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Los Angeles

The Effects of Changes in Parental Employment, Partnership Status, and Residence on Children's Educational Attainment

A dissertation submitted

in partial satisfaction of the requirements

for the degree Doctor of Philosophy in Sociology

by

Elisabeth Julia Simon Thomas

2015

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ABSTRACT OF THE DISSERTATION

The Effects of Changes in Parental Employment, Partnership Status, and Residence on Children's Educational Attainment

by

Elisabeth Julia Simon Thomas

Doctor of Philosophy in Sociology

University of California, Los Angeles, 2015

Professor Jennie Elizabeth Brand, Chair

Background characteristics create a propensity for a certain educational path in life: a host of predictions can be made for children's educational attainment by knowing parents' socioeconomic status (e.g., Blau & Duncan 1967; Breen & Luijx 2007; Corcoran & Matsudaira 2005; Esping-Anderson 1999; Shavit, Yaish & Bar-Haim 2007), with some scholars making a stronger claim that there is a genetic heritability component to educational attainment (Branigan, McCallum & Freese 2013). Although educational attainment does not decrease over the life course, parental socioeconomic status, household composition, and residence are not necessarily stable across childhood. What happens when an event occurs that affects a family's socioeconomic status, or when a spouse leaves a household? Using data from the Panel Study of Income Dynamics (PSID), my dissertation examines the effects of such "trigger events" (DiPrete & McManus 2000) in the form of employment, family, and residential changes among parents on

their children's educational attainment. My first chapter reviews literature relevant to all three combined projects. My second chapter looks at how these events are likely to combine and what the effects of such combinations are. The third chapter will focus on the time in the child's life course that the events occur to see if there is time-varying effect heterogeneity. The fourth chapter divides the data into decades to assess how effects have changed over the past forty years. The fifth chapter underscores the connections between all my findings. Taken together, my dissertation provides insight into the complexity of life course disruptions and their effects on intergenerational mobility.

The dissertation of Elisabeth Julia Simon Thomas is approved.

Judith Seltzer

Robert D. Mare

Michael Seltzer

Jennie Elizabeth Brand, Committee Chair

University of California, Los Angeles

2015

For my husband, who is calm and patient when I am not.

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CHAPTER 1:

INTRODUCTION

Background characteristics create a propensity for a certain educational path in life: for example, a host of predictions can be made for children's educational attainment by knowing parents' socioeconomic status (e.g., Blau & Duncan 1967; Breen & Luijx 2007; Buchmann 1989; Corcoran & Matsudaira 2005; Esping-Anderson 1999; Shavit, Yaish & Bar-Haim 2007), with some scholars making an even stronger claim that there is a genetic heritability component to educational attainment (Branigan, McCallum & Freese 2013). Although educational attainment does not decrease over the life course, parental socioeconomic status, household composition, and residence are not necessarily stable across childhood. What happens when an event occurs that affects a family's socioeconomic status, or when a spouse leaves a household? My dissertation aims to examine the effects of such "trigger events" (DiPrete & McManus 2000) in the form of employment, family, and residential changes among parents on their children's educational attainment. The first chapter looks at the frequency of these events, examines how they combine, and what the effects of such combinations are for children. The second chapter focuses on the time in the child's life course that the events occur to determine if there is time-varying effect heterogeneity. Finally, the third chapter will divide the sample into cohorts to assess whether the effects of family disruptive life events on children vary by parental cohort.

There is a large literature for each of the sets of events I investigate in this dissertation. To review these literatures, in this introduction I will address changes in parental employment status, family status, and residence separately. The final section of this chapter will focus on potential pathways in which these events in parents' lives might affect their children's

educational attainment, including a discussion about socioeconomic changes in a household and the effects of parental events at different times in childhood.

One challenge when considering the different trigger events that I am including in my analysis is distinguishing between voluntary (e.g., planned, anticipated) and involuntary (e.g., unplanned) events. Families strategize and time their choices, to a certain extent (Hareven 1990), and some of the events can be considered to be a result of this decision-making process. For example, a residential move might be a carefully calculated decision. However, being laid off from one's job could come as a relative shock. Getting divorced falls somewhere in the middle: it is not generally the plan to get divorced when the wedding occurs, but the exact timing of a divorce could be planned, and the decision is more closely tied to the individual than a layoff.

It is important to keep in mind the outcome: children's educational attainment. The strategizing that occurs and who plays the role of decision maker and whose input is valued during the decision-making process likely varies across families (Berk & Berk 1983; Blank 1993; Hareven 1990; Lundberg & Pollak 1996; Wolf 1990). I will therefore treat each event as similar despite the fact that some event experiences might be voluntary and others involuntary, but I acknowledge that there is a possibility that events can be experienced differently vis-à-vis the level of possible planning. For children, this difference could matter, for practical matters such as finding schooling near a new home as well as psychological matters such as being prepared to speak to and support children following a divorce.

Changes in Employment Status

There are multiple reasons why someone might change employment status. First let us consider the move from employed to unemployed. A person could be displaced from a job, be

fired, or choose to quit: these three options together are referred to as a job separation (Brand 2015), and this is the change on which I focus in this dissertation. Second, there is the possibility of a move from unemployed to employed, which I refer to generally as a job gain. Third, someone could change employers while maintaining a similar position, or change positions with the same employer, for example when being promoted. Finally, a person can choose to become self-employed. It seems likely that all of these options might lead to different outcomes for children. Becoming unemployed for any reason generally means a loss of income, while becoming employed means an income gain. Changing employers or positions with the same employer is ambiguous in potential effects: it could be a positive change (e.g., a promotion), a negative change (e.g., a demotion), or a neutral change (e.g., a horizontal shift); I do not examine this event because it would not be possible for me to determine its nature (positive or negative) with the data I use. Self-employment presents a similar situation, and due to the myriad of reasons for entry into self-employment and due to very low sample sizes, I do not include this event in my analyses. In other words, I focus on job separation and job gain as employment events.

Existing research sometimes considers the reasons behind employment changes but other times will combine changes regardless of cause. This may be due to data limitations. In this dissertation, I am limited by variables that are available to show why employment ends or begins, and thus I use a dichotomous employment variable to code employment transitions created from respondents reporting being employed or not within a survey year. Levine (2011) finds that parental unemployment, as a result of quitting, being fired, or being laid off, does not affect children's educational attainment. However, Stevens and Schaller (2011) find that job loss among parents leads to increases in grade retention for their children; Kalil and Ziol-Guest

(2008) find the same effect after a father's job loss as well as higher rates of school suspension and expulsion.

Some research focuses on job displacement specifically. Job displacement is an involuntary job termination due to plant closings, company relocation, or company downsizing; a displacement does not include being fired, thus theoretically eliminating concerns over personal characteristics that might cause someone to be terminated from his or her job. Since it is largely involuntary, people are not necessarily as prepared – mentally and in terms of job seeking – for a job loss as they might be if they chose to quit a job. This means that it could constitute a larger shock to the employee and the employee's family. Job displacement has been shown to have adverse effects on earnings and job quality (Brand 2006; Brand 2015; Couch, Jolly & Placzek 2011; Fallick 1996; Farber 2005; Jacobson, LaLonde, & Sullivan 1993; Kletzer & Fairlie 2003; Ruhm 1991), marriage (Charles & Stephens 2004), geographical stability (Oreopoulos, Page, & Stevens 2008), social participation (Brand & Burgard 2008), and mental and physical health (Brand, Levy, & Gallo 2008; Burgard, Brand & House 2007; Dooley, Fielding & Levi 1996; Gallo et al. 2000; Kessler, Turner & House 1989; Leana & Feldman 1992; Paul & Moser 2009; Turner 1995). While some displaced workers never experience unemployment after a displacement, others are out of work for substantial lengths of time (Chan and Stevens 2001; Fallick 1996; Seitchik 1991). Becoming reemployed depends on several factors, including macro conditions (e.g., if the country is experiencing a recession and the unemployment rate is high, reemployment is more difficult and wage scarring is worse; see Davis & von Wachter 2012) as well as personal characteristics, from chosen occupation to educational level achieved to psychosocial skills. Job seekers who lose hope of and motivation for finding a job after being out of work for longer periods of time can become permanently displaced (Seitchik 1991). It is

reasonable to expect that the many adverse effects of displacement would vary according to the post-displacement employment trajectories.

Focusing on job displacement among single mothers, Brand and Simon Thomas (2014) find that children whose mothers are displaced when the child is in high school are less likely to finish high school and attend college compared to children whose mothers were not displaced. However, they also find that effects are larger for children of mothers with a lower likelihood for displacement. In other words, for those whom the shock of displacement was greatest, effects on children were greatest. In fact, effects are strongest for children whose mothers are displaced during economic expansions and in local areas with relatively low unemployment.

Changes in Family Status

Like job changes, family status changes result from various events. Married parents can get divorced or separate. Unmarried mothers or fathers can marry while one or both already have children, either to each other or to other partners.[1] Cohabiting partners can similarly alter their relationship and cease cohabitation; non-cohabiting partners can move in to the same residence. Cohabitation has become increasingly similar in behavior to marriage (Goldberg & Carlson 2014). Recent work also shows how dissolution risk among cohabiting partners has become similar to the risk for married partners, particularly after a lengthy period of cohabitation (Kuperberg 2014; Tach & Eads 2015). I refer to partner or partnership for either a married spouse or cohabiting partner, both because of the increasing similarities and for data reasons.

[1] People can also change partners; in other words, end an old and immediately or soon after begin a new relationship. I do not examine this last change in this dissertation because I believe the effects to be more complex than the effects of the other changes. The nuance needed to disentangle what this sudden loss and gain means is not available to me in the data set I use.

These events signal a fundamental change in home environment and may lead to financial hardship, in case of losing a partner, or financial gain, in the case of gaining a partner. About half of all marriages end in divorce, and many of those divorced partners remarry (Casper & Bianchi 2002; Cherlin 1988; Rhodes & Hoey 1994). Cherlin (2004) discusses the changing social norms surrounding marriage as the deinstitutionalization of marriage, and many scholars believe that this is a detrimental change for children, and particularly for young children (e.g., Putnam 2015). Though children are considered a barrier to divorce (Previti & Amato 2003), the potential for children to be exposed to a change in partnership among their parents is nonetheless high. Indeed, loss of partnership is shown to be detrimental to child wellbeing (Amato 2000; Amato & Keith 1991; Brown 2010; Cooper et al. 2011; Fomby & Sennott 2013; Garfinkel & McLanahan 1986; Rhodes & Hoey 1994; Seltzer 1994; Sweeney 2011; Werner & Smith 1992). The negative effects are often attributed to loss of income (Tach & Eads 2014), particularly for women: "[d]ivorce is costly for both men and women, but there is no doubt that the economic consequences for women are more severe. … Children share women's economic fate" (Seltzer & Garfinkel 1990: 85; also Casper & Bianchi 2002, McManus & DiPrete 2001). This is usually because women are less likely to have built stable careers and because they are generally awarded custody of their children (Cherlin 1988). Child support awards, when present at all, are generally small (Casper & Bianchi 2002; Cherlin 1988; Seltzer & Garfinkel 1990). However, income is not the only factor driving the potential effects of these relationship events on children (Mayer 1997; Tough 2009). And the causal direction of income could be reversed, where falling into poverty (for any reason, including job loss) causes marital instability (Furstenberg 1995).

The effects of gaining a new partner depend on the characteristics of the partner (as do the effects of losing partner; see e.g. Jaffee, Moffitt, Caspi & Taylor 2003). If a stepparent

provides stability (financial and psychological), this could provide an improved household situation as compared to single parenthood following a divorce (Brown 2010). However, in practice this is not always the case (King 2009), and even the instability of partnership changes in itself could be a detrimental factor in children's educational attainment (Fomby & Sennott 2013; Sweeney 2011).

Changes in Residence

Moving to a new residence has the highest likelihood of being coupled with another event. In a discussion about no-fault divorce laws, Weitzman (1995) states that the division of property following a divorce will often force a home sale, implying a move for the children as a result of the divorce. Indeed, "[a]rrangements that delay the sale of a home so that minor children do not have to move are viewed with disfavor by the courts" (337). Financial situations following a divorce could lead to moving in with kin temporarily (Swartz, Hartman & Mortimer 2011), meaning another move in the new family's future. Repartnering could also lead to a move for children, if the custodial parent moves in with a new partner or if they decide to move into a new house to start a new union. Employment changes can also lead to residential moves, either to find or begin a new job or to adjust to new income status following a job loss.

Moving is generally considered to be disadvantageous for children. Research shows that frequent moves are correlated with increased drug use among children (DeWit 1998), lower levels of academic achievement (Burdick-Will et al. 2011; Ingersoll, Scamman & Eckerling 1989; South, Haynie & Bose 2007; Whalen & Fried 1973), worse health outcomes (Jelleyman & Spencer 2007), and fewer social ties and therefore social capital (Pettit & McLanahan 2003). Other studies are more cautious about attributing blame to the move itself, pointing instead to the

neighborhoods (Jackson & Mare 2009) and other characteristics that might predate the move (Harding et al. 2011; Mantzicopoulos & Knutson 2000; Rumberger 2002). Indeed, this implies that it could be instability in children's lives rather than an actual move that affects their educational achievement.

There could, however, also be situations in which a move is advantageous for children. The well-known Moving To Opportunity experiment (e.g. Clampet-Lundquist & Massey 2008; Ludwig et al 2008), in which poor parents were given the money to move to non-poor neighborhoods, is an example of such a change. Though scholars still debate whether the outcomes were positive, a report for the U.S. Department of Housing and Urban Development posits positive effects in health variables but not economic outcomes for participants (Sanbonmatsu et al. 2011). There are other scenarios, such as a move as the result of a parental job promotion, which might likewise prove advantageous to children's educational attainment.

Potential Pathways

Recent literature shows that instability in various forms is detrimental to child wellbeing: "[c]hildren fare best in stable family environments in which well-adjusted parents have established consistent routines. Family turbulence…[is] linked to lower levels of child well-being" (Brown 2010). There are several pathways by which parental trigger events might affect children's educational trajectories. One is purely a change in income: if parents' financial situations are affected, this affects their children's choices to complete high school and attend college, possibly due to a need or lack thereof to enter the workforce at a specific time. Another mechanism is psychological stress resulting from disruptive events. Finally, another pathway is adjustment to a different social status and related loss of social capital.

Parental financial distress has been linked to lower educational attainment for their children (Hardy 2014), and new evidence shows that the academic achievement gap between children from high- and low-income families is increasing (Reardon 2011). Changes in parental employment and partnership could lead to changes in socioeconomic status, which could in turn affect children. Having a low socioeconomic status is considered a stressor in everyday life (Marmot 2004; Wilkinson 2006). Poverty in early childhood has been linked to outcomes such as lower adult earnings and lower rates of school completion (Duncan et al. 1998; Duncan, Ziol-Guest & Kalil 2010). Additionally, parental income instability is linked to poor school behavior in adolescence (Gennetian et al. 2015).

Children could also be affected via psychological pathways, where the shock of the event is great enough to trigger stress or depression in parents and/or their children (Mitchell et al. 2015; Paul & Moser 2009). This experience of stress or depression then affects educational outcomes. Brand and Simon Thomas (2014) included depression in their outcomes and saw an uptick in depression among children whose single mothers experienced a job displacement. Mitchell et al. (2015) saw increases in children's antisocial behavior when new father figures entered a household (provided the new father figure entering the household was not the biological father). This means that a variety of disruptive events, via such mental health pathways, could affect children's educational outcomes.

When a parent loses a job or when parents get divorced and the socioeconomic status (via income and family structure) of the family moves downward, the associated stress could be transferred to the children (Mayer 1997). This could cause them to make different educational choices than they might have made if the family socioeconomic change had not occurred. Conversely, a job promotion could improve a former stressful situation.

Veering off from a previously planned course requires different choices than were previously made or were planned in advance – and the level of such planning for one's children likely depends on socioeconomic status as well. There are assumptions made about children's future educational choices that are inextricably interwoven with social class (Buchmann 1989; Carr & Kefalas 2011; Mayer 1997) that might be challenging to abandon if an event occurs that alters one's social class membership. As Buchmann (1989) explains:

> "…individuals relate their own life chances in different spheres (e.g., educational and professional attainment, marriage opportunities) to the "collective destiny" of the social groups to which they belong. Socialization into particular social groups equips individuals with certain skills, habits, and worldviews (i.e., the habitus); acquaints them with the chances inherent in their social position; and helps them develop - more unconsciously than consciously - a sense of what is and is not within their reach. Individuals tend to align their action strategies with their subjective perception of their own social position, thus following what Bourdieu has called the probabilistic logic of action. This process makes it likely that individuals will contribute to the reproduction of a given social structure." (150)

Townsend (2002) similarly discusses scripts that the men in his sample feel they have to follow in order to be complete fathers. Hogan and Astone (1986) call these pathways: "course[s] laid out for people, strongly encouraging them to take a particular route to get from one place to another" (110). However, neither Buchmann (1989) nor Townsend (2002) address what happens when interruptive events occur. One's script is highly related to one's social status, but what happens to when an event occurs that disrupts one's social status and associated script? In other

words, I assume families to be dynamic over the life course as they alter strategies to suit new situations (Hareven 1990).

However, there is a tension there as well, since "[a]s people encounter new circumstances, they modify and reshape their life plans and strategies *in the context of their own culture and traditions* [italics added]" (Hareven 1990: 219; also see Lareau & Cox (2011) for a discussion of social capital in interactions with educational institutions). Indeed, Corak (2004) argues that income is not the driving factor: "The decisive kinds of parental investments are not the monetary kind. The inheritance of education, occupation, and income is influenced in the first instance by the impact parents have on a child's cognitive performance" (33). By this logic, changes in income, or even in overall socioeconomic status (e.g., occupational change and income change), should not change children's educational choices since any of the events I look at will not change parents' cognitive influences. The parents remain the same (though divorce will alter exposure and stepfamily formation adds new people to the household), with different employment situations, in a different relationship, and/or living in a different home. Even so, this neglects to address the issue of affordability and necessity: if a child needs to go to work instead of finishing high school or attending college, or if there is no money for college tuition, former choices may need to be altered. Indeed, Jacob and Linkow (2011) find that the majority of disadvantaged students update their educational expectations at least once throughout high school and even eight years afterward (133). As Lareau (2003) posits: "if the resources of the poor and working class families were transformed overnight so that they equaled those of the middle-class families, would their cultural logic of child rearing shift as well? Or are there cultural attitudes and beliefs that are somewhat independent of economic and social resources that are influencing parents' practices here?" (p. 250).

Finally, disruptive events such as losing a partner, gaining a partner, job separation, job gain, and residential moves all can lead to the destruction of social capital and social networks (Brand 2015; Wrzus et al. 2013). Parental social capital has been shown to be crucial to child wellbeing, particularly in relation to educational institutions (Putnam 2015). Losing social networks that can assist children in overall wellbeing and interconnected educational attainment can be detrimental in many ways: for example in adult oversight, encouragement, or passing on of pertinent knowledge and information.

Event Timing

It is not just the event(s) but also the timing of the event(s) that matters. Indeed, there has been a lot of research focused on determining when in a child's life interventions are most effective, and research in various fields has found that early childhood is the most crucial time (The Carnegie Corporation of New York 2002; Ermisch, Peter & Spiess 2012; Rhodes & Hoey 1994; Werner & Smith 1992). However, I am interested in outcomes that are part of the transition to adulthood, not elementary or middle school, which means that if the events occurred well before these transition, the mechanisms by which children are impacted are likely different. Brand and Simon Thomas (2014) found time-varying effects based on the age of child when a maternal job displacement occurred: the older the child when the event happened, the greater the effect. Alwin and Thornton (1984) did not find differences when contrasting results from factors in early childhood versus late adolescence. I will examine time variation in the third chapter of my dissertation, dividing childhood into three stages (0-5, 6-11, 12-17) as Brand and Simon Thomas (2014) do, rather than looking at two discrete time points as Alwin and Thornton (1984) do.

Finally, in this dissertation, I look at changes in event effects over time. Specifically, I look at the past four decades to see if effects have changed over that time span. The incidence of job loss and job gain has increased over the past forty years (Brand 2015), as has the incidence of divorce and remarriage (Ellwood & Jencks 2004; Sweeney 2011). Residential moves, on the other hand, have decreased slightly (Frey 2009; Molloy, Smith & Wozniak 2011). Income inequality has increased rapidly during the same time period (Burtless & Jencks 2003; Campbell et al. 2005; Danziger & Gottschalk 1985; McCall & Percheski 2010; Jencks 2002; Mayer 2001; Neckerman & Torche 2007), and parenting practices have become more intensive and "hands-on," from the parents' perspective (Lareau 2003; Weis, Cipollone & Jenkins 2014). All these changes come into play when considering how the effects of disruptive events affect children's education.

Recent research has pointed out that employment is generally becoming less stable, with insecure jobs and precarious employment becoming increasingly common (Kalleberg 2011). At the same time, marriage is increasingly likely to end in divorce (Cherlin 2004; McLanahan & Percheski 2008). Pugh (2015) dubs our current situation "the tumbleweed society," marked by "the erosion of employer commitment…generat[ing] itinerant lives and transient selves" (2) with "parallel changes in intimacy," or romantic partnerships (6). The relevance and timeliness of this dissertation is evident.

The overarching goal of the following chapters is to analyze the effects of disruptive events in parents' lives on children's educational attainment from the angles of how events combine in a temporal way, how child age matters, and how the macro context matters given how effects have changed over time. I find that combinations of events do matter, the age of the child at the time of the disruptive event matters as well, and these event effects have exacerbated

over time. Implications of these findings taken together will be addressed in the conclusion of this dissertation.

A Methodological Note

Many of the results in this dissertation are discussed as being the effects of events on child outcomes. However, as discussed in Chapter 2, there are challenges in the establishment of clear causality in these analyses. Given the variety and number of events examined in this work, focusing on the exact workings of each event is at best impractical and generally impossible. Covariates cannot be established to cover all possibilities without a sample size cost that is too high to complete reliable comparative analyses. Thus, I call the results "effects" though in strict causal terms they would be considered "associations." In the interest of establishing a basis for event combinations and trends over time, I relax the assumptions for my use of causal language, though I acknowledge that there are challenges to be faced in this area of research.

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CHAPTER 2:

THE EFFECTS OF FAMILY STATUS CHANGES ON CHILDREN'S EDUCATIONAL ATTAINMENT

Abstract

Socioeconomic status, household composition, and residence are not necessarily stable across childhood. Changes in parental employment, relationship status, and residence have been shown to affect children's educational attainment. Less studied is the fact that these events can occur in combination: one event could prompt another, or families could experience more than one of these disruptive events independently. Using data from the Panel Study of Income Dynamics (PSID), I confirm that employment loss and gain, partner loss and gain, and residential moves have a negative effect on children's high school completion, and college attendance and completion. I then show that combinations of events lead to an increased negative effect. Finally, I show that, generally, an increased number of disruptive events has a progressively negative effect on educational outcomes. These findings suggest that event combinations matter for children; this should be considered when evaluating the impact of disruptive events in isolation.

Introduction

"When it rains it pours." "Bad things come in threes." "After the storm, the sun comes out." Idioms expound on combinations of important events; whether or not they hold true is generally unknown. There are indeed events that often occur together in people's lives, where one event prompts another event (e.g., a residential move following a divorce (Weitzman 1995), or a job loss leading to a divorce (Charles & Stephens 2004; Sayer, Allison, England & Kangas 2011)), or where families experience more than one of these events independently. Research usually focuses on one life event, such as divorce, a move, or job loss; such studies give insights into the dynamics and consequences of such events. However, these events often combine with each other, meaning that someone might be experiencing several such changes within the same year or two. The aim of this chapter is to examine potential trigger event combinations, explore how common these combinations are, and assess the impact of those combinations (in contrast to singular events) for children's educational outcomes.

Treating each event separately allows research to focus and delve more in-depth into each event's impact on the life course. However, a focus on singular events gives a disconnected view of each event, as if we were to pluck the event out of the life course. Each event occurs in the life course as part of a series of events. Disruptive events can be, and often are, coupled together. When analyzing each individually, this does not allow for a view of this connection. If each event matters, the connection between or combination of events may matter as well. Prior research does not currently answer this question.

This chapter focuses on high school graduation, college attendance, and college completion for the children of parents who experience disruptive life events. Of course, there are many educational outcomes that occur between birth and high school graduation that could be

measured, such as grades, disciplinary actions, or grade retention. I choose to focus on high school graduation, college attendance, and college completion because those are educational markers that impact children's likelihood of experiencing the same disruptive events in their subsequent life trajectories. Indeed, I show the impact of such educational milestones on parents' event experiences in this chapter as well. If parents' disruptive life events decrease the chances of children reaching educational milestones that then increase children's chances of experiencing the same life events, this creates a pathway of intergenerational transmission of life disruptions.

A major challenge in this project is that trigger events are not qualitatively equivalent. We cannot say that divorce has the same value as a residential move, or is half its value, for example, since this is subjective and relies on many other factors in a person's life. As such, I do not assign weights to each event. Rather, I assess the likelihood of events occurring and combining, and then attempt to compare the effects of events on children's educational attainment. The former task means evaluating how often disruptive events occur and then how often they occur within close time proximity of one another, in contrast to occurring as one event with no other disruptions in that time frame (time proximity will be addressed in the Methods section). The latter task involves choosing likely combinations of events and seeing what happens to children's educational attainment if their parents experience those combinations rather than stand-alone events. Again, effect comparison is challenging; I measure the effect on children's educational attainment of each parental life event as well as likely combinations. I try a variety of models to see what the most logical and methodologically sound way might be to quantitatively examine the effects of event combinations. From there, I draw cautious

conclusions about what my results mean more generally for families experiencing more than one disruptive event.

Background

Previous research shows that disruptive events indeed matter for children's educational attainment, usually negatively. Parental divorce or dissolution of a cohabiting relationship (Amato 2000; Amato & Keith 1991; Brown 2010; Cooper et al. 2011; Fomby & Sennott 2013; Garfinkel & McLanahan 1986; Mitchell et al. 2015; Rhodes & Hoey 1994; Seltzer 1994; Sweeney 2011; Werner & Smith 1992), remarriage or the start of a cohabiting relationship (Brown 2010; Jaffee, Moffitt, Caspi & Taylor 2003; Fomby & Sennott 2013; Mitchell et al. 2015; Sweeney 2011), residential moves (Burdick-Will et al. 2011; DeWit 1998; Ingersoll, Scamman & Eckerling 1989; Jelleyman & Spencer 2007; Pettit & McLanahan 2003; South, Haynie & Bose 2007), and job loss (Brand & Simon Thomas 2014) all negatively affect children, both educationally, socially, and emotionally. Combinations of events are probable: divorce or ending cohabitation has been shown to lead to residential moves (Swartz, Hartman & Mortimer 2011; Weitzman 1995) and remarriage or a new cohabiting relationship. These combinations could exacerbate already negative consequences.

There are various pathways by which children's educational attainment can be affected by disruptive events. Divorce and job loss specifically negatively affect family income (Davis & von Wachter 2011; Tach & Eads 2014; Tach & Eads 2015), and fluctuations in income have been shown to have negative consequences on children's education (Gennetian et al. 2015). Partner status changes in general can lead to changes in childcare, which is disruptive for young

children (Crosnoe et al. 2014).[1] Parental job loss means lower rates of high school and college completion for their children (Brand & Simon Thomas 2014). Disruptive events, such as partner exits and entrances (Mitchell et al. 2015) or job losses (Paul & Moser 2009), are also stressful for parents and their children, and this stress can affect behavior and mental health. When behavior (particularly classroom behavior) and mental health suffers, this can in turn affect educational attainment, among other factors.

More generally, recent research likewise shows that instability in families is detrimental to children's educational performance (Cavanagh & Fomby 2011), college completion (Fomby 2013), behavior (Fomby & Sennott 2013; Mitchell et al. 2015; Ryan, Claessens & Markowitz 2014), and other outcomes related to the transition to adulthood, such as union formation, childbearing, and entry into the labor force (Fomby & Bosick 2013). The experience of multiple disruptive events within close time proximity is akin to instability. However, a recent report by the Urban Institute (2014) points out that though instability is negative, there could be changes that create a form of instability but ultimately lead to better outcomes, such as a residential move when a parent gets a better job. Importantly, they also state that "the frequency or repetition of the experience of instability for children is an important consideration; a single experience of instability seems likely to have a different effect on children than repeated incidences of instability" (2). In an overview of related research, they refer to such repeated instances as a "cascade of instability,"[2] in which one event prompts another event.

[1] I underscore the idea of disruption or shocks in children's lives here rather than the notion of parents both working or single mothers working. Recent research shows that it is not the amount but rather the quality of time spent with children that affects their wellbeing (Hsin & Feife 2014).
[2] http://blog.metrotrends.org/2014/09/children-thrive-instability/?utm_source=iContact&utm_medium=email&utm_campaign=UI%20Update&utm_content=Sept+2014+-+1st+Thursday

As Werner and Smith (1992) point out, "the intercorrelations among a number of concurrent stressors in children's lives and possible common antecedents…are often overlooked in…investigations" (154). Research on families suggests that instability and change are more to blame for negative effects on children rather than the family statuses themselves (McLanahan 1988; Wu & Martinson 1993), over and above the negative effects of income changes (Wu 1996). Indeed, the negative effects of family instability affect children across all levels of income (Ryan, Claessens & Markowitz 2014). In other work (Simon Thomas, n.d.) I have found that the time a single mother spends unemployed is unrelated to the effects on their children's educational attainment; rather, it is the job loss itself that matters. Clearly, there is something about disruptive events that matters over and beyond concrete consequences such as income changes. However, no research to date has focused on disruptive events in a more general or combinatory way.

There is ample precedent to hypothesize that my findings will show that parental disruptions have negative effects on children's educational attainment. How combinations of events affect children compared to single events remains generally unknown, though the research brought to bear on this issue predicts a negative effect. The effect of experiencing multiple events could be simply additive or multiplicative. Alternately, additional events could not matter to those whose lives are already unstable; there could be a point at which another added event does not make a difference from the effects of events already experienced. Generally, instability is seen as being negative for children, however, and I expect my results to confirm that finding. In terms of consequences for children, I choose to focus on how disruptions affect high school completion, college attendance, and college completion. High school diplomas are necessary for the vast majority of jobs in the U.S., and college degrees lead to significantly increased incomes,

especially over a lifetime of employment (Borgen & Rumbaut 2011). Though schooling is mandatory until a student reaches an age between 15 and 18, depending on the state in which they reside,[3] high school diplomas were reached by approximately 90% of the U.S. population in 2013. Among college attendees, only 34% of the U.S. population was a Bachelor's degree holder in 2013 (U.S. Department of Education, National Center for Education Statistics, 2014). These are crucial milestones, which also provide a protective effect against job loss (Brand & Simon Thomas 2014; Kogan, Unt & Saar 2002) and marital instability (Furstenberg 1995). If disruptive events for parents create a situation in which children are more likely to experience the same events via educational mechanisms, this provides strong evidence for an intergenerational pathway of disadvantage.

Data

I use data from the Panel Study of Income Dynamics (PSID) for this analysis. The PSID began in 1968 and continues to add data every two years[4]. The study began with a sample of 18,000 individuals in 5,000 families (these participants are said to have the "PSID gene" or be "gened participants"), and the study is still growing as family members are added, creating a sample by 2011 of over 80,000 individuals. The PSID contains detailed information about job changes, partnership status, and residential location. It also contains, at a detailed level, a rich set of covariates for this analysis. Sample statistics of basic sample attributes are shown in Appendix 2.3.

[3] http://nces.ed.gov/programs/digest/d08/tables/dt08_165.asp
[4] Due to the initially annual and, after 1997, change to biannual nature of the PSID, I consider event occurrence across a two-year time span. This means that two events can occur within two years and be considered a combination of events in my analyses.

I use a subset of the trigger events that DiPrete and McManus (2000) use. Though these authors look at different outcomes, I believe these events capture a set of instability and change in socioeconomic status for parents and hence their dependent children, which is appropriate for this analysis. The employment events are: (1) employment to no employment, (2) no employment to employment, and the relationship events are: (1) add partner, and (2) lose partner. It is important to note that the PSID classifies respondents as "married" if they have been cohabiting for more than a year; it is this variable indicating being "married" which I use in my analyses. Thus, I focus on unions that dissolve or are entered into whether they are married or cohabiting, following the PSID definition of relationship length. I do not consider girlfriends and boyfriends in the household, as I believe that marriage or long-term cohabitation dissolution provides a greater shock to the household, and it is such large shocks in which I am interested. Though cohabitation and marriage have become increasingly similar in behavior and effects on children (Goldberg & Carlson 2014; Tach & Eads 2014; Tach & Eads 2015), I acknowledge that this is a generalization and there could be differences for children whose parents have cohabiting versus married relationships. I also include a third event category: moving to a new residence, which makes use of a question in the PSID where respondents are asked if they have moved in the previous year. This gives me a total of five events to analyze.[5] This list is by no means exhaustive; there are many more events that could be considered disruptive to families. This analysis is meant to provide a starting point with some of the most important trigger events for

[5] DiPrete and McManus include changing jobs with the same employer, changing employers but keeping a similar job, and changing partners as events. I have eliminated these events because I believe that the shock of those events is likely to be more nuanced and more complex to disentangle for the effects on children. Those authors also include entry into self-employment, which I eliminate from my analysis due to low sample size (0.53% for mothers and 0.44% for fathers).

families. This line of research can be extended to other events, such as health-related changes (e.g., severe illnesses or death in families).

I measure educational outcomes for children following Brand and Simon Thomas (2014) as high school completion by age 19, college attendance by age 21, and college completion by age 25. Notably, results for each educational outcome could be quite different, since college usually requires a financial investment and is not mandatory; persistence to college completion might also vary from attendance since it requires attending for multiple years and completing a set of requirements.

I analyze mothers' and fathers' events separately, following recent arguments that both parents' class origins matter for children and must be taken into account when analyzing intergenerational mobility (Beller 2009). The PSID's use of head of household predominantly uses the male in the household as the head, while changing this designation in other years; due to this inconsistency, I find it untenable to choose one parent as the main person whose disruptive events matter to children.

Missing Data for Fathers

The structure of the PSID brings up some challenges in including fathers in the sample. One issue is that if non-sample members left the household, they are no longer followed beyond that point in time; this means that relationship dissolution could lead to survey follow-up loss. More generally, an ended relationship could mean that survey participants are lost even if they were gened participants, because they move and cannot be located or they refuse to continue to participate. Attrition could also occur due to mortality. In the earlier half of the PSID, 2-3% of the sample is lost per year due to attrition (Falaris & Peters 1998). Between 1968 and 1996, 5-

13% of PSID fathers became non-resident, depending on the decade (Gupta, Smock & Manning 2004). If attrition is selective – which evidence suggests it is, based on education, income, and health (Fitzgerald 2011; Hofferth 2006; Schoeni & Wiemers 2015) – then this could lead to systematic variation and bias results. However, Fitzgerald (2011) finds no evidence of the impact of attrition on outcomes in intergenerational models.

Another issue is that of fathers never entering the sample because mothers start as unmarried. On average (averaged across 1968-2011), 76% of the mothers and 82% of the fathers in the sample I use are married, making this a slightly more stable sample than the general U.S. population (e.g. Tach & Eads 2015). (At the start of the survey, in 1968, 85% of mothers and fathers in the sample are married.) Thus, it is possible that the number of events is slightly underestimated, since families starting in the disadvantaged position of single parenthood are more likely to experience events such as job loss (Brand & Simon Thomas 2014) and they are more likely to be excluded from the sample. For children's outcomes, the effect of this is unclear: outcomes could be underestimated because more stable families are more able to absorb the shock of an event (e.g., Oreopoulos, Page, and Stevens 2008; Stevens and Schaller 2011), or outcomes could be overestimated because, to more stable families, the shock of an event is less expected and therefore greater, and invokes greater feelings of relative deprivation (Brand & Simon Thomas 2014).

To further examine the issue of missingness for fathers, I look at children who are born to single mothers. For mothers who report being unmarried when the child is born (or when the child enters the survey in 1968, if born prior to 1968), father's high school completion is missing in 0.2% of cases and father's college completion is missing in 0.2% of cases. For mothers who are missing the married variable in the year the child is born (or when the child enters the survey

in 1968, if born before 1968), I am missing 24.6% of the father's high school information and 24.9% of father's college information. I assume that missing marriage information skews toward unmarried, thus, I estimate the missing father's education percentage to lie between the calculated percentages for unmarried mothers and those who are missing marriage data for the first year of the child's life (or the first year the child is in the survey, if birth date predates the PSID). This roughly matches older estimates of non-resident fathers (Gupta, Smock & Manning 2004).

Looking at father's education in 2011, for mothers who report being unmarried when the child is born (or when the child enters the survey in 1968, if born prior to 1968), father's high school completion is missing in 0.1% of cases and father's college completion is missing in 0.1% of cases. For the mothers missing the married variable in the year the child is born (or enters the survey, if born before 1968), 20.1% of the father's high school information is missing and 20.9% of the father's college information is missing. Again, I estimate that the missing father's education percentage lies in between those values. Since these percentages are lower compared to the percentages where child birth years and father education in that year are matched, some education information for biological fathers is gathered later in the survey, or some stepfathers are being added to the sample.

As a comparison on missingness, for mothers who report being married when the child was born (or entered the survey in 1968, if born prior to 1968), the percentage of father's education missing is, per year, around 2%, and for education in 2011, around 1% (similar for high school and college). If I average the reported unmarried and missing percentages, I'm missing about 12% of father education variables versus 10% if I look across all years to gather father's education. This means there is a roughly estimated difference of 10% (for education in

each year) and 9% (using education survey results across all waves) between missingness in married and unmarried mothers.

However, in robustness checks I find that being married, on average across child ages, does not significantly affect missingness on high school completion for fathers. Being married does make it 22% less likely that college completion information for fathers will be missing (and this association is significant). I control for both father's high school completion and father's college completion in my models. I also control for whether or not the parents were married when the child was born, which controls for stability as well, and this variable is often significant for both event occurrence and child education outcomes.

Methods

The questions I address in this chapter are:

- *How often are events found in combination with one another? Which combinations are most common (i.e., which events are often experienced in the same family within a short time frame)?*
- *Do certain event combinations lead to lower educational outcomes for children than others? Do any of these combinations of events lead to positive educational outcomes for children?*
- *Is a higher count of events worse (in terms of children's educational outcomes) than a lower count?*

To code events, I create dichotomous variables. Prior to 1996, every year is included; post-1996, data are available for every other year. For the "employment to no employment" variable, I look at employment in two adjacent years and see if there is a change from employed

to not employed; if this is the case, the "employment to no employment" variable is coded as 1 rather than 0. (If one year's variable relevant to the event variable is missing, the event variable itself is coded as missing for that individual.) The other events are coded in a similar way. Thus, the events variables are coded as ever having experienced the event, with the boundaries being the time of the survey (1968-2011) and the child's age (0-17 years old). Again, given the switch to biannual data collection post-1997, I consider events and event combinations across every two years rather than annually. Event occurrences are balanced across two-year time spans, indicating that data collection efforts post-1997 reflect coverage of two years rather than one year.

To code events combinations, I created a variable for two events occurring in the same two years. Since the idea is to see if certain events lead to others, I coded the most likely scenarios: losing or gaining a partner and then moving, and losing or gaining a job and then moving. More complex is the potential connection between losing or gaining a job and losing or gaining a partner: these events could be ordered and combined in various ways, and indeed, many have interesting theoretical implications. I do not analyze the reasons or ordering for combinations but rather see if events occur within the same two years. Occurring within such close time proximity means children are exposed to more than one event within a short time frame, and it is the impact of that combination that is of interest.

I limit my sample to children who were at least 19 years old by the latest survey date (in 2011). I also look only at parental events that occurred when their surveyed child was between 0 and 17 years old; events that occurred prior to that child's birth and once the child was at least 18 years old are not included in my analysis. There is a chance that some children are also parents

with surveyed children in the sample; I do not exclude these cases.[6] I correct for families who have multiple children included in the survey by clustering. There is some censoring of children who were born prior to 1968; they are included in the analysis (unless they turned 18 prior to 1968), although I only observe events that occurred in the years of their childhood that are included in the survey. Approximately 31% of children included in the survey were born prior to 1968; 5% of children turned 18 years old prior to 1968. Thus, for 26% of children, their childhood years are somewhat truncated. This means that my sample of children is slightly skewed toward older child ages as compared to a sample in which all childhood years would be included for all children.

I use linear regression models to see which covariates significantly predict incidences of disruptive events in mothers' and fathers' lives.[7] Linear regression models take the form of:

$$y = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + ... + \beta_n * x_n \quad (1)$$

where *y* is the probability of the disruptive event, x_n is the set of covariates being examined in this model, β_0 is the constant, and the other β_n's signify the set of coefficients for each variable. I examine the β_n coefficients to see which covariates significantly predict events.

I use logistic regression models to estimate effects of parental events on child educational outcomes. Logistic models take the form of:

$$\log(\frac{p}{1-p}) = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + ... + \beta_n * x_n \quad (2)$$

where *p* is the probability of reaching an educational milestone (completing high school, attending college, or completing college), x_n is the set of covariates being examined in this

[6] Examining these cases only as its own study is a possibility for future work, though sample sizes would likely be quite limited, even using data from a study as large as the PSID.
[7] These models were also run as logistic regression models and as Poisson models, and I find no differences in effects in terms of which covariates significantly affect the events examined. Thus, I use linear regression models for simplicity.

model, β_0 is the constant, and the other β_n's signify the set of coefficients for each variable. Each educational outcome is a separate model; each event is considered in a separate model as well. I analyze mothers' and fathers' events in separate models to be able to examine potential differences in parental influence. Covariates for all models include the child's sex and race, whether the child was born in the South, mother's and father's high school completion, and mother's and father's college completion. For the models with mothers' events, I include a covariate signifying if mother was married when child was born; for models with fathers' events, I use a similar covariate for fathers. For the models that include the events of job loss or job gain, I use covariates signifying if the parent in question worked in manufacturing or trade in the year their child was born. I use a clustering correction (by family ID) to take into account families with more than one child in the survey.

I then run multiple logistic regression models with a variable signifying if the mother/father experienced a specific combination of events within one year; these models follow an identical structure to the models containing a variable for a single event. I also run models including these combination variables and the single event variables within each model rather than separately. However, the coefficient for the combination variable in both these sets of models describes the difference between child outcomes for those whose parents experienced two specific events in one year and *everyone else*. That means the comparison group contains those who experienced either of the events included in the combination as well as those who experienced no events. This is not necessarily a clear comparison, so I next turn to other ways to model these combinations.

The indicators for which events occurred are time-varying: in each year of a child's age, a parent can experience event A, event B, or both events A and B. Thus, these combinations

cannot easily be generalized in one variable as they repeat over time (e.g., a parent experiences event A in 1985 and events A and B in 1992); also, over time the categories are not mutually exclusive. Thus, I run logistic regression models for each child age, from age 0 to 17, for mothers and fathers separately, with a categorical variable coded as 0 for no events occurring, 1 for event A occurring, 2 for event B occurring, and 3 for events A and B occurring in the same two-year span. However, I cannot summarize results from all these models.[8] Instead, I create overall variables for each of the categories in the categorical variable, and then I use those variables as dummies in logistic regression models (i.e., three dummies in each model, one for combination of events, and one for each event separately).

However, with these models I ignore that once events are summarized, they can occur more than once during childhood. To solve this, I next run models for event counts. First, I look at single events but instead of including a dummy variable (1 is event was experienced, 0 if not), I instead include a variable for the count of times the event occurred for the mother/father. Second, I use this strategy to look at the effect of a count of event combinations. Third, I put the count variables for single events and combination events into the same model.

A Note on Causality

The establishment of causality for events and particularly event combinations is a challenge. The inherent fundamental problem of causal inference is that we cannot see people (or units) both experience and not experience the treatment (Holland 1986). Therefore, causal inference relies on the Stable Unit Treatment Value Assumption (SUTVA; see e.g. Morgan & Winship 2007): the treatment does not affect the potential outcomes when we compare the

[8] Chapter 3 will discuss trends by child age using these models; this chapter is focused on overall results.

treated population (i.e., those who experience events) to the untreated population (i.e., those who do not experience events).

In the analyses included in this chapter and the following chapters, these are difficult assumptions to uphold. More covariates can be added in order to aim for stronger causal claims, but this comes at the expense of sample size to the point that models cannot be run. Since many factors predict and affect each event, when combined, some of these factors must be discarded. The inclusion of the longitudinal facet faces the same challenges. Thus, I include only covariates that strongly predict event occurrence in all models, and I consider these analyses to be an overview of potential effects of events and event combinations. As discussed in the Introduction, in strict causal language, what I refer to as effects would be considered associations. There are many methodological hurdles to be cleared still.

Results

Analysis of Events

I first focus on exploratory analyses. Given the lack of coverage in the literature on how these life events might combine, my initial work involves determining how often events occur, and then how often events occur in close time proximity. To start, I look at the frequency of event occurrence in respondents' lives. Disruptive event occurrence is not rare. As shown in Table 1, the frequency of events ranges over the course of childhood from just over 14% for partner gains and job losses to nearly 60% for residential moves; fathers are slightly more likely to lose jobs compared to mothers (17.96% vs. 14.87%), but for other events mothers' and fathers' events are similar in likelihood. With a sample size of 15,792, this gives a more than

adequate number of event occurrences for analysis; it also makes it likely that respondents will experience more than one event during their children's childhood years.

Linear regression models show the covariates that have significant bearing on disruptive event occurrence. Figure 1 lists the factors that have a significant effect on each outcome, split into mother and father models. Black mothers are more likely to lose employment, gain employment (likely because they also lose jobs, i.e., job churn), and lose partners. The same factors are true for Black fathers. Educational covariates are mixed in significant effects: if the father is a high school graduate only or a college graduate, this lowers the mother's chances of losing employment, gaining employment, losing a partner, and gaining a partner. If the mother is either a high school graduate or a college graduate, she has less chance of losing a partner, compared to those with neither educational attainment. Additionally, when the father is a high school graduate only, families are less likely to experience a residential move. Either parent being a college graduate leads to a lower chance of employment loss, partner loss, and partner gain for fathers. If the mother is a college graduate, that leads to a lower chance of employment gain, partner loss, and partner gain for fathers. Mothers and fathers who are married when their child is born are less likely to lose a partner and gain a partner. They are also less likely to experience a residential move. However, they are more likely to experience a loss of employment.

To examine combined events, I focus on events occurring in a span of two years. For events prior to 1997, this means combining two years of the survey together; for events post-1997 this means events occur within a survey time which covers two years. Besides evening the analysis, since the PSID reports every two years post-1997, this also allows for greater sample sizes and more time for events to combine. In exploratory analyses (not shown here), I find that

events are more likely to combine within a year, but sample sizes remain small prior to 1997; combining years together allows me to examine a large set of people while still allowing events to occur in close time proximity. Ordering of events is unknown: for example, the combination of losing a partner and subsequently losing employment is treated as equivalent to losing employment and subsequently losing a partner.

Combinations of disruptive events are also common (see Table 2), with frequencies ranging from 1% to just over 15%. The combination of an employment event or a relationship status event combining with a residential move is clearly much more common than employment and relationship status events combining with each other. Partner loss/gain combined with a residential move is the most likely combination of events, followed by employment loss/gain combined with a residential move.

To further examine the incidence of event combinations, Table 3 shows the frequency of event combinations occurring *given that the first listed event occurred*. Thus, of those respondents who lost a partner, 64.91% (for mothers) and 67.49% (for fathers) also moved in the same year. For those respondents who gained a partner, 72.75% of mothers and 73.90% of fathers also moved in that same year. To underscore the impact of this, it means that the majority of children whose parents experienced a relationship or employment event also experienced a residential move. For employment loss and gain, these combined percentages are 44.82% for mothers and 47.27% for fathers, and 43.59% for mothers and 47.01% for fathers, respectively.

Percentages for other event combinations, i.e., experiencing the second event given that the first occurred, are between 2% and 14%. Particularly, of those respondents who lost employment, nearly 12% of mothers and nearly 14% of fathers also lost their partner. Overall,

this indeed points to significantly greater instability for many respondents than looking at one event in isolation.

It is possible that one event prompts another event, although their close proximity in time could also be coincidental; I cannot determine which event occurs first when they occur in the same survey year nor the exact reasons for their time proximity. Regardless of reason or order of coincidence, the fact remains that parents, and hence their children, are subject to the effects of both events within the same two-year time period. I define this as a set of combined disruptive events.

Analysis of Event Effects on Child Outcomes

The next step is to see how single events affect child outcomes. Effects of disruptive events on children's educational outcomes are shown in Table 4. For these models, events are coded as 1 if they ever occurred during childhood, 0 if they did not occur, and missing if information is missing from survey year to survey year (i.e., cannot see a change in status over time). It is important to note that this means whether the person experienced the event in question or not for a specific event's variable, they could also have experienced other events at any time, in these models. The comparison group includes everyone who did not experience the event in question (excluding those with missing information).

Mother's and father's employment loss, employment gain, partner loss, and partner gain, all have negative effects on children's educational outcomes, with effects becoming increasingly negative from high school completion to college attendance and then college completion. The effect of residential moves is insignificant for high school completion and significantly negative for college attendance and completion. These results are not surprising and confirm prior

research. It is interesting that employment gain and partner gain have similarly negative effects compared to employment loss and partner loss, which perhaps points to the negative implications of any instability for children (Brown 2010), even if the eventual outcome seems qualitatively positive.

Table 5 shows the effects of event combinations on the same child educational outcomes, again with the effects for mothers and fathers shown separately. It is important to note that this model shows those who experienced an event combination compared to everyone else; that is, respondents in the comparison group could have experienced one or both events but not in the same two years, different disruptive events at any time during childhood, or no disruptive events at all. It can be easily seen that the effect of a parent experiencing two disruptive events within a two-year span is overwhelmingly negative for children's educational outcomes. Effects tend to be higher for college completion compared to high school completion and college attendance.

The lower half of Table 5 contains event combinations that are less common, compared to combination in the top half of the table. Combining relationship and employment events with residential moves happens quite regularly, as discussed earlier. Combining relationship and employment events with each other happens less frequently, and so the power of the analyses is considerably less. Even so, I report the findings for comparison, with the caveat that sample sizes can be quite small, and I draw cautious conclusions.

Comparing Table 4 and Table 5, for employment events combining with residential moves as well as employment events combining with relationship events, effects are greater for event combinations compared to the effect of single events. There is no consistent additive or multiplicative pattern across models; the effects are simply larger. For example, when a mother loses employment, her child has, on average, a 17% lower chance of college completion, holding

other factors constant; for fathers' job loss, this value is 27%. When a mother experiences a residential move, her child has, on average, a 25% lower chance of college completion, holding other factors constant; for fathers, this value is 19%. However, when a mother experiences a loss of employment combined with a residential move, her child's chances of college completion are 32% lower compared to children whose mothers did not experience this combination of events. For fathers, the effect of these combined events is 36%.

For partner loss and gain combining with residential moves, the pattern of combinations compared to single events is less consistent. For partner loss and residential moves, effects on high school completion and college attendance are more strongly negative for the combination of events compared to single events, following the pattern of other combined events. However, for college completion, the single event of losing a partner is worse for child outcomes compared to losing a partner and a residential move. Generally, gaining a partner is slightly worse than gaining a partner and moving, though effect sizes are very similar. In other words, there does not seem to be a lot of difference in terms of educational effects of partner gain compared to these gains in combination with moving.

In order to gain more information about how events work in combination, next I create models containing each events variable as well as the combination variable for those two events. Thus, each model now has three explanatory regressors rather than having a separate model to determine each coefficient. This allows the model to take more of a life course perspective by accounting for the experience of single events as well as combinations of events (at different times in the survey) rather than treating these experiences as completely separate. Table 6 reports the results for these models. Indeed, the combination of employment loss and a residential move, and employment gain and a residential move, lead to a lower probability of

high school graduation, college attendance, and college graduation, compared to the effects of those single events. Losing a partner and moving is worse than each of those events in isolation for children's high school graduation and college attendance (losing a partner alone is very slightly worse for mothers here). However, the probability of children's college attendance is lower for just losing a partner compared to losing a partner and moving.

The pattern changes when a parent gains a partner and moves; this combination of events is not worse than those events taken alone. In fact, simply gaining a partner has a more substantial negative effect on all educational outcomes except, by a very small difference, college attendance when mothers experience the partner gain. What is interesting about this group of respondents is that this is the most common combination of two events of all considered in this analysis. Nearly 73% of mothers and 74% of fathers (see Table 3) who gain a partner also move to a new home. It is possible that since the move is normative, it is expected and therefore moving does not lead to a worse effect for children. It is also possible that the move signifies a better situation, where the new partnership means a new home with appropriate space for everyone, compared to gaining a partner within the same space as was previously inhabited.

In the next group in Table 6, gaining a job and gaining a partner in the same time span, the combination of events is increasingly negative across educational outcomes, compared to single events – interestingly, only for mothers. For fathers, the effects of the combination of these two events are nearly zero and insignificant or, for college attendance, substantially positive. This suggests that these events present a unique situation in which mothers influence their children's educational decisions in quite different ways than fathers do. It is possible that this points to fathers not being coresidential with children when in the position to gain a new

partner (i.e., separated from the child's mother), and therefore the partner gain and employment gain lead solely to more financial security and little instability in every-day life for children.

Moving to the combination of gaining employment and losing a partner, losing a partner alone overshadows the combination of events in all categories except for mothers and high school graduation. Losing employment and losing a partner looks very similar, though the combination of events for mothers is worse in effects on both high school graduation and college attendance. Losing employment and gaining a partner for mothers is worse than those events singly for high school and college completion; for fathers, this combination of events is worse for high school completion only.

Though tests of multicollinearity do not show a problem with combining single event and combined event variables in one model, the question remains as to what happens if categories are more mutually exclusive. In Table 6, the categories overlap: that is, those who have lost employment are included in both the "losing employment" and the "losing employment and residential move" categories. Thus, I create a categorical variable coded as 0 for no events occurring, 1 for event A occurring, 2 for event B occurring, and 3 for events A and B occurring for each child age from 0 to 17 years old.[9] Then, I create dummy variables based on each of these categories, and I create an overall variable (across child age years 0 to 17) for each category that takes the value of 1 if the dummy variable for that category was ever noted as 1 and 0 if it was ever 0. I then run models similar to the ones reported in Table 6, but using these dummy variables instead. I do not show full results here, but notably, losing employment and moving for mothers leads to a much lower probability of college attendance for children; for fathers, these events in combination lead to a lower probability of college completion for

[9] The results for each age category are used to look at patterns across childhood in chapter 3.

children. Gaining employment and moving is worse in combination for all situations except for fathers and child's high school completion.

A higher count of events might also matter for effects on children. See Appendices I and II for the counts of events and event combinations during childhood; though it is not uncommon for parents to experience an event twice during their child's childhood years, more than twice is unlikely, except for residential moves, which happen more often. Event combinations can also occur more than once during childhood, though unsurprisingly to a lesser extent than single events do.

In Table 7, I show that more disruptive events in childhood lead to increasingly negative consequences for children.[10] For mothers and fathers, an increased count of events leads to a lower chance of graduating high school, attending college, and graduating college, with an increasingly negative effect across outcomes. These findings imply not just that disruptive events have negative implications for children, but also that these events often combine and lead to increasingly negative effects. Therefore, it is clear that instead of considering one disruptive event in isolation, it is critical to also consider the context of other events which may be occurring within close time proximity.

To find out more about specific event counts, I reran the models for single events, but this time including with a variable indicating how many times the event occurred rather than simply whether or not the event occurred. Table 8 shows coefficients for a variable signifying event counts over childhood for each event; compared to prior analysis of single events (Table 4), results are quite similar. Losing a partner has a more highly negative effect when we consider

[10] To test the assumption that the impact of events changing as the count increases, I also ran models to examine the results of each additional event in isolation. Each event was still increasingly negative with similar value, so those results are not included.

counts for all educational outcomes, as does moving for high school completion. Effects are more highly significant, however, for the vast majority of outcomes. In Table 9, results show that event combination counts increase effect sizes for all event combinations, though for many combinations the difference is slight. All effects of event combination are still negative, and comparing single events to combinations of events in tables 8 and 9 follows the same pattern as comparing tables 4 and 5.

Finally, Table 10 shows results for models including count variables for event combinations and single events in the same model. Note that the count of combinations in these models indicates occurrences of those two events occurring within a two-year time span, as previously, so the count of event combinations is not inflated compared to single events simply because it considers two events. The events must occur within the same two years to be considered an event combination. These models overwhelmingly show that parents' experiences of combinations of events lead to a lower probability of their children attaining all three educational outcomes.

There are a few notable exceptions, however. Losing a partner for mothers has more highly negative effects on college completion compared to losing a partner and moving. Gaining a partner and moving is not worse in combination for college completion, as only gaining a partner is worse. Gaining employment and losing a partner does not have more negative effects on college completion compared to the single event of losing a partner. Overall, the results are close to those in Table 6. Using a count reflects both the event and the possibility of these events occurring multiple times, however, so this seems closest to the true experience of these factors for families.

Discussion

To summarize, I return to the questions posed at the start of this chapter. *How often are events found in combination with one another?* Combinations are surprisingly frequent, particularly when considering the proportion of parents who experience additional disruptive events given that they already experienced one disruptive event. This means that looking at the effects of just one event may be masking additional negative effects. *Which combinations are most common (i.e., which events are often experienced in the same family within a short time frame?* It is clearly most common to combine a residential move with either an employment or a partnership change. Relationship and employment status changes do not combine often.

Do certain event combinations lead to lower educational outcomes for children than others? It is difficult to compare across sets of events, and combinations of events seem generally within the same range of effect size. Combinations clearly matter, however, and across model specifications, parents' experience of two contemporaneous events leads to a lower probability of their children attaining all educational outcomes considered compared to parents' experience of single events.

Do any of these combinations of events lead to positive educational outcomes for children? The combination of employment gain and partner gain as well as the combination of employment loss and partner gain show positive effects on the probability of children's college graduation. Gaining employment and losing a partner for fathers shows a positive effect on the probability of children's college graduation. It is important to remember that sample sizes for these event combinations are small, however, and overall, effects are overwhelmingly negative.

Is a higher count of events worse (in terms of children's educational outcomes) than a lower count? My results show that this is indeed the case for many outcomes. Additionally,

each disruptive event comes at an incrementally negative cost to children's educational attainment when events occur in combination generally across childhood. A caveat here is that a select group of individuals experience a very large number of events while their children are between the ages of 0 and 17 years, though the models control for likely factors (race, education, married when child was born, etc.) to address this issue. While 19% of mothers and fathers experience one event during the course of the survey, 14% and 15% of mothers and fathers, respectively, experience two events; 10% and 11% experience 3 events, and 26% and 25% experience four or more events[11]. Events combinations can also be experienced more than once, particularly employment or relationship changes combined with residential moves. It is clear that the experience of multiple events is not rare across the life course. Therefore, the fact that additional events create increasingly negative effects is worrying for children's educational attainment. It also points to a potential group of increasingly disadvantaged families.

There are a number of cautions to place on my findings. It is possible that events occurring the same year are not linked in a "cascade;" I have no way of seeing reasons for events occurring within close timing of each other in the PSID. There is reason to believe that the timing of events in childhood matters, meaning that effects shown in this chapter might be "diluted" by the years included; the next chapter will deal with this possibility by splitting childhood into three time periods and examining disruptive event effects in each time period rather than over 17 years of childhood. Finally, this chapter ignores external factors such as recessions or times of war; chapter four will delve further into the ways in which these environmental factors might come into play. Future work should delve further into the reasons that these events might combine. Additionally, there are other disruptive events that could easily

[11] This final category is large because many people experience more events but I consolidate the category to 4+ to remain consistent with the other counts.

combine with these events on which I have chosen to focus in this paper (e.g., health-related events); those should be analyzed in the future.

When thinking about the consequences for policy relating to families and children in particular, it is important to remember how different the processes, decisions, and costs of attaining of a high school diploma are compared to college attendance and college graduation. High school is free and compulsory, whereas college can be quite expensive and is more choice-based. Therefore, the differences in effects on the probability of high school graduation as compared to college attendance and especially college completion are not surprising. Both single events and event combinations seem to matter more for college completion compared to high school graduation and college attendance, with event combinations leading to an even lower probability of college graduation.

There are several interesting policy implications here. First, since disruptive events often combine, and since the experience of these combinations leads to lower educational attainment (compared to the experience of single disruptive events), perhaps policies should first focus on stopping the cascade of disruptive events and then work on mending the consequences of events that have already occurred. Policies that allow people to keep their rented or mortgaged homes following a job loss are a great example of this sort of policy intervention. Second, there are some differences between mothers' and fathers' experiences of disruptive events, but largely the effects on children look quite similar, and policies should address this. Third, residential moves and partner losses show the largest effects on children's educational attainment. Educational policy makers should be aware of the negative consequences that children face when they move. Additionally, partner losses and gains figure heavily in college graduation, which are findings of which financial aid officers as well as academic mentors should be aware.

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TABLES

Table 2.1
Frequency of event occurrence

Event	*Frequency*	
	Mother	*Father*
Lost employment	14.87%	17.96%
Gained employment	14.61%	16.69%
Lost partner	22.69%	22.44%
Gained partner	16.89%	15.89%
Moved	59.59%	59.10%

Notes: This table reports the frequency of events ever occurring during the survey time (1968-2011). It includes mothers/fathers whose children were 0-17 years old when the event occurred and is limited to respondents who were at least 17 years old at the last survey wave in 2011. (N = 15,792)

Table 2.2
Frequency of event combination occurrence

Event combination	*Mother*	*Father*
Lost partner + Move	14.73%	15.15%
Gained partner + Move	12.29%	11.74%
Lost employment + Move	6.66%	8.49%
Gained employment + Move	6.37%	7.84%
Gained employment + Gained partner	1.53%	1.90%
Gained employment + Lost partner	1.41%	1.94%
Lost employment + Lost partner	1.73%	2.51%
Lost employment + Gained partner	1.22%	1.61%
Lost partner + Gained employment	1.41%	1.94%
Lost partner + Lost employment	1.73%	2.51%
Gained partner + Lost employment	1.22%	1.61%
Gained partner + Gained employment	1.53%	1.90%

Notes: This table includes mothers/fathers whose children were ages 0-17 when the event occurred, and is limited to respondents who were at least 17 at the last wave of the survey in 2011. The ordering of events is unknown. (N=15,792)

Table 2.3
Frequency of event combination occurrence, given first event occurrence

Event combination	*Mother*	*Father*
Lost partner + Move	64.91%	67.49%
Gained partner + Move	72.75%	73.90%
Lost employment + Move	44.82%	47.27%
Gained employment + Move	43.59%	47.01%
Gained employment + Gained partner	10.47%	11.40%
Gained employment + Lost partner	9.62%	11.65%
Lost employment + Lost partner	11.64%	13.98%
Lost employment + Gained partner	8.22%	8.95%
Lost partner + Gained employment	6.19%	8.66%
Lost partner + Lost employment	7.63%	11.19%
Gained partner + Lost employment	7.24%	10.11%
Gained partner + Gained employment	9.06%	11.97%

Notes: This table reports the frequency of event combinations, out of the mothers/fathers who experience the first event listed, given events occur in the same two survey years; events occur when child is 0-17 years old. (N=15,792)

Table 2.4
Logistic regression models of the effect of events on children's educational outcomes

Events	*Child graduated high school by age 19*		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Lost employment	0.894	0.839 *	0.966	0.824 *	0.832	0.727 *
	(0.076)	(0.069)	(0.081)	(0.072)	(0.094)	(0.084)
Gained employment	0.885	0.772 **	0.852 †	0.789 **	0.827 †	0.797 *
	(0.074)	(0.064)	(0.073)	(0.069)	(0.090)	(0.091)
Lost partner	0.827 *	0.841 *	0.639 ***	0.642 ***	0.576 ***	0.588 ***
	(0.064)	(0.065)	(0.050)	(0.051)	(0.061)	(0.063)
Gained partner	0.841 *	0.953 *	0.753 **	0.738 **	0.630 ***	0.711 **
	(0.073)	(0.085)	(0.065)	(0.066)	(0.074)	(0.084)
Moved	1.017	0.982	0.765 **	0.806 *	0.752 *	0.813 *
	(0.100)	(0.094)	(0.074)	(0.077)	(0.089)	(0.095)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are odds ratios; events occur when child is 0-17 years old; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade (for models predicting employment loss/gain); each event is a separate model; N=15,792.

Table 2.5
Logistic regression models of the effect of combinations of events on children's educational outcomes

Events	*Child graduated high school by age 19*		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Lost employment & Moved	0.729 **	0.684 ***	0.809 †	0.706 **	0.678 *	0.643 *
	(0.081)	(0.070)	(0.094)	(0.083)	(0.106)	(0.111)
Gained employment & Moved	0.783 *	0.644 ***	0.702 **	0.643 ***	0.581 **	0.671 *
	(0.084)	(0.065)	(0.082)	(0.074)	(0.097)	(0.105)
Lost partner & Moved	0.737 ***	0.752 **	0.617 ***	0.591 ***	0.604 ***	0.576 ***
	(0.061)	(0.062)	(0.055)	(0.053)	(0.076)	(0.073)
Gained partner & Moved	0.860 †	0.948	0.754 **	0.774 **	0.719 **	0.816
	(0.078)	(0.089)	(0.071)	(0.075)	(0.091)	(0.105)
Gained employment & Gained partner	0.631 *	0.749	0.530 *	1.058	0.294 **	0.640
	(0.119)	(0.140)	(0.135)	(0.227)	(0.120)	(0.210)
Gained employment & Lost partner	0.659 *	0.731	0.596 *	0.664 †	0.562	0.770
	(0.136)	(0.141)	(0.144)	(0.155)	(0.231)	(0.227)
Lost employment & Lost partner	0.669 *	0.707 *	0.387 ***	0.594 *	0.510 †	0.806
	(0.131)	(0.122)	(0.095)	(0.132)	(0.182)	(0.218)
Lost employment & Gained partner	0.516 **	0.728	0.840	0.729	0.275 **	1.052
	(0.113)	(0.157)	(0.211)	(0.193)	(0.133)	(0.330)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are odds ratios; events occur within two survey years, order does not matter; events occur when child is 0-17 years old; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade (for models predicting employment loss/gain); each event combination is a separate model; N=15,792.

Table 2.6
Logistic regression models of the effect of combinations of events and single events on children's educational outcomes

Events	*Child graduated high school by age 19*		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Lost employment & Moved						
Lost employment & Moved	0.689 *	0.674 **	0.774 †	0.760 †	0.726	0.779
	(0.099)	(0.093)	(0.111)	(0.114)	(0.143)	(0.163)
Moved	1.030	1.020	0.810 †	0.881	0.807	0.889
	(0.133)	(0.110)	(0.088)	(0.093)	(0.106)	(0.116)
Lost employment	1.067	1.014	1.096	0.938	0.959	0.812
	(0.118)	(0.110)	(0.113)	(0.104)	(0.136)	(0.113)
Gained employment & Moved						
Gained employment & Moved	0.794 †	0.679 **	0.737 *	0.689 *	0.597 *	0.739
	(0.109)	(0.093)	(0.109)	(0.104)	(0.120)	(0.145)
Moved	1.017	1.024	0.822 *	0.891	0.820	0.889
	(0.111)	(0.110)	(0.089)	(0.095)	(0.108)	(0.116)
Gained employment	0.979	0.933	0.976	0.941	1.006	0.913
	(0.104)	(0.104)	(0.105)	(0.106)	(0.133)	(0.130)
Lost partner & Moved						
Lost partner & Moved	0.714 **	0.710 **	0.794 †	0.715 *	0.930	0.808
	(0.085)	(0.089)	(0.098)	(0.094)	(0.174)	(0.155)
Moved	1.112	1.074	0.862	0.916	0.835	0.907
	(0.113)	(0.106)	(0.085)	(0.089)	(0.101)	(0.108)
Lost partner	1.015	1.053	0.756 *	0.810 †	0.619 **	0.684 *
	(0.112)	(0.123)	(0.083)	(0.093)	(0.095)	(0.108)
Gained partner & Moved						
Gained partner & Moved	0.966	0.967	0.912	1.034	1.250	1.419
	(0.131)	(0.144)	(0.139)	(0.170)	(0.278)	(0.337)
Moved	1.063	0.994	0.808	0.845 †	0.801 †	0.841
	(0.107)	(0.097)	(0.079)	(0.082)	(0.097)	(0.100)
Gained partner	0.853	0.978	0.836	0.742 *	0.559 **	0.534 **
	(0.110)	(0.137)	(0.116)	(0.112)	(0.113)	(0.121)
Gained employment & Gained partner						

Gained employment & Gained partner	0.734	0.925	0.646	1.559 †	0.406 *	0.923
	(0.147)	(0.190)	(0.171)	(0.363)	(0.173)	(0.326)
Gained partner	0.797 *	0.935	0.781 **	0.721 **	0.672 **	0.728 *
	(0.077)	(0.095)	(0.073)	(0.071)	(0.084)	(0.094)
Gained employment	0.926	0.782 **	0.895	0.765 **	0.878	0.810 †
	(0.082)	(0.068)	(0.079)	(0.070)	(0.098)	(0.096)
Gained employment & Lost partner						
Gained employment & Lost partner	0.765	0.949	0.820	0.977	0.864	1.245
	(0.166)	(0.196)	(0.207)	(0.042)	(0.368)	(0.394)
Lost partner	0.841 *	0.847 †	0.662 ***	0.666 ***	0.594 ***	0.594 ***
	(0.071)	(0.072)	(0.056)	(0.057)	(0.066)	(0.068)
Gained employment	0.925	0.788 **	0.899	0.815 *	0.869	0.808 †
	(0.081)	(0.069)	(0.079)	(0.074)	(0.078)	(0.096)
Lost employment & Lost partner						
Lost employment & Lost partner	0.770	0.856	0.463 **	0.835	0.768	1.438
	(0.161)	(0.162)	(0.118)	(0.198)	(0.287)	(0.429)
Lost partner	0.935	0.850 †	0.678 ***	0.673 ***	0.597 ***	0.586 ***
	(0.083)	(0.073)	(0.057)	(0.058)	(0.067)	(0.068)
Lost employment	0.840 *	0.868	1.066	0.863	0.881	0.719 **
	(0.071)	(0.076)	(0.093)	(0.079)	(0.103)	(0.088)
Lost employment & Gained partner						
Lost employment & Gained partner	0.593 *	0.844	0.993	0.986	0.389 †	1.745
	(0.136)	(0.194)	(0.256)	(0.272)	(0.193)	(0.599)
Gained partner	0.807 *	0.932	0.749 **	0.753 **	0.669 **	0.687 **
	(0.078)	(0.093)	(0.071)	(0.073)	(0.084)	(0.090)
Lost employment	0.947	0.853 †	0.980	0.831 *	0.877	0.704 **
	(0.084)	(0.072)	(0.084)	(0.074)	(0.101)	(0.086)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are odds ratios; event combinations occur within two survey years, order does not matter; events occur when child is 0-17 years old; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade (for models predicting employment loss/gain); each set of single events and one event combination is a separate model; N=15,792.

Table 2.7
Logistic regression models of the effect of all event counts on children's educational outcomes

	Child graduated high school by age 19		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Event count (all events)	0.957 *** (0.011)	0.955 *** (0.011)	0.920 *** (0.011)	0.922 *** (0.012)	0.910 *** (0.015)	0.918 *** (0.017)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are odds ratios; events occur when child is 0-17 years old; event combinations occur within two survey years, order does not matter; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade (for models predicting employment loss/gain); N=15,792.

Table 2.8
Logistic regression models of the effect of event counts on children's educational outcomes

Counts of events	*Child graduated high school by age 19*		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Lost employment	0.857 **	0.841 ***	0.893 †	0.802 ***	0.835 *	0.716 ***
	(0.051)	(0.039)	(0.052)	(0.045)	(0.069)	(0.060)
Gained employment	0.882 *	0.810 ***	0.861 *	0.786 ***	0.853 †	0.728 ***
	(0.049)	(0.039)	(0.050)	(0.044)	(0.073)	(0.057)
Lost partner	0.784 ***	0.787 ***	0.639 ***	0.635 ***	0.495 ***	0.499 ***
	(0.041)	(0.042)	(0.038)	(0.039)	(0.043)	(0.044)
Gained partner	0.816 **	0.866 *	0.684 ***	0.692 ***	0.517 ***	0.572 ***
	(0.052)	(0.059)	(0.045)	(0.049)	(0.051)	(0.055)
Moved	0.931 ***	0.940 **	0.875 ***	0.894 ***	0.866 ***	0.893 ***
	(0.016)	(0.017)	(0.016)	(0.018)	(0.021)	(0.022)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are odds ratios; each event count is a separate model; events occur when child is 0-17 years old; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade (for models predicting employment loss/gain); N=15,792.

Table 2.9
Logistic regression models of the effect of event combinations (counts) on children's educational outcomes

Counts of events	*Child graduated high school by age 19*		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Lost employment & Moved	0.716 ***	0.707 ***	0.788 *	0.675 ***	0.608 ***	0.561 ***
	(0.064)	(0.052)	(0.076)	(0.066)	(0.084)	(0.086)
Gained employment & Moved	0.788 **	0.661 ***	0.707 **	0.633 ***	0.563 ***	0.594 ***
	(0.067)	(0.048)	(0.070)	(0.061)	(0.085)	(0.084)
Lost partner & Moved	0.723 ***	0.720 ***	0.607 ***	0.590 ***	0.518 ***	0.479 ***
	(0.045)	(0.043)	(0.044)	(0.044)	(0.058)	(0.051)
Gained partner & Moved	0.842 *	0.860 †	0.691 ***	0.703 ***	0.576 ***	0.653 ***
	(0.061)	(0.066)	(0.051)	(0.056)	(0.063)	(0.071)
Gained employment & Gained partner	0.661 *	0.674 *	0.552 *	0.896	0.248 **	0.481 *
	(0.120)	(0.118)	(0.139)	(0.184)	(0.106)	(0.153)
Gained employment & Lost partner	0.626 *	0.688 *	0.535 *	0.574 *	0.449 †	0.585 †
	(0.127)	(0.122)	(0.131)	(0.128)	(0.188)	(0.173)
Lost employment & Lost partner	0.677 †	0.647 **	0.387 ***	0.508 **	0.367 **	0.587 †
	(0.136)	(0.102)	(0.096)	(0.108)	(0.131)	(0.162)
Lost employment & Gained partner	0.506 **	0.697 †	0.805	0.648 †	0.260 ***	0.837
	(0.103)	(0.141)	(0.186)	(0.164)	(0.126)	(0.262)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are odds ratios; each event count combination is a separate model; events occur when child is 0-17 years old; event combinations occur within two survey years; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade (for models predicting employment loss/gain); N=15,792.

Table 2.10
Logistic regression models of the effect of event combinations and single events (counts) on children's educational outcomes

Events	*Child graduated high school by age 19*		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Lost employment & Moved						
Lost employment & Moved	0.754 **	0.731 ***	0.864	0.718 **	0.668 **	0.601 **
	(0.069)	(0.054)	(0.084)	(0.071)	(0.093)	(0.093)
Moved	0.933 ***	0.949 *	0.872 ***	0.904 ***	0.875 ***	0.913 **
	(0.018)	(0.020)	(0.018)	(0.020)	(0.023)	(0.024)
Lost employment	0.956	0.928	0.916	0.855 *	0.960	0.786 *
	(0.078)	(0.062)	(0.070)	(0.061)	(0.103)	(0.076)
Gained employment & Moved						
Gained employment & Moved	0.827 *	0.680 ***	0.774 *	0.673 ***	0.615 **	0.644 **
	(0.071)	(0.050)	(0.077)	(0.064)	(0.092)	(0.089)
Moved	0.927 ***	0.955 *	0.879 ***	0.909 ***	0.881 ***	0.909 ***
	(0.018)	(0.020)	(0.018)	(0.020)	(0.023)	(0.024)
Gained employment	0.930	0.917	0.937	0.863 *	1.035	0.781 **
	(0.071)	(0.066)	(0.072)	(0.060)	(0.105)	(0.074)
Lost partner & Moved						
Lost partner & Moved	0.740 ***	0.728 ***	0.638 ***	0.597 ***	0.537 ***	0.476 ***
	(0.048)	(0.044)	(0.047)	(0.045)	(0.060)	(0.052)
Moved	0.963 †	0.973	0.909 ***	0.934 **	0.911 ***	0.945 *
	(0.019)	(0.020)	(0.019)	(0.020)	(0.024)	(0.024)
Lost partner	0.936	0.975	0.728 **	0.751 **	0.484 ***	0.562 ***
	(0.079)	(0.091)	(0.067)	(0.074)	(0.067)	(0.078)
Gained partner & Moved						
Gained partner & Moved	0.870 †	0.890	0.737 ***	0.733 ***	0.614 ***	0.683 **
	(0.065)	(0.070)	(0.056)	(0.059)	(0.069)	(0.076)
Moved	0.938 **	0.945 **	0.890 ***	0.911 ***	0.894 ***	0.913 **
	(0.018)	(0.019)	(0.018)	(0.020)	(0.023)	(0.024)
Gained partner	0.812 *	0.931	0.739 *	0.724 *	0.450 ***	0.429 ***
	(0.084)	(0.108)	(0.087)	(0.096)	(0.086)	(0.087)
Gained employment & Gained partner						

Gained employment & Gained partner	0.663 *	0.697 *	0.558 *	0.924	0.257 **	0.518 *
	(0.121)	(0.120)	(0.143)	(0.184)	(0.110)	(0.160)
Gained partner	0.797 **	0.865 †	0.705 ***	0.676 ***	0.544 ***	0.588 ***
	(0.056)	(0.069)	(0.051)	(0.054)	(0.058)	(0.063)
Gained employment	0.907	0.816 ***	0.876 †	0.770 ***	0.915	0.738 ***
	(0.056)	(0.042)	(0.054)	(0.046)	(0.079)	(0.060)
Gained employment & Lost partner						
Gained employment & Lost partner	0.665 *	0.711 †	0.587 *	0.606 *	0.513	0.641
	(0.134)	(0.124)	(0.146)	(0.134)	(0.208)	(0.185)
Lost partner	0.787 ***	0.795 ***	0.655 ***	0.651 ***	0.502 ***	0.497 ***
	(0.046)	(0.047)	(0.042)	(0.044)	(0.047)	(0.048)
Gained employment	0.918	0.824 ***	0.911	0.809 ***	0.919	0.748 ***
	(0.055)	(0.041)	(0.056)	(0.047)	(0.077)	(0.060)
Lost employment & Lost partner						
Lost employment & Lost partner	0.711 †	0.672 *	0.402 ***	0.519 **	0.393 **	0.602 †
	(0.141)	(0.105)	(0.101)	(0.110)	(0.140)	(0.165)
Lost partner	0.783 ***	0.800 ***	0.671 ***	0.660 ***	0.511 ***	0.500 ***
	(0.045)	(0.047)	(0.043)	(0.044)	(0.048)	(0.048)
Lost employment	0.889 †	0.864 **	0.976	0.835 **	0.914	0.732 **
	(0.056)	(0.043)	(0.060)	(0.049)	(0.077)	(0.067)
Lost employment & Gained partner						
Lost employment & Gained partner	0.501 **	0.717 †	0.795	0.665 †	0.264 **	0.917
	(0.104)	(0.142)	(0.189)	(0.164)	(0.129)	(0.271)
Gained partner	0.813 **	0.859 †	0.680 ***	0.706 ***	0.537 ***	0.555 ***
	(0.057)	(0.067)	(0.048)	(0.056)	(0.057)	(0.061)
Lost employment	0.899	0.849 **	0.906	0.807 ***	0.889	0.700 ***
	(0.058)	(0.042)	(0.055)	(0.047)	(0.075)	(0.064)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are odds ratios; each event count combination is a separate model; events occur when child is 0-17 years old; event combinations occur within two survey years; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade (for models predicting employment loss/gain); N=15,792.

Figure 2.1
Control variable significance, predicting disruptive events

Event	*Significance*	
	Mother	*Father*
Lost employment	Black + Father high school grad only - Father college grad - Mother married when child born + Manufacturing +	Black + Born in South - Mother college grad - Father college grad - Father married when child born + Manufacturing +
Gained employment	Black + Born in South + Father high school grad only - Father college grad - Mother married when child born - Mother manufacturing +	Black + Born in South - Mother college grad - Father high school grad only + Father college grad - Father manufacturing +
Lost partner	Black + Born in South + Mother high school grad only - Mother college grad - Father high school grad only - Father college grad - Mother married when child born -	Black + Born in South + Mother high school grad only - Mother college grad - Father high school grad only - Father college grad - Father married when child born -
Gained partner	Born in South + Father high school grad only - Father college grad - Mother married when child born -	Born in South + Mother high school grad only - Mother college grad - Father college grad - Father married when child born -
Residential move	Born in South + Father high school grad only - Mother married when child born -	Born in South + Father high school only - Father married when child born -

Notes: Linear regression models predicting event as outcome; each event is a separate model; only statistically significant factors listed.

Appendix 2.1 **Event frequency, by count**		
Lost employment	*mother*	*father*
1	12.15%	13.35%
2	2.33%	3.48%
3	0.31%	0.89%
4+	0.08%	0.23%
Gained employment	*mother*	*father*
1	11.91%	12.40%
2	2.29%	3.21%
3	0.34%	0.87%
4+	0.06%	0.21%
Lost partner	*mother*	*father*
1	19.40%	19.36%
2	2.88%	2.73%
3	0.35%	0.30%
4+	0.05%	0.04%
Gained partner	*mother*	*father*
1	14.53%	13.99%
2	2.01%	1.66%
3	0.32%	0.21%
4+	0.02%	0.02%
Moved	*mother*	*father*
1	23.51%	23.99%
2	15.08%	15.53%
3	8.75%	8.65%
4+	12.24%	10.74%
All events	*mother*	*father*
1	18.96%	19.01%
2	14.31%	14.96%
3	10.36%	10.62%
4+	25.69%	25.36%

Notes: Events occur when child is between 0 and 17 years old; N = 15,792.

Appendix 2.2 **Event combination frequency, by count**		
Lost employment & Moved	*mother*	*father*
1	5.90%	7.15%
2	0.64%	1.10%
3	0.05%	0.18%
4	0.01%	0.02%
Gained employment & Moved	*mother*	*father*
1	5.55%	6.60%
2	0.76%	0.95%
3	0.03%	0.21%
4+		0.04%
Lost partner & Moved	*mother*	*father*
1	12.77%	13.26%
2	1.71%	1.66%
3	0.21%	0.17%
4	0.03%	0.03%
Gained partner & Moved	*mother*	*father*
1	10.82%	10.54%
2	1.26%	1.02%
3	0.15%	0.11%
4	0.01%	0.01%
Gained employment & Gained partner	*mother*	*father*
1	1.51%	1.83%
2	0.02%	0.07%
Gained employment & Lost partner	*mother*	*father*
1	1.39%	1.85%
2	0.02%	0.09%
Lost employment & Lost partner	*mother*	*father*
1	1.67%	2.39%
2	0.05%	0.11%
3	n/a	0.01%
Lost employment & Gained partner	*mother*	*father*
1	1.19%	1.57%
2	0.04%	0.04%

Notes: Events occur when child is between 0 and 17 years old; N = 15,792.

Appendix 2.3 **Sample statistics**	
	Mean(SD)/Percent
Mothers	
Age in 2011	61.0(12.5)
High school graduate by 19	46.5%
College attendance by age 21	16.3%
College graduate by age 25	9.5%
Married when child was born	86.0%
Avg. married (1968-2011)	76.1%
Avg. employment rate (1968-2011)	93.9%
Fathers	
Age in 2011	61.4(11.7)
High school graduate by 19	41.7%
College attendance by age 21	14.7%
College graduate by age 25	9.1%
Married when child was born	86.0%
Avg. married (1968-2011)	82.2%
Avg. employment rate (1968-2011)	94.3%
Children	
Age in 2011	36.7(13.4)
High school graduate by 19	39.3%
College attendance by age 21	19.3%
College graduate by age 25	9.8%
Black (0/1)	0.12
Male (0/1)	0.51
Born in South (0/1)	0.36
Notes: These statistics only include parents of children, or children themselves, who were at least 19 years old by the 2011 PSID survey wave.	

CHAPTER 3:

TIME-VARYING EFFECTS OF FAMILY STATUS CHANGES ON CHILDREN'S EDUCATIONAL ATTAINMENT

Abstract

Changes in socioeconomic status, household composition, and residence affect children's educational outcomes. However, event timing in childhood matters. I address variation in experience of disruptive events by analyzing high school completion, college attendance, and college completion; I divide childhood into ages 0-5, 6-11, and 12-17 and look at models across all child ages from 0 to 17 years to see if effects vary depending on timing. I find that events occur in substantial numbers at all times in children's lives, though all events are more likely in the youngest age range. The effects of employment changes and residential moves increase as the child ages, whereas the effects of family change decrease. When events combine, effects worsen, while the variation in combined effects by age is more complex: e.g., when children experience a parental partner loss and a residential move, the effect increases in size over time because of the move; those who do not move in conjunction with the partner loss see effects diminishing over time. Finally, the analysis shows differences between mothers and fathers: mothers' employment losses in early childhood are actually beneficial to children's educational outcomes in sharp contrast to fathers' employment losses which are always detrimental to children's outcomes, and fathers' partner gains become insignificant as time goes on, whereas mothers' partner gains have negative effects on children's educational outcomes.

Introduction

Disruptive events in parents' lives have adverse effects on their children's educational attainment, as the previous chapter showed. However, the previous chapter focused on events occurring when children were between 0 and 17 years old. This chapter aims to address variation in the experience of disruptive events by asking: *do educational outcomes vary depending on the time in the child's life when these events occurred?* On the one hand, educational milestones such as high school graduation are closer to later childhood in time; on the other hand, children at younger ages are more vulnerable to parent influence, and indeed, they rely on their parents significantly more, compared to older children who have access to other adults such as peers and teachers and are more independent in their daily activities. This chapter uses the same trigger events as the previous chapter: partner loss, partner gain, employment loss, employment gain, and residential moves. I also look briefly at the experience of event combinations and how those vary over time, particularly as compared to time-varying trends of single events.

Responses to treatments, in this case the trigger events, can vary systematically over time (Brand & Simon Thomas 2014; Voight, Shinn & Nation 2012). Also, the risk of experiencing these events, from the parents' perspective, varies over the life course (Esping-Anderson 1999). Haveman, Wolfe, and Spaulding (1991) found that the effect on high school completion of income and residential changes varied depending on the age of the child at the time of the event. Brand and Simon Thomas (2014) found differences in the effects of parental displacement depending on when in childhood the displacement occurred; Voight, Shinn, and Nation (2012) found differences in math and reading achievement for children who moved at various times. However, in an earlier study Alwin and Thornton (1984) did not find differences in educational

achievement when comparing results from factors in early childhood versus late adolescence. Thus, the events I will be examining could show different effects at different times in the child's life course, or they could affect children similarly regardless of their timing in childhood. Additionally, some events may show differences in outcomes while others may not vary over time.

As Brand and Simon Thomas (2014) did, childhood is divided into ages 0-5, 6-11, and 12-17. That creates categories corresponding to early childhood (i.e., infant and preschool years), middle childhood (i.e., elementary/middle school years), and adolescence (i.e., high school years). I also look at trends over the childhood years by analyzing models for each child age, year by year. I then compare those two approaches to see how disruptive event effects vary over time. The outcomes remain children's high school completion, college attendance, and college completion (at ages 19, 21, and 25, respectively).

Background

Research in various fields, primarily focused on determining when in a child's life interventions are most effective, has found that early childhood is the crucial time to set children on an alternate path (The Carnegie Corporation of New York 2002; Ermisch, Peter & Spiess 2012; Rhodes & Hoey 1994; Werner & Smith 1992). This could imply that shocks in early childhood would similarly be most salient. However, I am interested in outcomes that are part of the transition to adulthood, occurring years after ages 0-5. This means that if the events occurred well before these transitions, effects may have waned by the time the educational transition becomes relevant in the child's life. Children might also react differently to shocks simply because their level of understanding and awareness of these changes varies by their age. The

question then becomes whether or not the effects of a shock in early childhood last until decisions about high school completion or college attendance are made, and if so, whether this enduring effect is larger than the effect of the same event occurring closer to the time of the transition. This chapter takes two approaches to determining time variation for effects: I first look at three different times in childhood (early, middle, adolescence; or toddler/preschool, middle school, high school), and then I analyze time trends with models for each child age from 0 to 17 years.

There is prior research that focuses on effect variation across child ages, but results are mixed, and there is no clear story one can tell. Brand and Simon Thomas (2014) found variation in effects based on the age of child when a maternal job separation occurred: the older the child was when the event happened, the greater the effect on the child's educational attainment and psychological wellbeing. In an earlier study, however, Alwin and Thornton (1984) did not find differences when contrasting results from factors in early childhood versus late adolescence. Those authors only look at two discrete time points though, rather than three time divisions of childhood or all years until age 17, as I do in this chapter.

It is important to consider how and why shocks affect educational attainment in order to hypothesize why there might be age variation. Kowaleski-Jones and Duncan (1999) find that shocks affect academic achievement, providing one potential mechanism for being pushed "off track" to certain levels of educational attainment while also implying that shocks during school ages will affect educational attainment more than shocks during infant, toddler, and preschool ages. On the other hand, Crosnoe and coauthors (2014) find that shocks in early childhood lead to changes in childcare situations (prior to K-12 school entrance), and this affects future educational attainment. It has been shown that instability more generally has negative effects on

child outcomes (Brown 2010), and given that consistency and predictability are crucial to early child development (Levine Coley & McPherran Lombardi 2012), this could point to early childhood as the more vulnerable time.

Disruptive events also affect family income, and research has found income shocks to affect younger children more heavily in terms of meeting their needs, though starting socioeconomic status does mitigate these effects (Page, Stevens, & Lindo 2009). When previous income is taken into account, Hardy (2014) actually finds that "the negative association between [income] volatility exposure and educational attainment is largest for young adults from moderate-income families" (1641). The causality of income effects on child outcomes is also debated, given that there can be various pathways by which income and income shocks can affect children (McLanahan & Percheski 2008). One could hypothesize that income is crucial for meeting early childhood needs, but one could also contend that income is equally critical for affording college tuition.

There is the possibility of positive effects of disruptive events. Hsin and Felfe (2014) find that maternal employment is negatively associated with child wellbeing, which could imply that shocks causing mothers to be in the home with their children rather than working outside the home may lead to a positive effect. Brand and Simon Thomas (2014) indeed found such a positive effect when job loss occurred among mothers of children young enough to not yet be in school full-time. However, Hsin and Felfe (2014) underscore that unstructured time does not aid children, meaning that mothers would need to use the extra time with their children in more educational ways to reap benefits.

Looking at birth through 5 years old, economists Almond and Currie (2011) find that shocks during that time can indeed persist as "permanent damage," yet there is also a surprising

resilience to children. In other words, the effects could remain or fade over time. They focus mostly on health-related shocks (e.g., nutrition, pollution), however, as well as childhood maltreatment. Though the latter could potentially be an outcome of the events on which I focus, employment changes, family status changes, and residential moves are generally less catastrophic. It is nonetheless important to note that even for such large-scale and potentially biological shocks, the change in effects over time is unclear and varied.

Data

As in the previous chapter, this analysis uses data from the Panel Study of Income Dynamics (PSID). The PSID began in 1968 and the most recent wave occurred in 2011, which makes it ideal for intergenerational studies. Having grown from 18,000 individuals in 5,000 families, the study currently contains data from more than 80,000 individuals.

Again as in the previous chapter, the events outlined by DiPrete and McManus (348, 2000) provide a blueprint for the disruptive events that I examine in this study. The employment events are: (1) work to no work, and (2) no work to work[1], the relationship events are: (1) add partner, and (2) lose partner, and I also include moving to a new residence as another event. This gives me a total of five events. I also use parental disruptive event combinations in this chapter, which juxtapose experiencing no events, only one event, or two events concurrently (within the same two years).

[1] Initial analysis shows that sample sizes for entry into self-employment, once divided into different times in childhood, are too small for further analysis. The rate of entry into self-employment for mothers when children are between 0 and 5 years old is 0.15%, between 6 and 11 years old is 0.11%, between 12 and 17 years old is 0.17%;, so I eliminate this event from further analyses. for fathers, these numbers are 0.15%, 0.07%, and 0.12%, respectively. Even given a sample size of over 15,000 respondents, this simply is not a high enough number of cases with which to run models, even if mothers' and fathers' events are combined.

I measure educational outcomes for children following Brand and Simon Thomas (2014) as high school completion by age 19, college attendance by age 21, and college completion by age 25. I look at mothers' and fathers' events separately, since the chances of differences between mothers' and fathers' influences, particularly in early childhood, are high. For one set of models, I do combine mothers and fathers, however, to increase sample size.

Methods

In this chapter, my goal is to answer the question: *do children's educational outcomes vary depending on the time in the child's life when disruptive events occurred in their parents' lives?* I take two approaches to address this: first, I divide the childhood years, from ages 0 to 17, into three subsets of time; second, I look at trends across those subdivisions. Childhood years are naturally subdivided by education: at 0-5 years of age, children are in preschool or not yet in a formal schooling environment; at 6-11 years of age, children attend elementary schools; at 12-17 years of age, children attend secondary schools, generally speaking. I look at the influence of parental disruptive events on children's educational attainment within each subgroup of ages to see how the effects differ. Then, I look at the effect within each year of age to see if there are any trends from age 0 to 17. I do this by running separate models for each year and also by including each year within one model. By looking at the outcomes for separate and inclusive models, I can determine how events are connected.

Beyond descriptive analyses, all models in this chapter are logistic regression models, where the outcome signifies the odds ratio of graduating from high school, attending college, or graduating from college, for children. As in Chapter 2, logistic models looking at outcomes due to events occurring during three groups or single years of child age are structured as follows:

$$\log\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + ... + \beta_n * x_n \quad (1)$$

where p is the probability of reaching an educational milestone (completing high school, attending college, or completing college; expressed as odds ratios), x_n is the set of covariates being examined in this model, β_0 is the constant, and the other β_n coefficients evaluate covariates. The event variables are dichotomous and added in to the models as x_1. Each educational outcome is a separate model. Each event is considered in a separate model, including events at different times in children's lives; in other words, I create different variables for event occurrence during 0-5, 6-11 and 12-17 years old as well as during each year of child age, and each of these timed events is considered in a separate model as well. I analyze mothers' and fathers' events in separate models to be able to examine potential differences in parental influence, with one exception (which will be discussed in greater detail) in which mothers' and fathers' events are combined due to sample size constraints.

Models with interactions between child age and event variables, to determine time trend significance, take the form of:

$$\log\left(\frac{p}{1-p}\right) = \beta_0 + (\beta_1 * x_1 + \beta_2 * x_2 + \beta_3 * x_1 * x_2) + ... + \beta_n * x_n \quad (2)$$

Covariates for all controlled models include the child's sex and race, whether the child was born in the South, and mothers' and fathers' education (high school and college completion). For the models with mothers' events, I include a covariate signifying if mother was married when child was born; for models with fathers' events, I use a similar covariate for fathers. For the models that include the events of employment loss or employment gain, I use covariates signifying if the parent in question worked in manufacturing or trade in the year their child was

born. I use a clustering correction (by mother, father, or family ID, depending on the model) to correct for families with more than one child in the survey.

Results

Descriptive Statistics

Table 3.1 shows that the frequency of all five disruptive events decreases over time. Particularly residential moves are less common when children are 12-17 years old, though all events occur more frequently when children are 0-5 years old. Fathers are more likely to experience employment events, especially when children are 0-5 years old, which makes sense given that they are likely younger workers at that time with presumably less stable careers.

Table 3.2 reports the frequency of event occurrence during specific times in childhood, conditional on an event occurring. For example, for those children whose mothers ever experienced a employment loss when they were 0-17 years old, nearly 38% of those children experienced an employment loss between the ages of 0 and 5 years. Gaining a partner for mothers is by far most common in those early childhood years; all five disruptive events for fathers are more common during that age range. Again, the prevalence of disruptive events decreases as children get older, though these events are never rare. As work in Chapter 2 also showed, residential moves are quite common at all ages.

Single Events

Table 3.3 shows results for models testing the effects of disruptive events on children's educational attainment at ages 0-5, 6-11, and 12-17, including controls for the child's gender and race, parents' education, and being born in the South. From these results it is clear that

employment loss is not significant in early childhood, though values are closer to no effect for mothers versus fathers; fathers' employment loss becomes significantly negative for children aged 6-11 and 12-17. Partner loss has significantly more of a negative effect in early childhood compared to school-aged children. Partner gain has a similarly negative effect on college attendance and graduation across age groups, though for high school completion, there are no significant effects for school-aged children. Residential moves become worse as child age increases for the chances of college graduation, but the negative effect stays similar for high school graduation and college attendance.

There are clearly differences across childhood, and there are also differences in how high school graduation is affected compared to college completion; college attendance often falls in between these two outcomes in terms of effects. Partner changes affect children in early childhood more negatively, whereas residential moves affect children in adolescence more negatively. This is reasonable – changing partners in early childhood years is stressful and can affect income significantly, while changing schools in later years is disruptive to the college application process.

Figures 1 to 5 show results for each event using separate models for each child age from 1 to 17 years, broken down by high school graduation, college attendance, and college completion, with a trend line added to show how effects change over time.[2] Figure 1 shows that there seems to be a downward trend for the effect of a parental employment loss on the chances of child's college graduation, but there is no evident trend on high school completion. Figure 2 shows a similar downward trend for the effect of a parental employment gain on college attendance. Figure 3, on the other hand, shows an upward trend for the effect of a parental

[2] Though a quadratic trend line can be used in these graphs, it becomes highly linear in most graphs. In other words, the linear trend line is an equally good fit, so it is used for simplicity.

partner loss on all children's educational outcomes considered. Figure 5 shows a dramatic downward trend of residential moves on all outcomes, particularly on college completion.

In most graphs in Figures 1 through 5, mothers' and fathers' events do not show differences in outcomes. The notable exception here is partner gain, which becomes increasingly negative for mothers but positive (for high school graduation) or flat (for college attendance) for fathers. Due to this difference, I first run logistic regression models looking at the significance of time trends for mothers and fathers separately (results are shown in Appendix 3.1). For partner gain, the main effect does not differ between mothers and fathers for college attendance and completion, but the trend over child age shows a significant worsening for mothers but not for fathers. For employment loss, this difference also exists: though the main effect is worse for fathers for college attendance and completion, it significantly worsens for mothers over child age for college attendance and it worsens for fathers over child age for college completion. These results also confirm the significant downward trend of the effect of residential moves.

Despite those differences, the majority of results are similar for mothers and fathers, and so I next combine mothers and fathers (into "parents," where the event variable takes a value of 1 if the event occurred to either the mother or the father, and 0 otherwise) and run models of the effects of an event for either parent. Doing so allows me to have a larger sample of those who experience events at each age; since I am subdividing the sample by 17 ages, keeping mothers and fathers separate can lead to unstable coefficient estimates. Combining mothers and fathers allows me to better assess the trend over child ages by giving me more events in each model at each age. Table 3.4 shows the results for these models.

The combined models show that parental employment loss has a significantly negative effect on high school graduation, which does not alter significantly as the child gets older.

However, parental employment loss shows an insignificant (and not as strong) effect on college attendance and graduation, but effects grow significantly worse as the child ages. For college graduation, the effect of a parental employment loss grows, on average, 3.1% more negative for each year of child age. This leads to a substantial difference by the time the child is 17 years old and getting ready to transition to college. Employment gain shows a significantly negative trend over child age for the effect on college attendance.

On the other hand, parental partner loss shows a significantly positive age trend on high school graduation; though not significant, the age trend of partner loss on college attendance and college graduation are also in the positive direction.[3] Though the main effect of partner loss is negative, the effect seems to get better over time, reflecting the results from the previous analysis. Partner gain does not show a trend from child ages 0 to 17.

The effect of moving becomes significantly more negative as the child grows older. Given that the main effect of moving is negative on all educational outcomes, this increasing negativity follows the trend line that the individual models by age showed as well (in Figure 5). It is worth noting that residential moves include all moves; in other words, I do not differentiate between local moves and interstate moves, for example, and I also do not distinguish planned from unplanned moves. There is a possibility that there are differences in effects depending on distances, reasons, and perhaps other differences in migration.

Event Combinations

[3] Recent research suggests that this trend reverses when controlling for birth order (Sigle-Rushton et al. 2015); however, I do not control for birth order in my models to avoid model overspecification and issues with sample sizes.

As Chapter 2 explores in more detail, when events combine in the same year, the effect on children's educational attainment is magnified. The question for this chapter, then, is if this magnification upholds across all child ages. The challenge here is sample size: breaking down the sample into mothers and fathers, events versus event combinations in each year, and 17 child ages creates group sizes that are not sustainable for analysis in many cases (e.g., 12 cases of mothers who experience an employment loss and a partner loss in the same year). Thus, in this chapter given the age divisions, I discard event combinations in which one of the combined events is not a residential move. Residential moves are much more likely to combine with employment or partner changes than employment and partner changes are to combine with each other; the latter type of combination does not run stable models and has extreme outliers that drive potential trends. To avoid the small number of cases, I look only at the combinations of employment changes (loss or gain) and residential moves, and partner changes (loss or gain) and residential moves.

One way to increase sample size would be to combine mothers and fathers to create "parent" variables, as I did earlier in this chapter for single events. However, that obfuscates possible differences between the effects of mothers' and fathers' events (which exist, as I will show next); it also confuses what combined events mean. Employment losses are inherently individual events which affect the family, usually adversely, but residential moves are generally family events. Partner losses can affect both mothers and fathers at the same time. In other words, it becomes difficult to disentangle individual and group events and consequences when parents are combined into one variable. For single events, using a clustering correction for families can help methodologically. For combined events, however, individual events such as employment losses or gains can happen to both parents in a year, whereas moving stays a single

event per year for the family. This makes the categories of, for example, employment loss only versus move only versus employment loss and move for one year less mutually exclusive. Though possible and a partial (though by no means complete) solution to the sample size problem, since I am interested in broad trends, and since the trends of mothers versus fathers here have interesting connotations, I keep mothers and fathers separated for the analysis of event combinations.

Figures 6 through 10 show trends for event combinations in which each child age is a separate model. Thus, this is a similar idea to Figures 1 through 5 for single events, though I show mothers and fathers on separate graphs in this case for clarity's sake, since each graph already contains three time trend lines, one for each event or event combination. I also use a quadratic trend line for these figures because the exceptions on which I will next focus are illuminated via these trend lines but get lost in linear fit lines. For the most part, Figures 6 through 10 show that event combinations do lead to slightly worse effects than single events at all ages. However, there are indeed notable exceptions of changes across child ages.

The main exception is in the time trends for effects on children's college attendance and graduation given a mother's employment loss compared to a father's employment loss (in Figure 6). Just losing employment, without being combined with a residential move, actually increases a child's odds of college attendance and completion in early childhood.[4] The trend for college attendance turns upward again at later ages as well. By contrast, for college attendance, the combination of a maternal employment loss and a residential move has an increasingly negative effect through adolescence. For fathers, this pattern does not exist. This does not per se run counter to the finding that stable maternal labor market success is beneficial for children (e.g.,

[4] This effect could be due to parents who have the choice to stay home with their children. However, I do control for parents' education, which should capture most of this variation.

Levine Coley & McPherran Lombardi 2012) but rather means that younger children of mothers who lost employment for a variety of possible reasons seem to see a benefit on future educational attainment. Though models control for the parents being married when the child was born and for both parents' educational attainment, it is possible that this is showing a socioeconomic difference, where mothers who can afford to leave work, do leave work, possibly in order to spend higher quality time with their children (Hsin & Felfe 2015). However, Brand and Simon Thomas (2014) found no disadvantages even when single mothers lose their jobs, suggesting that there is potentially something beneficial about mothers being at home, at least for a short period of time (but likely longer given how long unemployment can last post-job loss, see Simon Thomas 2015), in early childhood. This could be a positive effect via the mother or a counterpoint to negative effects of child care. I return to this discussion with estimates of time trend coefficients after discussion of the second anomaly in these graphs.

The second exception to the general time trends appears in Figure 8. Here it can be seen that the effects of losing a partner improve as the child gets older, whereas the effects of losing a partner and moving worsen (following the trend for moving only). This divergence is particularly pronounced for college attendance and college graduation. Especially for fathers as compared to mothers, the effect of losing a partner only wanes to practically no effect at all at age 17; for mothers, the effect for this category improves but actually decreases slightly again at the end of the childhood time span. Finally, gaining a partner combining with a residential move (Figure 9) shows some diverging trends for women and child college completion, though that trend looks to be roughly estimated.

In order to find out more about the significance of time trends for event combinations compared to single events, I next estimate models with all ages included in one model for each

event combination. The full table of outcomes for these models is shown in Appendix 3.2; most of the time trend appears to be driven by residential moves, as the moving only category shows the vast majority of the significant coefficients. All significant coefficients on the time trend of residential moves show decreases in the chances of children's educational attainment as they get older.

The benefit of the event combination models, besides being able to see that combinations of events are worse in their main effects, is that we can speculate what the effect of employment and partner changes are when they are not combined with residential moves. For example, we can see that a parent gaining employment does not significantly affect educational outcomes for children, unless this employment gain is coupled with a residential move, in which case effects become significantly negative; for mothers, this negative value increases over child age. We can also see that the effects of losing a partner abate over child age, when it is not concurrent with a residential move.

Of particular interest are the outcomes for employment loss over time. In previous models, I showed that there is a vastly different dynamic over time for mothers' employment loss as compared to fathers' employment loss, and this is illuminated in the event combinations models. The pattern of effects for child's high school graduation does not differ when we compare mothers and fathers. However, for college attendance, the combination of losing employment and moving is highly negative for fathers across child age; it does not change significantly as the child ages. For mothers, the story is quite different: the main effect is insignificant, but the time trend shows a significant decline in the chances of college attendance. Thus, for children aged 1, the chances of college attendance are not affected by a mother's employment loss and move, whereas they are significantly affected if they are older when this

combination of events occurs. For college graduation, a similar pattern emerges with employment loss only: the main effect for mothers' employment loss is positive (though not significant) but the time trend is significantly negative. Interestingly, losing employment and moving at the same time does not show a significant trend over child age for mothers. It is possible that this is driven by selectivity, where parents who lose employment and move with older children are disadvantaged in some other way compared to those who lose employment but do not move. This selectivity would reflect the assessment that the effects of mothers' employment vary by mother characteristics such as educational attainment (Hsin & Felfe 2015).

As mentioned previously, I speculate that differences between mothers and fathers could occur because of differences in the nature of the employment loss: whether the worker quit, was laid off, or was fired. Also, when the employment loss is concurrent with a move, it is possible that this means that the parent who lost employment was the main income producer, though we cannot be sure about this possibility.

Discussion

The goal of this chapter is to identify systematic variation in effects by child age. Since parental influence and school influence vary as children move through their childhood years, it is probable that disruptive events affect children differently at different ages. The results show that there are indeed differences in how events affect younger children as compared to the effects when children are older. Though it might seem that disruptive events would be more salient at ages closer to the educational outcomes being explored in this chapter, this is not always the case. When dividing children into three age groups (0-5, 6-11, 12-17 years), it becomes clear that partner changes affect educational outcomes most when they occur in early childhood (0-5 years

old). This is an interesting finding, given that this means that an event that occurs 13-18 years prior to high school graduation has a larger effect than the same event occurring a few years prior. This could mean that early childhood partner loss sets children on a path of disadvantage. It could also mean that parents who are likely to get divorced or break up soon after the birth of a child provide a more unstable home generally. I do not distinguish based on factors that occur after the event. On the other hand, employment changes affect educational outcomes most when they occur to school-aged children (6-17 years old). This supports an economic hypothesis: employment loss leads to income loss which means that children might need to go to work themselves rather than focus on education, or it could mean that savings for college are no longer available, for example. It also supports a psychological hypothesis, that children who are at an age at which they are more cognizant of disruptions in their parents' lives are more likely to suffer negative consequences from these events. Residential moves are always detrimental to educational outcomes, but they are worse for older children than for younger children. This makes sense: changing schools is likely not conducive to increased educational performance, and is more psychologically traumatizing as children age and have stronger social ties.

Looking at trends within age categories and across ages confirms the previous findings but adds more detail to the analysis. Parental employment loss becomes increasingly detrimental to the chances of college attendance and graduation with each year of the child's age. Employment gain similarly affects college attendance, which is a little surprising considering that a gain in income could be helpful. This confirms that temporal proximity to the outcome matters for parental job changes. Partner loss, on the other hand, decreases in its negative effect over time, which again confirms the prior results. Partner gain shows no changes over time. This means that a stable union is most crucial before children start Kindergarten, which is not

surprising per se; however, the outcomes are closer to later ages so it is interesting that instability at earlier ages, in terms of marital or cohabiting partners, proves to be worse for educational outcomes at ages 19, 21, and 25.

The negative effect of residential moves increases over the child ages considered. It is plausible that this means that moving directly prior to high school graduation, when college applications are likely due, matters more than moving in early childhood. However, this could also be signaling a more unstable childhood in general. It is also possible that moves later in childhood are disproportionately unplanned and therefore lead to worse educational outcomes. This analysis does not take distance into account – a residential move could be within the same county or even neighborhood or it could be an interstate move; it is possible that this plays a role in determining the effect as well.

Given the toll that residential moves take, it is important to separate partner and employment changes from residential moves. Event combinations are generally worse than single events, as shown generally in Chapter 2 and this trend is upheld across all child ages. Analysis shows that much of the change in effect over time for employment losses is due to concurrent residential moves. For partner changes, the effect actually improves over time for those who do not also move.

This chapter shows that disruptions can occur at any time in childhood, but the effect can vary substantially. Additionally, age variation does not necessarily follow the same pattern for different disruptions, so although instability is rarely, if ever, beneficial for children's educational outcomes, the cause of the instability matters in how children of different ages are affected. Finally, when events combine, the effect of those events on children's educational attainment is often exacerbated at all ages.

There are important limitations to this analysis. First of all, I define events as moving from one state to another (e.g., employed to unemployed) and do not differentiate between reasons for event occurrences. There is a possibility that trends are being driven by specific reasons behind events or masking other patterns for other motivations. Secondly, repeated events could cause families with more instability to be overrepresented in my data. Based on analyses of multiple events in Chapter 2, I do not believe this strongly affects the analyses in this chapter, but it is possible that there is unobserved heterogeneity. Finally, it is possible that some of the dynamics I see when comparing mothers and fathers have changed in recent years, but since I look at an average effect from 1968 through 2011, it is possible that those updated labor market and childrearing changes will not be reflected in this analysis.

If partner loss at early ages is driving later childhood inequality in terms of educational outcomes, it is important to figure out if this is due to income loss or other factors. If parental employment loss is indeed affecting educational outcomes when they happen closer to those outcomes, this likely means that children of parents who experience disruptive events are disproportionately pushed to choose work over school completion. This underscores the need for policies such as those that give tuition assistance. Finally, residential moves are by far the most likely event in respondents' lives, and their negative impact increases over childhood, a fact of which schools should be aware and with which they could be assisting their students. By understanding the different impact at different times in childhood, we can better assist those children affected and keep them on the path to high school and college completion.

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TABLES

Table 3.1
Frequency of event occurrence, by child age

Child was 0-5 years old when event occurred

Event	*Frequency*	
	Mother	*Father*
Lost employment	5.62%	7.81%
Gained employment	5.61%	7.21%
Lost partner	8.58%	8.51%
Gained partner	8.96%	8.70%
Moved	35.64%	35.45%

Child was 6-11 years old when event occurred

Event	*Frequency*	
	Mother	*Father*
Lost employment	4.67%	6.37%
Gained employment	4.48%	5.93%
Lost partner	7.96%	7.69%
Gained partner	4.31%	3.49%
Moved	26.50%	25.22%

Child was 12-17 years old when event occurred

Event	*Frequency*	
	Mother	*Father*
Lost employment	4.38%	5.58%
Gained employment	4.25%	4.91%
Lost partner	6.42%	6.27%
Gained partner	3.57%	3.07%
Moved	21.47%	19.55%

Notes: This table reports the frequency of events ever occurring during the survey time (1968-2011). It only includes mothers/fathers whose children were 0-17 years old when the event occurred and is limited to respondents who were at least 17 years old at the last survey wave in 2011. (N = 15,792)

Table 3.2
Frequency of event occurrence, by child age, given event ever occurred

Child was 0-5 years old when event occurred

	Frequency	
Event	*Mother*	*Father*
Lost employment	37.78%	43.49%
Gained employment	38.37%	43.19%
Lost partner	37.79%	37.93%
Gained partner	53.06%	54.76%
Moved	59.81%	59.99%

Child was 6-11 years old when event occurred

	Frequency	
Event	*Mother*	*Father*
Lost employment	31.43%	35.49%
Gained employment	30.69%	35.54%
Lost partner	35.06%	34.27%
Gained partner	25.53%	21.93%
Moved	44.48%	42.67%

Child was 12-17 years old when event occurred

	Frequency	
Event	*Mother*	*Father*
Lost employment	29.44%	31.09%
Gained employment	29.07%	29.45%
Lost partner	28.29%	27.95%
Gained partner	21.16%	19.33%
Moved	36.02%	33.08%

Notes: This table reports the frequency of events occurring during the survey time (1968-2011) at specific child ages, given that the event ever occurred when the child was 0-17 years old. It is limited to respondents who were at least 17 years old at the last survey wave in 2011. (N = 15,792)

Table 3.3
Logistic regression models of the effect of events on children's educational outcomes, by child age

Events	*Child graduated high school by age 19*		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	Father	Mother	Father	Mother	Father
Child age 0-5						
Lost employment	0.871	0.849	1.076	0.843	0.973	0.884
	(0.098)	(0.088)	(0.118)	(0.095)	(0.136)	(0.127)
Gained employment	0.812 †	0.703 **	0.910	0.766 *	0.830	0.801
	(0.087)	(0.074)	(0.103)	(0.086)	(0.123)	(0.118)
Lost partner	0.728 **	0.752 **	0.560 ***	0.575 ***	0.464 ***	0.484 ***
	(0.071)	(0.073)	(0.060)	(0.062)	(0.079)	(0.082)
Gained partner	0.780 *	0.758 **	0.756 **	0.757 *	0.624 **	0.649 **
	(0.082)	(0.079)	(0.081)	(0.082)	(0.101)	(0.107)
Moved	0.860 *	0.849 *	0.830 **	0.845 *	0.874	0.897
	(0.061)	(0.060)	(0.058)	(0.059)	(0.077)	(0.079)
Child age 6-11						
Lost employment	0.899	0.740 **	0.840	0.765 *	0.691 *	0.670 *
	(0.119)	(0.084)	(0.108)	(0.091)	(0.126)	(0.118)
Gained employment	0.862	0.701 **	0.785 †	0.822 †	0.877	0.807
	(0.112)	(0.081)	(0.099)	(0.097)	(0.149)	(0.137)
Lost partner	0.930	0.908	0.802 *	0.776 *	0.648 **	0.675 **
	(0.087)	(0.087)	(0.081)	(0.081)	(0.097)	(0.102)
Gained partner	0.907	0.982	0.762 *	0.750 †	0.534 **	0.743
	(0.109)	(0.129)	(0.099)	(0.113)	(0.112)	(0.156)
Moved	0.881 †	0.912	0.807 **	0.828 **	0.706 ***	0.785 **
	(0.061)	(0.063)	(0.056)	(0.058)	(0.063)	(0.070)
Child age 12-17						
Lost employment	0.823	0.841	0.801	0.726 *	0.822	0.609 *
	(0.114)	(0.112)	(0.122)	(0.102)	(0.175)	(0.122)
Gained employment	0.906	0.798 †	0.774	0.682 **	0.815	0.630 *
	(0.121)	(0.108)	(0.113)	(0.100)	(0.159)	(0.128)
Lost partner	0.929	0.973	0.785 *	0.837 †	0.691 *	0.689 *
	(0.096)	(0.101)	(0.085)	(0.089)	(0.108)	(0.105)
Gained partner	0.926	1.193	0.704 *	0.776 †	0.605 *	0.530 **
	(0.118)	(0.172)	(0.099)	(0.109)	(0.125)	(0.118)
Moved	0.917	0.876 †	0.719 ***	0.802 **	0.776 **	0.841 †
	(0.066)	(0.065)	(0.052)	(0.060)	(0.073)	(0.081)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); child age refers to age range during which event occurred; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion during that period in childhood, mother/father was married when child was born, work in manufacturing or trade during that period in childhood (for models predicting employment loss/gain); N=15,792.

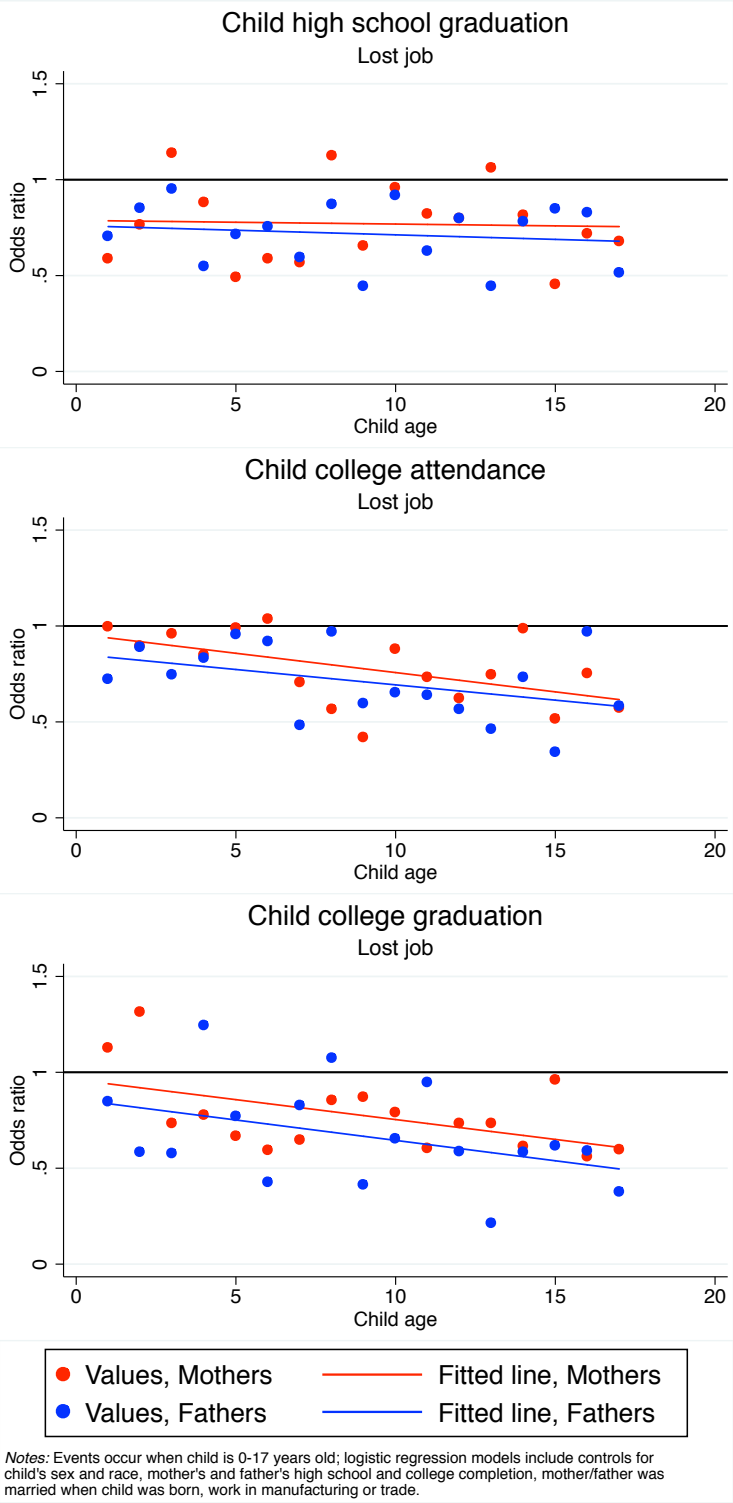
Table 3.4
Logistic regression models of the effect of events on children's educational outcomes, with interactions by child age

Events	*Child graduated high school by age 19*	*Child attended college by age 21*	*Child graduated college by age 25*
Lost employment	0.743 ***	0.894	0.934
	(0.057)	(0.070)	(0.096)
Lost employment x child age	1.002	0.979 **	0.969 **
	(0.008)	(0.008)	(0.010)
Gained employment	0.684 ***	0.846 *	0.803 *
	(0.053)	(0.067)	(0.084)
Gained employment x child age	1.010	0.982 *	0.992
	(0.008)	(0.008)	(0.011)
Lost partner	0.650 ***	0.572 ***	0.454 ***
	(0.061)	(0.059)	(0.074)
Lost partner x child age	1.015 †	1.014	1.021
	(0.009)	(0.010)	(0.016)
Gained partner	0.682 ***	0.684 ***	0.566 ***
	(0.056)	(0.063)	(0.078)
Gained partner x child age	1.014	0.994	0.996
	(0.009)	(0.010)	(0.016)
Moved	0.833 ***	0.822 ***	0.890 †
	(0.044)	(0.042)	(0.056)
Moved x child age	0.988 *	0.978 ***	0.970 ***
	(0.005)	(0.005)	(0.006)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are effects of the event and interaction effects of the event and child age; child age includes ages 0-17 years; each event is a separate model; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born; N=15,792.

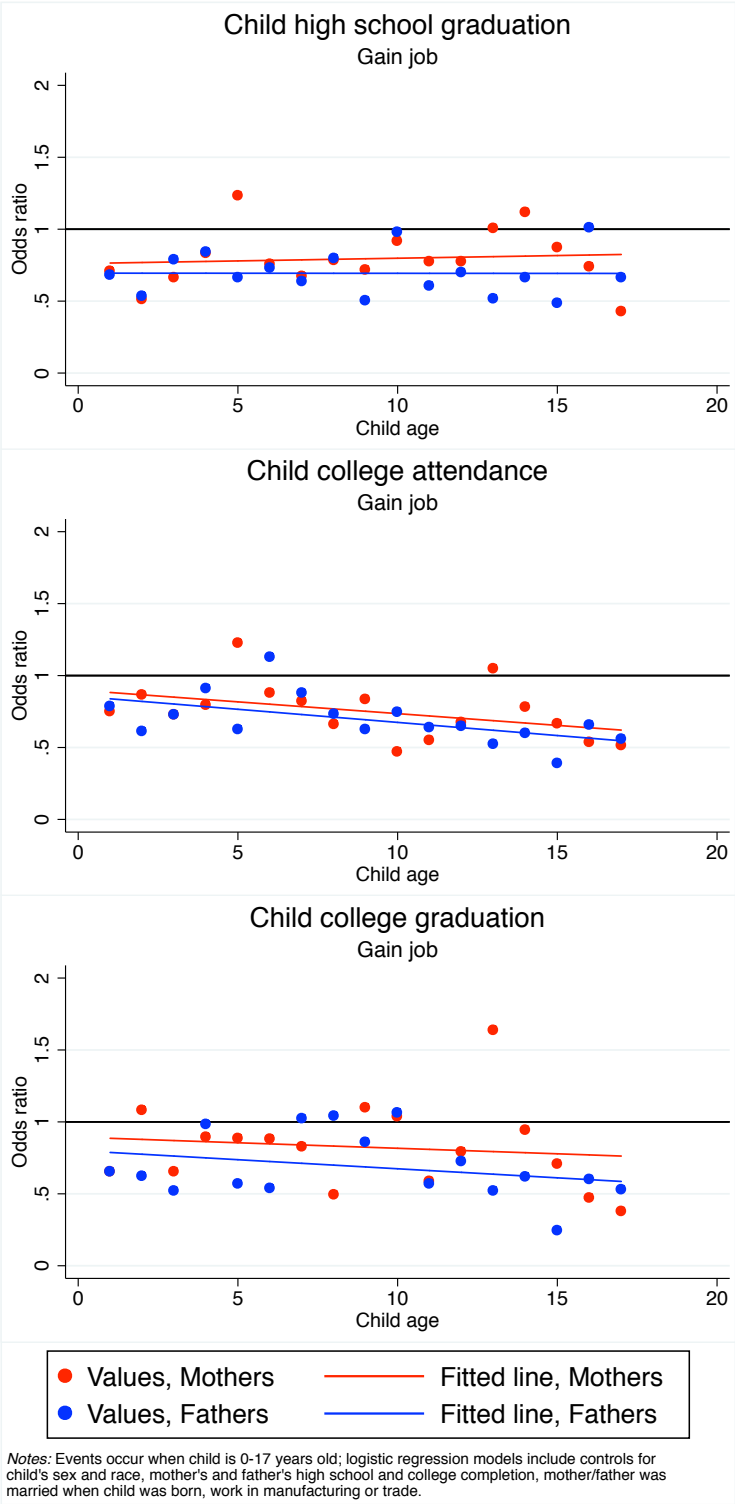
FIGURES

Figure 3.1: Effect of lost job on child education, child ages 0-17



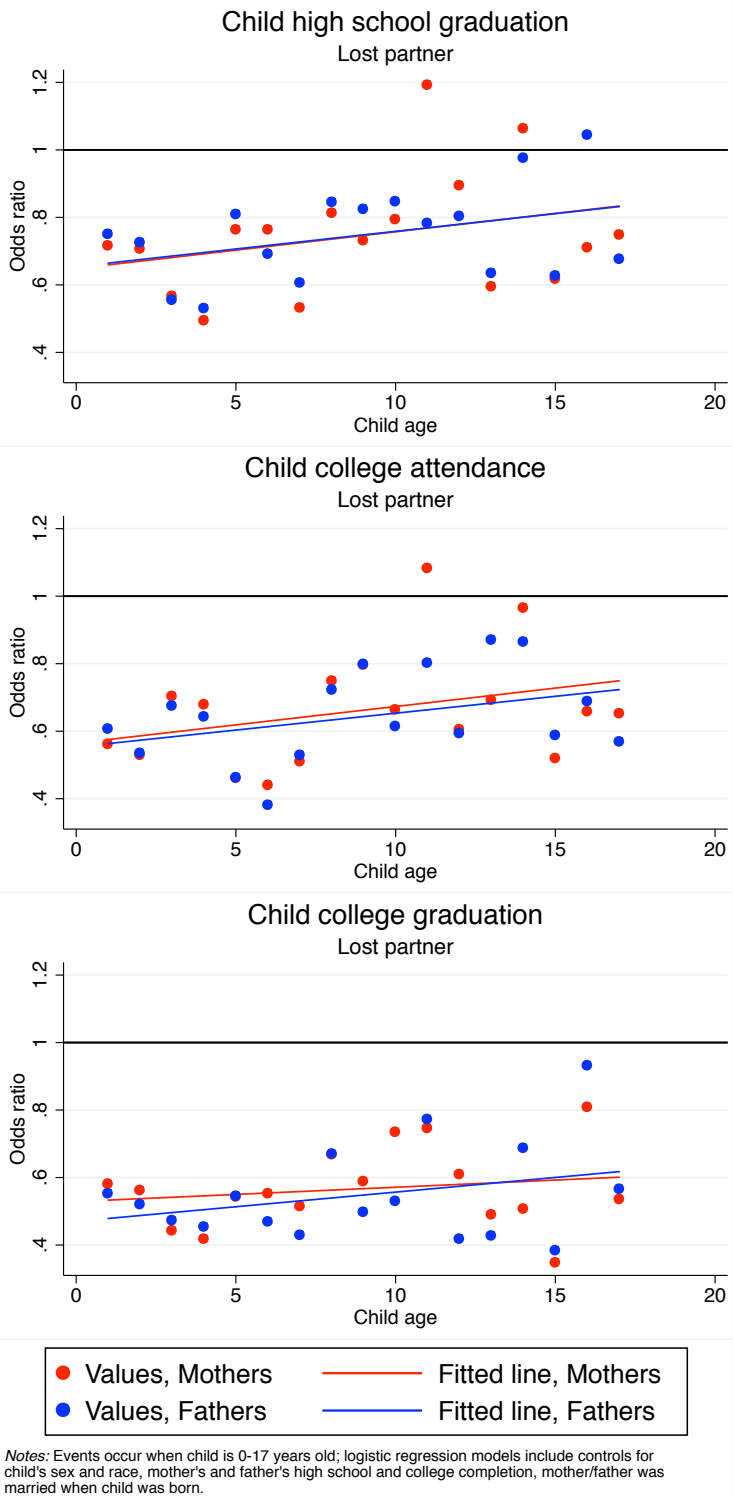
Notes: Events occur when child is 0-17 years old; logistic regression models include controls for child's sex and race, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade.

Figure 3.2: Effect of gained job on child education, child ages 0-17



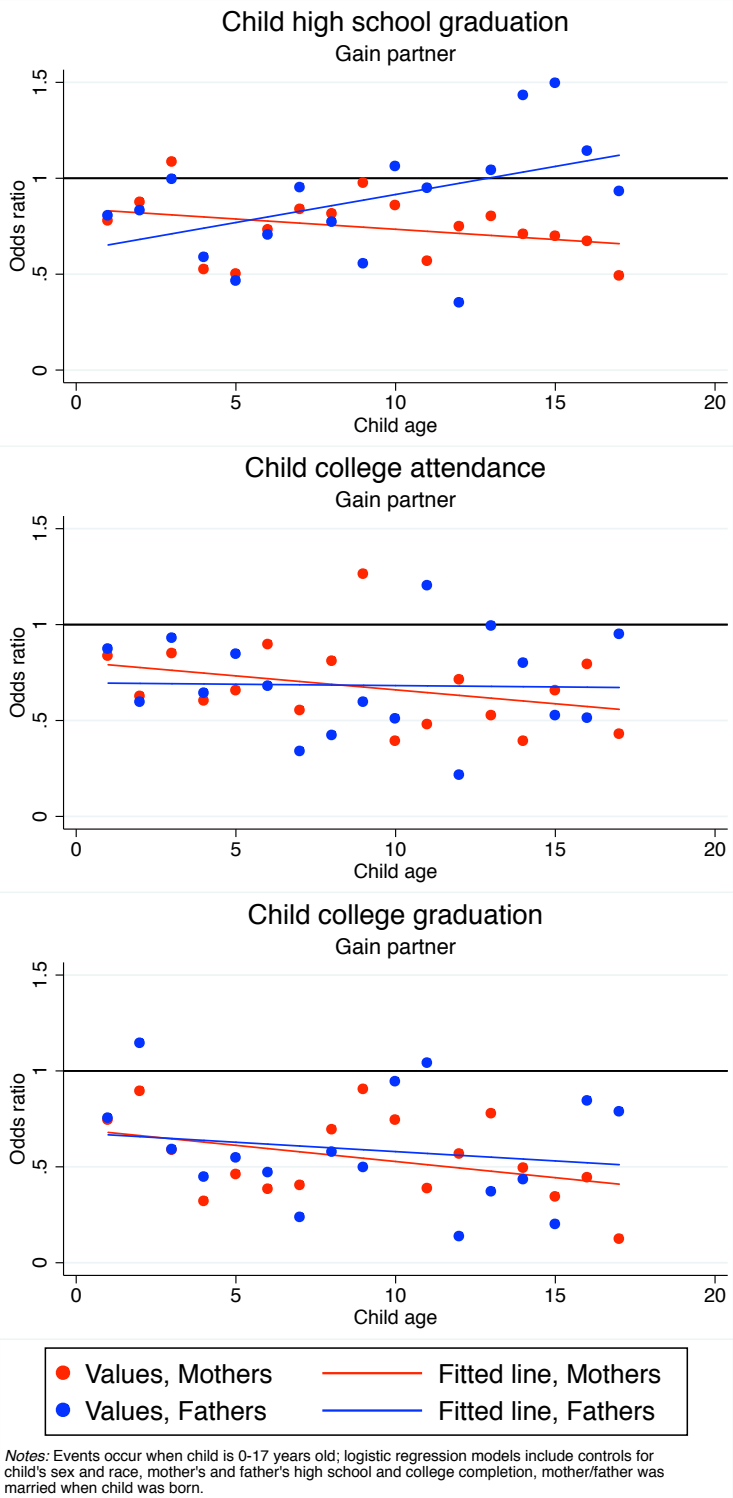
Notes: Events occur when child is 0-17 years old; logistic regression models include controls for child's sex and race, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade.

Figure 3.3: Effect of lost partner on child education, child ages 0-17



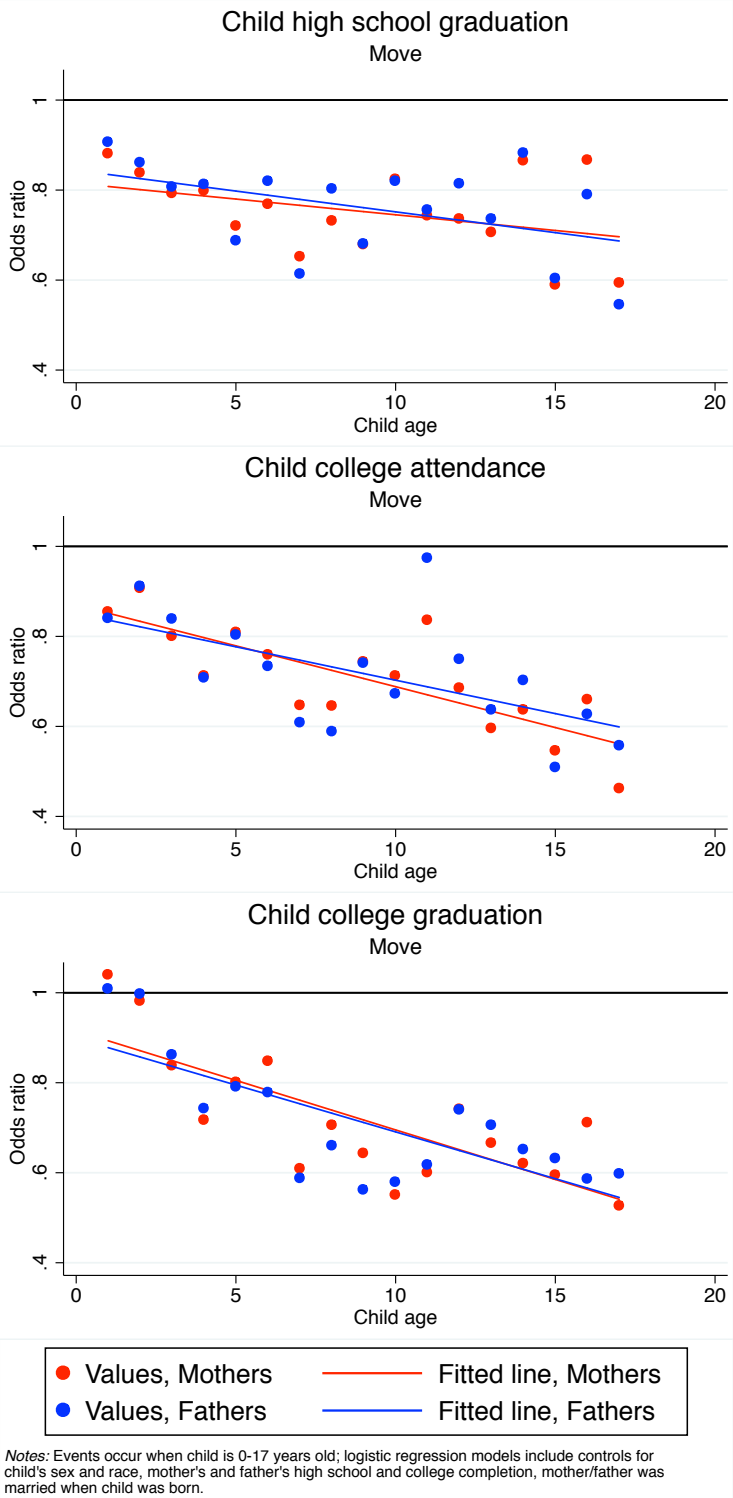
Notes: Events occur when child is 0-17 years old; logistic regression models include controls for child's sex and race, mother's and father's high school and college completion, mother/father was married when child was born.

Figure 3.4: Effect of gained partner on child education, child ages 0-17



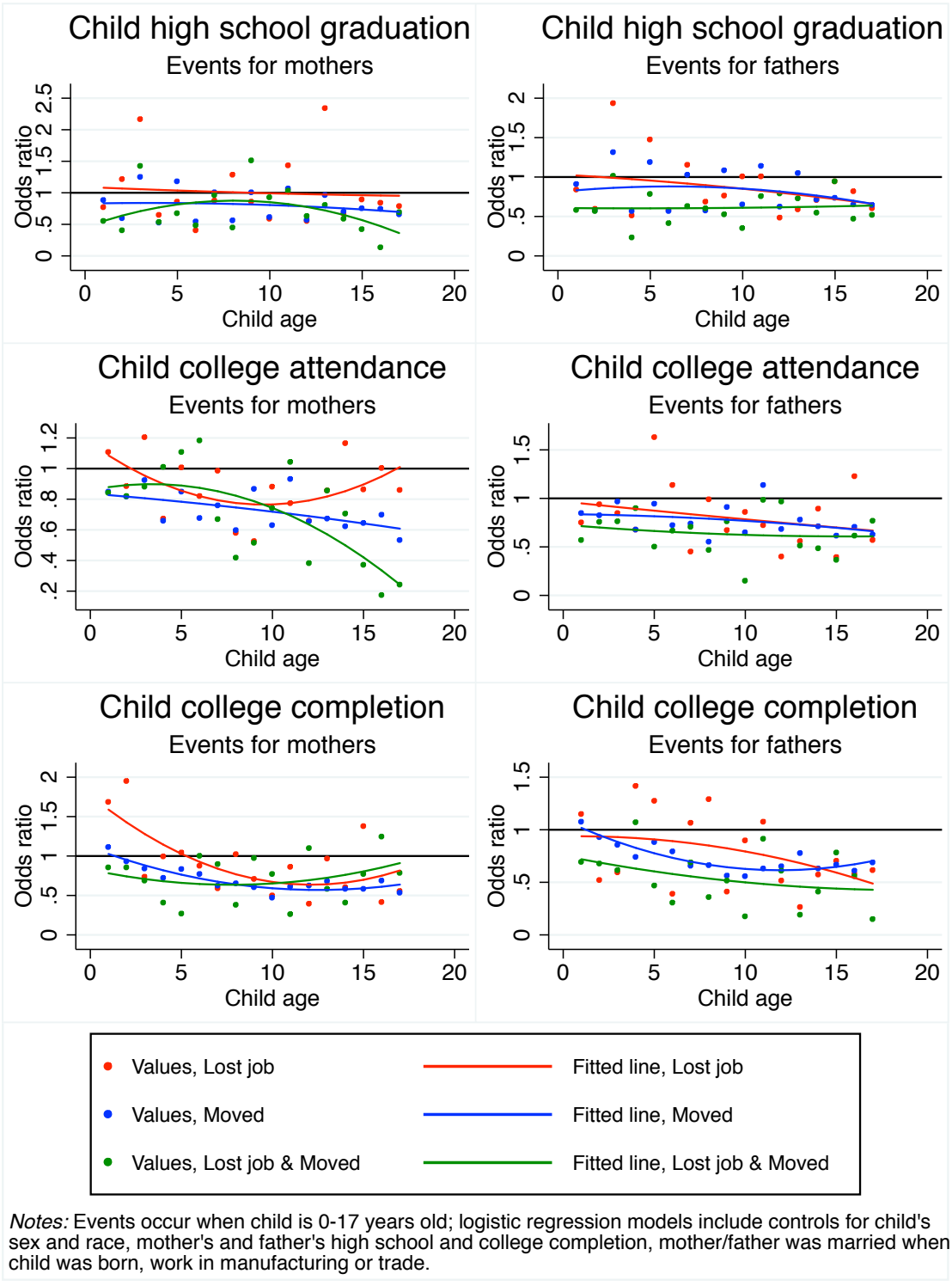
Notes: Events occur when child is 0-17 years old; logistic regression models include controls for child's sex and race, mother's and father's high school and college completion, mother/father was married when child was born.

Figure 3.5: Effect of residential move on child education, child ages 0-17



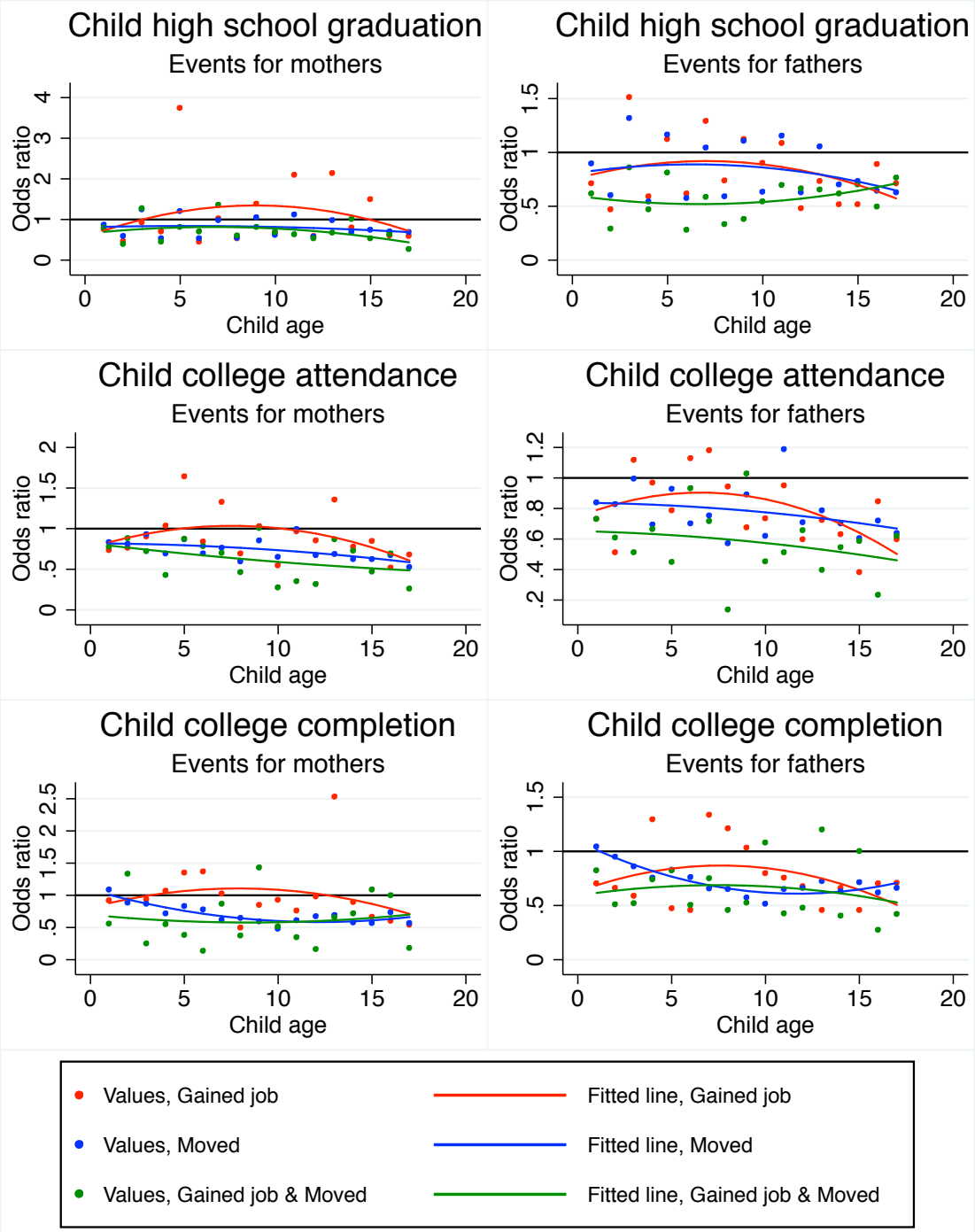
Notes: Events occur when child is 0-17 years old; logistic regression models include controls for child's sex and race, mother's and father's high school and college completion, mother/father was married when child was born.

Figure 3.6: Effect of lost job and move on child education, child ages 0-17



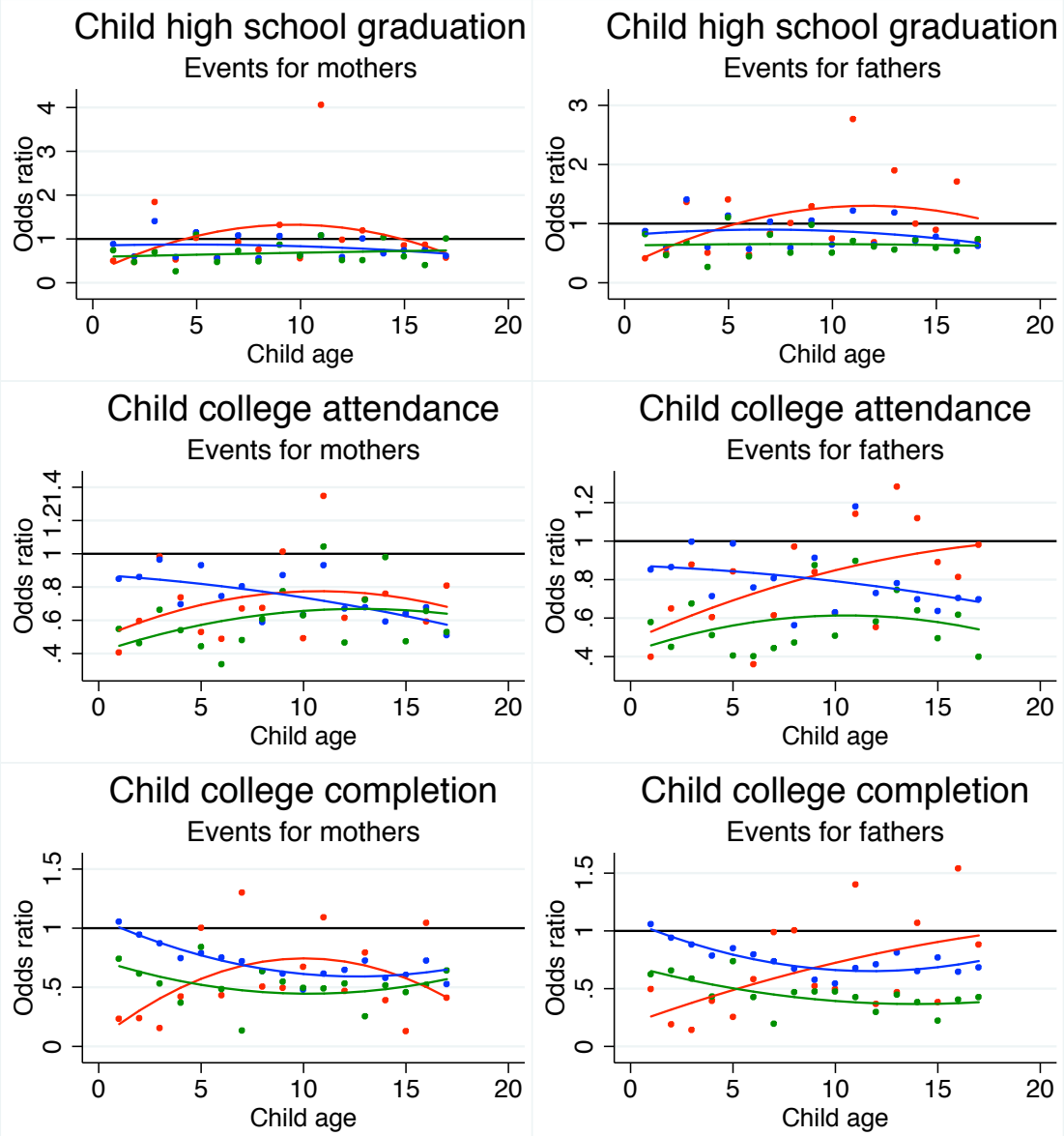
Notes: Events occur when child is 0-17 years old; logistic regression models include controls for child's sex and race, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade.

Figure 3.7: Effect of gained job and move on child education, child ages 0-17



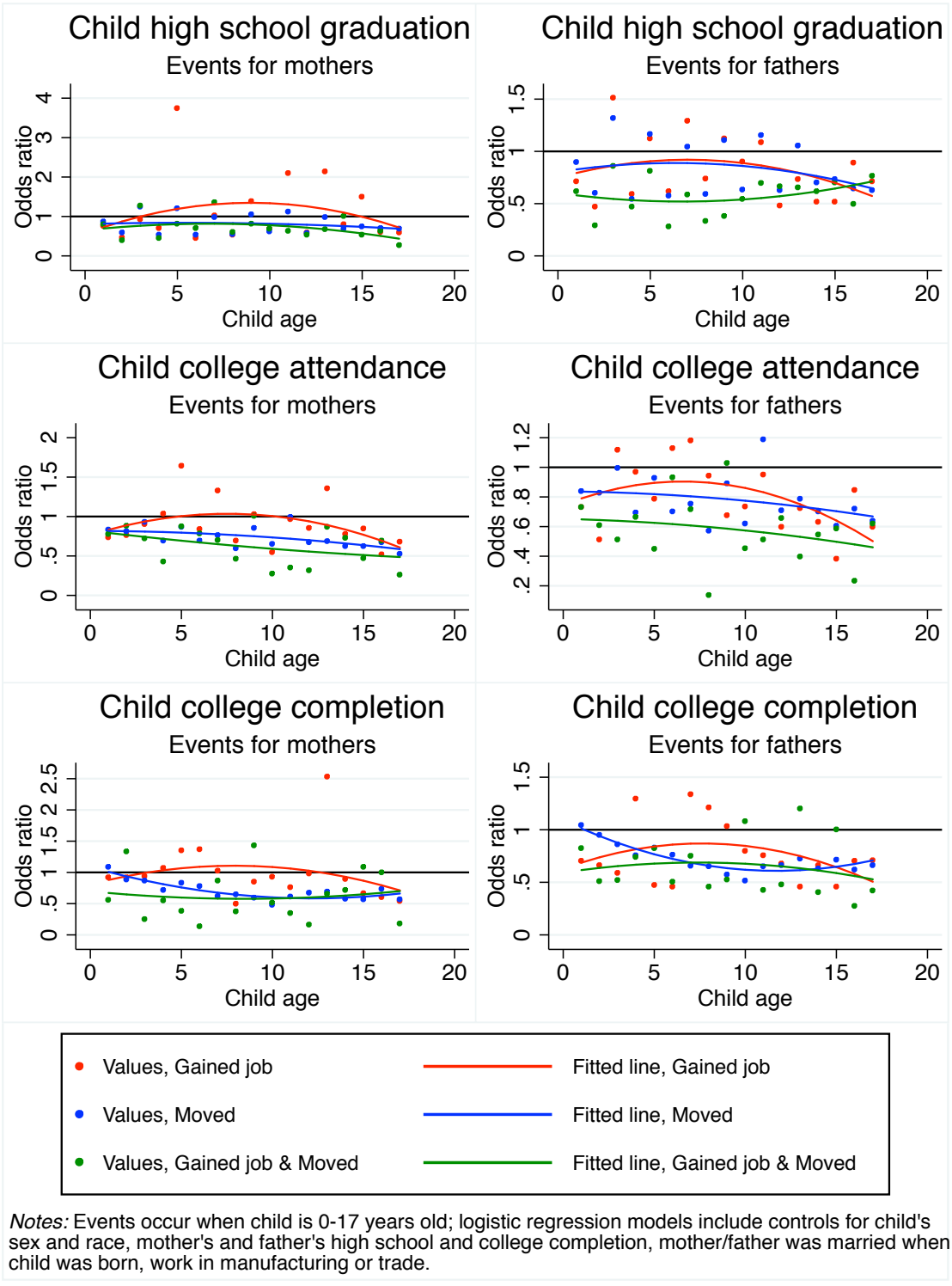
Notes: Events occur when child is 0-17 years old; logistic regression models include controls for child's sex and race, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade.

Figure 3.8: Effect of lost partner and move on child education, child ages 0-17



Notes: Events occur when child is 0-17 years old; logistic regression models include controls for child's sex and race, mother's and father's high school and college completion, mother/father was married when child was born.

Figure 3.9: Effect of gained partner and move on child education, child ages 0-17



Notes: Events occur when child is 0-17 years old; logistic regression models include controls for child's sex and race, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade.

Appendix 3.1

Logistic regression of the effect of event counts on children's educational outcomes, with interactions by child age

Events	*Child graduated high school by age 19*		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Lost employment	0.671 ***	0.764 **	0.953	0.827	0.963	0.837
	(0.074)	(0.079)	(0.106)	(0.096)	(0.146)	(0.124)
Lost employment x child age	1.014	0.994	0.976 *	0.983	0.973	0.974 †
	(0.012)	(0.011)	(0.012)	(0.011)	(0.017)	(0.015)
Gained employment	0.663 ***	0.663 ***	0.842	0.814 †	0.815	0.761 †
	(0.070)	(0.071)	(0.095)	(0.092)	(0.120)	(0.109)
Gained employment x child age	1.019	1.006	0.982	0.983	0.996	0.992
	(0.012)	(0.011)	(0.012)	(0.011)	(0.017)	(0.015)
Lost partner	0.698 ***	0.698 ***	0.603 ***	0.590 ***	0.514 ***	0.508 ***
	(0.070)	(0.070)	(0.067)	(0.068)	(0.090)	(0.090)
Lost partner x child age	1.013	1.014	1.016	1.015	1.019	1.017
	(0.010)	(0.010)	(0.011)	(0.011)	(0.017)	(0.017)
Gained partner	0.858 †	0.786 **	0.863 †	0.813 †	0.802 †	0.825
	(0.069)	(0.064)	(0.076)	(0.073)	(0.106)	(0.114)
Gained partner x child age	0.992	1.015	0.978 †	0.986	0.967 †	0.971
	(0.010)	(0.011)	(0.011)	(0.012)	(0.017)	(0.018)
Moved	0.857 **	0.880 *	0.869 *	0.856 **	0.949	0.939
	(0.048)	(0.050)	(0.048)	(0.050)	(0.064)	(0.065)
Moved x child age	0.988 *	0.986 *	0.977 ***	0.982 **	0.968 ***	0.973 ***
	(0.005)	(0.006)	(0.005)	(0.006)	(0.007)	(0.007)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are effects of the event and interaction effects of the event and child age; child age includes ages 0-17 years; each event is a separate model; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born; N=15,792.

Appendix 3.2
Logistic regression of the effect of event combinations and single events on children's educational outcomes, with interactions by child age

Events	*Child graduated high school by age 19*		*Child attended college by age 21*		*Child graduated college by age 25*	
	Mother	*Father*	*Mother*	*Father*	*Mother*	*Father*
Lost job & Moved						
Lost job & Moved	0.629 ***	0.616 ***	0.937	0.670 *	0.571 *	0.730
	(0.095)	(0.084)	(0.145)	(0.113)	(0.140)	(0.181)
Lost job & Moved x child age	0.998	0.994	0.957 *	0.995	1.005	0.960
	(0.017)	(0.016)	(0.017)	(0.018)	(0.028)	(0.035)
Moved	0.868 **	0.900 *	0.862 **	0.864 **	0.962	0.937
	(0.040)	(0.043)	(0.040)	(0.040)	(0.056)	(0.056)
Moved x child age	0.987 *	0.987 *	0.981 ***	0.987 *	0.963 ***	0.974 ***
	(0.005)	(0.006)	(0.005)	(0.006)	(0.006)	(0.007)
Lost job	0.856	0.934	0.933	0.936	1.321	0.966
	(0.129)	(0.133)	(0.138)	(0.138)	(0.243)	(0.182)
Lost job x child age	1.005	0.987	0.993	0.979	0.947 *	0.972
	(0.015)	(0.014)	(0.015)	(0.014)	(0.020)	(0.017)
Gained job & Moved						
Gained job & Moved	0.729 *	0.529 ***	0.785	0.652 **	0.628 **	0.738
	(0.108)	(0.074)	(0.126)	(0.106)	(0.141)	(0.149)
Gained job & Moved x child age	0.992	1.008	0.963 †	0.987	0.975	0.969
	(0.018)	(0.016)	(0.020)	(0.019)	(0.028)	(0.026)
Moved	0.858 **	0.910 *	0.870 **	0.867 **	0.952	0.934
	(0.040)	(0.043)	(0.040)	(0.040)	(0.055)	(0.056)
Moved x child age	0.988 *	0.986 *	0.981 ***	0.987 *	0.965 ***	0.974 ***
	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.007)
Gained job	0.751 *	0.862	0.926	0.963	0.979	0.809
	(0.108)	(0.128)	(0.139)	(0.142)	(0.182)	(0.160)
Gained job x child age	1.017	0.993	0.990	0.979	0.990	0.995
	(0.015)	(0.015)	(0.015)	(0.015)	(0.020)	(0.019)
Lost partner & Moved						
Lost partner & Moved	0.640 ***	0.685 **	0.561 ***	0.578 ***	0.651 *	0.705 †
	(0.075)	(0.080)	(0.075)	(0.077)	(0.130)	(0.142)
Lost partner & Moved x child age	1.024 †	1.016	1.020	1.014	0.997	0.979
	(0.013)	(0.012)	(0.014)	(0.014)	(0.021)	(0.021)
Moved	0.917 †	0.926	0.934	0.916 †	1.007	0.995
	(0.042)	(0.044)	(0.043)	(0.043)	(0.058)	(0.059)
Moved x child age	1.000	1.001	0.984 **	0.992	0.974 ***	0.985 *
	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.007)
Lost partner	0.861	0.726 †	0.689 †	0.629 *	0.312 ***	0.306 ***
	(0.158)	(0.135)	(0.138)	(0.131)	(0.094)	(0.091)
Lost partner x child age	1.022	1.047 *	1.022	1.039 †	1.074 **	1.098 ***
	(0.018)	(0.020)	(0.019)	(0.020)	(0.028)	(0.028)
Gained partner & Moved						
Gained partner & Moved	0.889	0.839 †	0.819 †	0.792 *	0.876	0.940
	(0.087)	(0.082)	(0.086)	(0.085)	(0.136)	(0.146)
Gained partner & Moved x child age	0.997	1.014	0.982	0.992	0.963	0.970
	(0.013)	(0.014)	(0.014)	(0.005)	(0.023)	(0.023)
Moved	0.882 **	0.905 *	0.907 *	0.896 *	0.993	0.981
	(0.041)	(0.043)	(0.042)	(0.042)	(0.057)	(0.057)
Moved x child age	1.002	1.001	0.986 **	0.992	0.975 ***	0.983 *
	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.007)
Gained partner	0.704 *	0.604 **	0.844	0.725	0.489 *	0.401 *
	(0.119)	(0.109)	(0.162)	(0.146)	(0.159)	(0.150)
Gained partner x child age	1.025	1.066 **	0.994	1.011	1.013	1.032
	(0.019)	(0.022)	(0.020)	(0.023)	(0.031)	(0.037)

Notes: † p<.10 * p <.05 ** p < .01 *** p < .001 (two-tailed tests); results shown are effects of the event combinations, single events, and interaction effects of the event and child age and event combinations and child age; child age includes ages 0-17 years; each set of single events and event combinations is a separate model; models include controls for child's sex and race, child born in South, mother's and father's high school and college completion, mother/father was married when child was born, work in manufacturing or trade (for models predicting employment loss/gain); N=15,792.

CHAPTER 4:

FOUR DECADES OF FAMILY STATUS CHANGES:

EFFECTS ON CHILDREN'S EDUCATIONAL ATTAINMENT

Abstract

Parental life events affect their children's educational attainment. However, the way in which this occurs can change over time, given societal changes in income inequality, social policies, especially those aimed at families, and the structure of higher education and associated costs. This chapter looks at the effects of parental disruptive events – employment loss, employment gain, partner loss, partner gain, and residential moves – on children's educational attainment from 1968 until 2011. By breaking this time span into decades, I identify a substantial number of cases of each event within each decade and determine the patterns of effects over time. I find that event occurrence has increased over time, parental ages at event occurrence have, on average, increased as well, and the effects of events on children's educational attainment have concurrently become worse. This implies that broad societal factors matter in how parental life events affect the next generation.

Introduction

There are many reasons why parental disruptive life events might derail their children's educational attainment plans. Indeed, the two previous chapters show that disruptive events in parents' lives have negative effects on children's educational attainment, with variation by the time in childhood when events occur. However, there is reason to believe that these effects on children's educational attainment could have changed over time. In this chapter I again consider employment loss, employment gain, partner loss, partner gain, and residential moves as disruptive life events, and I look at how these events have affected children's high school completion, college attendance, and college completion over the past four decades.

There are many possible explanations for why the effects of these events have changed over time. One might first consider income: the life shocks considered here all are likely to affect household income levels, and changes in income inequality and the costs of education and related activities could have altered this connection over time. Disruptions are also likely to cause stress for both parents and children, which affects children's educational well-being (e.g., via poor schoolwork, poor behavior, frequent absences), but the pathways and nature of this stress could have changed over time, as parenting practices evolved into the more involved childrearing we see today. The outcomes of shocks could be mitigated via avenues such as policies and social structures, which have changed over the past decades. In addition, the occurrence and nature of the events themselves have altered over the same four decades. After looking in previous chapters at event outcomes generally and at the variation of event outcomes across child ages, this chapter instead looks at patterns in event outcomes over time. In other words, *how have the effects of parental disruptive life events on children's educational attainment changed over the past four decades?*

Background

Over the past four decades, there have been many changes, both at macro and micro levels, which affect families. Due to these changes, it is plausible that the transmission of effects from parental life events has also changed over time, either in the salience of the effects, or in whether or how much the events affect children. Economic inequality, educational costs, social policies, and parenting styles are now quite different than they were in the 1960s and earlier, and all these factors could impact how parental disruptions affect children. Additionally, there are trends related to the events themselves to consider, such as rising rates of divorce and changing rates of employment loss, which could ameliorate or exacerbate effects.

Trends in Income Inequality, Educational Costs, and Social Policies

Economic inequality has increased since at least 1979 – some even posit earlier trends in the late 1960s (Danziger & Gottschalk 1985; McCall & Percheski 2010) – after more than thirty years of stability (Burtless & Jencks 2003; Campbell et al. 2005; Jencks 2002; Mayer 2001; Neckerman & Torche 2007). Concurrently, the value (i.e., labor market payoff) and cost of a college degree has increased (Jencks 2002; Kane 2004), and college attendance became more reliant on parental income (Burtless & Jencks 2003). Higher income inequality has been linked to increased disparities in children's test scores (Reardon 2011), while evidence on how income inequality affects children's educational attainment is mixed (Campbell et al. 2005; Haveman et al. 2004; Mayer 2001). Whether by direct effect of income or rather as a consequence of relative deprivation, those who are at the low end of income have been disproportionately hurt by these changes, as their situation has remained stagnant while those at the higher end continued to grow

their earnings. This means that events that push people into that lower income bracket could see increased effects as income inequality increases. It also means that the consequences of being unemployed rather than employed, or unmarried rather than married, could have increased for families, and thus the likelihood of attaining various levels of education for children could have changed concurrently.

Some of the increase in economic inequality can be attributed to a lack of interference by the U.S. government: Jencks (2002) cites minimum wage laws, challenges to unionization, and low rates of transfers to non-working citizens as contributing to the widening wage distribution. McCall and Percheski (2010) also underscore a dearth of redistributive efforts. These policies not only exacerbate income inequality itself, they also have the potential to increase the chances of shocks, for example by increasing the chances that a worker will be laid off (Kalleberg 2009), and to worsen the consequences of shocks, for example by not helping those in poverty (Danziger & Gottschalk 1985).

The Evolution of Parenting Norms

As these macro economic factors evolved over the past forty years, there was also a change in parenting norms. Lareau (2003) famously coined the terms "concerted cultivation" to explain how middle-class parents carefully arranged and organized their children's lives to aim for educational and financial success in later life, whereas working class parents engaged instead in "natural growth," with far less interference and participation in their children's activities. This distinction is relatively new (Weis, Cipollone & Jenkins 2014) and follows patterns of income inequality and labor market changes (Lareau 2003). Some research argues that there has been an increase in parental investment for all socioeconomic groups – in other words, there is no

significant distinction between lower and upper or middle class families in terms of time and money routed to child needs, even as income inequality has increased (Bianchi et al. 2004). It is possible that this pattern of greater engagement in children's lives by their parents means that shocks in parents' lives also became more salient to children's outcomes. It also means that parents work harder to create more security in their children's lives even when little exists in their own lives (Pugh 2015). Parents increasingly work alongside institutions (e.g., schools, sports facilities) to meet their childrearing needs, though it is possible that these institutions that are increasingly involved in cultivating children serve, conversely, as an increasingly protective entity to parental shocks.

Time Trends of Disruptive Events

There are also the time trends over the past four decades of the events themselves to consider. Though recessions in the early 1980s, 1990s, and 2000s included heavy employment losses, the 1970s and the late 1980s and 1990s provided more jobs (i.e., job gain) and job security (Abraham & Houseman 1993; Brand 2015). Overall, however, the incidence of job loss, and destabilization of employment more generally, has increased from the 1960s until the present, as has the occurrence of precarious[1] employment (Kalleberg 2011). This trend could actually be beneficial to those who lose their jobs: if it is a more common occurrence, perhaps it will be less stigmatized. Research shows that many outcomes, such as mental and physical health (Brand, Levy, & Gallo 2008; Burgard, Brand & House 2007; Gallo et al. 2000; Paul & Moser 2009) and future earnings (Brand 2015; Couch, Jolly & Placzek 2011; Farber 2005; Jacobson, LaLonde, &

[1] Precarious work is used to describe "employment that is uncertain, unpredictable, and risky from the point of view of the worker" (Kalleberg 2009, 2).

Sullivan 1993; Kletzer & Fairlie 2003), are negatively affected by job losses. Some research shows that surrounding unemployment rates or economic climate (e.g., recessions) worsens these effects (Davis & von Wachter 2012), but other work finds no differences based on local economic factors (Brand and Simon Thomas 2014).

Parental income changes can affect children's behavior at school (Gennetian et al. 2015) and children's educational attainment (Hardy 2014), and parental mental health affects child wellbeing (Mitchell et al. 2015). Whether due to these outcomes or via other mechanisms, research shows that parental job losses affect children's educational outcomes negatively (Brand & Simon Thomas 2014; Kalil & Ziol-Guest 2008; Stevens and Schaller 2011). Even so, these findings do not necessarily imply that outcomes for children have worsened over the four decades considered in this chapter. When comparing the effects on children whose parents lost employment in the 1970s versus the 2000s, the sample size does not necessarily matter, unless numbers are so vastly different that a lot more variation exists within the larger samples or samples are somehow unrepresentative of the greater population. Rather, the question is whether or not the effect of the disruption has changed over time, which is unclear from a simple increase in incidence rate.

Partner loss and gain has seen extreme changes over the past four decades – in fact, the largest changes in the divorce rate coincide with the 1960-2000 time frame (Ellwood & Jencks 2004; Kennedy & Ruggles 2014; Pugh 2015; Ryan, Claessens & Markowitz 2014). The number of children growing up living with both biological parents in the same household has decreased substantially (Amato 2005; Ellwood & Jencks 2004). However, there is a divergence based on education (Furstenberg 1995): particularly women with more education are increasingly less likely to get divorced (Bramlett & Mosher 2002; Ellwood & Jencks 2004); however, more highly

educated women and men are also more likely to get married later (Martin 2004) and raise their children to have more education[2]. The increase in divorce rates could have normalized the experience, which could cushion the shock, though given the educational disparity in divorce rates, this is likely more true for the children of less educated parents than the children of highly educated parents. On the other hand, more highly educated women might be more financially prepared to be single parents (and more likely to be supported by the former spouse via child support or more informal methods of child care or financial assistance), should a divorce occur. Remarriage is increasingly more likely for women who are white and not religious (Bramlett & Mosher 2002), but also for women who do not have children, who are not considered in this analysis.

Divorce has been shown to be detrimental to a variety of child outcomes (e.g., Amato 2010; Brown 2010; Ryan, Claessens & Markowitz 2014), though it is unclear if this effect has increased or decreased over the past four decades. Remarriage rates have increased concurrently, with remarriage showing mixed results in terms of child outcomes (Sweeney 2011), but it is again unclear if there are differences in how this affects children between the present and forty years ago. Cohabiting partners are more likely to break up than married partners, though there is variance with regard to education and race in these statistics (Bramlett & Mosher 2002); for all respondents, combining married spouses and cohabiting partners in this study will increase the chances of catching the disruption of losing a household adult with respect to children in that household.

Time trends of residential moves are harder to pinpoint. Though we know that moving is more common at specific ages and for certain levels of educational attainment (Dieleman 2001;

[2] This finding is well established in sociology, going back to Blau and Duncan's (1967) path analysis-based results.

Frey 2009) and that Americans are particularly likely to experience residential mobility at some point in their lives compared to people in other countries (Frey 2009; Pribesh & Downey 1999), it is somewhat unclear exactly what trends have been over the past four decades. Overall trends show that migration has recently experienced a slowdown for all age groups, and this is certainly true over the past four decades (Frey 2009; Molloy, Smith & Wozniak 2011). Recent reports indicate that a large portion of moves are within the same county – somewhere between 40% and 60% of residential moves in a year, depending on the source – meaning that children may not change schools as a part of the move (Frey 2009; Ihrke, Faber & Koerber 2011); though moving is still a disruptive event, this reduces a main area of concern for children. However, Hall and Ruggles (2004) find that the number of people living outside of the state in which they were born has slightly increased over the past forty years.[3] Moving is generally considered to negatively affect children's educational achievement (Burdick-Will et al. 2011; Pribesh & Downey 1999; South, Haynie & Bose 2007), but it in unclear if those effects have improved or worsened over time.

Hypotheses

Based on economic, political, and social trends, it is plausible that the effects of disruptive events on children's educational attainment have worsened over the four decades considered in this chapter. Increasing income inequality has already been shown to be associated with children's educational performance (Reardon 2011); events that affect the family's socioeconomic status are then likely to have more bearing on children's educational performance as income inequality increases. Rising tuition costs make college attendance a financial burden

[3] These authors examine a much larger time span in their article, but I focus on the past four decades in this paper.

or impossibility for many young people already, so when parents experience a life course disruption, this likely derails educational plans that are already financially tenuous. It is not just a change in income that matters for children's outcomes, however, but rather income changes coupled with other behavioral or social changes that may be independent from or rely upon income (Mayer 1997). Since parents have begun to play an increasingly larger role in their children's lives over the four decades examined, when their involvement is decreased due to time constraints, children's educational attainment could suffer, especially compared to children not experiencing the same changes.

It is difficult to say how increases in event occurrence might affect child outcomes. It could be that having peers who experience the same situations helps children, though it is unclear how this would help children's educational outcomes, which are increasingly driven by their parents, for social, logistical, and financial reasons. It could also be that what is normalized when more people experience disruptive events is not the event occurrence (which would possibly improve effects) but rather the negative outcomes themselves, and thus children are redirected to new educational outcomes along with other children whose parents experience similar events. That is to say, as more parents experience disruptive events, their children are collectively redirected to a different educational pathway compared to their peers whose parents do not experience such events.

Data

This chapter again uses data from the Panel Study of Income Dynamics (PSID)'s nationally representative data set. Since the PSID has waves from 1968 through 2011 and allows for identification of intergenerational connections, this study lends itself well to testing effects

over time. Since the PSID is a panel study, it includes parents of all ages within each survey year. This means that I can separate the data into decades to see how the effect of disruptive events has changed over time. Disruptive life events are employment loss, employment gain, partner loss, partner gain, and residential moves. The number of events within each year can be limited, so I consider the data within decades to see an overall pattern rather than looking at effects of events within each year.

Methods

This chapter uses logistic regression models, where the outcome is an educational outcome for children (high school graduation, college attendance, or college completion), as in the previous chapters. In other words, outcome variables are coded as 1 if high school graduation, college attendance, or college completion occurred by ages 19, 21, or 24, respectively, and 0 otherwise. Ideally, this analysis would look at the effects of events within each year (or each wave) of the study. However, events are not frequent enough to provide a solid model analysis. Therefore, I created event variables for each decade, where event data from waves from 1968 through 1979 becomes a variable for the 1970s, event data from waves from 1980 through 1989 becomes a variable for the 1980s, event data from waves from 1990 through 1999 becomes a variable for the 1990s, and event data from waves from 2000 through 2011 becomes a variable for the 2000s.

In this way, I created separate variables for each event: employment loss, employment gain, partner loss, partner gain, and residential moves. Then, I look at the outcomes for the events within each decade and compare effects for each decade across events. Event variables are coded as 1 if the event occurred to the mother/father while the child was between 0 and 17

years old and if the calendar year corresponds to the decade being coded; in all other cases, the event variable is coded as 0. If any of this information is missing, the event variable is coded as missing. Employment variables use an indicator of whether or not the person is employed; in other words, I do not distinguish between reasons for employment loss or gain. Partner variables use an indicator of whether or not the person is married, which in the PSID includes those who have been cohabiting for over a year. Though it is plausible that there are differences between married and cohabiting respondents, research shows that lengthy cohabitations and marriage have similar risks of dissolution and behaviors are similar as well (Goldberg & Carlson 2014; Kuperberg 2014; Tach & Eads 2015). It is also likely that sample sizes of cohabiters and effect differences between the two groups are small enough for this study that it will not drastically affect results. Residential moves include all moves; I do not distinguish between out-of-state or in-state moves, for example, in order to include all such disruptions.

In this chapter, I combine mothers and fathers to create parent event variables; in other words, the variable takes the value of 1 if either or both parents experienced that event in that survey wave. I do this because of data limitations. In the Results section I show that fathers are slightly more likely that mothers to experience events, especially in the 1980s and 1990s; however, there is little variation in children's educational outcomes following a mother's versus a father's disruptive event and the pattern over time does not vary when I compare outcomes of mothers' and fathers' events. Therefore, I combine mothers and fathers to have more events to analyze within each decade. Also due to data limitations, I control for a more limited number of factors in this chapter. Since I am dividing the data into four groups, the number of people who experience events becomes smaller. I include controls for child's sex, child's race, child's age in

2011[4], and mother's and father's high school and college completion; I use these parental education variables in lieu of a variable directly connoting socioeconomic status, because I cannot add income into the model since it is endogenous (i.e., disruptive events themselves affect parental income). Contrary to other chapters, in these models I do not control for being born in the South or for being married when the child was born, because missingness among these variables causes sample sizes to be significantly smaller within each decade. (In previous chapters, since all waves were included this was not an issue, but dividing the sample into four decades lowers the number of people who experience events, i.e., those who have a value of 1 for that variable.)

I use the following logistic regression model:

$$\log\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + \ldots + \beta_n * x_n \qquad (1)$$

where p is the probability of reaching an educational milestone (completing high school, attending college, or completing college; expressed as odds ratios), x_n is the set of covariates, β_0 is the constant, and the other β_n 's are coefficients for covariates. The event variables are dichotomous, and each model contains one event variable as x_1.

I run separate models for each outcome and each event within each decade. For example, one model looks at the effect of a parental employment loss in the 1970s on high school completion, while another model looks at the effect of a parental employment loss in the 1990s on college completion. This allows me to compare effects and view time trends across models.

Results

[4] I control for child's age in case there are systematic differences over time in the ages of children within the sample.

Event Occurrence

Although the PSID has respondents of all ages within each survey year, it is likely that event occurrence varies by nature of the survey's growth over time. Alternatively, the number of events could increase or decrease over time due to a variety of macro factors such as labor market fluctuations or policy changes. Table 4.1 reports the frequencies of each event within each decade. Disruptive events, among parents of children aged 0-17 years, are more frequent in the 1980s and 1990s, compared to the 1970s and 2000s. In both cases, this is possibly because respondents are on the whole slightly younger and less likely to have children between the ages of 0-17 years; in the case of the 2000s, those children might not make the cut-off of needing to be at least 19 years old by 2011 to be included in the variable. Again, the panel nature of the data should alleviate these trends slightly. Since these results include both parents, I also break down the percentages of mothers and fathers who experience disruptive life events (see Appendix 4.1), and I see the same pattern there. All events are slightly more likely for fathers as compared to mothers. Since the occurrence rates increase in the 1980s and 1990s for both mothers and fathers, the end result is a larger increase for parents when mothers and fathers are combined[5].

Children born before 1968 do not have their entire childhood included in the analysis, and though this truncation could also play a role in these findings, I find that the ages of the children at which events occur are stable within decades. There are changes over time, however, in the ages at which events occur: children tend to be older, on average, when experiencing all

[5] Of course, a mother and father divorcing is one divorce to their child, whereas employment events could "double up" with respect to children if both parents lose employment within the same time period. I do not distinguish between the number of times these events occur but rather code the event variable as 1 if the event occurred at all (to either the mother or the father) and 0 otherwise.

five events, in later years compared to earlier years (see Appendix 4.3). Given the findings in Chapter 3, this might explain why employment loss and gain effects grow across decades. There are no differences between mothers' and fathers' events when looking at children's ages at which events occurred within decades.

I find no differences between mothers' and fathers' ages at the time of events, on average, across decades, either (see Appendices 4.4 and 4.5). However, both mothers and fathers are, on average, experiencing events (their own, their partner's, or potentially their former partner's) at later ages across decades. To further ensure that any effect patterns are not simply due to a pattern in the ages of the parents at the time of the event occurrence, I check the percentage of mothers and fathers who are under the age of 40 when the event occurred, given that they did experience an event (see Appendix 4.2). I find that mothers who experience events tend to be younger than fathers who do. I again show that parents who experience events in the 2000s tend to be older than those who did in prior decades. This connects with the pattern that children tend to be older when parents experience events. What this means for child outcomes is complex, but I speculate that this certainly has bearing on the employment events' outcomes, given my previous findings of patterns across child ages.

Event Effects on Child Outcomes

I next turn to the effects of disruptive events on children's educational outcomes, shown in Figures 4.1 through 4.5. It is important to note that each dot on these figures represents the odds ratio outcome of a different model; in other words, each figure in Figures 4.1 through 4.5 contains the results of twelve different equations. Figure 4.1 shows the effects of parental employment loss, as odds ratios, across the four decades considered; Figure 4.2 shows the effects

of parental employment gain; Figure 4.3 shows the effects of parental partner loss; Figure 4.4 shows the effects of parental partner gain; and Figure 4.5 shows the effects of a residential move. Noticeable is the positive effect of all events on high school graduation in the 1970s. It is possible that this outcome is due to the slightly younger population of parents in that decade, where the parents experiencing disruptive events also are slightly younger than those who experienced events in later decades. It is also possible that more of those parents' children are grown though then the same effect should be shown in the 1980s and 1990s, given the length of the PSID, and that is not the case. It could be that mothers who are quitting work to tend to children in more affluent families are driving this effect; additionally, children in families with lower income receive lower quality care in their early years (Meyers et al. 2004), so having a parent at home might mitigate the effects of these lower quality care situations. However, when similar graphs are created for mothers and fathers separately (figures not included in this paper), this does not appear to be the case in the 1970s; the effects for mothers and fathers look quite similar. In the 1980s, a mother's employment loss is beneficial for all educational outcomes, whereas a father's employment loss does not have a positive effect on any educational outcomes; the effects for parents, then, are on average more positive for that event in that decade. Since these are the only differences between the mothers' and fathers' graphs across all five trigger events, I focus on parents as a combined unit instead of analyzing mothers and fathers separately.

The effect of disruptive events, generally, has become increasingly negative as time passed. The effects (odds ratios) have also become increasingly statistically significant. Children's high school graduation went from being positively affected or unaffected by parental disruptions to being increasingly negatively affected. This pattern is especially evident when looking at the effects of parental employment loss. For that event, the effect was slightly

negative in the 1970s, slightly positive in the 1980s, but significantly more negative in the 1990s and again in the 2000s. Parental employment gain shows a very similar pattern over time, which could be due to the fact that gaining a job requires having not had a job before gaining one (since I do not include employment changes from one year to the next but only transitions from unemployed to employed). Parental partner loss shows an increasingly negative effect on high school graduation, which levels off from the 1990s to the 2000s. Parental partner gain shows a similar pattern. Residential moves also go from having a positive effect on children's educational outcomes in the 1970s to having a significantly negative effect by the 2000s.

It is worth noting that the effect of mother's and father's education on children's educational outcomes has not changed over the four decades considered in this paper. Mother's and father's high school completion moderately predicts children's high school completion, college attendance, and college completion. Mother's and father's college completion predicts children's high school completion and college attendance somewhat, not always statistically significantly, but these factors very significantly predict children's college completion. In fact, in all four decades, regardless of disruptive events, children whose parents have completed college are 2 ½ (for mothers) and 3 (for fathers) times more likely to complete college themselves, holding other factors constant.

Discussion

Trends in disruptive events show an increased possibility of children experiencing events during childhood, with increased rates of divorce, remarriage, employment loss, and employment gain. This echoes previous research. The one exception to this trend is residential mobility, which has decreased slightly over this time period, again following prior findings. It is important

to note that statistics reported here are for families with children only, not residential mobility rates for the population more generally; previous research does not make this distinction.

On top of increases in the majority of events considered, I show that the effects have worsened. This means more children are experiencing disruptive events with worse outcomes, adding to already rising levels of inequality. Given the increased incidence of events, it is not rarity that drives effects on children – though this is perhaps true for residential moves, not enough is known about this specific population considered in this paper to speculate further. It would seem plausible that the more common an event is, the less likely it is to affect children, since their peers share their experience. However, this does not seem to be the case. I next turn to other explanations of effect increases.

Macro factors mentioned earlier include increases in income inequality and changes in parenting practices. It is plausible that dropping into a lower income bracket leads to worse consequences when income inequality is high compared to when income inequality is lower. It is also plausible that more intensive parenting practices suffer when the routine in the home is disrupted, when a parent needs to manage his/her reactions and responses to a job loss, or when an adult leaves the family home following a divorce, for example. If parenting practices were indeed more hands-off in the past, the effects may not have been as extreme as they are now, in a time when the expectation is for parents to be more involved in their children's day-to-day activities. Structured activities outside the home have become increasingly popular, and those cost money – money that might not be available for families experiencing a job loss or a divorce. However, these explanations do not account for employment gains, except in that an employment gain means a previous employment loss or a time spent out of work. They could be

relevant in terms of explaining the negative consequences of gaining a new partner, given that this disrupts the home routine as well.

Another explanation for the trends in effects would be an increase in event combinations. Instability has recently been underscored as being detrimental to children's later-life outcomes (Brown 2010), and experiencing more or combined events leads to worse outcomes (see Chapter 2). If the people experiencing events have become more likely to experience more events beyond the first shock – in other words, if the people experiencing events have shifted from being spread out across the population to being a select group somehow – this could contribute to the trend in outcomes seen in this chapter. The frequency of events taken one at a time has not increased (though the 1980s and 1990s show higher percentages of event occurrence compared to the 1970s and 2000s) as shown earlier in Table 4.1 – not even breaking down the results by mothers and fathers changes this (see Appendix 4.1).

The labor market has seen major changes in the United States within the time period considered, with insecurity surrounding employment becoming "inevitable, part of what people consider the inescapable cost of broad social forces that none of us can do anything about" (Pugh, 2015, 197) and employer loyalty decreasing in response (Kalleberg 2009). Particularly for workers in the low-wage job market, frequent changes are common and upward mobility is extremely rare (Osterman & Shulman 2011). Despite the normalization of these constant employment changes ("job churn"), even when coupled with concurrent normalization of changes in intimate relationships, negative effects on children's educational attainment increased.

It would behoove researchers to find out more about why trigger events seem to be increasingly negatively affecting children's educational attainment and what can possibly be done to curb this trend. If an increase in events or event combinations is driving effect size

changes, this means that a specific group of parents and children needs to be targeted in terms of policy and educational intervention. If, however, macro factors such as income inequality or parenting practices are behind the trend, different responses are needed. For example, alternative solutions to layoffs could help reduce unemployment and worker dislocation (Abraham & Houseman 1993), and this might be particularly helpful policy information if employment losses are severely affecting not just the workers but their children as well. Intergenerational effects such as the ones shown here could become prevalent in the future labor market.

Much research is still to be done in this area. This chapter focuses on employment and relationship events as well as residential moves, but there are many more disruptive events that could be considered. Given the increase in the effects on children, other life shocks would be worth analyzing as well. Events such as health shocks, deaths of family members, or incarceration would be likely avenues by which similar effects could be seen, and those events could, of course, combine with others. Knowing that these effects are becoming more salient over time for children is the first step toward figuring out how to help children whose parents are at risk of disruptive events.

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TABLES

Table 4.1
Frequency of event occurrence, by decade

Event	*Frequency*			
	1968-1979	*1980-1989*	*1990-1999*	*2000-2011*
Lost employment	4.30%	12.72%	11.94%	2.19%
Gained employment	3.39%	12.42%	11.71%	2.04%
Lost partner	4.84%	7.80%	10.38%	2.72%
Gained partner	4.48%	7.05%	7.75%	2.44%
Moved	22.20%	25.64%	30.02%	8.34%

Notes: This table reports the frequency of events ever occurring during the survey time (1968-2011). It only includes mothers/fathers whose children were 0-17 years old when the event occurred. It is also limited to respondents who were at least 17 years old at the last survey wave (in 2011); N = 15,792.

FIGURES

Figure 4.1: Effect of parental lost job on child outcomes over time

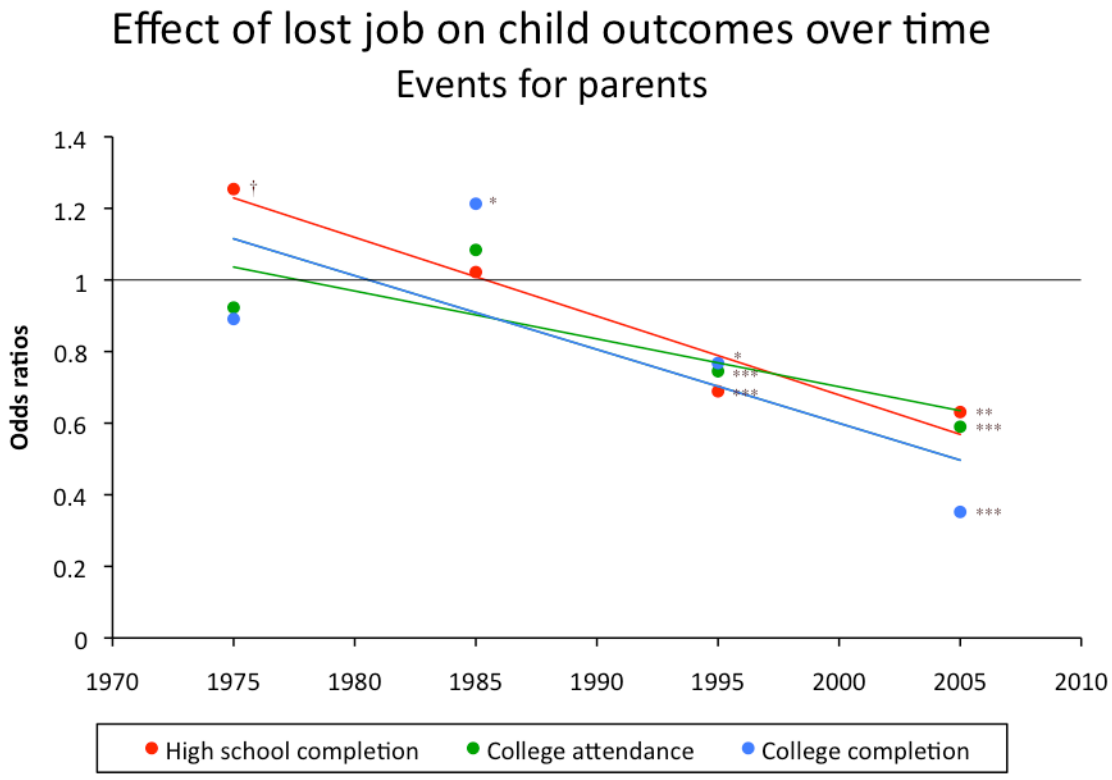


Figure 4.2: Effect of parental gained job on child outcomes over time

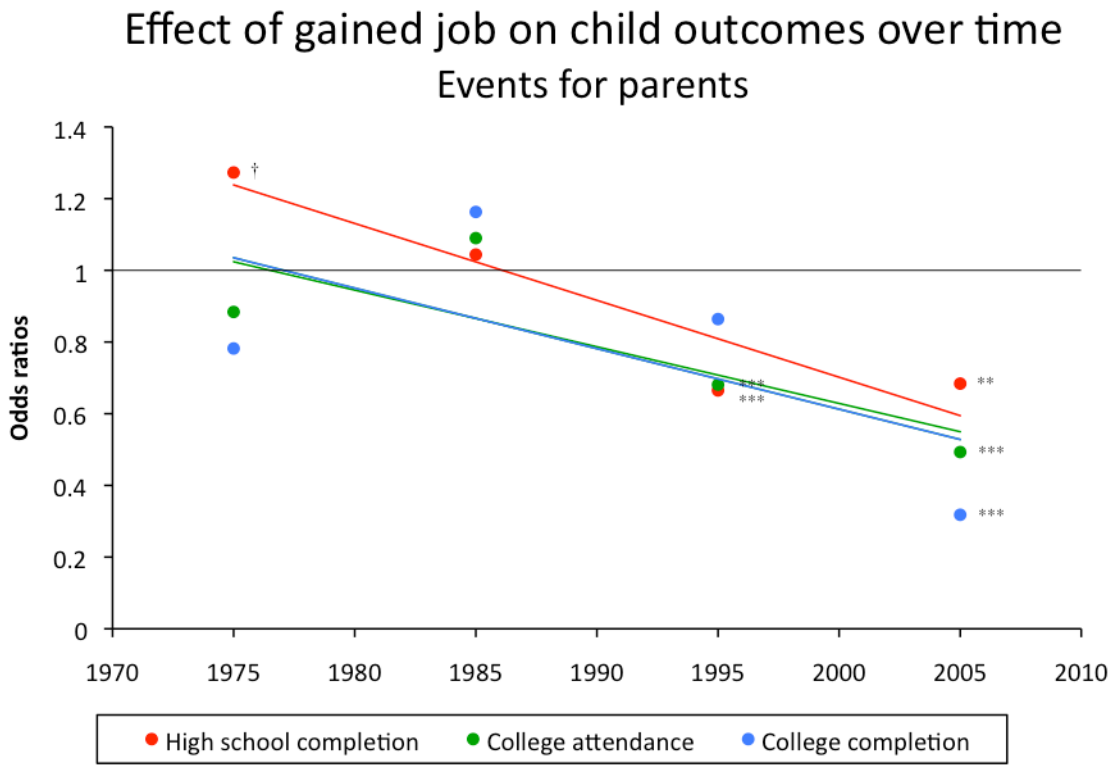


Figure 4.3: Effect of parental lost partner on child outcomes over time

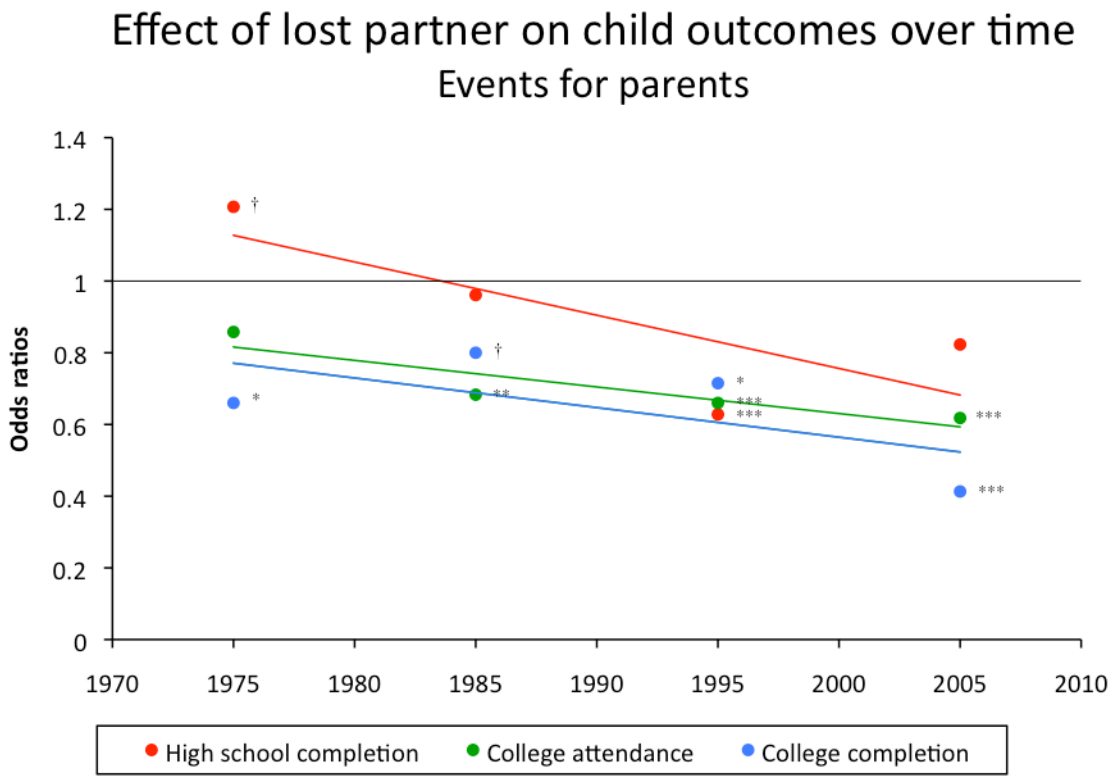


Figure 4.4: Effect of parental gained partner on child outcomes over time

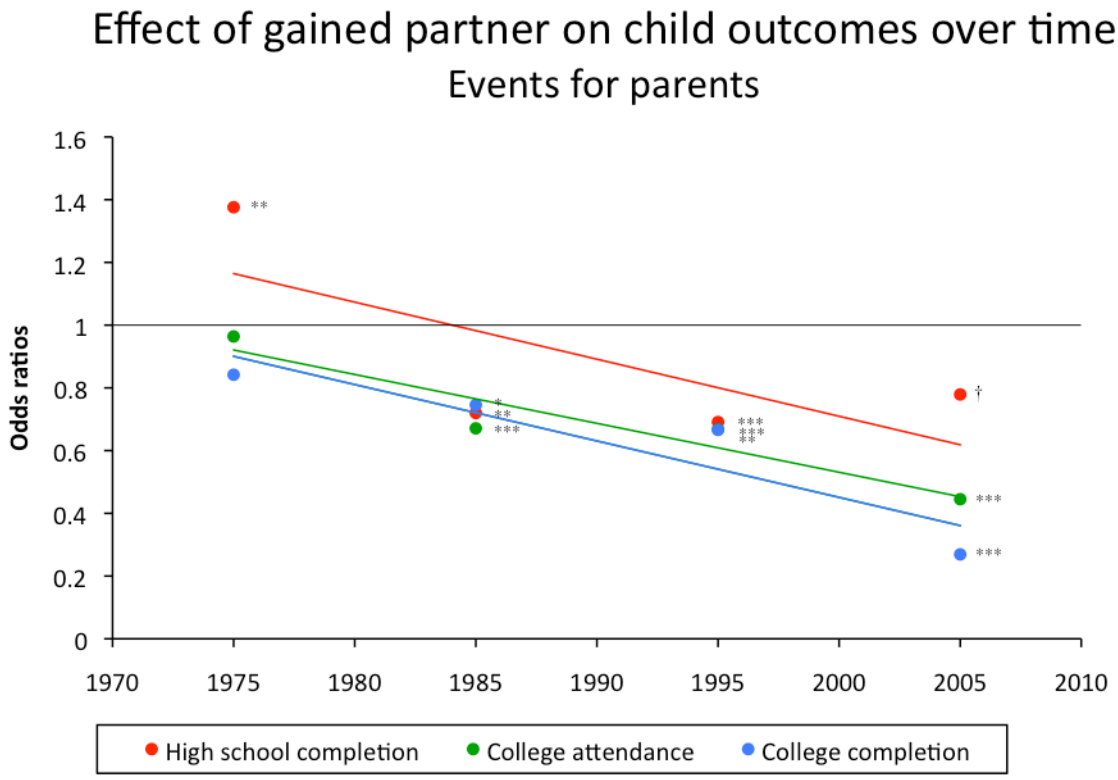
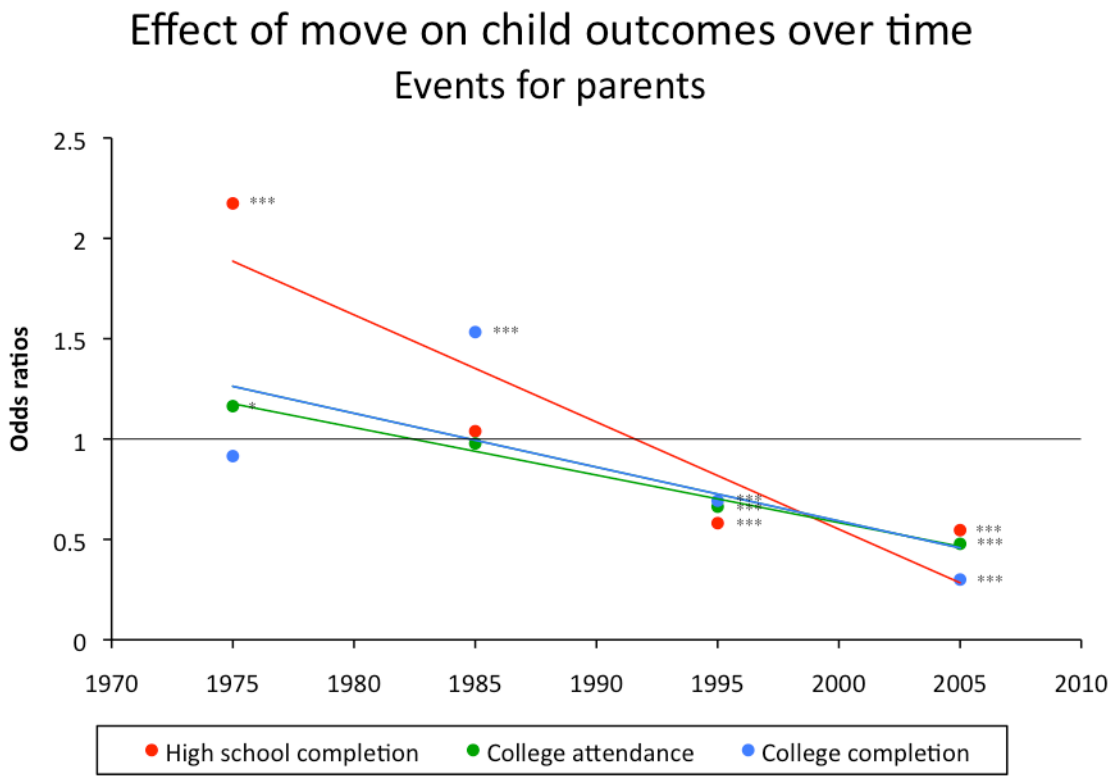


Figure 4.5: Effect of parental move on child outcomes over time



Appendix 4.1
Frequency of event occurrence, by decade, mothers vs. fathers

Event	*Frequency*							
	1968-1979		*1980-1989*		*1990-1999*		*2000-2011*	
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
Lost employment	3.64%	3.49%	5.75%	8.71%	6.06%	7.21%	1.09%	1.28%
Gained employment	3.18%	3.24%	5.67%	8.42%	6.44%	6.55%	1.05%	1.17%
Lost partner	4.77%	4.67%	7.54%	7.47%	9.92%	9.80%	2.42%	2.27%
Gained partner	3.89%	3.87%	6.22%	5.97%	6.57%	5.67%	1.93%	1.61%
Moved	21.84%	21.78%	25.09%	24.73%	28.79%	27.76%	7.75%	6.67%

Notes: This table reports the frequency of events ever occurring during the survey time (1968-2011). It only includes mothers/fathers whose children were 0-17 years old when the event occurred. It is also limited to respondents who were at least 17 years old at the last survey wave (in 2011); N = 15,792.

Appendix 4.2
Percentage of mothers and fathers under age 40 when the event occurred (given event occurrence)

Event	*Frequency*							
	1968-1979		*1980-1989*		*1990-1999*		*2000-2011*	
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
Lost employment	78.70%	60.95%	85.35%	76.09%	70.27%	52.15%	39.67%	35.48%
Gained employment	80.22%	62.27%	86.65%	78.42%	73.63%	57.51%	45.51%	23.74%
Lost partner	66.91%	48.04%	75.27%	72.56%	65.37%	46.33%	44.74%	34.46%
Gained partner	75.19%	64.83%	78.31%	73.02%	73.69%	59.69%	50.92%	44.32%
Moved	74.19%	63.06%	83.92%	77.25%	68.24%	56.13%	41.88%	33.72%

Notes: This table reports the percentage of mothers and fathers who experienced the event listed, and who were under the age of 40 during that time. All events occur during the survey time (1968-2011). It only includes mothers/fathers whose children were 0-17 years old when the event occurred. It is also limited to respondents who were at least 17 years old at the last survey wave (in 2011); N = 15,792.

Appendix 4.3
Mean age (SD) of child in 2011 by parent/mother/father event

Event/Timing	*Parent*		*Mother*		*Father*	
Lost employment:	yes	no	yes	no	yes	no
1968-1979	42.7 (6.5)	36.4 (13.5)	43.3 (6.3)	36.4 (13.5)	42.9 (6.3)	36.4 (13.5)
1980-1989	32.2 (6.3)	37.5 (14.1)	31.8 (6.5)	37.2 (13.9)	32.7 (6.1)	37.2 (13.9)
1990-1999	25.8 (4.6)	38.5 (13.5)	25.5 (4.4)	38.2 (13.4)	25.8 (4.6)	37.9 (13.5)
2000-2011	21.7 (2.3)	37.4 (13.2)	21.6 (2.3)	37.0 (13.3)	21.5 (2.2)	37.1 (13.3)
Gained employment:	yes	no	yes	no	yes	no
1968-1979	43.0 (6.1)	36.4 (13.5)	43.4 (5.9)	36.5 (13.5)	42.9 (6.0)	36.4 (13.5)
1980-1989	32.1 (6.1)	37.6 (14.1)	31.8 (6.2)	37.3 (13.9)	32.5 (5.9)	37.2 (13.9)
1990-1999	25.5 (4.5)	38.7 (13.4)	25.3 (4.3)	38.4 (13.4)	25.6 (4.5)	37.8 (13.4)
2000-2011	21.9 (2.4)	37.3 (13.3)	21.6 (2.3)	37.0 (13.3)	22.0 (2.4)	37.1 (13.3)
Lost partner:	yes	no	yes	no	yes	no
1968-1979	45.6 (6.0)	36.2 (13.5)	45.6 (6.0)	36.2 (13.5)	45.5 (6.0)	36.2 (13.5)
1980-1989	32.6 (5.9)	37.1 (13.4)	32.3 (5.7)	37.1 (13.8)	32.3 (5.8)	37.1 (13.8)
1990-1999	25.2 (4.4)	38.3 (13.4)	24.9 (4.3)	38.3 (13.4)	25.1 (4.4)	38.4 (13.4)
2000-2011	21.6 (2.2)	37.4 (13.2)	21.6 (2.2)	37.3 (13.2)	21.6 (2.2)	37.3 (13.3)
Gained partner:	yes	no	yes	no	yes	no
1968-1979	42.5 (6.3)	36.4 (13.6)	41.7 (6.2)	36.5 (13.5)	42.0 (6.4)	36.5 (13.5)
1980-1989	30.3 (6.0)	37.3 (13.7)	29.5 (5.6)	37.3 (13.6)	29.5 (5.6)	37.3 (13.6)
1990-1999	24.9 (4.3)	37.9 (13.4)	24.4 (4.2)	37.7 (13.3)	24.1 (4.3)	37.6 (13.3)
2000-2011	21.8 (2.5)	37.3 (13.3)	21.7 (2.5)	37.1 (13.3)	21.7 (2.4)	37.1 (13.3)
Moved:	yes	no	yes	no	yes	no
1968-1979	42.8 (7.0)	34.5 (14.4)	42.6 (6.9)	34.6 (14.4)	42.7 (7.0)	34.5 (14.4)
1980-1989	31.2 (7.3)	39.5 (15.1)	31.0 (6.1)	39.6 (15.0)	31.0 (6.1)	39.6 (15.0)
1990-1999	25.6 (4.6)	42.0 (12.9)	25.3 (4.5)	41.7 (12.9)	25.4 (4.6)	41.6 (12.9)
2000-2011	22.0 (2.4)	39.0 (12.9)	22.0 (2.3)	38.7 (13.0)	22.0 (2.4)	38.3 (13.1)

Notes: This table reports the frequency of events ever occurring during the survey time (1968-2011). It only includes mothers/fathers whose children were 0-17 years old when the event occurred. It is also limited to respondents who were at least 19 years old at the last survey wave (in 2011); N = 15,792.

Appendix 4.4
Mean age of mother in 2011 by parent/mother/father event

Event/Timing	*Parent*		*Mother*		*Father*	
Lost employment:	yes	no	yes	no	yes	no
1968-1979	66.3 (8.6)	60.8 (12.5)	66.7 (8.5)	60.8 (12.5)	66.1 (8.0)	60.9 (12.5)
1980-1989	57.8 (7.1)	61.7 (13.1)	57.3 (6.7)	61.5 (12.9)	58.2 (7.1)	61.5 (12.9)
1990-1999	51.8 (6.1)	62.7 (12.5)	51.5 (6.0)	62.4 (12.5)	52.0 (6.1)	62.1 (12.5)
2000-2011	48.7 (5.9)	61.7 (12.3)	48.5 (5.6)	61.4 (12.4)	48.9 (6.1)	61.4 (12.4)
Gained employment:	yes	no	yes	no	yes	no
1968-1979	68.3 (8.0)	60.7 (12.5)	66.2 (8.0)	60.9 (12.5)	65.2 (7.6)	60.9 (12.5)
1980-1989	56.6 (8.0)	61.5 (12.7)	56.8 (7.6)	61.5 (12.9)	57.6 (7.0)	61.5 (12.9)
1990-1999	50.4 (6.4)	62.5 (12.3)	51.3 (6.1)	62.5 (12.5)	51.6 (6.2)	62.1 (12.5)
2000-2011	47.4 (5.8)	61.7 (12.3)	48.2 (6.0)	61.4 (12.4)	50.2 (5.9)	61.4 (12.4)
Lost partner:	yes	no	yes	no	yes	no
1968-1979	65.6 (8.1)	60.9 (12.5)	68.2 (8.0)	60.8 (12.5)	68.2 (8.2)	60.8 (12.5)
1980-1989	57.3 (7.3)	61.8 (13.1)	56.2 (7.9)	61.5 (12.6)	56.2 (8.0)	61.5 (12.6)
1990-1999	51.5 (6.3)	62.8 (12.5)	50.3 (6.3)	62.5 (12.3)	50.4 (6.3)	62.5 (12.4)
2000-2011	49.1 (6.1)	61.6 (12.4)	47.3 (5.9)	61.7 (12.3)	48.1 (5.7)	61.6 (12.3)
Gained partner:	yes	no	yes	no	yes	no
1968-1979	64.5 (7.6)	60.9 (12.6)	63.7 (7.6)	61.0 (12.6)	64.1 (7.7)	60.9 (12.6)
1980-1989	54.3 (7.3)	61.7 (12.6)	53.4 (6.7)	61.7 (12.6)	53.4 (7.0)	61.7 (12.6)
1990-1999	49.7 (6.6)	62.2 (12.3)	49.2 (6.5)	62.1 (12.3)	48.9 (6.8)	61.9 (12.3)
2000-2011	47.1 (5.6)	61.6 (12.3)	46.3 (5.7)	61.5 (12.3)	46.9 (5.5)	61.4 (12.3)
Moved:	yes	no	yes	no	yes	no
1968-1979	66.5 (8.1)	59.1 (13.1)	66.4 (8.1)	59.1 (13.1)	66.3 (8.1)	59.1 (13.1)
1980-1989	56.2 (7.0)	63.7 (13.8)	56.1 (6.9)	63.7 (13.8)	56.0 (6.9)	63.7 (13.7)
1990-1999	51.2 (6.0)	66.0 (11.8)	51.1 (6.0)	65.9 (11.9)	51.2 (6.1)	65.6 (11.9)
2000-2011	48.0 (5.4)	63.2 (11.9)	47.9 (5.4)	63.1 (12.0)	48.1 (5.4)	62.6 (12.1)

Notes: This table reports the frequency of events ever occurring during the survey time (1968-2011). It only includes mothers/fathers whose children were 0-17 years old when the event occurred. It is also limited to respondents who were at least 19 years old at the last survey wave (in 2011); N = 15,792.

Appendix 4.5
Mean age of father in 2011 by parent/mother/father event

Event/Timing	*Parent*		*Mother*		*Father*	
Lost employment:	yes	no	yes	no	yes	no
1968-1979	66.4 (7.5)	61.3 (11.6)	67.5 (7.2)	61.3 (11.6)	65.7 (7.4)	61.4 (11.6)
1980-1989	59.4 (7.2)	62.0 (12.2)	59.2 (6.9)	61.7 (12.1)	59.4 (7.4)	61.8 (11.9)
1990-1999	53.7 (6.6)	62.8 (11.7)	53.8 (6.3)	62.4 (11.7)	53.6 (6.8)	62.4 (11.7)
2000-2011	51.9 (6.7)	62.0 (11.5)	52.2 (6.1)	61.7 (11.6)	51.5 (7.0)	61.9 (11.5)
Gained employment:	yes	no	yes	no	yes	no
1968-1979	65.3 (7.0)	61.4 (11.6)	66.0 (6.8)	61.4 (11.6)	65.3 (7.0)	61.4 (11.6)
1980-1989	58.7 (7.1)	62.1 (12.2)	59.1 (7.3)	61.7 (12.0)	58.5 (7.0)	61.9 (12.0)
1990-1999	53.7 (6.7)	62.9 (11.7)	53.8 (6.4)	62.5 (11.7)	53.3 (6.9)	62.3 (11.6)
2000-2011	52.1 (6.2)	62.0 (11.6)	52.5 (6.1)	61.7 (11.6)	52.0 (6.3)	61.8 (11.6)
Lost partner:	yes	no	yes	no	yes	no
1968-1979	68.6 (6.6)	61.3 (11.6)	68.4 (6.6)	61.3 (11.6)	68.5 (6.6)	61.3 (11.6)
1980-1989	59.1 (7.1)	61.7 (11.8)	58.5 (6.9)	61.8 (11.8)	59.0 (7.1)	61.7 (11.8)
1990-1999	51.8 (6.9)	62.6 (11.5)	51.4 (6.8)	62.6 (11.5)	51.6 (6.8)	62.6 (11.5)
2000-2011	49.0 (7.1)	62.1 (11.4)	49.3 (7.4)	62.0 (11.4)	49.5 (7.2)	62.0 (11.5)
Gained partner:	yes	no	yes	no	yes	no
1968-1979	65.8 (7.2)	61.3 (11.7)	64.7 (6.9)	61.4 (11.7)	65.3 (7.2)	61.4 (11.7)
1980-1989	56.5 (7.0)	62.0 (11.8)	55.8 (7.0)	62.0 (11.7)	55.9 (6.6)	62.0 (11.8)
1990-1999	51.3 (7.3)	62.4 (11.4)	50.2 (7.3)	62.2 (11.4)	51.1 (7.3)	62.3 (11.5)
2000-2011	50.0 (7.5)	62.0 (11.5)	49.7 (7.4)	61.8 (11.5)	50.1 (7.8)	61.9 (11.5)
Moved:	yes	no	yes	no	yes	no
1968-1979	67.6 (8.1)	59.3 (11.8)	67.5 (8.1)	59.4 (11.9)	67.6 (8.1)	59.4 (11.8)
1980-1989	58.1 (7.0)	63.5 (13.1)	58.0 (7.0)	63.5 (13.0)	57.9 (6.9)	63.5 (13.0)
1990-1999	53.3 (6.5)	65.8 (11.3)	53.1 (6.5)	65.6 (11.3)	53.2 (6.6)	65.5 (11.3)
2000-2011	50.1 (6.3)	63.4 (11.2)	50.1 (6.2)	63.1 (11.2)	50.1 (6.4)	63.1 (11.2)

Notes: This table reports the frequency of events ever occurring during the survey time (1968-2011). It only includes mothers/fathers whose children were 0-17 years old when the event occurred. It is also limited to respondents who were at least 19 years old at the last survey wave (in 2011); N = 15,792.

CHAPTER 5:

CONCLUSION

"We are in the middle of an extraordinary social experiment: the attempt to provide education for all members of a vast pluralistic democracy. To have any prayer of success…we'll need a revised store of images of educational excellence, ones closer to egalitarian ideals – ones that embody the reward and turmoil of education in a democracy, that celebrate the plural, messy human reality of it." (Rose 1989, 238)

Parents influence their children via their genetics and the environment in which they live. However, people's lives are never as linear or straightforward as simply assigning their life course to a category and expecting child outcomes to flow from that grouped starting point. Mothers and fathers get divorced and sometimes they remarry. Parents get laid off, or they quit their jobs, or they are fired. Parents find new jobs on old or new career paths. Families move to new homes, sometimes in the hopes of finding a better situation for themselves or their children and sometimes out of necessity, financial or otherwise. There is a lot that can happen to parents during the first eighteen years of their children's lives, and how both parents and children cope with and are affected by these changes matters for their own wellbeing and, more generally, for intergenerational mobility.

In this dissertation, I have analyzed the effects of disruptive events in parents' lives on children's educational attainment. With the goal of painting a more complete picture of what events mean and how experiences can vary, I have focused not only on event occurrence and

effects generally, but also more specifically on how events combine in a temporal way, how child age matters, and how effects of events have changed over time (i.e., how the macro context matters). I found that beyond the negative effects of disruptive life events on children's educational attainment, combinations of events worsen effects. Child age at event occurrence also matters, as effects vary based on age, with the exact trends depending on the events. I also found that effects of disruptive events have worsened over the period from 1968 through 2011. These findings have important implications, especially when considered in unison.

In Chapter 2, I show that combinations of events occurred frequently; additionally, people who experience one disruptive event are likely to experience another within close time proximity. A residential move, besides being likely to occur generally, is also the most likely event to combine with an employment or partnership change in this way. Across a variety of model specifications, I show that parents' experience of two contemporaneous events leads to a lower probability of their children attaining all educational outcomes considered compared to parents' experience of single events. Indeed, even simply considering a count of either one category of events or all events combined illustrates that the experience of more events leads to more highly negative outcomes for children's educational attainment.

Chapter 3 finds substantial variation in the effects of disruptive events on children's educational attainment by child age when the event occurred. Looking first at a simple division of childhood years into 0-5, 6-11, and 12-17 years old, partner changes affect educational outcomes most when they occur in early childhood (0-5 years old), whereas job changes affect educational outcomes most when they occur to school-aged children (6-17 years old). Residential moves are always detrimental to educational outcomes, but they are worse for older children than for younger children. Looking next at changes across childhood years 0-17, I find

that parental job loss becomes increasingly detrimental to the chances of college attendance and graduation with each year of the child's age, and job gain similarly affects college attendance. Again, partner loss decreases in its negative effect over time, though partner gain shows no changes over time. The negative effect of a residential move increases as the child ages. When events combine, the effect of those combinations on children's educational attainment is often exacerbated at all ages.

The incidence of disruptive events has increased over time. As such, Chapter 4 considers how the incidences and effects of events have changed over the past four decades, and I find that events have increased in occurrence and effects have worsened for all events. Whereas the effects of events were not all negative in the 1970s, by the period from 2000-2010, the events considered all had substantial negative effects on children's educational attainment. This implies that disruptive events have become increasingly salient in children's lives.

The findings in this dissertation support the idea that instability has negative bearing on children, since both single events and especially combinations of events are either similar to instability or cause instability in children's lives. It is possible that one of the mechanisms for both instability negative effects is income change: disruptive life events affect income (DiPrete & McManus 2000), and both repeated fluctuations and sudden changes in income lead to adverse effects on child outcomes (Hardy 2014; Gennetian et al. 2015). However, though income certainly helps children achieve, it is far from the only factor that does, particularly beyond a specific level (Mayer 1997). It is similarly possible that life shocks psychologically affect parents and children in negative ways (e.g., stress or mental illnesses such as depression), as has indeed been shown (Mitchell et al. 2015; Paul & Moser 2009), though whether children are

affected in this way via their parents' psychological reactions or via the shocks themselves is difficult to disentangle and beyond this dissertation's abilities.

Instability generally, or more specifically income or psychological outcomes are possible ways by which trigger events affect parents and their children. How exactly children's education is affected, however, could vary. It could change decision-making, for example, by having a child choose to enter the labor market rather than attend college in order to start making money or not spend money on tuition. It is possible that events showing strong negative effects when they occur later in childhood are evidence of this mechanism. It could also alter a child's path in the life course, by changing the goals set for the child earlier in their lives and affecting their future outcomes; events that show strong negative effects early in childhood could be evidence of this mechanism.

Since attaining a lower level of education increases the risk of experiencing disruptive events for parents, and since parents experiencing disruptive events leads to lower educational attainment for children, this creates an intergenerational pathway for disadvantage. Since events can occur at any time during childhood and still affect children's educational attainment by 19, 21, and 25, these effects clearly do not dissipate with time. This means that not just characteristics of parents affect children, as in the classic model of social stratification (Blau & Duncan 1967), but changes in those characteristics also heavily weigh on this connection by affecting children's characteristics that then bear on the futures of their own children.

An important implication of these findings is that one could identify the most highly disadvantaged group of children, on average, when it comes to the experience of disruptive events. Since Chapter 4 shows the gradual worsening of effects, these findings are clearly becoming increasingly salient for the U.S. population. As these time trends continue, it would

make sense to focus on children whose parents lost employment when they are close to graduating from high school and entering college, and on children whose parents split up before they started school. However, it would be even more useful to focus on those children whose parents are experiencing those events in combination with a residential move or other disruptive events. Since we know that the effect of a residential move on educational attainment worsens as the child gets older as well, it would make sense to support those children whose parents are experiencing an employment loss and are moving during the time when they should be focused on high school or college graduation.

Another consequential implication is that surrounding details that get lost when focusing on one event in isolation might be critical to determining why effects occur. The difficulty is that looking more broadly loses specific detail. This dissertation has aimed to paint a picture of the surrounding circumstances that may occur with a disruptive event, perhaps at the cost of looking more specifically at the event itself and being able to hone in on details that allow for a more causal interpretation of the results. However, the goal is to see how complex these events are in reality – e.g., when people divorce, they often also move, and since these two events both affect children in negative ways, this combination matters, as does the child's age, and as does the year of occurrence. Much social research faces this tension: including the necessary details and considering the environment while not overwhelming the investigation or, indeed, creating an impossible project. Partially, my goal with this work was precisely to delve into this problem and work toward a more nuanced understanding of this tenuous balance.

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