$, a significant difference was also found within alternative family structures $X^2 (1) = 21.02$, $p<.01$. These results indicate that there is a significant association between developmental outcomes and deprivation for family structure, irrespective of whether children were from married or alternative family structures.

Figure 21 shows that excluding divorced families, all families with deprivation reported higher scores in the borderline/abnormal development range than those which no deprivation. Widowed families reported the largest difference in the borderline/abnormal range, with 32.7% for not deprived and 83.3% for deprived. A chi-square test was performed to determine if developmental outcomes were distributed differently across alternative family structures without/with deprivation. The results indicated that there was a significant difference; separated $X^2 (1) = 5.23$, $p<.05$, widowed $X^2 (1) = 14.01$, $p<.01$ and never married $X^2 (1) = 15.756$, $p<.01$, however there was no significant difference found for divorced
families $X^2 (1) = 1.18, p>.05$. The results indicate that, excluding divorced families, there is an association between developmental outcomes and deprivation within alternative family structures.

Additionally, a significant difference was also found for developmental outcomes across deprived family structures $X^2 (4) = 60.97, p<.01$ and not deprived family structures $X^2 (4) = 95.99, p<.01$. These results show that there is a significant association between developmental outcomes and deprived families; and a significant association between developmental outcomes and families with no deprivation. Therefore the results suggest that children who experience deprivation may be more likely to have poorer developmental outcomes.

**Figure 20: Developmental Outcomes as a Function of Deprivation for Married and Alternative Family Structures (N=8164)**

![Bar chart showing developmental outcomes across different family structures and levels of deprivation.](chart.png)
4.6.3 Maternal Depression, Family Structure and Developmental Outcomes

Irrespective of family structure, children whose mothers reported depressive symptoms scored higher in the borderline/abnormal range, as shown in Figure 22. Children from married families and alternative family structures with maternal depression scored 26.4% and 39.7% respectively, in the borderline/abnormal range.

A chi-square test was performed to determine if depression was distributed differently across family structure, the results indicate that there was a significant difference within married families, $X^2 (1) = 88.3$, p<.01, a significant difference was also found within alternative family structures $X^2 (1) = 58.02$, p<.01. These results indicate maternal depression influences child developmental outcomes for married and alternative family structures.

Figure 23 shows that for all family structures, children whose mothers reported depressive symptoms had higher scores in the borderline/abnormal range, than children whose mothers did not.

There was a significant association between depression and developmental outcomes within separated $X^2 (1) = 38.58$, p<.01, divorced $X^2 (1) = 28.52$, p<.01, and never married $X^2 (1) = 7.88$, p<.01, families. The results failed to show a significant association between depression and developmental outcomes for widowed families $X^2 (1) = 1.2$, p>.05. These results
suggests that depression may moderate the relationship between family structure and developmental outcomes for separated, divorced and never married families, but not widowed families.

Additionally, a significant difference was also found for developmental outcomes across depressed family structures, $X^2(4) = 23.374$, $p<.01$ and not depressed family structures $X^2(4) = 99.01$, $p<.01$. These results show that there is a significant association between developmental outcomes and depressed families; and a significant association between developmental outcomes and families with no maternal depression. Therefore the results suggest that children whose mothers are depressed may be more likely to have poorer developmental outcomes.

**Figure 22: Developmental Outcomes as a Function of Depression for Married and Alternative Family Structures (N=7500)**
4.6.4 Life Events, Family Structure and Developmental Outcomes

Figure 24 shows that children who experienced two or more life events within the last twelve months scored higher in the borderline/abnormal range, irrespective of family structure. Children from married and alternative families who had experienced two or more life events scored 16.4% and 25.2% respectively, compared to 10.1% for children from married families and 18.1% for children from alternative families who experienced one or less life events.

A chi-square test was performed to determine if life events were distributed differently across developmental outcomes, the results indicate that there was a significant difference within married families $X^2 (1) = 51.7$, $p<.01$, and a significant difference was also found within alternative family structures $X^2 (1) = 10.08$, $p<.01$.

Figure 25 shows that excluding children from widowed families, children from alternative families that had experienced two or more life events scored higher in the borderline/abnormal range than children who experienced one or less life events.

A chi-square test indicated that there was a significant association between life events and developmental outcomes for children within never married families $X^2 (1) = 10.79$, $p<.01$. However, a chi-square test failed to show that there was a significant association between life

---

*NDEP: Not depressed; **DEP: Depressed
events and developmental outcomes within separated $X^2(1) = .145$, $p>.05$, divorced $X^2(1) = .086$, $p>.05$, and widowed $X^2(1) = 1.73$, $p>.05$, families.

Additionally, a significant difference was also found for developmental outcomes across family structures where children had experienced more than two life events $X^2(4) = 71.54$, $p<.01$ and family structures where children had experienced one or less life events $X^2(4) = 34.45$, $p<.01$. These results indicated the findings for the influence of life events on child developmental outcomes are statistically significant.

**Figure 24: Developmental Outcomes as a Function of Life Events for Married and Alternative Family Structures (N=8168)**

![Bar chart showing developmental outcomes across family structures and life events](image-url)
Figure 25: Developmental Outcomes as a Function of Life Events for Alternative Family Structures (N=1831)

<table>
<thead>
<tr>
<th>Family Structure</th>
<th>≤1 Life Event</th>
<th>≥2 Life Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separated</td>
<td>77.6%</td>
<td>22.4%</td>
</tr>
<tr>
<td>Divorced</td>
<td>87.9%</td>
<td>12.1%</td>
</tr>
<tr>
<td>Widowed</td>
<td>85.9%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Never married</td>
<td>87.9%</td>
<td>12.1%</td>
</tr>
</tbody>
</table>

- Normal: 75.5%, 85.9%, 68.4%, 50.9%, 49.1%, 82.9%, 74.0%, 26.0%
- Borderline/Abnormal: 24.5%, 14.1%, 31.6%, 49.1%, 50.9%, 17.1%, 26.0%
4.7 Cumulative Effect of Risk Factor by Family Structure for Developmental Outcomes
This section will outline the results of the configurational analysis. The configurational analysis was used to assess whether risk factors had a cumulative effect on developmental outcomes for each family structure.

4.7.1 Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of married mothers
Table 3 shows the degree of exposure to negative risk factors (-) for the 5883 children from married families in relation to normal developmental outcomes. Of the 3319 children who experienced no risk factors, 91.3% scored in the normal range for developmental outcomes. Of the 46 children who experienced all three risk factors only 52.1% scored in the normal range for developmental outcomes. Table 3 highlights the cumulative effect of risk factors for children from married families. As the number of risk factors increased, normal developmental outcomes tended to gradually decline, 91.3% (no risk factors), 84% (one risk factor), 76.6% (two risk factors) and 52.1% (three risk factors). The results also suggest that if one or two factors were operating in a supportive mode, then there was more likely to be a higher percentage of optimal functioning.

Table 3: Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of married mothers (N=5883)

<table>
<thead>
<tr>
<th>No. of Risk Factors</th>
<th>No. within Subset</th>
<th>Deprivation</th>
<th>Maternal Depression</th>
<th>Life Events</th>
<th>% of Normal Outcome</th>
<th>Average % of Normal Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3319</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>91.3</td>
<td>91.3</td>
</tr>
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<td>1691</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>86.5</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>194</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>79.4</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>297</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>86.3</td>
<td>84</td>
</tr>
<tr>
<td>2</td>
<td>148</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>72.3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>170</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>80.5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>77.1</td>
<td>76.6</td>
</tr>
<tr>
<td>3</td>
<td>46</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>52.1</td>
<td>52.1</td>
</tr>
</tbody>
</table>
4.7.2 Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of separated mothers
Table 4 shows the degree of exposure to negative risk factors (-) for 440 children from separated families in relation to normal developmental outcomes. Of 39 the children who experienced no risk factors, 85.7% scored in the normal range for developmental outcomes. Of 29 the children who experienced all three risk factors only 65% scored in the normal range for developmental outcomes. Table 4 highlights the cumulative effect of risk factors for children from separated families. As the number of risk factors increased, normal developmental outcomes tended to gradually decline, 85.7% (no risk factors), 73.1% (one risk factor), 71.3% (two risk factors) and 65% (three risk factors).

Table 4: Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of separated mothers (N=440)

<table>
<thead>
<tr>
<th>No. of Risk Factors</th>
<th>No. of Subset</th>
<th>Deprivation</th>
<th>Maternal Depression</th>
<th>Life events</th>
<th>% of Normal Outcome</th>
<th>Average % of Normal Outcome</th>
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<td>+</td>
<td>+</td>
<td>+</td>
<td>85.7</td>
<td>85.7</td>
</tr>
<tr>
<td>1</td>
<td>247</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>85.2</td>
<td></td>
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<td>5</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>43.4</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>91.8</td>
<td>73.1</td>
</tr>
<tr>
<td>2</td>
<td>69</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>51.4</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>39</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>62.5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>29</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>100</td>
<td>71.3</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>65%</td>
<td>65</td>
</tr>
</tbody>
</table>

4.7.3 Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of divorced mothers
Table 5 shows the degree of exposure to negative risk factors (-) for 150 children from divorced families in relation to normal developmental outcomes. Of the 15 children who experienced no risk factors, 77.3% scored in the normal range for developmental outcomes. Of the 5 children who experienced all three risk factors only 42.4% scored in the normal range for developmental outcomes. Interestingly, children who experienced one risk factor scored higher in normal outcomes (97.1%), than children who experienced no risk factors. However, previous research suggests that the presence of one risk factor is insufficient in
predicting poorer outcomes (Rutter et al, 1975). Therefore, results indicate that there is a cumulative effect of risk factors for children from divorced families.

**Table 5: Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of divorced mothers (N=150)**

<table>
<thead>
<tr>
<th>No. of Risk Factors</th>
<th>No. of Subset</th>
<th>Deprivation</th>
<th>Maternal Depression</th>
<th>Life Events</th>
<th>% of Normal Outcome</th>
<th>Average % of Normal Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>77.3</td>
<td>77.3</td>
</tr>
<tr>
<td>1</td>
<td>66</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>94.2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>N/A*</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>N/A*</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>100</td>
<td>97.1</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>+</td>
<td>-</td>
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<td>2</td>
<td>36</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>93.6</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>N/A*</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
<td>72.9</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>42.4</td>
<td>42.4</td>
</tr>
</tbody>
</table>

* No subgroup met this criterion

4.7.4 Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of widowed mothers

Table 6 shows the degree of exposure to negative risk factors (-) 63 for children from widowed families in relation to normal developmental outcomes. Of 15 the children who experienced no risk factors, 90% scored in the normal range for developmental outcomes. Of the 5 children who experienced all three risk factors only 14.9% scored in the normal range for developmental outcomes. Table 6 highlights the cumulative effect of risk factors for children from widowed families. As the number of risk factors increased, normal developmental outcomes tended to gradually decline, 90% (no risk factors), 62.6% (one risk factor), 49.6% (two risk factors) and 14.9% (three risk factors).
Table 6: Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of widowed mothers (N=63)

<table>
<thead>
<tr>
<th>No. of Risk Factors</th>
<th>No. of Subset</th>
<th>Deprivation</th>
<th>Maternal Depression</th>
<th>Life events</th>
<th>% of Normal Outcome</th>
<th>Average % of Normal Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>1</td>
<td>19</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>62.6</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>N/A*</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>N/A*</td>
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</tr>
<tr>
<td>1</td>
<td>3</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>0</td>
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</tr>
<tr>
<td>2</td>
<td>12</td>
<td>+</td>
<td>-</td>
<td>-</td>
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<td>+</td>
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</tr>
<tr>
<td>2</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0</td>
<td>49.6</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>14.9</td>
<td>14.9</td>
</tr>
</tbody>
</table>

* No subgroup met this criterion

4.7.5 Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of never married mothers

Table 7 shows the degree of exposure to negative risk factors (-) for 961 children from never married families in relation to normal developmental outcomes. Of the 239 children who experienced no risk factors, 86.2% scored in the normal range for developmental outcomes. Of the 40 children who experienced all three risk factors, 72.6% scored in the normal range for developmental outcomes. While normal developmental outcomes tended to be lower when three risk factors were present, than when no risk factors were present, the results as regards cumulative effect seemed to be less clear cut for children in this family structure as the presence of three risk factors did not produce a lower percentage for normal developmental outcomes, than the presence of two risk factors.
Table 7: Configurational analysis of multiple risk factors for developmental outcome (SDQ) within the group of never married mothers (N=961)

<table>
<thead>
<tr>
<th>No. of Risk Factors</th>
<th>No. of Subset</th>
<th>Deprivation</th>
<th>Maternal Depression</th>
<th>Life events</th>
<th>% of Normal Outcome</th>
<th>Average % of Normal Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>239</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>86.2</td>
<td>86.2</td>
</tr>
<tr>
<td>1</td>
<td>436</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>79.7</td>
<td></td>
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<td>76.7</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>48</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>86.1</td>
<td><strong>81.8</strong></td>
</tr>
<tr>
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<td>+</td>
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<td>-</td>
<td>66.6</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>96</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>58.9</td>
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</tr>
<tr>
<td>2</td>
<td>9</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>49.1</td>
<td><strong>58.2</strong></td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>72.6</td>
<td><strong>72.6</strong></td>
</tr>
</tbody>
</table>

4.8 Conclusion

This chapter has presented the results of the analysis within the current study. The next chapter will discuss the key findings in greater detail.
CHAPTER FIVE

5.1 Introduction
This chapter discusses the results that were presented in Chapter Four. The results are discussed in the order of the research questions, which were presented in Chapter One. These research questions are interdependent with the aim of providing a differentiated analysis of risk factors within the context of different family structures and its impact on children’s development at nine-years of age. The discussion is separated into five sections, the relationship between family structure and risk factors, the relationship between developmental outcomes and family structure, the relationship between developmental outcomes and risk factors, the role of risk factors in moderating the relationship between developmental outcomes and family structure and the effect of cumulative risk. The chapter will conclude with a summary of the key points in the discussion.

5.2 Family Structure and Risk Factors
The results from this study confirmed that there is a relationship between family structure and the identified risk factors; economic deprivation, maternal depression and life events. The results demonstrated that married families experienced significantly fewer risk factors than any other family structure. Married families reported the highest annual incomes, lowest rates of depression and deprivation, and children from married families had experienced the lowest number of life events compared to children from alternative families. Consistent with previous research, these results show that married families are more likely to be financially secure, have better mental health and fewer disruptions than alternative family structures (Amato & Maynard, 2007; Amato, 1993). From alternative family structures, separated and divorced families reported the lowest incomes. These lower levels of financial well-being may be explained by the disruption that separation brings to these families lives, as separated and divorced families may have to split assets, and sustain the expense of separate living arrangements (Biblarz & Gottainer, 2000). The results also showed high rates of deprivation for each alternative family structure, similarly the Central Statistics Office (2011) found that lone parent families have the highest levels of deprivation in Ireland. Divorced families were found to have the highest rate of deprivation amongst alternative families. Overall, the results show that divorced families reported the lowest income and highest deprivation.

There were relatively low levels of maternal depression in the sample with 9.3% reporting depressive symptoms, however, of those that reported depressive symptoms, separated and widowed mothers reported the highest rates, 24.3% and 29.7% respectively. Separated and
widowed mothers may have higher levels of depression as a result of the consequences that can result from losing of partner. Albeit under different circumstances, either through the breakdown of a relationship or through bereavement, the loss of a partner may initiate a number of changes in a person’s life, which they can struggle to adjust to (Biblarz & Gottainer, 2000). However, divorced mothers, despite also experiencing the loss of a partner through the breakdown of the marital relationship, reported lower depressive symptoms. A potential explanation for the lower levels of depression amongst divorced mothers, compared to separated mothers, may be because of the difference in the length of time since the relationship ended. Due to the nature of their divorced status, divorced mothers are more likely to have had a longer period of time to adjust to the end of their marriage, as Irish law states that couples have to be living apart for four of the previous five years in order to be eligible for divorce (Citizens Information, N.D.). 16.8% of divorced and 14.7% of never married mothers reported depressive symptoms; this is over twice as many as married mothers, with 6.9%. The finding that mothers from alternative family structure are more likely to experience depressive symptoms is consistent with findings from previous research (Amato & Maynard, 2007).

The high rate of life events amongst children from alternative family structures, contrasts heavily with the low rate of life events amongst children from married families. These results may be indicative of the relative stability of family life for married families. Previous research has indicated that the more life events a child experiences, the greater the risk to their developmental outcomes (Amato & Maynard, 2007). The stability, which is associated with married families, is very important for child development (Fomby & Cherlin, 2007). Higher rates of life events can increase the levels of stress for families and children, children who struggle to cope with this stress, may have poorer developmental outcomes (Greene et al, 2010b). While any family may experience the loss of a relative or have to move home, there is significant association between life events and family structure. The results indicate that children from alternative family types are more likely to experience more changes in their lives, as a consequence of their family structure.

5.3 Developmental Outcomes at Nine-Years of Age and Family Structure
The results show that there is a significant relationship between family structure and developmental outcomes for children at nine-years of age. Children from married families tended to have higher levels of normal developmental outcomes compared to children from alternative family structures. These findings are consistent with previous research, which
found that children from married families consistently reported better outcomes across a range of different measures (Ram & Hou, 2003). As the results in the current study have shown, children from alternative family structures are exposed to significantly higher amounts of risk factors than those from married families, these findings suggest that the difference in outcomes for family structures may be moderated by the identified risk factors. Additionally, as a tentative inference, these results may suggest that family structure is less important than risk factors in influencing developmental outcomes (Skuse et al, 2011) however this would require further analysis of the data.

From within alternative family structures, children from widowed families were found to be more likely to have poor developmental outcomes. As these children also had one of the highest exposure rates to maternal depression and deprivation, their high rate of difficulties may be a result of experiencing more adverse living conditions. Previous research has shown that children who experience the loss of a parent through bereavement have a higher risk of experiencing mental health problems (Rutter & Taylor, 2005). These results suggest that the distress of bereavement or consequences of bereavement, are associated with poorer developmental outcomes. In contrast to Biblarz & Gottainers’ (2000) findings, that children of divorced mothers would have poorer developmental outcomes than children of widowed mothers, the current study found that children of widowed mothers were three times more likely to be in the borderline/abnormal range than children of divorced mothers. However, these findings may be biased by the fact that of the total sample, widowed mothers accounted for the smallest family structure.

5.4 Developmental Outcomes at Nine-Years of Age and Risk factors
The results from the current study showed that there was also a significant association between developmental outcomes and economic deprivation, maternal depression, and life events. The finding that all the identified risk factors were associated with developmental outcomes is consistent with previous research, as McLanahan and Sandefur, (1994) also found that adverse economic conditions were associated with poor developmental outcomes. Maternal depression was also found to be associated with poorer developmental outcomes in previous research (Munson et al, 2001; Gartstein & Sheeber, 2004). Additionally, Life events were found to be significantly associated with poorer developmental outcomes which may be reflective of increasing levels of stress as these children struggle to adjust to a large number of changes in their lives (Amato & Maynard, 2007; Wertlieb et al, 1988).
5.5 Risk Factors, Family Structure and Developmental Outcomes at Nine-Years of Age.

Risk factors, family structure and developmental outcomes were analysed to assess whether risk factors moderated the relationship between family structure and developmental outcomes. That is, as a moderating variable, risk factors were assessed to see if they affected the association between family structure and developmental outcomes (Baron & Kenny, 1986). The results indicate that income does not mediate the relationship between family structure and development outcomes. As significant relationship was found between income and developmental outcomes for married families; however, a significant relationship was not found for any of the alternative family structures. Some researchers have found that income is a better predictor of certain developmental outcomes over others, McLoyd (1998) notes that there is some empirical evidence to show that economic disadvantage is a better predictor of cognitive and academic outcomes, rather than emotional and behavioural outcomes. Carlson and Corcoran (2001) reported similar findings to the current study, in their study of child developmental outcomes.

The results suggest that deprivation moderated the relationship between family structure and developmental outcomes. Results indicated that there was a significant association between deprivation and developmental outcomes, for four of the five family structures studied. This is consistent with previous research that found economic disadvantage has a negative effect on developmental outcomes (McLanahan & Sandefur, 1994). Divorced families were the only family structure for which developmental outcomes were not significantly related to deprivation. Children from divorced families, irrespective of the level of deprivation, were more likely to score in the normal developmental range. This result is unexpected, as divorced families reported the highest rates of deprivation. This finding may suggest that there are additional factors, not analysed in this study, influencing developmental outcomes for children from divorced families. As a way of further explanation, it may be considered that parental conflict, which has shown to be risk factor which children from divorced families are more likely to experience (Ram & Hou, 2003), has a greater influence for children from divorced families. However, this is a tentative suggestion, as parental conflict was not analysed in the current study.

The results of the current study indicate that maternal depression moderates the relationship between family structure and developmental outcomes. Maternal depression was found to predict higher scores in the borderline/abnormal range, for four of the five family structures.
These results are consistent with previous research that found maternal depression to have an adverse effect on children development for all family structures (Westbrook & Harden, 2010; Gartstein & Sheeber, 2004). However, the results suggest that children from widowed families are more likely to have poorer developmental outcomes compared to other family structures, irrespective of maternal depression. These results conflict with Kranzler et al’s (1990) study, which identified parental depression as the most important predictor of negative child developmental outcomes in widowed families.

Life events were also found to moderate the relationship between family structure and developmental outcomes for married and never married families. However, a significant relationship was not found between life events and developmental outcomes for separated, divorced and widowed families. Previous research indicates that the greater the number of life events a child experiences the greater the risk to their developmental outcomes (Amato & Maynard, 2007). Therefore these results are unexpected, as children from separated, divorced and widowed families have been shown, in the current research, to experience a high number of life events. It may be argued that separated, divorced and widowed families tend to experience higher levels of instability, but that this instability was not sufficiently captured with the research instrument used.

5.6 Cumulative Effects
A configurational analysis was conducted for each family structure to assess whether risk factors had a cumulative effect on developmental outcomes. For married families the results show that as risk factors increased, normal developmental outcomes tended to declined. This result is consistent with the cumulative risk hypothesis (Goodyer, 1990). The results also showed that risk factors tended to have a cumulative effect for separated, divorced and widowed families. As the configurational tables in Chapter Four shows; the presence or absence of negative factors did not influence optimal development in a linear fashion. That is, the presence of one or two risk factors had a different influence on the developmental outcome, depending on which positive or negative risk factors were present. This suggests that one or two risk factors operating in a supportive mode may have a buffering effect on child development (Belsky & Isabella, 1988). These findings may explain the difference in the results for the role of risk factors in moderating the relationship between family structure and developmental outcomes. That is, while all risk factors were not found to moderate the relationship between family structure and developmental outcomes for children from separated, divorced and widowed families; the cumulative effects analysis indicates that it is
the accumulation of risk factors as opposed to single risk factors, that tend to increase poorer developmental outcomes (Rutter et al, 1975). The results did not indicate a clear cumulative effect for children from never married families. While children from never married families who experienced three risk factors tended to have a lower score in the normal developmental range than those who experienced no risk factors, the difference between no risk factors and two risk factors tended to be greater. These results differed from the other family structures, where the findings suggest that as the number of risk factors increase, optimal developmental outcomes tend to decline. This may be explained by the lack of homogeneity in the never married family group. As discussed in Chapter Three, the never married family structure used in current study is a proxy for two groups, never married cohabitating mothers and never married single mothers. By combining these two groups under never married status, the results from the configurational analysis may have been adversely affected.

5.7 Summary of Discussion
This chapter has discussed the key findings of the current research. The discussion of the results suggest that there was a relationship between risk factors and family structure; consistent with previous research, alternative family structures were found to be more likely to experience risk factors than married families. A significant association between family structure and developmental outcomes was also found, this is consistent with previous research that indicated that children from married families have better developmental outcomes. There was also an association between risk factors and developmental outcomes, as risk factors have been shown to be associated with poorer developmental outcomes. The results suggested that number of risk factors tended to moderate the relationship between family structure and developmental outcomes, however for some family structures certain risk factors were not found to be statistically associated with developmental outcomes. Finally, the findings from the configurational analysis suggested that as the number of risk factors increased, scores in the optimal developmental range tended to decrease, for four of the five family structures. These finding suggest that risk factors may have a cumulative effect on child development. The configurational analysis for the never married family structure did not suggest a cumulative effect for risk factors; however the results of this analysis may have been affected by the lack of homogeneity in the never married family structure.
5.8 Limitations of the Research

This study has a number of limitations.

The main disadvantage of cross-sectional research is that we can not ascertain the direction of effects (Björklund, et al, 2007). A longitudinal study of these variables would allow for the analysis of family structure and risk factors as causal mechanisms.

The dichotomisation of the risk factor variables in this study were used to differentiate between the presence and absence of each risk factor. While the dichotomisation of the risk factor variables aided the analysis in determining assessing whether risk factors were associated with family structure and developmental outcomes, there are limitations to this approach. The dichotomisation of variables limits the information within variable which may affect the statistical analysis (Manor, Matthews and Power, 2000).

Family structure in the current study was defined as mothers who were married, divorced, separated, widowed and never married. While this definition was applicable to this study, there are alternative ways to define family structure, for example, family structure can also be defined by partner status or household composition (i.e. presence of other adults in the household, such as grandparents). The limitations of using any definition of family structure are that the definition will never fully represent the diversity that exists in family structures (Doherty, Boss, LaRossa, Schumm, & Steinmetz, 1994).

5.9 Recommendations

A number of recommendations for further analysis of the GUI dataset, which are beyond the scope of the present study, emerged.

To address the limitations of this study, longitudinal analysis of the current dataset and the second wave dataset (once this becomes available) would benefit from more emphasis on the analysis of causal mechanisms.

The current study found some support for a cumulative effect of risk factors on child developmental outcomes at nine-years of age. However, further statistical research of the cumulative effect of risk factors on child developmental outcomes, may provide more
conclusive results. It may also prove more informative to study additional protective and risk factors from different environmental contexts, such as the school environment.

Further analysis of the current dataset may benefit from adding to the list of risk factors analysed in the current study. For example, parental conflict has been shown to be an important risk factor for child development (Ram & Hou, 2003), further analysis using this risk factor may prove beneficial.

5.10 Conclusion

The current study used Growing Up in Ireland’s child cohort data, a nationally representative sample of nine-year-olds and their families, to examine emotional and behavioural outcomes, as measured by the Strengths and Difficulties Questionnaire (SDQ). Developmental outcomes for children at nine-years of age were studied through five interdependent research questions to provide a differentiated analysis of risk factors within the context of different family structure and its impact on children’s developmental outcomes. The findings suggest that there may be a link between risk factors, family structure and developmental outcomes at nine-years of age.

In line with expectation set out in Chapter One, the current study found some support for the influence of identified risk factors and family structure on children’s developmental outcomes at nine-years of age. Consistent with expectations based on empirical evidence, risk factors and family structure were found to be associated with developmental outcomes. Findings indicated that alternative family structures are more likely to experience economic deprivation, maternal depression and life events, compared to married families. Children from alternative families were also more likely to score in the borderline/abnormal range, than children from married families. Furthermore, findings suggested that children who experienced the identified risk factors were more likely to have poorer developmental outcomes.

The effect of risk factors in moderating the relationship between family structure and developmental outcomes were less conclusive. However, the findings suggest some support for this approach as the risk factors tended to moderate the effect of family structure on
developmental outcomes for married and never married families. The findings for separated, divorced and widowed families were less clear.

The current study also found some support for the cumulative effect of risk factors on children’s developmental outcomes. The findings from the configurational analysis suggest that as the number of risk factors increase, optimal developmental outcomes tend to decline. The results show some support of this effect for children from married, separated, divorced and widowed families. However, a cumulative effect was not found for children from never married families, this result may be affect by the combination of cohabitating and single mothers in the never married family structure.
REFERENCES


