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Family Structure and Children's Socioeconomic Attainment in the Transition to Adulthood

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Graduate Program in Sociology

A thesis submitted in partial fulfillment of the requirements for the degree in Doctor of Philosophy

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FAMILY STRUCTURE AND CHILDREN'S SOCIOECONOMIC ATTAINMENT IN THE
TRANSITION TO ADULTHOOD

(Thesis format: Monograph)

by

Jamie Arthur Seabrook

Graduate Program in Sociology

A thesis submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

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Abstract

With the proliferation of different family forms in many western countries over the last few decades, research investigating the influence of family structure on children's socioeconomic status attainment has expanded dramatically, especially in the United States. The purpose of this study was to estimate the relative influence of family structure, maternal resources and family mental health on predicting children's educational, occupational, and income attainment in young adulthood.

Data for this study were derived from a case-comparison, three-wave panel study of single-parent and two-parent families living in London, Ontario, with interviews conducted in 1993 (wave 1), 1994 (wave 2), and between 2005 and 2008 (wave 3). The sample size at wave one includes 518 single mothers and 502 married mothers. By wave 3, the children of these mothers were 15 to 33 years of age. The data at the third wave included re-interviews with 349 out of 518 (67.4%) of the original sample of single parents, and 430 out of 502 (85.7%) of the original sample of married mothers. Children's socioeconomic attainment was determined by assessment of post-secondary education credentials, personal and household income and their longest and most recent job held. A latent class cluster analysis was used to determine distinct groups of mothers who shared similar clusters of family structure. Logistic regression and multiple regression models were then used to predict children's socioeconomic outcomes.

There were virtually no differences in status attainment by family structure. The one exception was that children raised in temporally stable single-parent families, and those whose mothers transitioned from a single-parent family to a two-parent family had higher socioeconomic status occupations for their longest job held than did children raised in temporally stable two-parent families. Maternal education was positively related to the likelihood that children would graduate from college/university, and children's education mediated the influence of maternal education on children's most recent job held. Children's

mental health problems mediate the relationship between maternal depression and children's educational attainment.

Key Words: Family structure, family instability, child outcomes, life course, socioeconomic attainment, longitudinal study, mental health

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CHAPTER 1

INTERGENERATIONAL MOBILITY, FAMILY STRUCTURE, AND THE LIFE COURSE

With the proliferation of different family forms in many western countries over the last few decades, research investigating the influence of family structure on children's socioeconomic status attainment has expanded dramatically. It is now a widely held view that children raised in single-parent families are more disadvantaged than children from two-parent families with respect to their educational attainment and subsequent life chances, and that much of this disadvantage is attributable to the limited economic resources and parental engagement in single-parent families. However, the vast majority of research suggesting that children from single-parent families are more socioeconomically disadvantaged has been conducted in the United States, where other sources of disadvantage specific to that country may confound the relationship between family structure and children's status attainment (Thomson and McLanahan, 2012). For example, approximately one-half of all African American families live in single-parent households (U.S. Census Bureau, 2010), and studies that do not account for race/ethnicity may overestimate the relative importance of family structure on children's socioeconomic status. Similarly, poor school quality and greater neighbourhood disadvantage may have a larger relative influence on children's attainment outcomes in different regions of the U.S. than is the case for Canada.

Another problem with much research assessing the relationship between family structure and children's socioeconomic status has been the reliance on cross-sectional data. This has resulted in studies investigating the influence of family structure on children's academic achievement while they are still in school, without following these children into their adult years to determine whether occupational or income attainment is affected by growing up in a single-parent family.

Using longitudinal data from a 14-year follow-up study of single-parent and two-parent families living in London, Ontario, I was able to explore how duration in different types of family structure influence children's socioeconomic status attainment in young adulthood.

Social Mobility and Stratification

It is well known that the family environment provides access to vital economic, social and cultural resources for children. Parents who are high in the socioeconomic strata can transmit their financial resources to their children via human capital investment, thus increasing their children's future life chances of higher status attainment (Bradley and Corwyn, 2002; Conger et al., 1992; Duncan, Brooks-Gunn, and Klebanov, 1994; DeGarmo, Forgatch, and Martinez, 1999). Studies have shown that the home environment and family socioeconomic status have large influences on children's cognitive development (e.g., Brooks-Gunn and Duncan, 1997; Duncan, Brooks-Gunn, and Klebanov, 1994; Gamoran, 2001; Guo and Harris, 2000; Yeung, Linver, and Brooks-Gunn, 2002), and that family socioeconomic status directly influences students' academic achievement by resources provided at home, and indirectly through the provision of social capital that enhances children's opportunities to excel in school (Coleman, 1988; Dika and Singh, 2002). Conversely, children growing up in poor families may experience less opportunity for educational and training advancement, which may impede their social and cognitive development. Numerous studies have documented low academic achievement and IQ later in childhood among children who live in poverty and whose parents have low educational attainment (Alexander, Entwisle, and Dauber, 1993; Duncan et al., 1994; Haveman and Wolfe, 1995; Pianta, Egeland, Sroufe, 1990). Childhood poverty has also been linked to unemployment in adolescence and early adulthood (Duncan and Brooks-Gunn, 1997), and dropping out of high school (Haveman and Wolfe, 1994).

The importance of parental involvement through the use of cognitively stimulating materials and experiences for their children cannot be understated. Not only is parental educational attainment highly

correlated with their children's education level (Ermisch and Francesconi, 2001), but highly educated parents are more apt to teach their children the importance of learning (Trusty, 1998). Analyses of the National Longitudinal Survey of Youth and the National Household Education Survey reveal that children from high socioeconomic status families have much greater access to learning and recreational materials than do children from economically disadvantaged homes, and that this differential access persists from infancy through adolescence (Bradley et al., 2001). Furthermore, research also suggests that the relationship between socioeconomic status and children's academic performance is mediated by their level of access to cultural and material resources from infancy to adolescence (Bradley and Corwyn, 2002; Brooks-Gunn, Klebanov, and Liaw, 1995; Guo and Harris, 2000). Exploring the direct and mediating effects of poverty on children's educational outcomes, Guo and Harris (2000) found that parental involvement, parental investment in time and educational materials, physical environment at home and family processes all mediated the effect of financial resources on children's educational outcomes, and that family poverty was not directly related to children's intellectual development after controlling for these factors. Low parental involvement in children's schooling also increases the risk of future high school dropout, mainly due to low academic achievement and negative peer influence during the childhood years (Rumberger, 1990). Thus, it may not be family socioeconomic status per se that predicts children's future status attainment, but the quantity and quality of parental investment in their child's schooling that is more important.

According to Becker (1964), parents use their economic resources to improve their children's human capital with the goal of increasing the future income attainment of their children. The idea is that, by parents investing in material resources and higher quality schooling, their expectation is that it will result in higher income potential in their children's lives. Many studies have indeed shown that family income is associated with children's high school graduation, college attendance, and years of education,

even when controlling for family structure, parents' educational attainment, neighborhood characteristics, and parents' welfare receipt (Brooks-Gunn, Guo, and Furstenberg, 1993; Haveman, Wolfe, and Spalding, 1991; Haveman and Wolfe, 1994). Family income is more likely than parents' educational attainment, family structure, or welfare use to influence children's future income attainment (Corcoran et al., 1992) and family income is one of the most robust predictors of children's educational attainment (Haveman and Wolfe, 1995; Neckerman and Torche, 2007; Sirin, 2005). Children from wealthy families are also more apt to see post-secondary education as an achievable goal than are children whose families have limited economic resources (Teachman and Paasch, 1998).

The opportunity for children to accumulate their human capital is therefore highly dependent on the socioeconomic status of their parents, as parents with high financial resources are usually more willing to invest in their children's educational opportunities than are parents with low incomes (Amato, 2005). Significant associations between parental assets (e.g., homeownership, income from assets, savings, home value) and children's educational attainment, for example, have been found in several studies (e.g., Conley, 2001; Morgan and Kim, 2006; Zhan and Sherraden, 2003). Using data from the Panel Study of Income Dynamics (PSID), Nam and Huang (2009) found that parental liquid assets, defined as the sum of financial assets minus unsecured debt, was positively related to children's years of schooling, high school graduation and attendance in college. Similarly, Ellwood and Kane (2000) show that low socioeconomic status families are more apt to experience liquidity constraints than are high socioeconomic status families when having to pay for their children's post-secondary education. Together these studies demonstrate the need for public policies that encourage low socioeconomic status families to save for their children's future education.

When examining the relationship between economic resources and child outcomes, some research has shown that parents' income levels are most important in early childhood (Duncan and Brooks-Gunn,

1997; Guo, 1998). For instance, Brooks-Gunn and colleagues (1996) found that, controlling for mothers' age, mothers' education, and family structure, children's cognitive test scores at five years old is largely dependent on parents' income during a child's first three years of life. The impact of parental income during early childhood is particularly noteworthy when families have lived in persistent poverty (Brooks-Gunn, Duncan, and Maritato, 1997; Duncan et al., 1998).

In addition to parents' financial resources, class-related noneconomic resources including parents' educational and occupational attainment can also influence children's future status attainment through such pathways as differing parental involvement and socialization practices. Studies have consistently found, for example, that maternal education is positively related to children's education attainment, and that highly educated mothers spend more time participating in activities that encourage children's cognitive development than do mothers who are less educated (Bianchi et al., 2006; Gauthier, Smeeding, and Furstenberg, 2004; Lareau, 2002; Sandberg and Hofferth, 2001). DeGarmo and colleagues (1999) similarly found that each socioeconomic indicator (education, income and occupation) was related to better parenting, which in turn influenced children's academic achievement through school behavior and skill-building activities. High socioeconomic status parents read to their children more frequently (Shonkoff and Phillips, 2000) and work to provoke more child speech and responsiveness than do parents from low socioeconomic backgrounds (Hoff-Ginsberg and Tardif, 1995). On the other hand, socioeconomic disadvantage negatively affects parents' abilities to socialize and interact with their children in ways that are nurturing (Brooks-Gunn and Duncan, 1997; Guo and Harris, 2000). Factors such as parental income loss, unemployment, and poverty, all of which are more common in low socioeconomic status families, increase the probability of harsh punishments and inconsistent disciplinary practices for children (McLeod and Shanahan, 1993; Sampson and Laub, 1994).

While some research has examined both the direct and indirect effects of parental socialization on children's status attainment, other studies have focused specifically on the direct effect of parental involvement on children's outcomes. Following low income children from birth to age 23, Englund, Egeland, and Collins (2008) found that regular parental involvement in children's schooling and strong teacher-child relationships impacts children's educational trajectory such that these children lower their risk of dropping out of high school. Likewise, Barnard (2004) showed that parental involvement at home and in school during a child's elementary school years increased the probability of high school graduation by age 20 and decreased the risk of high school dropout. Within an elementary school context, parental involvement in children's schooling includes frequent visits to the classroom and interactions with teachers (Hill and Tyson, 2009), both of which enhance social capital and increase parents' knowledge of curriculum expectations (Hill and Taylor, 2004).

One of the reasons why socioeconomically disadvantaged parents may find it challenging raising their children in a positive and supportive environment may have to do with their high levels of psychological distress compared to high socioeconomic status parents (McLoyd, 1990). Low socioeconomic status increases parents' exposure to stress, which in turn increases their level of psychological distress (Seabrook and Avison, 2012). More specifically, low socioeconomic status parents tend to exhibit high levels of stress and uncertainty as a result of their social standing, which often leads to lower self-esteem and a lower sense of personal mastery (Baum, Garofalo, and Yali, 1999; McLoyd, 1998). The higher the level of parents' psychological distress, the more likely parents are to ineffectively monitor their children and to use negative control strategies (Conger et al., 1992; McLeod and Shanahan, 1993; McLoyd, 1990; Sherman, 1994).

There is also substantial evidence that children living in socioeconomically disadvantaged families are more likely to have mental health problems than are children raised in affluent households (Brooks-

Gunn and Duncan, 1997; Gilman et al., 2002; McCoy et al., 1999; McLeod and Shanahan, 1993; McLoyd, 1998). Poor children are more likely to experience higher rates of depressive symptoms and antisocial behavior, and these mental health differences escalate the longer their families live in poverty (McLeod and Shanahan, 1996). Low family income is also related to negative peer relationships and low self-confidence in adolescents (Conger et al., 1992), and trajectories of withdrawal behaviors or conduct problems are more common among low socioeconomic status children with low academic grades (Battin-Pearson et al., 2005). Importantly, research has found that, although socioeconomic disadvantage contributes to children's mental health problems, mental health also influences educational attainment independent of socioeconomic status. McLeod and Kaiser (2004) show that children with internalizing and externalizing problems at ages 6-8 are significantly less likely to graduate from high school, and among those who do graduate, are less likely to attend college, even after controlling for poverty, family structure, and maternal education.

Finally, another way one might consider the intergenerational social mobility of children's status attainment is through the examination of community-level socioeconomic status. Evidence suggests that the neighborhood in which children are raised influences their future status achievement, behavioral outcomes, and health, even after controlling for individual-level socioeconomic status (Baum et al., 1999; Leventhal and Brooks-Gunn, 2000; McLoyd, 1998; Wasserman et al., 1998). Whereas children from high socioeconomic status neighborhoods tend to have higher academic achievement in school (Leventhal and Brooks-Gunn, 2000), and higher overall educational attainment (Corcoran et al., 1992; Garner and Raudenbush, 1991), parents from low socioeconomic status neighborhoods give less attention to their children's schooling (Wilson, 1991). Moreover, evidence suggests that children's educational opportunities are restricted in poor neighborhoods because the schools in these communities tend to be

under-resourced with respect to materials, teacher experience, instructional arrangements, and teacher-student ratio (Jenks and Mayer, 1990).

Family Structure and Children's Socioeconomic Status

Since the 1960s, a demographic transformation has taken place in Canada and many other western countries. This transformation has been marked by increases in premarital and postmarital cohabitation, the postponement of marriage and parenthood, and the proliferation of new living arrangements (McLanahan, 2004). Much of this transformation has been the result of increasing rates of marital separation and divorce, as well as increasing proportions of never-married single parents (Avison, 2010; Avison, Ali, and Walters, 2007; McLanahan, 2004). According to the 2006 Canadian census, the percentage of single-parent families rose from 11% in 1981 to 16% in 2006, and approximately 36% of births were to unmarried mothers in 2004 (Avison, 2010). By the time a child has reached the age of 18 in the United States, over 50% will have spent at least some time being raised in a single-parent family (Bumpass, Raley, and Sweet, 1995; Bumpass and Lu, 2000; McLanahan and Percheski, 2008).

As families continue to represent an important social arena for the transmission of social and human capital (Biblarz and Raftery, 1993; Musick and Mare, 2004), some researchers have argued that single motherhood serves as a predictor for lower socioeconomic attainment in children (e.g., Amato, 2001; Amato, 2005; Amato and Keith, 1991; Astone and McLanahan, 1991; Coleman, 1988; Massey, 2007; McLanahan and Sandefur, 1994; Pong and Ju, 2000). Coleman (1988) maintains, for example, that family structure is an indicator of social capital and that social capital is essential for parents to transmit economic capital to their children. Coleman's theoretical argument is that the intergenerational transmission of socioeconomic status is enhanced among children raised in two-parent families but is moderated among children from single-mother families. Although evidence supporting Coleman's

argument for a moderation effect of family structure is lacking in the empirical literature, research has been consistent with the finding that children living in single-parent families have lower socioeconomic outcomes than do children who are raised by both of their biological parents (Artis, 2007; Broman, Li, and Reckase, 2008; Brown, 2004; Carlson and Corcoran, 2001; Manning and Lamb, 2003; McLanahan and Sandefur, 1994; Painter and Levine, 2000; Teachman, 2008; Videon, 2002). When compared to children raised in two-parent families, children from single-parent families have lower grades in school (Astone and McLanahan, 1991; Ermisch and Francesconi, 2001; Heard, 2007; McLanahan and Sandefur, 1994), are less likely to attend college (Astone and McLanahan, 1991; Biblarz and Gottainer, 2000; Ermisch and Francesconi, 2001; Heard, 2007), have lower average occupational attainment (Astone and McLanahan, 1991; Biblarz and Gottainer, 2000; Biblarz and Raftery, 1999) and have higher rates of psychiatric disorder and social problems (Biblarz and Gottainer, 2000; Lipman et al., 2002). Females who are raised in single-parent families are also more likely to have children outside of marriage and to experience divorce (McLanahan and Sandefur, 1994; Wu, 1996). These differences in children's outcomes tend to be attributed to the greater economic hardship experienced by single-parent families, as well as the absence of an additional parent to provide nurturing attention and supervision to children (Biblarz and Raftery, 1999; McLanahan and Sandefur, 1994; Strohschein, Roos, and Brownell, 2009).

Despite some of the adverse social consequences that children from single-parent families experience, not all social scientists agree that family structure has a direct and independent effect on children's socioeconomic status. It is plausible that other dimensions of human and social capital have more important effects on children's outcomes than single parenthood. For example, recent work by Song, Benin, and Glick (2012) demonstrate that differences in high school completion rates between children from two-parent families and single-mother families are greatly reduced when both types of families have comparable economic resources. Similarly, in one of few studies examining the impact of

childhood family structure on adult occupational attainment, Biblarz, Raftery and Bucur (1997) show that men from single-mother families do just as well as men from two-parent families after controlling for family head's occupational location and employment status. If, in fact, the relationship between family structure and children's socioeconomic attainment is as large as many social scientists suspect, we would expect much of the relationship between single parenthood and children's lower socioeconomic attainment to persist once parental socioeconomic status is controlled. These studies, however, suggest that it may not be family structure per se that is driving children's socioeconomic outcomes, but rather the socioeconomic deprivation that is characteristic of single-parent families.

It is well known that single-parent families are more likely than two-parent families to live in poverty (Avison and Davies, 2005; Casper and Bianchi, 2002; Danziger and Gottschalk, 1995; Fields, 2003; Manning and Brown, 2006; McLanahan, 2004; McLoyd, 1998; Teachman, Tedrow, and Crowder, 2000). In 2005, 26% of single-parent families and 6.8% of two-parent families were living in poverty in Canada (Taylor, 2007), and the Canadian federal government identified single mothers as one of the top demographic groups at risk for poverty (Hatfield, 2004). Finnie and Sweetman (2003) found that, between the years 1992 and 1996, 67% of all Canadian single mothers were poor for at least one year, almost 25% of single mothers were poor for all of those years, and that only 27% of married or cohabiting mothers had any experience with poverty over the course of those years.

Given the direct link between family and child poverty, the higher relative poverty rates among single-parent families compared to two-parent families have important implications for children raised in these types of households. As of 2005, 33.4% of Canadian children residing in single-parent families were living in poverty, compared to just 7.8% of children from two-parent families (Taylor, 2007). Moreover, the high economic deprivation characteristic of single-parent families are at least partially responsible for the more disadvantaged socioeconomic outcomes of children raised in these households (Coleman, 1988;

McLanahan, 1985), and approximately 50% of the gap in well-being between children raised in single-parent compared to two-parent families can be attributed to economic resources (McLanahan and Sandefur, 1994). Children whose parents lack financial resources are less likely to receive high-quality child care, education, healthcare, material and social goods (Becker, 1964; Coleman, 1988; McLanahan and Percheski, 2008), and these differential resources can accumulate across the life course, leaving children from socioeconomically disadvantaged families with less opportunity to build their human capital.

In addition to the greater economic hardship experienced by single-parent families relative to two-parent families, differing parental socialization practices is another significant factor to consider when assessing the relationship between family structure and children's socioeconomic status. Effective parenting is dependent on family socioeconomic status and parental mental health because economic insecurity reduces the quality of the child's physical surroundings, the services that parents can provide for their children, as well as the relationship between parents and children via increased parental stress (Casper and Bianchi, 2002; Downey and Coyne, 1990; Ellwood and Jencks, 2004; McLanahan, 2004; McLanahan and Percheski, 2008). Ample evidence exists that single mothers experience higher prevalence rates of major depressive illness and higher levels of psychological distress than do married mothers (Avison et al., 2007; Avison and Davies, 2005; Avison et al., 2008; Demo and Acock, 1996; Lipman, Offord, and Boyle, 1997), and that many of the consequences of family structure on women's mental health result from single mothers' greater exposure to economic hardship, caregiving stress and limited social support relative to married mothers (Avison et al., 2007; Avison and Davies, 2005; Benzeval, 1998; Brown and Moran, 1997). Brown and Moran (1997) found that single mothers were twice as likely to be in financial hardship and to have an onset of depression than were married mothers, and that depressive symptoms were more apt to occur when single mothers lacked support from others.

Similarly, Cairney and colleagues (2003) reported that single mothers had a higher 12-month prevalence of depression than their married counterparts, and that 40% of the relationship between single-parent status and depression could be attributed to their higher levels of chronic stress and lower levels of perceived social support relative to married women. These mental health differences between single mothers and married mothers contribute to differences in parental socialization, as two meta-analyses have shown maternal depression to be related to high levels of harsh parenting and low levels of parental engagement and nurturance (Downey and Coyne, 1990; Lovejoy et al., 2000). Hence, although mechanisms linking maternal depression to children's outcomes are not well understood, one pathway through which maternal psychopathology can influence children's mental health is through exposure to a non-supportive and adverse family environment (Goodman and Gotlib, 2002; Hammen, Shih, and Brennan, 2004), which in turn reduce the quality of parent-child interactions (Goodman and Gotlib, 1999).

Single mothers also spend less time with their children than do married mothers (Bianchi, Robinson, and Milkie, 2006; Garg, Melanson, and Levin, 2007; Kendig and Bianchi, 2008; Sandberg and Hofferth, 2001; Sayer, Bianchi, and Robinson, 2004), although much of the lower time investment of single mothers is the result of their disadvantaged social structural location. Using the 2003 and 2004 American Time Use Survey, Kendig and Bianchi (2008) show that single mothers would spend at least the same amount of time with their children as do married mothers if single mothers had similar levels of education and employment as married mothers, and that the quality of care that single mothers are able to provide for their children is limited due to their much greater need for long hours of employment to help support their family financially relative to married mothers. The authors further argue that, unlike married mothers, single mothers are much less likely to be able to afford to drop out of the labor force or to cut back on their work hours in order to provide more care for their young children.

Unfortunately, a major limitation to most studies assessing the relationship between family structure and children's status attainment has been the reliance on cross-sectional and retrospective data, typically categorizing children as either living in a two-parent family or a single-parent family at one point in time (Amato and Fowler, 2002; Biblarz and Gottainer, 2000; Cavanagh, Schiller, and Riegle-Crumb, 2006; Ram and Hou, 2003; Sun and Li, 2001; Wu and Martinson, 1993). In addition to the static measure of family structure, most previous studies have only examined children's academic performance while they are still in school, thus preventing researchers from sorting out causal and temporal relationships. The problem with using cross-sectional data to investigate the relationship between family status and children's social outcomes is that it is not possible to determine how family structure affects children's outcomes over time. For instance, research demonstrating that children from divorced parents have lower academic achievement than do children from two-parent families at one point in time cannot capture whether this is because of the long-term psychological effects or the immediate impact of parental divorce. Likewise, cross-sectional research cannot determine whether the negative effects of divorce attenuate over time or whether they persist for many years thereafter. Hence, capturing such factors as the number of parental transitions that children experience over the duration of their childhood, as well as the timing of these transitions in children's lives, provide compelling reasons why longitudinal data are more advantageous than cross-sectional data when studying the impact of family structure on children's social outcomes.

Last, although many studies have reported significant associations between family structure and children's socioeconomic outcomes, the vast majority of these studies have been located in the United States, where it is unclear to what extent the effects of single parenthood are confounded with race and ethnicity, neighborhood disadvantage, or variations in the quality of schools across geographic areas

(Avison, 2010). It is unknown whether the impact of family structure on children's socioeconomic outcomes in Canada is less pronounced than it is in the United States.

Family Structure and Children's Socioeconomic Status across the Life Course

The life course perspective (Elder, 1998) provides a theoretical framework that allows for the conceptualization and modeling of stability and change in family structure over time, both of which can influence children's status attainment as adults. Whereas cross-sectional research conceptualizes family structure as a static phenomenon, a life course perspective emphasizes the timing and duration of family structure for children's lives. There are two core life course principles that are ideally suited for studying the association between family structure and children's status attainment: long-term temporal patterns and linked lives.

Long-term Temporal Patterns

The defining characteristic of the life course perspective is the need to assess temporality over extended periods of time, often including decades or longer (Elder, Johnson, and Crosnoe, 2003; George, 2007; Huinink and Feldhaus, 2009). The notion of long-term temporal patterns suggests that the present circumstances surrounding an individual's life are best understood by examination of the distant past. When a child's family structure is assessed over many years, patterns of stability or change can be separated into trajectories, and these trajectories allow researchers to study the consequences of occupying a given family structure on children's social outcomes.

Substantial gains have been made in our understanding of how family structure histories can influence children's socioeconomic outcomes. Using a population-based data registry for the 1984 Manitoba birth cohort, Strohschein and colleagues (2009) found that children who experienced any

change in family structure during their childhood were less likely to graduate from high school than were children from stable two-parent families. Similarly, two meta-analyses have shown that children with divorced parents are more likely to drop out of high school and to have poorer cognitive skills and psychosocial well-being than children raised with continuously married biological parents (Amato, 2001; Amato and Keith, 1991). Wickrama and colleagues (2003) found that low parental education and having only one parent in the home increases the likelihood that adolescents will experience school failures, truncated educational attainment, conduct problems, early and significant stresses in employment, and early acquisition of family responsibility. More recently, using a pre-, in-, and post-divorce framework to examine the effect of parental divorce on children's cognitive skills and non-cognitive traits, Kim (2011) found negative effects of divorce from the in-divorce stage onward, even after accounting for selection factors that influence children's skills and traits at or before the commencement of the dissolution process. These studies therefore suggest that any parental dissolution during childhood can have negative consequences on children's cognitive skills and/or educational attainment.

In addition to family structure histories, it is important to consider the types and timing of transitions that children experience when examining the relationship between family structure and socioeconomic attainment. In life course research, transitions imply that exit from one role followed by the entry into another role, or a significant change of a role condition (George, 1993; Pearlin et al., 2005; Wheaton, 1990). For example, children who experience many years of stability in family structure after a parental divorce are probably a different group than children who have experienced multiple changes in family structure over the course of their childhood. Indeed, research has shown that children who experience two parental dissolutions have lower high school completion rates than children who experience just one or none (Cavanagh et al., 2006; Pong and Ju, 2000; Strohschein et al., 2009). As a result of the reorganization and renegotiation of relationships that are required of parents and children

because of a change in family structure, some researchers have therefore argued that family instability is just as (if not more) important as family structure at predicting children's outcomes (e.g., Cavanagh et al., 2006; Fomby and Cherlin, 2007; Hill, Yeung, and Duncan, 2001). This approach stems from the idea that a stable family provides children with a strong sense of security and confidence (Cummings, Davies, and Campbell, 2000), whereas a change in family structure creates stress and insecurity in children's lives that increase the likelihood of poor child outcomes (Amato, 2000; Demo and Fine, 2010). To adequately measure family instability, it is necessary to move beyond research that only examines family structure at one point in time, because cross-sectional snapshots of children's living arrangements do not account for children's family experiences over their childhood.

The timing of family structure transitions in children's lives may also be relevant to their long-term outcomes. Evidence suggests, for example, that children are at a higher risk for dropping out of high school if they experience a change in family structure at a very young age (Ermisch and Francesconi, 2001; Ermisch, Francesconi, and Pevalin, 2004; Heard, 2007; Strohschein et al., 2009; Zill, Morrison, and Coiro, 1993), and that early childhood family instability accounts for most of the variance of the cumulative effects of family structure transitions on children's outcomes (Cavanaugh and Huston, 2008). This suggests that early childhood adversity may not only negatively impact children in the short-term, but may have enduring influences on their later development as well.

Linked Lives

The concept of linked lives suggests that human development occurs within the context of intimate relationships and social bonds, and that events that occur to one person within a bonded group have ripple effects on others in the group (Strohschein et al., 2009). For instance, although evidence for the educational, behavioral and social benefits of children who reside in a stable two-parent family compared

to a single-parent family is fairly robust (e.g., Amato, 2005; Artis, 2007; Biblarz and Raftery, 1999; Broman et al., 2008; Hill et al., 2001; Teachman, 2008) and clearly exemplifies the principle of linked lives (Cavanagh et al., 2006), less clear are which factors are most important at influencing the socioeconomic outcomes of children by family structure. Argys and colleagues (1998) maintain that the lower socioeconomic status characteristic of single-parent families is the key to explaining the myriad of disadvantages that children experience in these types of families. Low economic resources limit children's social and educational opportunities, especially those related to college or university education (Amato, 2005; Funder and Kinsella, 1991). Limited economic resources also creates stress for single-parents as they struggle to meet basic financial needs (Demo and Fine, 2010; McLanahan, 2004), and this additional stress can negatively impact their parenting style (Downey and Coyne, 1990; McLeod and Shanahan, 1996). As a result of stressful home environments and negative parent-child interactions, children from single-parent families are more apt to turn to their peers for companionship than are children from two-parent families (Garg, Melanson, and Levin, 2007). This greater reliance on peer relationships among children from single-parent families may be concerning, because adolescents with controlling parents that depend on their peers for support and a sense of belonging are more likely to make poor academic decisions and to have weaker career aspirations (Fuligni and Eccles, 1993).

Conclusions

In this chapter, I have identified multiple determinants of children's status attainment, including parental socioeconomic status, parental and childhood mental health, family structure, family stability, and differing parental socialization practices. If in fact family structure is not the most important predictor of children's status attainment, as some literature would suggest (e.g., Brooks-Gunn, Guo, and Furstenberg, 1993; Corcoran et al., 1992; Haveman, Wolfe, and Spalding, 1991; Haveman and Wolfe, 1994), then it is

essential to ascertain which factors have the largest relative influence on children's attainment. For example, if family stability is a significant marker for children's socioeconomic outcomes (Cavanagh et al., 2006; Fomby and Cherlin, 2007; Hill, Yeung, and Duncan, 2001; Pong and Ju, 2000; Strohschein et al., 2009), then the need for longitudinal research that captures the duration of time in a given family structure is vital. It may be that children who are raised in temporally stable single-parent families have higher status attainment than do children who have experienced multiple family transitions, regardless of family structure. Evidence is also lacking about the long-term effects of both maternal depression and children's mental health problems on children's future socioeconomic status attainment.

As well, despite the greater economic deprivation that is characteristic of single-parent families (Avison and Davies, 2005; Casper and Bianchi, 2002; Fields, 2003; Manning and Brown, 2006; McLanahan, 2004; Teachman, Tedrow, and Crowder, 2000), children whose single mothers are well educated may not be that different with respect to status attainment than are children from two-parent families. Although research on college-educated single mothers is lacking, it is plausible that much of the apparent lower socioeconomic attainment that children from single-parent families experience is specific to children whose single mothers are both poorly educated and that live in poverty. Research suggests, for example, that never-married single-parents have lower educational and income attainment than do divorced single-parents; never-married single-parents are more likely to be from a minority ethnic group; and that divorced parents tend to be middle-class (Fine, 2000). This heterogeneity within single-parent families may have key implications for children's long-term social outcomes and should be considered when comparing single-parent and two-parent families.

I conducted a secondary analysis of a 14-year follow-up prospective study of single-parent and two-parent families living in London, Ontario, Canada, that allowed me to address these important issues.

CHAPTER 2

METHODS

A substantial body of research has examined the impact of family structure on children's socioeconomic status attainment in adulthood. Most of these studies have found that children from single-parent families have lower socioeconomic attainment than do children from two-parent families (Artis, 2007; Broman, Li, and Reckase, 2008; Brown, 2004; Carlson and Corcoran, 2001; Manning and Lamb, 2003; McLanahan and Sandefur, 1994; Painter and Levine, 2000; Teachman, 2008; Videon, 2002). As noted earlier, however, much of this research has been limited to cross-sectional, retrospective data (e.g., Amato and Fowler, 2002; Biblarz and Gottainer, 2000; Cavanagh, Schiller, and Riegle-Crumb, 2006; Ram and Hou, 2003; Sun and Li, 2001; Wu and Martinson, 1993), with relatively few studies, particularly in Canada, assessing the long-term effects of family structure on children's status attainment.

In this chapter, I utilize a more sophisticated methodological approach that allows for the construction of homogenous clusters of family structure that are appropriate for life course analysis. These clusters of family structure will be used to examine the association between patterns of family stability and change on children's socioeconomic outcomes across the life course.

Study Design

In this dissertation, I analyze data from a case-comparison, three-wave panel study of single-parent and two-parent families living in London, Ontario, Canada, with interviews conducted in 1993 (wave 1), 1994 (wave 2), and between 2005 and 2008 (wave 3). One of the broad objectives of this study was to compare the socioeconomic outcomes of children raised in single-parent with those raised in two-parent families.

The Sample

The Single-Parent Family Study is a survey designed to compare the experiences of single and married mothers. In this study, single-parent families were defined as families headed by mothers who were separated, divorced, widowed, or never-married and who had at least one child under the age of 17 in 1993. Single parents included women who may have been legally married but had subsequently separated and were not cohabiting, as well as single mothers who lived in extended families. By contrast, two-parent families were defined as families in which the mother lived with her husband or cohabiting partner and had at least one child less than 17 years of age living at home. The reason why there was no differentiation between cohabiting and married couples in two-parent families is that only five percent of Ontario couples were cohabiting at wave 1, leaving too small of a comparison group of cohabiting partners given the sampling target of 500 two-parent families. Married partners and cohabiting partners were therefore categorized as two-parent families when coding the data on family structure.

The 1989 London Municipal Assessment File, an enumeration of every household in the municipality, was used to create the sampling frame. A list of 4,078 households headed by single women with at least one child under age 17, and 1,341 households involving single-parent families living with extended families was generated from the Municipal Assessment File. To ensure adequate representation of single-parent families across socioeconomic groups, these lists of single-parent families were stratified across thirteen geographic areas to account for differences in household income. In order to generate a comparison sample of two-parent families, a two-stage sampling strategy was used to obtain a sampling pool of families that matched for the age and sex of the oldest child under 17 years from the sampled single-parent families. In the first stage, all two-parent families were randomly sampled from the Municipal Assessment File and stratified by the same thirteen geographic areas as the single-parent families. These families were subsequently stratified by the age and gender of the oldest child in the

second stage of sampling. Thus, each single-parent family had a randomly selected comparison two-parent family from the applicable age-gender stratum.

The sample size at wave one included 518 single mothers and 502 married mothers. Almost 75 percent of single mothers were separated/divorced, and 22 percent were never married. The age of the children at wave 1 ranged from 2 to 16 years. Mothers from single-parent families had a mean of 1.7 children (SD=0.8) at wave 1, compared to 2.0 children (SD=0.9) from two-parent families. By wave 3, when the third wave of interviews was conducted, the children were 15 to 33 years of age, and it is this sample of children that is the focus of this dissertation. The data at the third wave included re-interviews with 349 out of 518 (67.4%) of the original sample of single parents, and 430 out of 502 (85.7%) of the original sample of married mothers. Adjusting for the single parents who died or who were too ill to participate (n=16), the re-interview rate was 69.4%.

Measures

Independent and dependent variables used in this study can be found in Table 2.1. Two-hour structured interviews were administered to mothers at waves 1 and 2 in their homes. At wave 3, both mothers and children independently participated in structured interviews and completed a life history calendar that documented important life experiences that occurred between wave 2 and wave 3.

Life history calendars were used at wave 3 to collect data on household composition, sources of income, the timing and sequencing of events corresponding to residential moves, and employment history. The calendar design was based on the work of Freedman, Thorton, Camburn, Alwin and Young DeMarco (1988), as well as the work of Turner and colleagues in their longitudinal study of teenage mothers (Turner, Sorenson, and Turner, 2000). The data collected on household composition were used to create variables to measure clusters of family structure. Participants were asked to indicate the month of

entry into a partner relationship as well as the month of exit, which provided information on the number of times that a woman lived with a male partner, the total number of months that each mother lived in a partner relationship and the total number of partners.

Mothers were also asked to rate their level of depressive symptoms, as well as their child's behavioral and emotional problems at wave 1. Maternal depressive symptoms were measured using the Center for Epidemiological Studies Depression Scale (CES-D), which is a 20-item questionnaire measuring depressive symptoms in the general adult population over the past week (Radloff, 1977). Final scores on the CES-D range from 0 to 60, with scores ≥ 16 indicating clinically relevant depressive symptomatology.

Children's behavioral and emotional problems were rated using the Child Behavior Checklist (CBCL). The CBCL is a parent-report questionnaire in which parents rate their child's internalizing (i.e., anxious, depressive) and externalizing (i.e., aggressive, hyperactive, noncompliant) behaviors over the past six months (Achenbach, 1991). The CBCL consists of 113 questions and higher scores indicate greater emotional and behavioral problems in children. Following Achenbach's recommendation, I dichotomized the CBCL T scores, such that CBCL scores > 63 indicated clinical importance in children's behavioral problems.

Children's socioeconomic attainment at wave 3 was determined by their post-secondary education credentials, personal and household income, and longest and most recent occupation. Educational attainment was measured by whether one obtained a college diploma or university degree (yes/no). To ensure that all children had the opportunity to complete their post-secondary education, I used a cutoff of age 24 years and older to assess whether each child had received a college diploma/university degree. In Ontario, almost all students have graduated from high school by the age of 19, so an age cutoff of 24 years would have given students five years to obtain a college diploma or university education. A college

diploma in Ontario typically takes a student two to three years to complete, whereas an undergraduate degree at the university level usually takes at least three years. Using the age cutoff of 24 years for this variable, I had data on 401 children for my analysis.

Children were also asked about their work history. Their longest and most recent jobs held were derived from children's life history chart data. The responses to these occupational outcomes were then coded using the Hollingshead Index of Social Position (Hollingshead, 1975). Categories to these variables included: (1) higher executives, proprietors of large concerns; (2) business managers, proprietors of medium-sized businesses; (3) administrative personnel, small independent businesses; (4) clerical and sales workers, as well as technicians; (5) skilled manual employees; (6) machine operators and semiskilled employees; and (7) unskilled employees. For ease of interpretation, I reverse coded each of the occupational categories so that higher scores were reflective of higher socioeconomic status jobs and lower scores indicated lower status jobs. In total, 521 children were included in the analysis for the most recent occupation and 520 children for the longest job held once I excluded children who were still in school from the analysis. The reason for the discrepancy in sample size between the occupational and educational attainment measure is due to the older age cutoff for education.

The current personal income and household income of the children were also asked. In total, I had personal incomes recorded for 587 children and household incomes for 537 children. Once children who were still in school were excluded from the analysis, I was left with 513 children available for analysis for the personal income variable, and 486 children for household income. Eighteen income categories ranging from less than \$5,000 per year to \$90,000 or more were indexed for income.

Clusters of Family Structure

The extent to which children experience multiple family transitions or relative structural stability is an important consideration when taking a life course perspective because it provides contextual information

regarding linked lives, particularly how children's psychosocial and/or socioeconomic outcomes relate to the choices of their parents. In keeping with a life course perspective, I assessed stability and change in family structure over time in order to capture how continuity or family transitions influenced children's socioeconomic outcomes at wave 3. Specifically, family structure (single/partnered) at baseline, wave 2 (12 months later), wave 3 (12 years after wave 2), the number of times a mother was partnered, and the length of time a mother was partnered over the previous 12 years were entered into a latent class cluster analysis in order to determine distinct groups of mothers who shared similar clusters of family structure. These variables were selected for the latent class analysis because they capture both continuity and change in family structure over the 14-year study period, as well as time spent living in single-parent and two-parent families. Considering what we know about the importance of family stability at predicting better long-term social outcomes for children (Amato, 2001; Amato and Keith, 1991; Cavanagh et al., 2006; Pong and Ju, 2000; Strohschein et al., 2009), the decision to incorporate these variables was both theoretically informed based on the life course perspective, and based empirically on research on family structure and children's socioeconomic attainment in adulthood. The benefit of using latent class cluster analysis to estimate family structure is that it allows for the incorporation of these other measures of family stability into the model.

Latent class cluster models were generated using Latent Gold Software (Vermunt and Magidson, 2000). I estimated six distinct cluster models to determine the appropriate number of clusters. Model fit was assessed by comparing the likelihood ratio chi-square statistics (L^2), the log likelihood, the Bayes Information Criteria (BIC), the classification error, models with the fewest number of parameters, and bivariate residuals. Fit statistics indicated that a four-cluster model provided the best fit for the data:

- (1) Temporally stable two-parent families (N = 338; 45.2%)
- (2) Temporally stable single-parent families (N = 154; 20.6%)
- (3) Single-parent families that transitioned to two-parent families over the past 12 years (N = 150; 20.1%)
- (4) Two-parent families that transitioned to single-parent families over the past 12 years (N = 105; 14.1%)

Cluster Profiles

The first cluster represents temporally stable two-parent families whose mothers were married or in common-law relationships for the majority of the time since the wave 1 interviews. At wave 1, only 6.8 percent of this cluster was single; at wave 2 (18 months later), only one mother in the study was single and no mothers were single at wave 3. Mothers heading cluster 1 had a mean of 2.0 children (SD=0.8). The median number of partners over the past 12 years was 1 (range: 1-3), and the median number of months lived with a partner was 142 (range: 122-165), indicating that the vast majority of women in cluster 1 remained in temporally stable two-parent families across all three waves of the study.

Cluster 2 captures single parents whose family structure had remained consistent throughout all waves of the study. The percentage of women who were single at all three time periods ranged from 96.1% at wave 1 to 99.4% at wave 3. At wave 3, 20.1 percent of this cluster was single/never married, 63.0 percent were divorced, 9.1 percent were separated, and 7.1 percent were widowed. Mothers in cluster 2 had a mean of 1.6 children (SD=0.6). The median number of partners for these single mothers was 0 (range: 0-1), as was the median number of months partnered (range: 0-4).

Cluster 3 captures a trajectory where, for the most part, women who were single at wave 1 (94.0%) and wave 2 (100%), had re-partnered some time prior to wave 3 (69.3% were married or living

common-law by wave 3). Only 5.3 percent of women in cluster 3 were single and never married by wave 3, 13.3 percent were divorced, 10.0 percent were separated, and 2 percent were widowed. Mothers in cluster 3 had a mean of 1.7 children (SD=0.6). These re-partnered single parents had an average of one partner (range: 1-4) between wave 2 and wave 3, and spent approximately 92 months (range: 10-165) living in a partnered relationship.

Finally, cluster 4 captures two-parent families whose family structure transitioned to single-parent status between waves 2 and 3. At wave 1, 81.9% of women in this cluster were in two-parent families, 100% were in two-parent families at wave 2, but just 28.6% remained in this family structure at wave 3. The median number of partners for women in this cluster was one (range: 1-9). At wave 3, 29.5% of women in this cluster were divorced, 28.6% were separated, 12.4% were widowed, and 1.0% was single and never married. Mothers in cluster 4 had a mean of 2.0 children (SD=0.9), and the median number of months partnered between wave 2 and wave 3 was 95 (range: 6-177).

Misclassification Error

When the modal assignment rule is used to classify subjects into clusters, there will always be some misclassification error. To assess the extent of misclassification, I cross-classified the modal cases by the probabilistic cases. For each of the clusters, the modal assignment rule would be expected to accurately classify 327.59 cases from cluster 1; 153.34 cases from cluster 2; 148.48 cases from cluster 3; and 99.39 cases from cluster 4. Overall, the modal assignment would therefore be expected to correctly classify 728.80 out of the 747 cases. This represents an expected misclassification rate of just 2.4% (1-728.80/747).

Attrition Analysis

My estimates of the impact of single parenthood on children's socioeconomic outcomes are vulnerable to two potential sources of attrition bias. First, some children were lost to follow-up because we could not relocate and re-interview the mothers or their children (n=207). Second, another subsample was lost to follow-up because we could not locate and interview the children even though their mothers had participated in the third wave interviews (n=125).

To estimate these different sources of attrition bias, I ran several two-way ANOVA models and factorial logistic regressions comparing various characteristics of mothers and children living in single-parent and two-parent families at wave 1. For the two-way ANOVAs, I tested whether maternal education, household income, CES-D, and CBCL internalizing and externalizing scores were influenced by family structure at wave 1 and source of attrition group (no attrition, attrition from loss of family, and attrition of children only). My results reveal no significant interaction terms between family structure and attrition group for any outcomes with the exception of maternal education ($p=.035$). The main effects analysis for maternal education indicates that mothers from two-parent families had significantly more years of education than mothers from single-parent families when there was no attrition of mothers or children [14.0 (SD=2.7) vs. 13.4 (SD=2.6), $p=.005$], attrition from loss of family [12.8 (SD=2.6) vs. 11.7 (SD=2.6), $p=.011$] and attrition of children only [14.0 (SD=2.9) vs. 12.1 (SD=2.7), $p<.001$].

I computed factorial logistic regression models for children's gender, very good/excellent academic performance, whether a child had been held back in school, and whether a child was ever in special classes. For all of these characteristics, there were no significant interaction terms between family structure at wave 1 and source of attrition group. Taken together, these results suggest that, despite the higher overall rates of attrition from single-parent families compared to two-parent families, the patterns of attrition bias were virtually identical by family structure, indicating that the most disadvantaged

children were lost to follow-up in both two-parent and single-parent families. In other words, differences in the socioeconomic outcomes of children at wave 3 are not the result of family structure differences in student academic performance or parental socioeconomic status at wave 1.

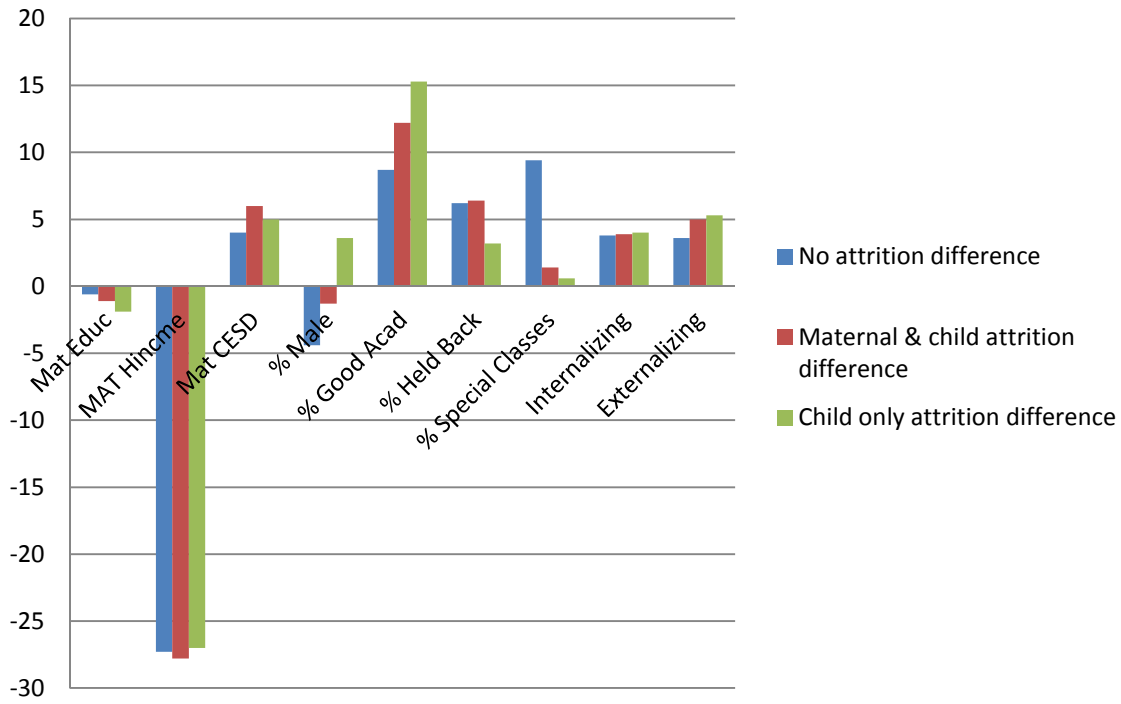
Figure 2.1 provides a graphic representation of this differential attrition by family structure. I compared family structure differences in the characteristics of mothers and children for families who were re-interviewed at wave 3, families who were lost to follow-up, and for the subsample of participants whose mothers were re-interviewed at wave 3 but whose children were lost to follow-up. For example, I calculated the difference in maternal education between single mothers whose families were re-interviewed at wave 3 [13.4 (2.6)] to mothers from two-parent families whose families were also re-interviewed at wave 3 [14.0 (SD=2.7)]. As Figure 2.1 demonstrates, I found a great deal of overlap in the characteristics associated with mothers and children, thus indicating that any differences in the socioeconomic outcomes of children by family structure cannot be attributed to the differential attrition occurring between them. For a descriptive breakdown of this attrition analysis, see Appendix A.

Table 2.1

Dependent and Independent Variables

Variables	Scale
<u>Children's Socioeconomic Outcomes</u>	
College diploma or university degree	0-1
Most recent job held	1-7
Longest job held	1-7
Personal income	0-18
Household income	0-18
<u>Independent Variables</u>	
Family Structure	0-1
Mothers' CES-D	0-60
Mothers' household income	0-18
Mothers' total years of education	6-20 (min/max)
Mothers' employed full-time or part-time	0-1
CBCL internalizing score > 63	0-1
CBCL externalizing score > 63	0-1

Figure 2.1: Differential attrition by family structure of maternal and child characteristics at wave 1



CHAPTER 3

RESULTS

Descriptive Results

Table 3.1 presents various demographic and socioeconomic characteristics of mothers participating in the wave 1 interview by family structure. Mothers from single-parent families were younger than mothers from two-parent families [36.7 (SD=6.8) vs. 37.6 (SD=6.2), $p=0.03$], had less years of completed education [12.7 (SD=2.7) vs. 13.8 (SD=2.7), $p<.001$], and were less likely to be employed in the labor force (60.0% vs. 73.7%, $p<.001$). Single mothers also had much lower household incomes than mothers from two-parent families [\$20,600 (SD=\$8,900) vs. \$50,000 (SD=\$37,500), $p<.001$], were far more likely to be living below the poverty line (48.6% vs. 5.4%, $p<.001$), and had significantly higher CES-D scores [12.8 (SD=12.0) vs. 7.1 (8.6), $p<.001$]. There was no difference in occupational attainment or personal income between single mothers and partnered mothers, suggesting that most single-parent mothers were middle-class but with lower household incomes.

Table 3.2 makes the same comparisons as in Table 3.1, but categorizes mothers by clusters of family structure. Mothers heading temporally stable two-parent families were significantly younger at wave 1 than mothers from temporally stable single-parent families [37.8 (6.1) vs. 39.6 (6.5), $p=.02$], and were significantly older than mothers who transitioned from a single-parent family to a two-parent family [37.8 (6.1) vs. 35.7 (6.5), $p=.002$]. Mothers from temporally stable single-parent families were significantly older than mothers from all the other clusters. Mothers heading temporally stable two-parent families had more years of completed education than mothers who transitioned from a single-parent family to a two-parent family [14.1 (2.7) vs. 12.9 (2.6), $p<.001$]. Likewise, mothers who transitioned from a single-parent family to a two-parent family had significantly fewer years of education than mothers who

lived in a temporally stable single-parent family [12.9 (2.6) vs. 13.7 (2.7), $p=.045$). There were no differences in occupational attainment between the four clusters, but mothers from temporally stable single-parent families were the least likely to be employed in the labor force. Personal income attainment was also similar across the clusters of family structure, with the exception that mothers heading temporally stable two-parent families had significantly lower incomes than mothers who transitioned from a single-parent to a two-parent family [\$17,800 (\$5,000) vs. \$21,800 (\$8,600), $p=.04$). When household income was assessed, however, mothers from temporally stable two-parent families had significantly higher incomes than all the other clusters, and mothers from temporally stable single parent families also had lower incomes than those who transitioned from a two-parent family to a single-parent family. Mothers who transitioned from a single-parent family to a two-parent family had much lower household incomes than mothers whose family structure changed from a two-parent family to a single-parent family [\$25,400 (\$13,800 vs. \$43,000 (\$23,000), $p<.001$]. More than one-third of mothers from temporally stable single-parent families and mothers whose family structure changed from a single-parent to a two-parent family were living below the poverty line at wave 1, and these two clusters also had significantly higher CES-D scores than mothers from temporally stable two-parent families and those who transitioned from a two-parent family to a single-parent family.

Concurrent Effects of Family Structure on Children's Status Attainment

The association of family structure at wave 1 with children's socioeconomic attainment at wave 3 is shown in Table 3.3. For all of the socioeconomic attainment outcomes considered, I found no significant differences between children who were living in single-parent compared to two-parent families at wave 1. Using age 24 and older as a cutoff for children's graduation from college or university (which is the reason for the lower sample sizes for children's education), the results indicate that 59 percent of children

living in single-parent families at wave 1 graduated from college or university, compared to 60 percent of children who lived in two-parent families ($p=.74$). Children from single-parent families also had similar occupational and income attainment as children from two-parent families. Given the similarity in educational attainment by family structure, the overlapping occupational and income attainment is not that surprising since college/university graduation is likely to set in motion comparable occupational and income trajectories for young people. These results therefore suggest no disadvantage in socioeconomic status for children who spend at least some of their childhood being raised in a single-parent family compared to a traditional, two-parent family.

The Relationship between Family Structure Clusters and Children's Status Attainment

In Table 3.4, I compare clusters of family structure on children's status attainment at wave 3. I found no significant differences in college/university graduation or occupational attainment for children's most recent job between the clusters. Despite the similar educational attainment, however, children whose mothers transitioned from a two-parent family to a single-parent family were 13% and 11% less likely to graduate from college/university than children raised in stably partnered families and temporally stable single-parent families, respectively.

Unexpectedly, the mean occupational ranking for job held longest for children from temporally stable single-parent families was 3.4 ($SD=1.8$), which was significantly higher than the ranking of children from temporally stable two-parent families [mean: 2.7 ($SD=1.6$), $p=.004$] and children whose families transitioned from two-parent status to single-parent status [mean: 2.7 ($SD=1.7$), $p=.026$] between waves 2 and 3. There were no discernable differences in either personal or household income between children who lived in temporally stable two-parent families, temporally stable single-parent families, single-parent families that transitioned to two-parent families and two-parent families that transitioned to

single-parent families. Like the cross-sectional results examining the influence of family structure at wave 1 on children's socioeconomic status at wave 3, these findings provide no evidence that children raised in stable two-parent families have more advantageous attainment outcomes than do children from other family types.

Regression Analyses

(a) Children's Educational Attainment

Tables 3.5 and 3.6 present the results of logistic regression models estimating the relative effects of family structure, parental resources and family mental health on the likelihood of children obtaining a college diploma/university degree at wave 3. Table 3.5 displays the effects of family structure at wave 1, whereas Table 3.6 examines the impact of clusters of family structure.

In Model 1 of Table 3.5, I found that family structure was not associated with children's educational attainment. In Model 2, family structure continues to have no impact on children's education, but males were about 54 percent less likely to graduate from college or university than were females. I add in parental resources in Model 3, and found that mothers' age and education were positively associated with their children's education. With a strong association between mother's household income and poverty line status at wave 1, mothers' household income was replaced by poverty line status in Model 4, but the results remain consistent that only female gender, mothers' age and years of education are positively associated with the likelihood of children obtaining a college diploma or university degree by wave 3. In Model 5, we see that mothers' CES-D scores do not predict children's educational attainment after controlling for family structure, parental resources, children's age and gender. Finally, Models 6 and 7 reveal that female gender, mothers' age and years of education continue to influence children's post-secondary graduation, but that childhood mental health problems also play a key role.

Children with internalizing scores above the cut-point were 69.3 percent less likely to acquire a university degree/college diploma than those who scored below the cut-point (Model 6); those with elevated externalizing scores were 61.7 percent less likely to do so (Model 7).

Table 3.6 presents results from the longitudinal family structure groups that are virtually identical to the cross-sectional findings in Table 3.5. Compared to children raised in temporally stable two-parent families, children from temporally stable single-parent families, those who transitioned from a single-parent family to a two-parent family and children whose parents transitioned from a two-parent family to a single-parent family were all just as likely to graduate with a college diploma or university degree (Models 1-7). Female gender, mothers' age, and mothers' years of education at wave 1 all increased the probability of children graduating from college or university, whereas children who had clinically significant mental health problems at wave 1 were less likely to graduate.

(b) Children's Most Recent Job

The results of the regression of children's most recent job on family structure at wave 1, parental resources, family mental health and children's age and gender are displayed in Table 3.7. I found that neither family structure nor family mental health at wave 1 have any significant influence on children's most recent occupation, but that mothers' education, children's age and female gender were all positively related to children's occupational attainment.

Tables 3.8 shows results that closely parallel those found in Table 3.7, with the exception of one finding. In Model 1, I found that children who were raised in temporally stable single-parent families were more likely than children raised in temporally stable two-parent families to have a higher socioeconomic status job, but this relationship became non-significant when children's age and gender were controlled in Model 2. Subsequent analyses revealed that both children's age and gender

independently reduce the family structure effect to non-significance. In no other subsequent models did clusters of family structure influence children's most recent job held.

(c) Children's Longest Job

Table 3.9 presents estimates from regression models for children's longest job held. Family structure and family mental health at wave 1 had no significant impact on children's occupational attainment. The only variables that influenced children's occupational status were children's age and mothers' age, both of which were positively related to their occupational attainment.

The estimates in Table 3.10 compare the effects of clusters of family structure, parental resources, and family mental health at wave 1 on children's longest job held. In Model 1, we see that children from temporally stable single-parent families have higher status occupations than children who were raised in temporally stable two-parent families ($p < .01$). In Model 2, both children's age and the temporally stable single-parent family cluster are directly related to children's job attainment at wave 3. When parental resources are added in Model 3, an interesting finding emerges. Not only do children from temporally stable single-parent families continue to have a higher occupational ranking than children from temporally stable two-parent families, but so do children whose families transitioned from a single-parent family to a two-parent family between waves 2 and 3 ($p < .01$). The results indicate that the predicted occupational ranking for children who were raised in temporally stable single-parent families and single-parent families that transitioned to two-parent families would be 0.768 and 0.583 points higher than children from temporally stable two-parent families, respectively. This represents an increase from a level 2 job ranking (machine operators and semiskilled employees) to a level 3 (skilled manual employees). As well, mothers' age and household income at wave 1 are both directly related to children's longest job held. In Model 4, the positive relationship between the family structure cluster that transitioned from single-parent

status to two-parent status is no longer significant once poverty line is substituted for mothers' household income at wave 1, although both children's age and mothers' age continue to exert a positive relationship with job attainment. In Model 5, we see that mothers' CES-D scores do not predict children's occupational status. In Model 6, children who had elevated internalizing scores at wave 1 had a predicted occupational category 0.403 points lower than for children whose internalizing scores were below the cut-point ($p < .05$). The inclusion of children's CBCL internalizing scores in Model 6 also reduced the effects of mothers' age and household income to non-significance, although children's age, temporally stable single-parent families and the single-parent to two-parent family cluster were all directly related to children's longest job held. Children's elevated externalizing scores did not predict their occupational attainment at wave 3 (Model 7).

(d) Children's Personal Income

Multiple regressions were computed to determine the relationship between family structure, family mental health and parental resources at wave 1 on children's personal income at wave 3 in Table 3.11. In Models 1 and 2, family structure did not predict children's income. When mothers' age and socioeconomic status at wave 1 were included in Model 3, however, the measure of family structure became significant; children who were living in single-parent families at wave 1 had higher personal incomes than children who were living in two-parent families. This suppressor effect of mothers' income suggests that, if single mothers have the same household income as their married counterparts, their children would have even higher personal income attainment than children from two-parent families. Moreover, children's age, male gender and mothers' household income were all positively related to children's personal income, and these predictors remained significant in all subsequent models. Models 5-7 show that neither mothers'

CES-D scores nor children's mental health problems at wave 1 were correlated with children's income attainment at wave 3.

In Table 3.12 we again see that children's age and male gender are positively related to children's personal income (Models 2-7), but that clusters of family structure have no significant relationship with income attainment. In other words, children from temporally stable two-parent families, temporally stable single-parent families, two-parent families that transitioned to single-parent families, and single-parent families that transitioned to two-parent families all had income levels that were comparable to one another. Likewise, mothers' CES-D scores and children's mental health problems were not related to children's personal income, controlling for children's age and gender, parental resources and clusters of family structure.

(e) Children's Household Income

Tables 3.13 and 3.14 compare the influence of parental socioeconomic status, family mental health and family structure on children's household income in young adulthood. In both tables, only children's age and mothers' household income are significantly related to children's household income at wave 3. Neither family structure at wave 1 (Table 3.13) nor clusters of family structure (Table 3.14) predict children's household income. Similarly, mothers' CES-D scores and children's CBCL internalizing and externalizing scores have no influence on children's household income at wave 3. Model 3 of Table 3.13 also shows that children who were living in poverty at wave 1 had lower household incomes at wave 3. The results suggest that, for children who lived in poverty at wave 1, the predicted household income is about 1.3 points lower (\$7,000) than for children who were not living in poverty. Poverty line status was not a significant predictor of children's household income, however, when the family clusters were used as the measure for family structure in Table 3.14.

Children's Education as a Predictor of Occupational and Income Attainment

In Tables 3.15 and 3.16, I explore the relationship that children's total years of education has on their occupational status and income attainment. These tables build off of Tables 3.7 to 3.14, but now include the influence of children's educational attainment on their occupation and income. Given the strong correlation between children's CBCL internalizing and externalizing scores, Tables 3.15 and 3.16 only include the statistically significant unstandardized coefficients for models that included children's externalizing scores in Tables 3.7 to 3.14. I also include the role of family structure on children's socioeconomic outcomes, regardless of whether it was a significant predictor in previous tables.

Table 3.15 shows the unstandardized coefficients before and after children's education is included in the regressions for children's occupational and income attainment, using family structure at wave 1 as the measure for family status. For all socioeconomic outcomes, children's education is positively related to their status attainment and the results closely match those of previous tables. For example, family structure at wave 1 does not predict children's most recent job held, but children's age, female gender and years of education are all positively related to their occupational status. Unlike Table 3.7, however, mothers' education is no longer related to children's job status once children's total years of education is accounted for. This suggests a mediating role of children's education, such that, maternal education influences their children's education, which in turn affects occupational attainment.

When children's household income is considered in Table 3.15, we see that male gender becomes significant with the inclusion of children's education. This suggests that children's educational attainment acts a suppressor variable because the relationship between male gender and household income is strengthened once education is controlled. Thus, if males had the same level of education as females, their

household income would be significantly higher than for females. Results for children's longest job held and personal income parallel those of previous tables.

Table 3.16 presents the regressions for clusters of family structure, with once again results largely overlapping those of previous tables. Like Table 3.15, the inclusion of children's education in the regression reduces the role of mothers' education for children's most recent job status to non-significance.

Interaction of Maternal Resources with Clusters of Family Structure

When considering the relationship among family structure, maternal resources and children's socioeconomic status attainment, it is conceivable that maternal education and maternal household income might have a differential impact on clusters of family structure, and that these differences could influence children's outcomes. In other words, it may be that family structure is related to children's socioeconomic status depending on the educational or income attainment of mothers. I therefore computed interactions between clusters of family structure and mothers' educational attainment, as well as household income. To improve the interpretation of interactions and to avoid problems of multicollinearity, I centred maternal education and household income by subtracting the mean score from each data point and then multiplied the new centered variable with the clusters of family structure.

For all socioeconomic outcomes considered, there were no observable patterns of interaction between maternal resources and family structure. For children's college/university graduation, I found some evidence that maternal education significantly predicts children's educational attainment among children from temporally stable two-parent families, but is unrelated to children's college or university graduation for children raised in temporally stable single-parent families or those whose mothers transitioned from two-parent families to single-parent families. I also found that, relative to children raised in temporally stable two-parent families, mothers' education is more important for their children's

longest job held in temporally stable single-parent families. Lastly, maternal household income significantly predicts children's educational attainment among children from temporally stable two-parent families, but is not related to children's post-secondary graduation for children whose mothers transitioned from a two-parent family to a single-parent family.

Interaction of Children's Gender with Clusters of Family Structure

Despite the plethora of research investigating the influence of family structure on children's lives, very little is known about whether the gender of the children matters with respect to their socioeconomic outcomes. To assess whether the effects of family structure on children's socioeconomic attainment varied by a child's gender, I computed interaction terms for family structure and gender as independent variables in the regression models. No significant interaction terms were found for any socioeconomic outcomes.

The Heterogeneity of Single-Parent Families and Children's Attainment Outcomes

In Appendix B, all of the same regression analyses that I computed to examine the impact of family structure at wave 1 and clusters of family structure on children's outcomes were repeated, but this time distinguishing among partnered, separated and divorced, and never-married mothers. Overall, the analyses replicate those of previous analyses. Heterogeneity in single-parent families at wave 1 did not influence children's educational or occupational attainment relative to living in a two-parent family at wave 1. For children's personal and household incomes, however, children whose mothers were either separated, divorced or widowed at wave 1 had higher incomes than children who were living in two-parent families, controlling for parental resources, children's age, gender and family mental health (Tables 4 and 5).

Lastly, I also investigated whether there were any differences in the socioeconomic outcomes of children who had ever lived in a single-parent family over the course of the study compared to those who had not spent any time in a single-parent family (Appendix C). For all socioeconomic status outcomes, there were no significant differences between children who had never spent time in a single-parent family compared to those who had.

Table 3.1
 Characteristics of Mothers by Family Structure at Wave 1

Variables	SPF n=518	TPF n=502	P Value
Age	36.7 (6.8)	37.6 (6.2)	0.03
Years of education	12.7 (2.7)	13.8 (2.7)	<.001
Job rank Hollingshead	4.1 (1.7)	4.0 (1.7)	0.74
Employed (% FT or PT)	60.0	73.7	<.001
Personal income (\$ thousands)	18.6 (8.0)	17.0 (5.0)	0.17
Household income (\$ thousands)	20.6 (8.9)	50.0 (37.5)	<.001
Poverty line (% below)	48.6	5.4	<.001
CES-D scores	12.8 (12.0)	7.1 (8.6)	<.001

The independent sample t-test was used to compare mean differences between groups, whereas the chi-square test was used for categorical outcomes.

Table 3.2
 Characteristics of Mothers by Clusters of Family Structure

Variables	Temporally Stable TPFs (n=338)	Temporally Stable SPFs (n=154)	SPF to TPF (n=150)	TPF to SPF (n=105)	P Value
Age	37.8 (6.1)	39.6 (6.5)	35.7 (6.5)	36.4 (5.6)	<.001
Years of education	14.1 (2.7)	13.7 (2.7)	12.9 (2.6)	13.4 (2.5)	<.001
Job rank Hollingshead	4.1 (1.7)	4.4 (1.6)	4.2 (1.5)	3.9 (1.8)	.304
Employed (% FT or PT)	76.9	64.3	70.0	79.0	.010
Personal income (\$ thousands)	17.8 (5.0)	20.2 (8.9)	21.8 (8.6)	18.2 (7.1)	.047
Household income (\$ thousands)	49.5 (33.8)	23.8 (13.8)	25.4 (13.8)	43.0 (23.0)	<.001
Poverty line (% below)	6.9	37.0	34.9	9.6	<.001
CES-D scores	6.6 (8.3)	12.0 (12.2)	12.1 (11.6)	7.9 (7.8)	<.001

One-way ANOVA was used to compare overall mean differences between groups. The Tukey post-hoc procedure was used for pairwise comparisons. The chi-square test was used for categorical outcomes.

Table 3.3

The Influence of Family Structure at Wave 1 (1993) on Children's Socioeconomic Outcomes at Wave 3

Variables	SPF (n=518)	TPF (n=502)	P Value
% College diploma/ University degree (yes/no)	58.8 (n=194)	60.4 (n=207)	0.74
Job rank Hollingshead Index (most recent job)	3.5 (1.9) (n=246)	3.5 (1.7) (n=265)	0.87
Job rank Hollingshead Index (longest job)	3.0 (1.7) (n=242)	2.8 (1.6) (n=265)	0.28
Personal Income (\$ thousands)	27.0 (12.2) (n=246)	25.8 (10.1) (n=267)	0.42
Household Income (\$ thousands)	45.5 (30.6) (n=235)	46.5 (25.0) (n=251)	0.67

The independent sample t-test was used to compare mean differences between groups, whereas the chi-square test was used for categorical outcomes.

Table 3.4
The Influence of Family Structure Clusters on Children's Socioeconomic Attainment at Wave 3

Variables	Stable TPF (n=338)	Stable SPF (n=154)	SPF-TPF (n=150)	TPF-SPF (n=105)	P Value
% College diploma/ University degree	64.3 (n=154)	61.6 (n=86)	58.7 (n=63)	50.9 (n=57)	0.35
Job rank Hollingshead Index (most recent job)	3.4 (1.7) (n=200)	3.9 (1.8) (n=99)	3.5 (1.7) (n=95)	3.5 (1.8) (n=73)	0.20
Job rank Hollingshead Index (longest job)	2.7 (1.6) (n=200)	3.4 (1.8) (n=96)	3.0 (1.7) (n=94)	2.7 (1.7) (n=73)	.005
Personal Income (\$ thousands)	26.2 (9.8) (n=203)	29.4 (13.0) (n=99)	24.6 (9.5) (n=93)	24.6 (9.5) (n=72)	0.27
Household Income (\$ thousands)	48.0 (25.0) (n=193)	46.0 (29.4) (n=95)	46.0 (24.2) (n=93)	41.5 (20.6) (n=72)	0.39

A one-way ANOVA was used to compare mean differences between clusters. The chi-square test was used for differences in educational attainment.

Table 3.5
 Logistic Regression Assessing the Relative Effects of Family Structure, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
 On Children Obtaining a College Diploma or University Degree at Wave 3 (n=401)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR
Single-parent family wave 1 ^a	-.067	.935	-.138	.871	-.007	.993	-.023	.978	-.012	.988	.080	1.083	-.021	.980
Child's age			.042	1.043	-.022	.978	-.022	.978	-.026	.974	-.053	.949	-.049	.952
Male			-.778***	.459	-.891***	.410	-.887***	.412	-.882***	.414	-.795**	.452	-.953***	.386
Mother's age					.072**	1.075	.072**	1.075	.073**	1.076	.071**	1.074	.071**	1.073
Mother's education					.120**	1.127	.120**	1.128	.114*	1.121	.107*	1.113	.100*	1.105
Mother's employed FT or PT					.099	1.104	.088	1.091	.080	1.083	.114	1.120	.135	1.144
Mother's household income					.006	1.006			-.001	.999	-.014	.986	-.011	.989
Poverty line							-.066	.936						
Mother's CESD									-.016	.985	-.003	.997	-.006	.994
Child's externalizing score > 63													-.959**	.383
Child's internalizing score > 63											-1.180***	.307		
Constant	.422		-1.120		-4.146		-4.072		-3.750		-2.621		-2.738	
Adjusted R ²	.000		.049		.134		.134		.141		.189		.173	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 3.6
 Logistic Regression Assessing the Relative Effects of Family Structure Clusters, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
 On Children Obtaining a College Diploma or University Degree at Wave 3 (n=360)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR
Temporally stable SPF ^a	-.114	.892	-.164	.849	-.253	.777	-.137	.872	-.228	.796	-.143	.867	-.277	.758
SPF transitioned to TPF ^a	-.235	.791	-.324	.723	-.284	.753	-.189	.827	-.302	.740	-.271	.762	-.342	.710
TPF transitioned to SPF ^a	-.553	.575	-.539	.583	-.379	.685	-.351	.704	-.378	.685	-.337	.714	-.234	.792
Child's age			.019	1.019	-.046	.955	-.045	.956	-.050	.951	-.074	.929	-.071	.932
Male			-.743**	.476	-.869***	.419	-.859***	.424	-.856***	.425	-.802**	.448	-.927***	.396
Mother's age					.079**	1.082	.076**	1.078	.079**	1.082	.074**	1.077	.077**	1.080
Mother's education					.139**	1.149	.129**	1.138	.134**	1.143	.129*	1.138	.125*	1.133
Mother's employed FT or PT					.093	1.097	.028	1.028	.067	1.069	.123	1.131	.166	1.181
Mother's household income					-.017	.983			-.027	.973	-.041	.959	-.042	.959
Poverty line							-.070	.933						
Mother's CESD									-.023*	.977	-.013	.988	-.014	.986
Child's externalizing score > 63													-.870**	.419
Child's internalizing score > 63											-.987**	.373		
Constant	.588		-.285		-3.575		-3.500		-3.074		-1.928		-2.216	
Adjusted R ²	.012		.054		.144		.143		.158		.188		.183	

*p<.05; ** p<.01; *** p<.001; ^a Temporally stable two-parent family = reference group.

Table 3.7
Multiple Regressions Assessing the Relative Effects of Family Structure, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Most Recent Job Held at Wave 3 (n=510)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Single-parent family wave 1 ^a	-.026	-.007	-.154	-.043	.042	.012	-.096	-.027	.047	.013	.033	.009	.024	.007
Child's age			.179***	.376	.159***	.334	.162***	.340	.158***	.330	.149**	.309	.150***	.311
Male			-.530***	-.149	-.517***	-.146	-.527***	-.149	-.511***	-.144	-.530***	-.151	-.519***	-.147
Mother's age					.014	.049	.015	.054	.014	.051	.015	.051	.014	.048
Mother's education					.087**	.129	.097**	.142	.087**	.128	.084**	.124	.077*	.113
Mother's employed FT or PT					-.077	-.019	-.035	-.009	-.068	-.379	-.054	-.013	-.017	-.004
Mother's household income					.026	.066			.025	.063	.018	.046	.019	.047
Poverty line							-.031	-.007						
Mother's CESD									-.003	-.020	-.005	-.028	-.001	-.004
Child's externalizing score > 63													-.326	-.074
Child's internalizing score > 63											-.048	-.011		
Constant	3.509		-.805		-2.297		-2.234		-2.250		-1.894		-1.823	
Adjusted R ²	.000		.161		.185		.183		.182		.168		.174	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 3.8
Multiple Regressions Assessing the Relative Effects of Family Structure Clusters, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Most Recent Job Held at Wave 3 (n=466)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Temporally stable SPF ^a	.439*	.102	.242	.056	.369	.086	.212	.872	.379	.088	.356	.083	.318	.074
SPF transitioned to TPF ^a	-.009	-.002	.027	.006	.188	.043	.072	.016	.178	.041	.179	.041	.147	.034
TPF transitioned to SPF ^a	.049	.010	.085	.018	.128	.026	.113	.023	.121	.025	.104	.022	.129	.027
Child's age			.189***	.399	.174***	.368	.174***	.369	.173***	.365	.164**	.342	.165***	.344
Male			-.615***	-.174	-.598***	-.170	-.611***	-.173	-.592***	-.168	-.626***	-.180	-.604***	-.173
Mother's age					.010	.035	.013	.048	.010	.036	.012	.041	.010	.036
Mother's education					.087**	.129	.100**	.147	.087**	.129	.085**	.126	.081*	.119
Mother's employed FT or PT					-.160	-.038	-.101	-.024	-.149	-.035	-.149	-.036	-.093	-.022
Mother's household income					.029	.074			.028	.072	.023	.059	.022	.056
Poverty line							-.003	-.001						
Mother's CESD									-.002	-.014	-.005	-.032	-.001	-.003
Child's externalizing score > 63													-.201	-.045
Child's internalizing score > 63											.088	.021		
Constant	3.430		-1.104		-2.528		-2.525		-2.502		-2.214		-2.161	
Adjusted R ²	.004		.192		.217		.214		.213		.199		.198	

*p<.05; ** p<.01; *** p<.001;^a Temporally stable two-parent family = reference group.

Table 3.9
Multiple Regressions Assessing the Relative Effects of Family Structure, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Longest Job Held at Wave 3 (n=506)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Single-parent family wave 1 ^a	.160	.048	.048	.014	.319	.095	.105	.031	.316	.094	.351	.105	.285	.086
Child's age			.177***	.392	.131***	.292	.135***	.300	.130***	.289	.129***	.282	.126***	.277
Male			-.083	-.025	-.095	-.028	-.120	-.036	-.090	-.027	-.049	-.015	-.094	-.028
Mother's age					.037*	.140	.040**	.150	.038**	.143	.036*	.132	.037*	.137
Mother's education					.025	.039	.039	.060	.026	.041	.022	.035	.014	.022
Mother's employed FT or PT					-.006	-.002	.097	.025	.012	.003	.061	.016	.078	.020
Mother's household income					.034	.090			.036	.098	.031	.084	.027	.072
Poverty line							.093	.022						
Mother's CESD									.003	.021	.007	.046	.006	.039
Child's externalizing score > 63													-.353	-.084
Child's internalizing score > 63											-.311	-.078		
Constant	2.819		-1.645		-2.712		-2.723		-2.819		-2.630		-2.384	
Adjusted R ²	.000		.151		.172		.168		.170		.164		.161	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 3.10
Multiple Regressions Assessing the Relative Effects of Family Structure Clusters, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Longest Job Held at Wave 3 (n=462)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Temporally stable SPF ^a	.702**	.169	.530**	.127	.768**	.186	.477*	.115	.768**	.186	.827***	.201	.732**	.179
SPF transitioned to TPF ^a	.274	.065	.310	.074	.583**	.140	.370	.089	.551*	.132	.555*	.134	.526*	.127
TPF transitioned to SPF ^a	-.030	-.006	-.009	-.002	.044	.009	.020	.004	.026	.006	.055	.012	.070	.015
Child's age			.182***	.402	.143***	.317	.143***	.318	.142***	.315	.142***	.309	.138***	.302
Male			-.087	-.026	-.098	-.029	-.131	-.039	-.096	-.029	-.052	-.016	-.099	-.030
Mother's age					.032*	.117	.039*	.143	.032*	.118	.027	.101	.030	.111
Mother's education					.004	.006	.026	.040	.006	.009	.001	.002	-.006	-.009
Mother's employed FT or PT					-.056	-.014	.091	.023	-.032	-.008	.032	.008	.042	.010
Mother's household income					.047*	.125			.051*	.136	.041	.111	.040	.107
Poverty line							.146	.034						
Mother's CESD									.006	.034	.010	.062	.009	.054
Child's externalizing score > 63													-.370	-.087
Child's internalizing score > 63											-.403*	-.101		
Constant	2.715		-1.884		-2.694		-2.811		-2.828		-2.548		-2.389	
Adjusted R ²	.021		.180		.199		.192		.198		.195		.185	

*p<.05; ** p<.01; *** p<.001;^a Temporally stable two-parent family = reference group.

Table 3.11
Multiple Regressions Assessing the Relative Effects of Family Structure, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Personal Income at Wave 3 (n=512)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Single-parent family wave 1 ^a	.323	.036	.053	.006	1.174*	.130	.410	.045	1.191*	.132	1.181*	.131	1.182*	.131
Child's age			.668***	.550	.577***	.476	.596***	.491	.574***	.471	.571***	.460	.576***	.465
Male			1.726***	.191	1.737***	.192	1.722***	.190	1.750***	.193	1.747***	.194	1.776***	.196
Mother's age					.055	.076	.061	.085	.054	.076	.056	.077	.054	.074
Mother's education					-.022	-.013	.030	.017	-.028	-.016	-.040	-.023	-.045	-.026
Mother's employed FT or PT					.125	.012	.222	.021	.113	.011	.118	.011	.155	.015
Mother's household income					.171**	.170			.164**	.163	.149*	.149	.146*	.145
Poverty line									-.712	-.063				
Mother's CESD									-.014	-.033	-.007	-.016	-.009	-.020
Child's externalizing score > 63													-.720	-.065
Child's internalizing score > 63											-.529	-.050		
Constant	7.693		-10.229		-12.066		-11.305		-11.711		-11.271		-11.260	
Adjusted R ²	.000		.328		.343		.333		.340		.319		.330	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 3.12
Multiple Regressions Assessing the Relative Effects of Family Structure Clusters, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Personal Income at Wave 3 (n=466)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Temporally stable SPF ^a	.797	.071	.200	.018	.885	.079	.415	.037	.906	.081	.901	.081	.958	.086
SPF transitioned to TPF ^a	-.338	-.030	-.007	-.001	.594	.052	.242	.021	.609	.053	.591	.052	.588	.052
TPF transitioned to SPF ^a	-.380	-.030	-.434	-.034	-.330	-.026	-.389	-.031	-.311	-.024	-.340	-.027	-.223	-.018
Child's age			.698***	.570	.636***	.519	.641***	.523	.634***	.515	.633***	.505	.639***	.510
Male			1.789***	.196	1.764***	.193	1.756***	.192	1.776***	.194	1.757***	.193	1.815***	.199
Mother's age					.039	.054	.048	.066	.039	.053	.040	.055	.036	.049
Mother's education					-.011	-.006	.026	.015	-.014	-.008	-.030	-.017	-.032	-.018
Mother's employed FT or PT					.383	.035	.447	.041	.374	.035	.372	.034	.440	.041
Mother's household income					.110*	.108			.105	.103	.091	.090	.086	.084
Poverty line							-.492	-.042						
Mother's CESD									-.010	-.022	-.004	-.009	-.004	-.010
Child's externalizing score > 63													-.740	-.065
Child's internalizing score > 63											-.386	-.036		
Constant	7.768		-10.936		-12.381		-11.981		-12.159		-11.761		-11.724	
Adjusted R ²	.002		.353		.361		.356		.357		.335		.347	

*p<.05; *** p<.001; ^aTemporally stable two-parent family = reference group.

Table 3.13
Multiple Regressions Assessing the Relative Effects of Family Structure, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Household Income at Wave 3 (n=485)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Single-parent family wave 1 ^a	-2.203	-.019	-.566	-.054	1.004	.096	-.013	-.001	1.030	.099	.932	.090	1.035	.099
Child's age			.623***	.441	.518***	.368	.547***	.389	.505***	.358	.540***	.376	.525***	.366
Male			.372	.036	.496	.047	.510	.049	.532	.051	.585	.056	.599	.057
Mother's age					.050	.061	.057	.069	.051	.062	.051	.061	.049	.059
Mother's education					.144	.072	.215*	.107	.131	.066	.102	.051	.118	.058
Mother's employed FT or PT					.022	.002	.044	.004	.032	.003	-.162	-.014	-.069	-.006
Mother's household income					.248**	.215			.242**	.210	.236**	.205	.241**	.207
Poverty line									-1.340*	-.105				
Mother's CESD											-.019	-.038	-.009	-.018
Child's externalizing score > 63														-.247
Child's internalizing score > 63													-.478	-.039
Constant	12.335		-3.775		-8.269		-6.949		-7.604		-7.880		-7.816	
Adjusted R ²	.000		.189		.230		.218		.225		.232		.226	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 3.14
Multiple Regressions Assessing the Relative Effects of Family Structure Clusters, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Household Income at Wave 3 (n=441)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Temporally stable SPF ^a	-.391	-.031	-1.059	-.083	-.085	-.007	-.690	-.054	-.023	-.002	-.061	-.005	.038	.003
SPF transitioned to TPF ^a	-.396	-.030	-.212	-.016	.630	.048	.181	.014	.653	.050	.706	.054	.656	.050
TPF transitioned to SPF ^a	-1.282	-.088	-1.310	-.090	-1.046	-.072	-1.153	-.079	-.961	-.066	-1.046	-.072	-.893	-.061
Child's age			.633***	.448	.577***	.409	.588***	.417	.566***	.400	.603***	.419	.586***	.407
Male			.212	.020	.299	.029	.331	.032	.333	.032	.360	.035	.398	.038
Mother's age					.017	.020	.027	.032	.018	.021	.017	.021	.015	.018
Mother's education					.189*	.093	.237*	.117	.181	.090	.139	.068	.168	.082
Mother's employed FT or PT					.329	.027	.276	.023	.337	.028	.095	.008	.242	.020
Mother's household income					.170*	.146			.167*	.144	.175*	.151	.170*	.145
Poverty line							-1.200	-.091						
Mother's CESD									-.013	-.026	-.004	-.009	-.011	-.021
Child's externalizing score > 63													-.035	-.003
Child's internalizing score > 63											-.305	-.025		
Constant	12.580		-3.714		-7.918		-11.981		-7.445		-7.772		-7.745	
Adjusted R ²	.000		.195		.228		.356		.221		.230		.220	

*p<.05; *** p<.001; ^aTemporally stable two-parent family = reference group.

Table 3.15

Multiple Regressions with the Addition of Children's Education as a Predictor of Children's Socioeconomic Status Attainment at Wave 3

	Most Recent Job (n=510)		Longest Job Held (n=506)		Personal Income (n=512)		Household Income (n=485)	
	B	B	B	B	B	B	B	B
Single-parent family wave 1 ^a	.024	.047	.285	.298	1.182*	1.184**	1.035	1.040
Child's age	.150***	.098***	.126***	.100***	.576***	.495***	.525***	.460***
Male	-.519***	-.276*			1.776***	2.154***	.599	.938*
Mother's education	.077*	.011			-.045	-.155*		
Mother's age			.037*	.030*				
Mother's household income					.146*	.118*	.241**	.215***
Children's years of education		.297***		.147***		.470***		.413***
Adjusted R ²	.174	.293	.161	.193	.330	.375	.226	.250

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 3.16
Multiple Regressions with the Addition of Children's Education as a Predictor of Children's Socioeconomic Status Attainment at Wave 3

	Most Recent Job (n=466)		Longest Job Held (n=462)		Personal Income (n=466)		Household Income (n=441)	
	B	B	B	B	B	B	B	B
Temporally stable SPF ^a	.318	.363	.732**	.753**	.958	1.027	.038	.078
SPF transitioned to TPF ^a	.147	.265	.526*	.587**	.588	.762	.656	.812
TPF transitioned to SPF ^a	.129	.303	.070	.159	-.223	.092	-.893	-.627
Child's age	.165***	.112***	.138***	.111***	.639***	.547***	.586***	.518***
Male	-.604***	-.340*			1.815***	2.261***	.	
Mother's education	.081*	.017						
Mother's household income							.170*	.152*
Children's years of education		.286***		.141***		.483***		.389***
Adjusted R ²	.198	.306	.185	.213	.347	.392	.220	.240

*p<.05; ** p<.01; *** p<.001; ^aTemporally stable two-parent families = reference group.

CHAPTER 4

DISCUSSION

Summary of Results

Using data from a case-comparison, three-wave panel study of single-parent and two-parent families living in London, Ontario, I investigated the relationship between family structure and children's socioeconomic status attainment in young adulthood. I found that family structure at wave 1 had little influence on children's socioeconomic outcomes at wave 3. Children who were living in single-parent families were just as likely to graduate from college/university as children from two-parent families, and also had similar occupational and income attainment. Children who were living in single-parent families at wave 1, however, did have higher personal incomes at wave 3 than children from two-parent families after parental resources, children's age and gender were controlled in regression models. Furthermore, when I examined the extent to which clusters of family structure shaped children's socioeconomic status, another provocative finding emerged. I found that, relative to children who were raised in temporally stable two-parent families, children who grew up in temporally stable single-parent families, and children whose mothers transitioned from a single-parent family to a two-parent family had higher status occupations for their longest job held. Clusters of family structure did not, however, predict children's educational attainment, their most recent job, or personal or household income.

It is also worth noting that children's age was highly correlated with their occupational and income attainment. With children ranging from ages 15 to 33 years at wave 3, the strong correlation between age and socioeconomic status likely reflects the fact that returns to education are higher among adults who have spent more years in the labour-force, and lower amongst those who have been recently employed.

The results also suggest that maternal education plays an important role in children's status attainment outcomes. Maternal education is positively related to children's educational attainment, and children's education was found to mediate the influence of maternal education on children's most recent job held.

When family mental health was considered, I found that children's mental health problems mediate the relationship between maternal depression and children's educational attainment. This finding is important because it implies that, rather than focusing on family structure per se, policymakers should divert more attention to children's mental health in their attempts to improve children's educational attainment.

Implications for Sociological Theory and Research

(a) Family Structure and Intergenerational Social Mobility

Although many studies contend that the economic disadvantage of single-parent families relative to two-parent families is the key reason why children from the former have lower socioeconomic attainment (e.g., Astone and McLanahan, 1991; McLanahan and Sandefur, 1994; Strohschein, Roos, and Bronwell, 2009), my study suggests that it is maternal education which is largely driving intergenerational mobility. Whereas household income did not influence children's educational attainment, higher levels of maternal education increased the probability that children would graduate from college/university. With higher educational attainment, children are in turn more likely to build their human capital by acquiring higher status jobs that increase their value in the labour-force. Findings from my study therefore imply that it is not family structure which predicts children's socioeconomic status, but rather maternal education, regardless of the type of family that children are raised in.

We also know that parent-child relationships in the home are closely tied to the level of maternal education. Smith, Brooks-Gunn, and Klebanov (1997) found that the relationship

between parents' education and family income with children's academic achievement was mediated by the home environment and that the mediation effect was strongest for maternal education. Similarly, Klebanov and colleagues (1994) found that maternal education and family income are directly related to children's learning opportunities in the home, but that only maternal education is related to parental warmth. These studies infer that the relationship between maternal education and children's academic success may be linked to achievement behaviors operating in the home that result from a nurturing environment. Although I was not able to test family dynamics in my study, it is possible that the comparable educational attainment between single mothers and partnered mothers may have contributed to similar parenting styles by family structure.

Furthermore, even though mothers in the Single-Parent Family Study differed by family structure in terms of household income, there were no differences by family structure with respect to occupational or personal income attainment. It is therefore possible that the similar status attainment between mothers in single-parent and two-parent families is contributing to the comparable socioeconomic outcomes of children by family structure.

(b) The Advantages of Taking a Life Course Perspective

Modeling stability and change in family structure over time, and the effects that this has on children's long-term socioeconomic outcomes, is not possible when family structure is only measured at one point during childhood. Unfortunately, the majority of research to date continues to employ static measures of family structure, typically categorizing children as either living in a single-parent family or two-parent family at a single point in time (Amato and Fowler, 2002; Ram and Hou, 2003; Sun and Li, 2001). Cross-sectional research on family structure and children's attainment outcomes tell us little, however, about past family history. For instance, it is possible that a child who lives in a single-parent family at a given point in childhood may have

had many years of stability in that particular family structure, whereas another child may have just recently experienced parental separation or divorce. Conversely, we cannot assume that living in a two-parent family at a specific time during childhood is necessarily a marker for stability. It is conceivable that these children may have experienced prior parental dissolutions and are only now living in a two-parent family. Hence, measuring family stability and change is an important goal of life course research, and provided me the opportunity to assess the influence of patterns of family structure over time on children's socioeconomic status attainment.

We also know very little about the consequences of family structure on children's socioeconomic outcomes in adolescence and young adulthood. An important contribution of my study was that I able to incorporate linkages between family structure in childhood through to adolescence and young adulthood, thus showing that each life stage cannot be understood without knowledge of the past. In other words, a life course perspective maintains that to understand socioeconomic attainment in adolescence and young adulthood requires an investigation into the historical context of the adolescents' lives. Moreover, viewing adolescence and young adulthood within the context of the life course enhances our understanding of the developmental processes that link them together.

Another important principle of life course research is linked lives, which posits that individual lives are socially embedded and interdependent. For instance, because socioeconomic disadvantage is associated with children's social outcomes, and many social scientists believe single parenthood is a proxy for disadvantage, I was able to assess the relative influence of parental resources and family structure on children's socioeconomic status in early adulthood. As noted above, I found that it was not the type of family that children lived in that predicted their status attainment, but rather the educational attainment of mothers. This has important implications with respect to linked lives because it suggests that policy initiatives that encourage single mothers to marry to enhance children's status attainment may be better directed toward

improving the educational attainment of these women. As my study demonstrates, children whose single mothers have comparable educational attainment to mothers in two-parent families are more likely to have similar socioeconomic status outcomes in young adulthood.

Reconciling Results from the Single-Parent Family Study with Other Studies

Although my findings on family structure and children's socioeconomic status seem counterintuitive, there are at least three ways to reconcile my results with those from other research. The first possibility why children from single-parent families had comparable status attainment outcomes to children from two-parent families may have to do with the socioeconomic attainment of single mothers in my study. Although single mothers were more economically disadvantaged than partnered mothers, the former had very similar educational, occupational, and personal income attainment. Consequently, children's attainment may have been a function of comparable parental socioeconomic status by family structure.

In the Single-Parent Family Study, mothers from two-parent families had only one year more of completed education on average than mothers from single-parent families, and the mean difference was only 0.4 years between mothers from temporally stable two-parent families and temporally stable single-parent families. Cross-national data comparing parental education in two-parent and single-parent families has shown a mean difference of 0.08 years for Canada and 0.15 years for the United States, both in favor of parents from two-parent families (Hampden-Thompson, 2009). Moreover, when contrasting educational disparities by family structure between Canada and the U.S., evidence suggests that the greatest gap in academic performance can be found in the United States. Hampden-Thompson (2009) found mean literacy scores to be 6.6% lower for children from single-mother families compared to children from two-parent families in the U.S., whereas the difference was only 2.4% for children from Canada.

Additionally, Canadian children from single-mother families had mean literacy scores that were almost equivalent to children's literacy scores from two-parent families in the U.S. This implies that underachievement in educational attainment may be more prevalent in single-mother families in the U.S. than is the case for Canada.

When children's longest job held was assessed in the Single-Parent Family Study, children from temporally stable single-parent families and those whose families transitioned from a single-parent family to a two-parent family had higher status jobs than children from temporally stable two-parent families. The fact that children from these family structure clusters had the highest occupational attainment may be explained from the finding that mothers from these two clusters had the highest Hollingshead job rank and personal income of all four of the clusters. This high occupational standing for mothers from single-parent families may be important because parents in two-parent families usually have higher status jobs than single-parents (Astone and McLanahan, 1991; Biblarz and Gottainer, 2000; Biblarz and Raftery, 1999). Hampden-Thompson (2009) found that parents in two-parent families in Canada had a mean occupational ranking 1.9 times higher than parents in single mother families, whereas the difference was 4.1 times greater between two-parent families and single mother families in the U.S. Biblarz and Raftery (1999) found no effect of growing up in single-mother families for children's educational and occupational attainment, and the authors argue that parents' labor force attachment and occupational standing is the key to understanding the relationship between family structure and children's socioeconomic status. In terms of policy implications, this suggests that encouraging family-friendly work environments that recognize that single mothers are no less valuable employees than partnered mothers can have significant and positive consequences with respect to their children's future status attainment.

Another possible explanation of the similar status attainment outcomes by family structure may be because single parenthood in London, Ontario is less connected to

neighbourhood, school, and ethnic/racial disadvantage than in other parts of Canada and the U.S. In a review of 25 studies mostly from the U.S., 23 studies showed at least a moderate, independent neighbourhood effect on health status controlling for socioeconomic status (Pickett and Pearl, 2001). Although Canadian research on the effects of disadvantaged neighbourhoods is lacking, one study from Montréal, Quebec found that only three percent of the variation in health status was attributable to neighbourhoods, despite Montréal being Canada's most segregated and unequal major city with respect to income (Ross, Tremblay, and Graham, 2004).

At the time of the Single-Parent Family Study, London, Ontario also had a relatively small percentage of visible minorities. Whereas 13% of the population of London in 2006 was comprised of visible minorities, 21% were visible minorities in the province of Ontario, and the average for Census metropolitan areas was 25%. In 2001, visible minorities made up 9% of the London population and 19% of the population in Ontario (Statistics Canada, 2007). In my sample, only five mothers had an African American background, all of whom were living in a single-parent family at wave 1. By contrast, the U.S. Census Bureau (2010) has recently revealed that 49% of African American children live in single-mother families. Furthermore, approximately 70% of African American children are born outside of marriage in the U.S. (Pong, Dronkers, and Hampden-Thompson, 2003), and these families are largely deprived of financial resources and human capital (McLanahan et al., 2001). It is therefore possible that issues pertaining to race and ethnicity are confounding the relationship between family structure and children's attainment in the U.S., especially given the high proportion of African Americans that live in single-parent households.

It may also be that moderate size cities, such as London, Ontario, have lower socioeconomic gradients that may partially account for the similar outcomes in status attainment by family structure. At wave 3, the mean household income of two-parent families was \$63,400 compared to \$34,600 for single-parent families. In Canada, the average family income in 2006

was \$80,100 for married couples with children and \$38,800 for single-mother families (Statistics Canada, 2011). These household incomes represent a ratio of 1.8:1 favoring mothers in two-parent families in my study, and 2.1:1 favoring married couples with children over single-mother families in Canada. When the incomes in the Single-Parent Family Study are contrasted with those from the U.S., the differences are even more noticeable. According to 2006 U.S. Census data, the average family income for single-mother families was only \$28,865, compared to \$89,096 for married couples with children, indicating a 3.1:1 ratio favoring married parents with children (U.S. House of Representatives, 2008). Thus the socioeconomic gradient between single-parent and two-parent families appears higher for both Canada and the U.S. when compared to the families in this study.

There is also some evidence that the relationship between family structure and children's status attainment is moderated by a country's family and welfare policies. In a comparison of 14 European countries, Hampden-Thompson and Pong (2005) found that the largest gap in children's educational achievement between those living in two-parent and single-parent families was in Great Britain and Scotland, both of which offer low social assistance and benefits to single parents. On the other hand, in countries offering strong family policy environments, such as maternity leave and childcare, the effects of single parenthood on children's educational achievement were greatly reduced. In another study comparing social welfare policies and children's academic achievement in 11 developed countries (including Canada and the United States), Pong, Dronkers, and Hampden-Thompson (2003) found that the United States and New Zealand had the largest performance gap in science and math achievement between single- and two-parent families, and that the achievement gap was reduced in countries with policies that aim to balance financial resources by family structure. Interestingly, when family resources were controlled in regression models, there was no significant difference in math and science achievement between Canadian and American children by family structure. Unfortunately,

however, neither of these studies examined children's academic performance beyond childhood, so it is difficult to determine the extent to which differing welfare state policies are contributing to children's status attainment.

When children's socioeconomic attainment in adulthood has been assessed, evidence suggesting that public policies moderate the association between family structure and children's socioeconomic status has been lacking. For example, despite a broad social safety net supporting single-parents in Sweden relative to the United States, Björklund, Ginther, and Sundström (2007) found similar educational attainment by family structure in the two countries, and the effect of family structure was reduced to non-significance in both countries once unobserved family characteristics were controlled. The authors argue that their unforeseen results may be due to their rich data which included information on childhood family structure, as well as time spent in different family types.

It is likewise conceivable that the use of family structure clusters in the Single-Parent Family Study contributed to the similar status attainment outcomes of children by family structure. More specifically, the use of clusters created a subsample of temporally stable single-parent families who are likely to be different than a prevalence sample of single mothers that would include mothers who were both recently separated/divorced and who have been stably single. In a review of the literature on parental divorce and children's adjustment, Lansford (2009) found that parents who recently separate/divorce tend to experience poor mental health which limits their ability to parent their children in a nurturing way, and that poor parenting, in turn, negatively affects children's adjustment. By contrast, the same review showed that most children of divorced parents do not experience long-term negative outcomes. This suggests that children's outcomes can appear worse when family structure is only considered cross-sectionally rather than longitudinally. Thus, histories of family structure are a key consideration when investigating the association between family structure and children's socioeconomic status.

Study Strengths

The two main strengths of the Single-Parent Family Study were its prospective design and the ability to create clusters that reflect different types of family structure. This three-wave panel study provided the opportunity to compare the socioeconomic outcomes of children who were raised in single-parent and two-parent families over a 14-year period. Due to the longitudinal nature of the data, I was able to capture the influence of clusters of family structure on children's status attainment, and to assess the relative impact of family structure, parental resources and family mental health on children's social outcomes in a Canadian context.

Study Limitations

This study is not without limitations. As this was a three-wave panel study with a 14-year follow-up period, 24 percent (241/1020) of mothers who were interviewed at wave 1 were lost to follow-up by the third wave of the study. Of the 241 mothers who did not participate in the wave 3 interviews, 169 were single mothers at wave 1 and 72 were partnered mothers. Despite the higher overall attrition rates among single-parent families, however, I found no evidence for differential attrition bias by family structure. In other words, attrition could not account for the absence of socioeconomic status differences by family structure.

Interestingly, I also assessed the heterogeneity of single-parent families that were lost to follow-up. With research indicating that never-married single-parents have lower socioeconomic status than divorced single-parents (Fine, 2000), I considered the possibility that perhaps families who were lost to follow-up were more likely to be from never-married single-parents, thus leaving a select group of children from single-parent families that were more apt to have

advantaged socioeconomic outcomes. Subsequent analyses, however, revealed no significant difference between the proportion of never-married single-parent families and separated/divorced families who were lost to follow-up. Of the 116 never-married single-parents at wave 1, 39 percent (45/116) were lost to follow-up by wave 3, compared to 31 percent (120/382) of single parents who were separated or divorced ($p=0.17$).

Another challenge I faced when investigating children's socioeconomic status outcomes had to do with the ages of the children in this study. With some evidence, for example, suggesting that family structure in very early childhood is more important for children's achievement outcomes than family structure in later childhood or adolescence (Ermisch and Francesconi, 2001), sub-analyses of children who were very young (e.g., 5 years of age or under) at wave 1 do not allow for adequate comparisons by family structure in socioeconomic outcomes because these children would be a maximum of 20 years of age at wave 3, not giving them enough time to complete college or university. Furthermore, if these children have not had the time to complete their post-secondary educational endeavors, it is unlikely that they will have already entered the labour-force, let alone have had time to acquire a higher status job. On the other hand, those who have entered the workforce are likely to have been in low status occupations, given their lack of educational credentials.

The young ages of these children at wave 3 also limit my ability to adequately test other outcomes not considered in this dissertation. For instance, children from single-parent families have a greater likelihood of becoming divorced than do children from two-parent families. Children from divorced families have a 50 percent greater probability of divorcing when they are adults, are more apt to marry someone who has also experienced parental divorce, and are more likely to marry at a young age (Wolfinger, 2005). Although the small subsample of children who had separated/divorced by wave 3 may limit generalizability, I found, however, that 12 percent (6/51) of children who were raised in temporally stable two-parent families and who had married

by wave 3 had separated, compared to just 3 percent (1/29) of children from temporally stable single-parent families. The corresponding percentages of children who had separated were 15 percent (4/26) and 11 percent (2/18) for children whose mothers transitioned from a single-parent family to a two-parent family and from a two-parent family to a single-parent family. When only family structure at wave 1 was assessed, I found that 7 percent (8/115) of children from two-parent families had either separated or divorced by wave 3, compared to 6 percent (8/127) of children from single-parent families. Clearly, these results indicate the importance of investigating the heterogeneity contained within single-parent families when assessing children's outcomes across the life course.

Another limitation of my study is that I was not able to distinguish differences in socioeconomic outcomes between children raised in two-parent families with those raised in cohabiting families. With only five percent of Ontario couples cohabiting at wave 1 (1993) of the study, married partners and cohabiting partners were both classified as being in a two-parent family when the first wave of interviews were conducted. As of 2011, however, common-law families now represent almost 17 percent of Canadian families, and have just surpassed the number of single-parent families (Statistics Canada, 2012). Thus research that compares differences in children's socioeconomic outcomes between those living with cohabiting parents, married parents and single-parents is an important line of research in the years to come.

Future Research

More prospective, cross-national comparative research is needed to assess the extent to which family structure is related to children's socioeconomic status in different countries. Within Canada, it would be particularly insightful to compare the socioeconomic outcomes of children raised in moderate size cities to those in major metropolitan areas, given the ethnic/racial heterogeneity existing in larger cities. It would also be interesting to investigate the influence of

family structure on children's socioeconomic status attainment in small town and rural communities to assess the extent to which results from moderate size cities are comparable in these areas. This research should utilize a life course approach to better articulate the effect of family structure histories on children's status attainment, and should consider the type, number, and timing of changes in family structure from birth onwards for children. Evaluating differences in children's socioeconomic outcomes between those born into married, single, and cohabiting households would provide interesting insights on the relationship between family structure and children's outcomes.

Conclusion

Notwithstanding these limitations, this dissertation demonstrates the importance of evaluating the effect of family structure across childhood when assessing its influence on children's socioeconomic status. Findings from this study suggest that children from single-parent families have socioeconomic status attainment in young adulthood that is comparable to children from two-parent families. These findings are consistent with a policy agenda that is focused less on family structure per se, and more on improving the socioeconomic status of parents to enhance children's investments and opportunities over the life course. Further research should investigate whether these findings are generalizable across or beyond Canada.

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APPENDIX A

Table 1

Attrition Analysis of Mother and Child Characteristics in Single-Parent (SP) and Two-Parent (TP) Families at Wave 1

Variables	SP no attrition (n=279)	TP no attrition (n=375)	SP attrition of mothers & children (n=151)	TP attrition of mothers & children (n=56)	SP attrition of children only (n=70)	TP attrition of children only (n=55)
Maternal education	13.4 (2.6) n=279	14.0 (2.7) n=375	11.7 (2.6) n=151	12.8 (2.6) n=56	12.1 (2.7) n=55	14.0 (2.9) n=55
Maternal household income	\$24,199 (\$12,599) n=279	\$51,499 (\$36,099) n=370	\$14,199 (\$6,799) n=56	\$41,499 (\$30,199) n=56	\$20,999 (\$3,000) n=55	\$47,999 (\$33,799) n=55
Maternal CES-D	8.0 (0-54) n=277	4.0 (0-48) n=374	11.0 (0-53) n=148	5.0 (0-51) n=56	9.0 (0-42) n=69	4.0 (0-32) n=55
Children % male	45.2 n=279	49.6 n=375	57.6 n=151	58.9 n=56	60.0 n=70	56.4 n=55
% very good academic performance	17.6 n=245	8.9 n=292	20.9 n=129	8.7 n=46	31.3 n=64	16.0 n=50
% held back in school	11.0 n=245	4.8 n=292	19.4 n=129	13.0 n=46	17.2 n=64	14.0 n=50
% ever in special class	38.5 n=244	29.1 n=292	31.8 n=129	30.4 n=46	40.6 n=64	40.0 n=50

CBCL internalizing	57.4 (9.5) n=265	53.6 (8.6) n=339	59.5 (9.6) n=141	55.6 (8.7) n=52	59.5 (9.7) n=66	55.5 (8.3) n=52
CBCL externalizing	56.3 (10.4) n=270	52.7 (9.2) n=342	59.6 (10.2) n=141	54.6 (10.2) n=56	58.6 (10.8) n=69	53.3 (8.6) n=52

APPENDIX B

Table 1

Logistic Regression Assessing the Relative Effects of Heterogeneous Single Parent Families, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children Obtaining a College Diploma or University Degree at Wave 3 (n=401)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR
Never married SPF wave 1 ^a	-.422	.656	-.347	.707	.238	1.268	.238	1.269	.160	1.174	.285	1.329	-.125	.883
Sep/div/wid at wave 1 ^a	-.021	.979	-.109	.896	-.031	.969	-.046	.955	-.028	.972	.062	1.064	-.012	.988
Child's age			.041	1.042	-.022	.978	-.022	.978	-.026	.974	-.053	.948	-.049	.952
Male			-.769***	.463	-.904***	.405	-.899***	.407	-.892***	.410	-.805***	.447	-.949***	.387
Mother's age					.074**	1.077	.074**	1.077	.074**	1.077	.073**	1.076	.070**	1.072
Mother's education					.121**	1.129	.122**	1.130	.115*	1.122	.108*	1.114	.099*	1.105
Mother's employed FT or PT					.109	1.115	.090	1.094	.085	1.089	.120	1.127	.133	1.142
Mother's household income					.007	1.007			.000	1.000	-.013	.987	-.011	.989
Poverty line									-.096	.908				
Mother's CESD									-.016	.985	-.003	.997	-.006	.994
Child's externalizing score > 63													-.960**	.383
Child's internalizing score > 63											-.1190***	.304		
Constant	.422		-1.076		-4.257		-4.156		-3.829		-2.701		-2.688	
Adjusted R ²	.003		.050		.135		.135		.141		.189		.173	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 2
Multiple Regressions Assessing the Relative Effects of Effects of Heterogeneous Single Parent Families, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Most Recent Job Held at Wave 3 (n=510)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Never married SPF at wave 1 ^a	-.941**	-.149	-.656*	-.104	-.345	-.055	-.496	-.079	-.396	-.062	-.391	-.061	-.492	-.077
Sep/div/wid at wave 1 ^a	.174	.048	-.038	-.011	.101	.028	-.032	-.009	.116	.032	.095	.026	.103	.029
Child's age			.171***	.359	.157***	.330	.159***	.335	.155***	.325	.147***	.304	.146***	.303
Male			-.512***	-.144	-.503**	-.142	-.515***	-.145	-.493**	-.139	-.513**	-.146	-.503**	-.143
Mother's age					.011	.039	.012	.044	.011	.039	.011	.038	.010	.034
Mother's education					.085**	.125	.094**	.138	.083**	.123	.082**	.121	.074*	.109
Mother's employed FT or PT					-.106	-.026	-.055	-.013	-.100	-.024	-.078	-.019	-.044	-.011
Mother's household income					.023	.060			.022	.055	.015	.039	.015	.038
Poverty line							.012	.003						
Mother's CESD									-.004	-.025	-.005	-.032	-.002	-.011
Child's externalizing score > 63													-.315	-.071
Child's internalizing score > 63											-.036	-.009		
Constant	3.509		-.609		-2.048		-2.010		-1.944		-1.615		-1.456	
Adjusted R ²	.024		.168		.188		.186		.186		.171		.179	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 3
 Multiple Regressions Assessing the Relative Effects of Effects of Heterogeneous Single Parent Families, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
 On Children's Longest Job Held at Wave 3 (n=506)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Never married SPF at wave 1 ^a	-.296	-.050	-.031	-.005	.426	.072	.180	.030	.377	.063	.384	.063	.286	.048
Sep/div/wid at wave 1 ^a	.262	.076	.067	.019	.303	.088	.092	.027	.306	.089	.346	.101	.285	.084
Child's age			.175***	.389	.132***	.293	.135***	.301	.131***	.290	.129***	.282	.126***	.277
Male			-.080	-.024	-.099	-.029	-.123	-.037	-.093	-.028	-.050	-.015	-.094	-.028
Mother's age					.038**	.143	.041**	.152	.039**	.145	.036*	.133	.037*	.137
Mother's education					.026	.040	.039	.061	.027	.042	.022	.035	.014	.022
Mother's employed FT or PT					.001	.000	.100	.026	.017	.004	.063	.016	.078	.020
Mother's household income					.034	.092			.037	.099	.031	.084	.027	.072
Poverty line							.085	.020						
Mother's CESD									.004	.022	.007	.046	.006	.039
Child's externalizing score > 63													-.353	-.084
Child's internalizing score > 63											-.312	-.078		
Constant	2.819		-1.614		-2.780		-2.765		-2.861		-2.652		-2.385	
Adjusted R ²	.006		.150		.170		.167		.169		.162		.159	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 4
Multiple Regressions Assessing the Relative Effects of Effects of Heterogeneous Single Parent Families, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Personal Income at Wave 3 (n=512)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Never married SPF at wave 1 ^a	-1.383	-.084	-.413	-.025	1.115	.068	.341	.021	1.097	.067	1.217	.073	1.069	.064
Sep/div/wid at wave 1 ^a	.675	.073	.155	.017	1.183*	.128	.421	.046	1.205*	.131	1.177*	.128	1.198*	.130
Child's age			.661***	.544	.577***	.475	.596***	.491	.574***	.471	.571***	.461	.575***	.464
Male			1.747***	.193	1.740***	.192	1.725***	.190	1.755***	.194	1.745***	.194	1.780***	.197
Mother's age					.054	.076	.060	.084	.054	.075	.056	.078	.053	.073
Mother's education					-.023	-.013	.029	.017	-.029	-.017	-.040	-.023	-.045	-.026
Mother's employed FT or PT					.121	.012	.219	.021	.106	.010	.120	.012	.149	.014
Mother's household income					.170**	.170			.163**	.163	.149*	.149	.145*	.144
Poverty line							-.704	-.062						
Mother's CESD									-.015	-.033	-.007	-.016	-.009	-.021
Child's externalizing score > 63													-.718	-.064
Child's internalizing score > 63											-.530	-.050		
Constant	7.693		-10.053		-12.029		-11.268		-11.648		-11.293		-11.182	
Adjusted R ²	.011		.328		.342		.332		.339		.318		.329	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

Table 5
Multiple Regressions Assessing the Relative Effects of Effects of Heterogeneous Single Parent Families, Mothers' Socioeconomic Status and Family Mental Health at Wave 1
On Children's Household Income at Wave 3 (n=485)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Never married SPF at wave 1 ^a	-3.102***	-.169	-2.195**	-.119	-.054	-.003	-1.056	-.058	-.150	-.008	-.170	-.009	-.045	-.002
Sep/div/wid at wave 1 ^a	.447	.042	-.176	-.016	1.174*	.110	.161	.015	1.224*	.115	1.100	.104	1.209*	.113
Child's age			.594***	.421	.511***	.363	.539***	.383	.496***	.351	.533***	.371	.515***	.359
Male			.453	.043	.547	.052	.552	.053	.595	.057	.644	.062	.645	.062
Mother's age					.043	.051	.050	.060	.043	.052	.042	.050	.042	.050
Mother's education					.136	.068	.206*	.103	.121	.061	.095	.047	.110	.054
Mother's employed FT or PT					-.055	-.005	-.004	.000	-.049	-.004	-.220	-.018	-.122	-.010
Mother's household income					.241**	.209			.233**	.202	.229**	.199	.233**	.200
Poverty line							-1.220	-.095						
Mother's CESD									-.021	-.042	-.011	-.022	-.017	-.034
Child's externalizing score > 63													-.224	-.017
Child's internalizing score > 63											-.446	-.036		
Constant	12.335		-3.084		-7.551		-6.332		-6.742		-7.131		-7.016	
Adjusted R ²	.030		.198		.232		.220		.228		.234		.228	

*p<.05; ** p<.01; *** p<.001; ^a Two-parent family at wave 1 = reference group.

APPENDIX C

Table 1

Variables	Ever in SPF at any time (n=608)	Never in SPF (n=412)	P Value
% College diploma or university degree	57.4 (n=237)	62.8 (n=164)	.277
Job rank Hollingshead Index (most recent job)	3.5 (1.8) (n=299)	3.5 (1.7) (n=212)	.985
Job rank Hollingshead Index (longest job)	2.9 (1.7) (n=295)	2.8 (1.7) (n=212)	.599
Personal Income (\$ thousands)	27.0 (12.6) (n=297)	25.8 (10.1) (n=267)	.452
Household Income (\$ thousands)	46.0 (30.6) (n=282)	46.5 (25.8) (n=204)	.949

The independent sample t-test was used to compare mean differences between groups, whereas the chi-square test was used for categorical outcomes.

Curriculum Vitae

Jamie Seabrook

1. Education

- 2008-2013 PhD, Sociology, University of Western Ontario
- 1999-2000 M.A., Sociology, University of Western Ontario
- 1998-1999 Diploma of Honors Standing, Sociology, University of Western Ontario
- 1992-1995 B.A., Sociology, University of Western Ontario

Other Graduate Coursework:

- 2002 Special Graduate Student, Epidemiology & Biostatistics, University of Western Ontario: Principles of Biostatistics I, Sept-Dec 2002

2. Employment History

- 2002-Present **Research Associate/Biostatistician**, The Department of Paediatrics & Children's Health Research Institute (CHRI), Children's Hospital, London Health Sciences Centre
- Consultant for faculty members of the Department of Paediatrics, CHRI scientists and associated scientists, paediatric fellows, paediatric residents, graduate students and medical students on all stages of the research process for projects related to child health
 - Construction of testable research questions, choice of appropriate study design, sample size calculations, statistical analyses, interpretation of results, literature searches, abstract and paper preparations
 -
- May 2002-July 2002 **Professor/Lecturer, UWO**
- Sociology 140 – Social Problems
- Jan 2002-Apr 2002 **Professor/Lecturer, UWO**
- Sociology 235 – The Family

2001-2002

St. Joseph's Health Care – Parkwood Hospital

- Project Coordinator for Geriatric Rehabilitation Synthesis Project
- Conducted literature reviews; assigned papers a level of evidence; assessed the quality of randomized controlled trials using the Pedro scale; designed 4 surveys; publications; organized and established agenda for weekly teleconferences and/or meetings

3. Publications (Peer Reviewed)

(a) Journal Articles

1. Kumar MM, Langford C, Lim R, **Seabrook JA**, Speechley KN, Lynch T. Sexual knowledge of Canadian adolescents after completion of high school sexual education requirements. In Press: *Paediatrics and Child Health*.
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(b) Journal Abstracts

1. Mollon BG, McGuffin WS, **Seabrook JA**, Leitch KK. Supracondylar humerus fractures in older children: Treatment modalities and outcomes. *The Journal of Bone and Joint Surgery* 2011; 93(B):284.
2. Bock DE, Robinson T, **Seabrook J**, Clarson CL. Health initiative program and youth overweight and obesity (HIP KIDS): Results of the first two enrollment waves. *Paediatrics and Child Health* 2011; 16 (Suppl A):18A.
3. Kumar MM, Langford C, Lim R, **Seabrook JA**, Speechley KN, Lynch T. Sexual knowledge of Ontario adolescents after completion of school sexual education. *Paediatrics and Child Health* 2011; 16 (Suppl A):43A.
4. Strauss BJ, Carey TP, **Seabrook JA**, Lim RM. Pediatric clavicular fractures: assessment of fracture patterns and risk factors following nonoperative treatment. *Canadian Journal of Emergency Medicine* 2011; 13(3):193.
5. Bahm AL, Wang D, **Seabrook JA**, Sammons H, Rieder MJ. Canadian medical student attitudes towards the ethics of paediatric clinical trials. *Paediatrics and Child Health* 2010; 15 (Suppl A):49A-50A.
6. Achiam CC, Fernandes CMB, McLeod SL, John M, **Seabrook JA**, Theakston KD, Salvadori M, Milburn S, Hussain Z. What is the prevalence of methicillin-resistant *staphylococcus aureus* in skin and soft tissue infections in adults presenting to the emergency departments of a Canadian academic health care center? *Canadian Journal of Emergency Medicine* 2009; 11(3):256.
7. Cherry A, Knoppert DC, Lee DSC, Pletsch D, **Seabrook J**. Utilization of opioid infusions in the neonatal intensive care unit. *Archives of Disease in Childhood* 2009; 94:e1.
8. Ball IM, Desai N, **Seabrook J**, Allan L, Anderson A. Challenging the dogma: topical proparacaine is safe and effective for the outpatient management of acute traumatic corneal injuries. *Canadian Journal of Emergency Medicine* 2007; 9(3):7.

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10. Warkentin J, Chan M, Igric A, **Seabrook JA**, Matsui D, Joubert G. A Needs Assessment for Obesity-Related Anticipatory Guidance in the Paediatric Emergency Department. *Paediatrics and Child Health* 2007; Suppl A: 23A.
11. Warkentin J, Chan M, Igric A, **Seabrook J**, Matsui D, Joubert G. A needs assessment for obesity-related anticipatory guidance in the pediatric emergency department. *Canadian Journal of Emergency Medicine* 2007; 9(3):184.
12. Rieder S, Joubert G, **Seabrook J**, Rieder MJ. Emergency department treatment of childhood migraine. *The Canadian Journal of Clinical Pharmacology* 2007; 14(2):e137.
13. Shortridge LB, Harris VC, **Seabrook JA**, Matsui D. Equivalence of acetaminophen and ibuprofen combination therapy and acetaminophen monotherapy for the treatment of febrile children: a retrospective chart review. *The Canadian Journal of Clinical Pharmacology* 2007; 14(2):e114.
14. Utilization of opioid infusions in the neonatal intensive care unit (NICU). Cherry A, Knoppert D, Lee D, Pletsch D, **Seabrook J**. *The Journal of Pediatric Pharmacology and Therapeutics* 2007; 12(4):251-252.
15. Hames H, Joubert G, **Seabrook J**, Matsui D, Rieder M. Tasty Treats: A Palatability Study of Dexamethasone Liquid versus Prednisolone Liquid in Children with Asthma in the Pediatric Emergency Department. *Canadian Journal of Emergency Medicine* 2006; 8(3):192-193.
16. Vaz S, Chodirker B, **Seabrook J**, Prasad C, Chudley A, Prasad A. Risk Factors for the Development of Holoprosencephaly: A Manitoba-based Case-Control Study. *Neuropediatrics* 2006; 37 Suppl 1:S100.
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4. Research Funding

Title: LUNCHES – Let’s Understand Nutrition and Children’s Health in Elementary Schools: Direct observation of packed lunch contents and intake in grades 3 and 4 students (aged 7-10 years) in the balanced school day vs. the traditional schedule
Date: 2012-2014

Source Agency: Canadian Institutes of Health Research (CIHR)

Role: Co-Investigator

Purpose: To compare grade 3 and 4 students’ packed lunch contents and intake in the balanced school day vs. the traditional schedule by direct observation

Budget: \$120,000

Held at: Ottawa, Ontario

Title: The Impact of a structured lifestyle intervention on body composition and exercise capacity in obese children with operated heart defects

Date: 2012

Source Agency: Academic Medical Organization of Southwestern Ontario (AMOSCO)

Role: Co-Investigator

Purpose: To assess the relationship between heart and muscle function, physical activity and quality of life before and after a one-year structured fitness program and dietary education.

Budget: \$60,000

Held at: London, Ontario

Title: The Prevalence of Cochlear Dysfunction in Patients with Cystic Fibrosis

Date: 2011

Source Agency: Medbuy Research, Education, and Development Fund

Role: Statistician

Purpose: To determine the prevalence of sensorineural hearing loss (cochlear dysfunction) in adult and pediatric cystic fibrosis patients at London Health Sciences Centre.

Budget: \$2, 425

Held at: Medbuy, London, Ontario

Title: What is the Prevalence of Methicillin-Resistant Staphylococcus aureus in Skin and Soft Tissue Infections in Adults Presenting to the Emergency Departments of a Canadian Academic Health Care Centre?

Date: 2008-2009

Source Agency: The Physicians' Services Incorporated Foundation (PSI Foundation)

Role: Statistician

Purpose: To determine the prevalence of MRSA and community acquired MRSA (CA-MRSA) in adult patients presenting with skin or soft tissue infections to the Urgent Care Centre and Emergency Departments in London, Ontario.

Budget: \$88,648

Held at: PSI Foundation, Toronto, Ontario

Title: What is the Prevalence of Methicillin-Resistant Staphylococcus aureus in Skin and Soft Tissue Infections in Adults Presenting to the Emergency Departments of a Canadian Academic Health Care Centre?

Date: 2008

Source Agency: Canadian Association of Emergency Physicians (CAEP) Research Grant

Role: Statistician

Purpose: To determine the prevalence of MRSA and community acquired MRSA (CA-MRSA) in adult patients presenting with skin or soft tissue infections to the Urgent Care Centre and Emergency Departments in London, Ontario.

Budget: \$5,000

Held at: Canadian Association of Emergency Physicians, Ottawa, Ontario

Title: What is the Prevalence of Methicillin-Resistant Staphylococcus aureus in Skin and Soft Tissue Infections in Adults Presenting to the Emergency Departments of a Canadian Academic Health Care Centre?

Date: 2008-2009

Source Agency: Lawson Health Research Institute (Internal Research Fund)

Role: Statistician

Purpose: To determine the prevalence of MRSA and community acquired MRSA (CA-MRSA) in adult patients presenting with skin or soft tissue infections to the Urgent Care Centre and Emergency Departments in London, Ontario.

Budget: \$15,000

Held at: Lawson Health Research Institute, London, Ontario

5. Other Professional Activities

2011-2012	Reviewer for Canadian Journal of Emergency Medicine
2011	Reviewer for Pharmacoepidemiology and Drug Safety
2010	Reviewer for American Journal of Orthopsychiatry
2003	Reviewer for Canadian Journal of Public Health

6. Awards

- Poster winner: Centre for Population, Health and Aging 8th Annual Interdisciplinary Research Event, 2011.
 - ❖ Poster Title: The Impact of Family Structure on Children's Socioeconomic Attainment: A Life Course Perspective.