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Childhood Family Structure and Intergenerational Income Mobility in the United States

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Abstract The declining prevalence of two-parent families helped increase income inequality over recent decades. Does family structure also condition how economic (dis)advantages pass from parents to children? If so, shifts in the organization of family life may contribute to enduring inequality between groups defined by childhood family structure. Using National Longitudinal Survey of Youth data, I combine parametric and nonparametric methods to reveal how family structure moderates intergenerational income mobility in the United States. I find that individuals raised outside stable two-parent homes are much more mobile than individuals from stable two-parent families. Mobility increases with the number of family transitions but does not vary with children's time spent coresiding with both parents or stepparents conditional on a transition. However, this mobility indicates insecurity, not opportunity. Difficulties maintaining middle-class incomes create downward mobility among people raised outside stable two-parent homes. Regardless of parental income, these people are relatively likely to become low-income adults, reflecting a new form of *perverse equality*. People raised outside stable two-parent families are also less likely to become high-income adults than people from stable two-parent homes. Mobility differences account for about one-quarter of family-structure inequalities in income at the bottom of the income distribution and more than one-third of these inequalities at the top.

Keywords Intergenerational mobility · Family structure · Family dynamics · Income inequality

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Introduction

In 1960, 87.7 % of U.S. children lived with two parents; by 2016, that share dropped to 68.7 % (U.S. Census Bureau 2017). More than one-half of children are expected to live without both parents for some time (Kennedy and Bumpass 2008).[1] Family structure has become an increasingly important axis of stratification. Because two-parent families are less likely to be poor than alternative family types, their declining prevalence helped increase income inequality in recent decades (Burtless 1999; Martin 2006; Western et al. 2008). Does family structure also condition how economic (dis)advantages pass from parents to children? Do people raised outside stable two-parent homes experience more or less income mobility than people raised with both parents? In addition to shaping inequality within each cross-section, family structure may shape how inequality endures by moderating intergenerational income persistence.

Large literatures have explored how income persists across generations (Black and Devereux 2011; Hout 2004; Mayer 1997) and how childhood family structure affects achievement (Brown 2010; Lopoo and DeLeire 2014; McLanahan and Sandefur 1994). Yet, little is known about how childhood family structure shapes intergenerational income persistence (Tach 2015). I study the interaction between parental income and childhood family structure (extending previous research on their main effects). I delineate the family conditions under which poverty and affluence are especially durable (Mare 2011). Mobility differences by childhood family structure are especially consequential in the United States. Among 18 democracies, poverty and family structure are most closely associated in the United States (Brady and Burroway 2012). I study the U.S. case.

McLanahan (2004) predicted "diverging destinies" between children raised within versus outside stable two-parent homes, due to large gaps in their access to parental resources. I argue that children's destinies may diverge even further if parental income and family structure interact when shaping children's achievement than if their effects are additive. Extra divergence will occur if growing up outside stable two-parent homes associates with more poverty persistence or less affluence persistence. Chetty et al. (2014a) reported that single motherhood is one of the strongest predictors of intergenerational income mobility in the United States. However, these reports were not based on comparisons of individual-level experiences in different family structures; instead, they were based on comparisons of geographic areas with different shares of single-mother families. The few peer-reviewed studies examining how childhood family experiences condition income mobility in the United States studied cohorts born in the 1940s–1950s (Couch and Lillard 1997; Peters 1992), explored poverty transmission but not mobility throughout the income distribution (Musick and Mare 2006), or examined family structure only briefly to explain other demographic differences in mobility (Mazumder 2014).

This study makes three primary contributions to the literature on economic mobility in an era of rising family fluidity. First, I examine family structure throughout childhood. Previous studies have measured family composition at one point in time. I measure family experiences from birth through age 18, including children's time

[1] Throughout this article, the term "both parents" denotes the two parents with whom children resided at age 0 (overwhelmingly biological parents).

residing with both parents and family transitions. These measures capture the dynamics of family life. They also help elucidate the mechanisms driving mobility variation.

Socialization- and social control–based theories suggest that when children live with both parents for more time, children experience less mobility (Kalmijn 2015). More coresidential time with both parents is associated with more parent-child interaction and more parental supervision (Kalil et al. 2014). These activities may increase income persistence both because children have more opportunities to adopt their parents' attitudes and behaviors (Jodl et al. 2001) and because parents have more opportunities to quell children's rebellious activities (Coleman 1988). These theories emphasize how coresidential time with both parents can reinforce incomes intergenerationally. Instability-based theories instead highlight how family transitions can disrupt income transmission (Mitchell et al. 2015). Family transitions scramble routines and create stress around family relationships. Children's mobility may increase with family transitions, as children seek extrafamilial support (Wu 1996). Even transitions into stepparent families are predicted to increase mobility by instability theories. Stepparents introduced after birth are not expected to help maintain income intergenerationally via socialization and social control like origin parents because transitions create disruptions and uncertainty (Hofferth and Anderson 2003; Wu and Martinson 1993). Prior income mobility research has not revealed whether socialization- or instability-based mechanisms dominate, or, consequently, how long parental coresidence associates with children's income mobility when children experience family transitions.

This study's second contribution is to report both average mobility rates and asymmetries in upward and downward mobility by childhood family structure. Income mobility studies typically report average mobility rates (Solon 1999). High average rates are sometimes equated with expansive economic opportunity. Yet, high mobility out of poverty means something different than high mobility out of affluent economic positions, in terms of both people's lived experiences and high mobility's implications for inequality. If people raised outside stable two-parent families are especially likely to move upward, out of poverty, then their high mobility will help dissipate inequality between groups defined by childhood family structure. Conversely, if they are especially likely to fall down the income distribution, then their high mobility will help perpetuate economic inequality. Regardless of what mechanisms generate mobility differences by childhood family structure, these differences—particularly differences in upward and downward mobility—are important to understand because they help determine how population-level inequality evolves (Mare 1996).

My third contribution is to document how mobility differences contribute to adult income inequality. Children raised outside stable two-parent homes may be especially likely to become low-income adults simply because they are especially likely to have low-income parents. Mobility differences by childhood family structure might play little role. Typical mobility studies examine only micro-level associations between parents' and children's socioeconomic positions (Mare 1997). I provide a decomposition to account for both intergenerational associations and parental income differences (Kitagawa 1955). This approach connects micro-level processes to aggregate inequality.

Using data from the National Longitudinal Survey of Youth (NLSY), 1979–2010, I describe how childhood family structure moderates the persistence of economic (dis)advantages from parents to children. I make three contributions to the literature

on economic stratification and family structure: (1) I consider children's family experiences from ages 0 to 18; (2) I highlight asymmetries in upward and downward mobility; and (3) I examine the implications of these asymmetries for income inequality between demographic groups. My findings help clarify the contours of resource transmission within families and their consequences for population inequality.

Income Mobility Differences by Childhood Family Structure

Sources of Income Mobility Differences

Across many socioeconomic outcomes, people raised in stable two-parent families tend to fare better than those who were not (McLanahan et al. 2013). Socialization- and instability-based theories suggest that people raised in stable two-parent families may also experience stronger persistence of affluence from youth into adulthood.[2]

Socialization- and social control-based theories predict that intergenerational income persistence will increase with the amount of time that children live with both parents, for three reasons. First, coresidential parents tend to spend more time rearing their children (Jones and Mosher 2013; Kalil et al. 2014; Teachman et al. 1997). This extra time, which single parents balancing paid labor and family lack, affords children more opportunities to learn their parents' values and behaviors (Axinn and Thornton 1993). Consequently, this time bolsters intergenerational income similarity because children tend to model parents' behaviors in both their paid work and adult families (Jodl et al. 2001; Li and Wu 2008; Thornton et al. 2007). Women, in particular, may maintain family incomes intergenerationally by marrying spouses whose earnings correspond to her parents' income (Chadwick and Solon 2002). Extra childrearing time also affords parents more opportunities to supervise their children, which helps high-income parents transmit their incomes intergenerationally by guiding their children to avoid trouble and to excel educationally (Coleman 1988; Martin 2012). Second, socialization- and social control–based theories predict more intergenerational income persistence with longer coresidence with both parents because parental supervision is more efficient in stable two-parent families (not only because supervision time is more abundant in these families). Stable partnerships facilitate cooperation and communication (Augustine 2014; Ribar 2015), helping parents quell children's rebellion against parental models and, thus, increase income persistence. Third, socialization- and social control–based theories suggest that children may be more likely to learn behaviors that bolster high-income persistence when they live with both parents for more time. Both the amount and content of what children learn differ by length of coresidence. Children emulating

[2] A third theory holds that selection drives all mobility differences by childhood family structure. Particularly concerning are problematic traits or misfortunes generating low income among stable two-parent families (which are typically higher income) or beneficial traits or circumstances generating high income among unstable or single-parent families (which are typically lower income). In the former case, negative selection is expected to increase measured low-income persistence among children from stable two-parent families. In the latter case, positive selection is expected to increase measured high-income persistence among children from unstable or single-parent families. Following the tradition of mobility research (described in the Data and Methods section), this article aims to provide reliable population descriptions of income persistence by childhood family structure. These descriptions illuminate the rigidity of inequality; future research could isolate the causal mechanisms generating this rigidity.

parents in long-term partnerships may be less likely to divorce and more likely to marry high-earning partners, thus perpetuating high incomes intergenerationally (Axinn and Thornton 1996). In short, socialization theories predict that income persistence will increase with the time that children live with both parents.

Instability-based theories also predict that children from stable two-parent families will experience higher intergenerational income persistence than children from alternative families, particularly those undergoing family transitions. Transitions are changes "in family living arrangements experienced by a child over a period of time" (Brown 2006:448). Most children raised outside stable two-parent homes experience at least one transition, although some live stably with single parents or guardians. Family transitions associate with decreased child well-being because they disrupt routines; increase stress and tension in family interactions; and create additional disruptions, such as residential instability (Fomby and Osborne 2010; Magnuson and Berger 2009; McLanahan and Sandefur 1994; Mitchell et al. 2015; Seltzer 1994). Multiple transitions associate with worse outcomes than only one transition, and according to Fomby and Cherlin (2007:183), "the cumulative effect on children's well-being can be substantial. The nature of the transition in terms of changes in household composition is less relevant than the stress associated with moving from one form to another." Transitions into and out of two-parent families negatively affect children's development (Lee and McLanahan 2015). Coresidential time with stepparents (unlike biological parents) is not expected to reduce children's downward mobility risks, both because stepparents' entrances require family readjustments and because stepparents' obligations are not fully institutionalized (Furstenberg 2014; Hofferth and Anderson 2003). Childhood family transitions are more predictive of nonmarital childbearing than snapshots of childhood family structure or coresidential time with single mothers (Wu 1996; Wu and Martinson 1993). Instability thus appears more important than socialization in explaining single parenthood. Family transitions are expected to disrupt income transmission processes, increasing downward mobility. Transitions could also reduce poor children's upward mobility prospects.

Both socialization- and instability-based theories predict that affluence will persist more strongly in stable two-parent families than alternative families. However, their predictions differ regarding mobility variation among alternative families. In their strongest form, instability-based theories contend that family transitions are more important than family composition. Consequently, among children raised outside stable two-parent families, instability-based theories predict that mobility will vary substantially with family transitions but not much with the time spent living with both parents. In contrast, socialization- and social control–based theories predict that even among children experiencing family transitions, the time spent living with both parents will be an important predictor of mobility. Socialization-based theories predict that parents' influence over their children's attitudes and behaviors will create more income persistence among children who coreside with both parents for more time, irrespective of family transitions.

No previous study (to my knowledge) tests these two theories' predictions. Previous studies of socioeconomic mobility by childhood family structure measured family structure snapshots, not family transitions or coresidential time with both parents (but see Björklund and Chadwick (2003), described directly below; also see Wu's nonmarital childbearing studies (Wu 1996; Wu and Martinson 1993)). The small literatures on

occupational and educational mobility by childhood family structure support the hypothesis that economic advantages are more likely to be reproduced in stable two-parent families (Battle 1997, 1998; Biblarz et al. 1997; Biblarz and Raftery 1993, 1999; Kalmijn 2015; Martin 2012; Teachman et al. 1996). Yet, findings from the few previous studies of income mobility and family structure are mixed. Björklund and Chadwick (2003) found that income persistence is higher among Swedish sons who lived with their biological fathers for more time. Bratberg et al. (2014) found that earnings persistence is higher in Norwegian married-parent families than divorced families; children from divorced families are more likely to fall down the earnings distribution. In contrast, in the United States, Couch and Lillard (1997) found lower earnings persistence among sons from married-parent families, whereas Peters (1992) found no association between teen family structure and earnings mobility. Musick and Mare (2006) found no difference in intergenerational poverty transmission between single-mother families and others, whereas DeLeire and Lopoo (2010) reported that upward mobility from the bottom income tercile is more likely for children from married-parent homes.

In this article, I clarify how childhood family structure conditions intergenerational income mobility in the United States by measuring multiple aspects of family structure and family change across childhood. (I also distinguish upward and downward mobility and document their consequences for income inequality; see next sections.) I further update previous U.S.-based studies of family structure and income mobility by using more recent data. Couch and Lillard (1997) and Peters (1992) studied National Longitudinal Studies (NLS) cohorts born in the mid-1940s to the 1950s. Family structure–mobility associations may have changed, particularly as widowhood-based family disruptions declined. I study the NLS 1979 cohort. Musick and Mare (2006) also studied this cohort but examined only poverty transmission. Like all mobility studies, this study is somewhat backward-looking. People currently old enough to provide income reports reflecting their adult economic standing were born at least 30–35 years ago. Yet, surveys capturing family complexities today do not contain information on adult incomes at the ages required for studying mobility (Tach 2015:91).[3]

Comparing Income Mobility Across Groups

Measuring family instability and parental coresidence across time (not only momentary family-structure snapshots) is necessary to understand how childhood family structure conditions intergenerational income mobility. Additionally, measuring upward and downward mobility asymmetries (not only average mobility rates) is necessary to understand the implications of family-structure differences in mobility.

Intergenerational income mobility reflects a mean-reverting process. Individuals' incomes during childhood and adulthood tend to be similar. When they differ, individuals with low-income parents tend to move up the income distribution, while individuals with high-income parents tend to move down. Yet, when comparing mobility across demographic groups (e.g., groups defined by childhood family structure), we

[3] My sample includes people whose childhoods span the early-1960s and early-1980s, a period of rapid family change. The share of children living with two parents dropped 11 percentage points between 1960 and 1980; between 1980 and 2016, the share dropped 7.9 percentage points (U.S. Census Bureau 2017).

cannot compare only their average speeds of reversion to their group-specific means. We must also consider each group's upward and downward mobility across the full income distribution. High mobility is often thought to represent economic opportunity. Weak ties between parents' and adult children's incomes demonstrate that later-life outcomes are relatively unconstrained by early-life conditions. However, minimal constraint may indicate that advantages are not preserved, not (only) that disadvantages are easily escaped. One group might appear highly mobile because low-income children are particularly likely to move up the income distribution. Another group might appear highly mobile because high-income children are particularly likely to fall downward. These two types of high mobility have very different implications for inequality between groups and for our understanding of children's economic opportunities.

Implications of Income Mobility for Inequality

Children raised outside stable two-parent homes may experience more downward income mobility or less upward income mobility than children from stable two-parent homes. If so, income inequality between these two groups will persist for longer than if their mobility were equal (because fewer children raised outside stable two-parent homes will remain at the top of the distribution, or more will remain at the bottom). Yet, mobility between economic positions tells only part of the inequality story. Another crucial part is the initial distribution of economic positions (Mare 1996, 1997). Children raised outside stable two-parent homes tend to begin life with relatively low incomes (Cancian and Haskins 2014). Thus, their relatively high likelihood of becoming low-income adults stems partly from their high exposure to the probability of remaining low income—not only from family-structure differences in income mobility probabilities. According to McLanahan and Sandefur (1994:134), "for children living with a single parent and no stepparent, income is the single most important factor in accounting for their lower well-being as compared with children living with both parents. It accounts for as much as half of their disadvantage."

Consequently, I not only provide rich descriptions of intergenerational income mobility (incorporating cumulative family experiences from birth through age 18, and capturing both average mobility rates and asymmetries in upward and downward mobility). I also investigate how children's differential exposures to upward and downward mobility (due to parental income differences by childhood family structure) contribute to adult inequality. I describe both the micro-level associations between parents' and children's incomes and their implications for population-level income inequality.

Data and Methods

I use National Longitudinal Survey of Youth 1979 cohort (NLSY79) data from 1979–2010 to study intergenerational income mobility by childhood family structure. The NLSY79 began with a nationally representative sample of people aged 14–22 in 1979. Surveys were conducted annually through 1994 and biannually thereafter. I study people under age 21 in 1979 to avoid overrepresenting late home-leavers.

I draw parental family income from the earliest survey waves (1979–1983), capturing income years 1978–1982 for children aged 13–19 in 1978 and averaging all years in which parents reported their income.[4] I measure adult family income when respondents were aged 30 and older, averaging all available observations through 2010 (excluding respondents with fewer than two years in either generation). Because income fluctuates and young adult income is especially unstable, averaging multiple income observations and avoiding adult income reports under age 30 help capture permanent incomes and reduce measurement error (Haider and Solon 2006; Mazumder 2005).[5] Family income sums husbands', wives', and other coresidential family members' annual incomes from a variety of sources, including wages and salary, farm and business income, and several government programs (such as unemployment compensation).[6] Although many mobility studies examine fathers' and sons' earnings, I examine family income to allow inference on families without male heads and to capture the increasing importance of women's employment and assortative mating in determining economic well-being. I supplement my analyses of family income with analyses of own and spousal wages and salary, the sum of which comprises approximately 85 % of family income, on average. To obtain consistent topcodes across survey years, I impute the top 2 % of incomes from a Pareto distribution. I transform income to constant dollars using the Consumer Price Index Research Series Using Current Methods (CPI-U-RS), adjust income for need by dividing by the square root of family size, and log.[7] I use survey weights to account for unequal selection probabilities and attrition. Table 4 in the appendix contains descriptive statistics.

I first capture childhood family structure using a dichotomous measure of whether respondents lived with both their mother and father at age 14. This measure is attractive because from a data collection perspective, it is inexpensive to obtain; further, from a data processing perspective, it is simple to analyze. However, the measure obscures

[4] When respondents were young and many lived in their parents' households, parents provided income reports on a special survey version.

[5] Differential measurement error across family types is unlikely to bias my results, for three reasons. First, exclusion rates due to missing income (fewer than two observations per generation) were similar between stable two-parent and other families (differing by only 3 percentage points). In general, NLSY79 has remarkably high retention and low income nonresponse rates compared with other surveys (Pergamit et al. 2001). Biases from nonrandom attrition appear inconsequential (MaCurdy et al. 1998). Second, the number of income reports contributed is also very similar across stable two-parent and other families (averaging 3.3 vs. 3.4 years in childhood and 7.1 vs. 7.5 in adulthood). Third, mobility measures are less sensitive to measurement error than might be expected (Gottschalk and Huynh 2010:311). Although classical measurement error attenuates correlations toward 0 (indicating more mobility in groups with more classical error), evidence shows that income measurement error is nonclassical. This nonclassical error often offsets attenuation biases in intertemporal correlations because errors correlate across time. These offsetting effects appear to extend beyond correlations/elasticities. Survey and administrative data produce similar earnings mobility estimates across several nonlinear measures (Dragoset and Fields 2008).

[6] Income from nonresidential family members, including noncustodial parents, is captured through child support, alimony, and other "parental, relative support" as reported by the focal NLSY79 respondents' parents (during childhood) or the respondents themselves (during adulthood). The survey design prevents researchers from observing other economic transfers from nonresident parents to NLSY79 respondents during childhood. The NLSY79 does capture biological parents' education, regardless of coresidence. Consequently, it is possible to study educational mobility relative to both resident and nonresident biological parents. Prior studies have addressed this topic (e.g., Kalmijn 2015). Thus, I study income mobility.

[7] I drop nine individuals with nonpositive incomes.

how long children lived with both parents, how many family transitions they experienced, and whether these transitions included stepparents.

To address these shortcomings, I exploit the NLSY79 childhood residence calendar. This calendar, fielded in 1988, tracks yearly information on respondents' living situations between ages 0 and 18.[8] I first use this information to create a binary measure of childhood family structure that exploits the calendar's temporal dimension. I distinguish people who lived with both parents stably throughout childhood, ages 0–18, from those who did not.[9] Approximately 68.6 % of my sample lived stably with both parents throughout childhood. Second, I examine the number of years from ages 0 to 18 that respondents lived with both parents.[10] Children raised outside stable two-parent homes spent eight years coresiding with both parents on average. These two measures correspond to socialization-based theories (see also Wu and Martinson 1993). The next two measures correspond to instability-based theories. I first capture the number of family transitions experienced between ages 0 and 18. This number is 0 for people who lived with both parents throughout childhood, but it is also 0 for almost 8 % of people who did not. Most of these people lived stably with one parent, but some experienced alternate situations like living stably with grandparents.[11] Approximately 48 % of children raised outside stable two-parent homes experienced one transition, 25 % experienced two transitions, and 19 % experienced three or more. Finally, I distinguish among people experiencing transitions by whether these transitions included stepparents. Among people experiencing transitions, approximately 40 % ever lived with stepparents. I examine how mobility varies with these childhood family experiences.

Intergenerational income mobility is typically measured using the slope coefficient from a regression of (log) adult income on (log) parental income,

$$Y_i^a = \alpha + \beta Y_i^p + \varepsilon_i,$$

where Y is log income, and β is the elasticity of children's income with respect to their parents' income. An elasticity of 0.5 implies that 10 % differences between parents' incomes translate into average differences of roughly 5 % between children's incomes.

[8] All family-structure measures capture coresidence but do not explicitly capture marital status. It is not possible to use the childhood residence calendar to separate coresidential relationships by marital status. However, this limitation is unlikely to be very problematic for this study because when the NLSY79 respondents were children (between the early-1960s and early-1980s), coresidential relationships between parents were very likely to be marital. It is also impossible to identify coresidence with "social parents" whom NLSY79 respondents did not call stepparents, adoptive parents, or foster parents in their childhood residence calendar responses. A final aspect of family complexity not captured by these data is the presence of half-siblings. This omission should not affect my conclusions because even in 2009, only 5.2 % of children lived with two biological parents and a sibling who was not a full biological sibling (Manning et al. 2014).

[9] I include in the "stable, two parent" category 29 respondents who lived stably from ages 0 to 18 with two adoptive parents or one adoptive, one biological parent, and 11 respondents who lived stably from ages 0 to 18 with one biological parent and one stepparent. Alternate codings leave my results unchanged.

[10] I also examined the number of years that respondents lived with both parents during different developmental stages, from ages 0–6, 7–12, and 13–18. I found no evidence that living with both parents for different periods of time matters differently for children's income mobility if this coresidence occurs during early, middle, or late childhood.

[11] A few children are coded as experiencing zero transitions because their residential situation is reported identically every year from ages 0–18, although their actual experience likely included transitions (e.g., children who reported living in foster care every year, or with friends). Recoding these cases as experiencing one or two transitions leaves my results unchanged.

The elasticity measures persistence. Its complement ($1 - \beta$) measures mobility: $1 - \beta$ represents the fraction that children may expect to be closer to the mean than their parents.[12] I include interactions to estimate elasticities by childhood family structure, allowing the parental income–adult income relationship to vary across groups.[13]

Beyond adjusting income for age, measurement error, and family size (as described earlier), studies of intergenerational mobility do not, as a rule, include additional covariates (Grusky and Cumberworth 2010; Jäntti and Jenkins 2013). A key scientific goal for mobility studies is to characterize the extent to which socioeconomic positions endure across generations. This characterization provides insight into the rigidity of the class structure and the intertemporal persistence of inequality. The scientific objective of mobility studies differs from the objective of what sociologists call "status attainment" studies, which aim to document the processes generating people's socioeconomic outcomes. Studies isolating the causal effect of increasing parental income on adult income fall under the umbrella of status attainment. Although my results are robust to a variety of covariates (including parental education, age, employment status, child sex, number of siblings, race, and region), I report estimates that are not adjusted for covariates in order to contribute to the scientific project of understanding mobility and its variation.[14]

Intergenerational income elasticities are symmetric summary measures of mobility. Large elasticities suggest that parents' and children's incomes are tightly linked. Small elasticities suggest that people are highly economically mobile. However, elasticities do not reveal whether mobility is driven by positive or negative moves away from parental income.

Thus, I also study mobility between income quintiles. I use multinomial regression to examine how the probabilities of upward and downward quintile transitions differ by childhood family structure. This approach estimates people's chances of becoming one of the poorest or richest 20 % of adults, but it obscures small income moves that do not cross quintile thresholds. I therefore also examine continuous variation in the difference between adult and parental income ranks. I use nonparametric, kernel-weighted local polynomial regressions, which estimate how children's typical income-rank gains and losses differ by parental income and childhood family structure.[15]

[12] Because incomes are logged in this canonical representation of intergenerational mobility, β measures regression to the geometric mean of adult income, not the arithmetic mean (Mitnik et al. 2015). Like the median, the geometric mean of right-skewed variables like income lies below the arithmetic mean. The geometric mean is more resistant to outliers.

[13] I pool across genders (except when modeling earnings). I find no evidence that family income persists differently for men and women within childhood family structure groups (see also Chadwick and Solon 2002; Mitnik et al. 2015).

[14] Without adjustment, the intergenerational income elasticity is about .15 lower among children who did not grow up in stable two-parent families than among children who did (Table 1). After adjustment using propensity score weighting, the difference is slightly attenuated, to about .11 from .15. In the weighting approach, the stable two-parent childhood family group is reweighted to capture the outcome that children from the alternative family group would have evidenced if they had (counter to fact) grown up in stable two-parent families. With an appropriate weighting model, this approach identifies causal effects under the (overly strong) assumption that conditional on the observed covariates, childhood family structure "treatment" is ignorable.

[15] I also used Bhattacharya and Mazumder's (2011) approach to study upward and downward rank mobility. Results confirmed the patterns evident from the multinomial and local polynomial models.

Jointly, these approaches provide comprehensive descriptions of how intergenerational income mobility differs by childhood family structure. Finally, I characterize how these mobility differences contribute to income inequality between people from different childhood family structures. I employ a simple decomposition analysis. The probability of entering quintile j' as an adult, $j' \in \{1, 2, \ldots, 5\}$, given childhood family structure k, $k \in \{\text{stable two-parent family, not}\}$, $P^a_{j'|k}$, is the sum across quintiles of the conditional probability of beginning in quintile j as a child, $P^p_{j|k}$, times the conditional probability of transitioning from quintile j to j', $P_{j'|jk}$,[16]

$$P^a_{j'|k} = \sum_{j=1}^{5} P_{j'|jk} \times P^p_{j|k}.$$

The difference in this probability across childhood family structures, $\Delta_{j'} = P^a_{j'|k} - P^a_{j'|k'}$ (e.g., the difference in the probability of being in the lowest adult income quintile between people who were versus were not raised in stable two-parent homes), is a measure of adult income inequality. This inequality can be decomposed into the weighted sum of inequality from two sources. Inequality from *mobility differences* captures the effects of family-structure differences in intergenerational transition probabilities. Inequality from *compositional differences* captures the effects of differences in childhood income distributions (wherein larger shares of children from alternative family structures hail from low-income backgrounds than children from stable two-parent families).

$$\Delta_{j'} = \sum_{j=1}^{5} \left(P_{j'|jk} - P_{j'|jk'} \right) w_{1j'} + \sum_{j=1}^{5} \left(P^p_{j|k} - P^p_{j|k'} \right) w_{2j'},$$

where $w_{1j'} = \frac{P^p_{j|k} + P^p_{j|k'}}{2}$ and $w_{2j'} = \frac{P_{j'|jk} - P_{j'|jk'}}{2}$. I obtain confidence regions around the $\Delta_{j'}$ point estimates via a type of Bayesian posterior simulation (Gelman et al. 2004). I repeatedly draw probabilities from multinomial distributions parameterized by the maximum likelihood estimates obtained from multinomial regressions. I use these probabilities to repeatedly calculate $\Delta_{j'}$. I characterize uncertainty with 95 % credible intervals, bounded by the 2.5th and 97.5th quantiles of $\Delta_{j'}$'s simulated distribution.

Results

People raised outside stable two-parent homes were approximately 250 % more likely to grow up in the bottom income quintile and only 40 % as likely to start in the top quintile compared with people from stable two-parent homes (Fig. 1). On average, their (family size–adjusted) parental incomes were approximately 35 % lower than those of people from stable two-parent homes ($100 \times [1 - e^{(9.836 - 10.267)}] = 35$; Table 4 in the appendix).

[16] This decomposition ignores differential fertility and mortality by parental income and childhood family structure. Previous analyses have found that the contributions of these differences to recent U.S. inequality trends are relatively small (Bloome 2014; Mare 1997).

I first discuss how these economic (dis)advantages persist across generations. I then examine how mobility differences combine with parental income differences to reproduce inequality between people from different childhood family structures.

Income Mobility Differences by Childhood Family Structure

Table 1 shows how the intergenerational income elasticity varies by childhood family structure. Panel A reports coefficients from models predicting (log) adult family income from (log) parental family income, childhood family structure, and their interaction. Panel B presents the elasticities implied by these coefficients.

The elasticity is about .54 for people who lived with both parents at age 14. In this group, more than one-half of income differences between families persist across a generation. The elasticity is only .39 for people who did not live with both parents at age 14. The difference between these elasticities is statistically significant and substantively large. Income persistence is approximately two-thirds as large among people who did not live with both parents at age 14 compared with those who did (Table 1, Model 1). Moving beyond this point-in-time measure, the elasticity for people who lived with both parents from ages 0 to 18 is .56, but only .41 for people who did not (Model 2). Similarities between Models 1 and 2 are expected because 88.5 % of children who lived with both parents at age 14 also lived with both parents throughout childhood (ages 0–18). These results suggest that from a survey design perspective, the relatively inexpensive approach of collecting information about childhood family structure in late childhood may suffice to capture the main axis of mobility variation.

Models 3–6 support this conclusion. Model 3 indicates that each additional year that children live with both parents is associated with a .01 point increase in intergenerational

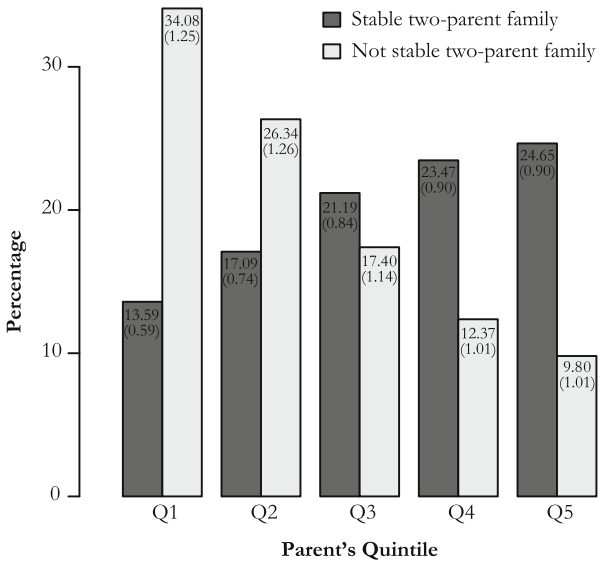

Fig. 1 Parental (origin) family income quintile distribution by childhood family structure: NLSY79 data. Robust standard errors are shown in parentheses below point estimates

Table 1 Intergenerational family income elasticities by childhood family structure; NLSY79 data

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
A. Model Coefficients						
Log family income (LFI)	0.542***	0.557***	0.337***	0.559***	0.559***	0.559***
	(0.023)	(0.022)	(0.045)	(0.023)	(0.023)	(0.023)
LFI × (Did not live with two bio parents, age 14)	–0.157***					
	(0.041)					
Did not live with two bio parents, age 14	1.466***					
	(0.399)					
LFI × (Did not live with two bio parents, ages 0–18)		–0.148***		–0.208***	–0.003	
		(0.038)		(0.052)	(0.058)	
Did not live with two bio parents, ages 0–18		1.438***		1.877***	0.020	
		(0.381)		(0.510)	(0.568)	
LFI × (No. of years living with two bio parents, ages 0–18)			0.010***			
			(0.003)			
No. of years living with two bio parents, ages 0–18			–0.091**			
			(0.026)			
LFI × (No. of years living with two bio parents, ages 0–18, if not stable 0–18)				0.002		
				(0.005)		
No. of years living with two bio parents, ages 0–18, if not stable 0–18				–0.002		
				(0.049)		
LFI × (No. of transitions, ages 0–18, if not stable 0–18)					–0.102***	
					(0.029)	
No. of transitions, ages 0–18, if not stable 0–18					1.004***	
					(0.282)	
LFI × (Lived stably without two bio parents, ages 0–18)						–0.096
						(0.138)

Table 1 (continued)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
LFI × (Family instability, including stepparent)						–0.238***
						(0.057)
LFI × (Family instability, no stepparent)						–0.166***
						(0.051)
Lived stably without two bio parents, ages 0–18						0.605
						(1.258)
Family instability, including stepparent						2.324***
						(0.570)
Family instability, no stepparent						1.673**
						(0.503)
Intercept	4.907***	4.743***	6.793***	4.724***	4.724***	4.724***
	(0.238)	(0.230)	(0.430)	(0.237)	(0.237)	(0.237)
B. Implied Elasticities						
Two bio parents (at age 14 for Model 1, ages 0–18 otherwise)	0.542***	0.557***	0.527***	0.559***	0.559***	0.559***
	(0.023)	(0.022)	(0.021)	(0.023)	(0.023)	(0.023)
Not two bio parents (at age 14 for Model 1, ≥1 year for Model 2, ages 0–18 for Models 3–4, 2 transitions for Model 5, ≥1 transitions no stepparent for Model 6)	0.385***	0.409***	0.337***	0.351***	0.353***	0.393***
	(0.033)	(0.031)	(0.045)	(0.047)	(0.036)	(0.046)
Not two bio parents, ≥1 transition including stepparent						0.322***
						(0.052)
Not two bio parents, stability ages 0–18						0.464**
						(0.136)
R^2	.187	.186	.190	.195	.191	.195
N	5,213	5,213	4,970	4,970	4,952	4,952

Notes: Estimates are weighted, with robust standard errors shown in parentheses. The term "bio parents" is used to exclude stepparents who do not live with the focal child from ages 0 to 18, but a few nonbiological parents are included in this category (e.g., adoptive parents).

*$p < .05$; **$p < .01$; ***$p < .001$

income persistence. The elasticity ranges from .34 to .53 for children who lived with both parents for 0 versus all 19 years from ages 0 to 18. However, Model 4 reveals that this apparent increase in income persistence for each year lived with both parents is driven by the difference between children who lived stably with both parents from ages 0 to 18 and all other children. Among children who did not grow up in stable two-parent families, the data reveal no association between years lived with both parents and intergenerational income persistence. Not only is the coefficient statistically indistinguishable from 0, but it is extremely small (.002 vs. .010 in Model 3).

Model 5 reveals that mobility differences between children who were raised in stable two-parent homes versus those who were not can be attributed to differences in their number of family transitions. Each transition is associated with a .10 drop in the elasticity. The elasticity is .56 among children from stable two-parent homes but only .35 among children who experienced two transitions (just over 1.8, the mean number of transitions experienced by children experiencing at least one). Among children experiencing family transitions, mobility is very similar regardless of stepparents' involvement (Model 6). Elasticities are .32 versus .39 among people who experienced family transitions and did versus did not ever live with stepparents. An F test cannot reject the null hypothesis that these elasticities are equal ($p = .30$).[17] Among children who experienced no family transitions, I cannot detect statistically significant differences between people who lived stably with versus without both parents (e.g., people who lived stably with single parents). Yet, the data are also consistent with large mobility differences. Because few people in the sample experienced stability outside two-parent homes, these differences are estimated very imprecisely.

More childhood family transitions associate with lower income persistence whether transitions are coded linearly or nonlinearly (Fig. 2). Even when dummy variables capture one, two, and three or more transitions, each additional transition is associated with weaker intergenerational income transmission (zero is the omitted category).[18]

Weaker intergenerational income persistence among people experiencing childhood family transitions appears across sexes and adult family structures (Table 2, panel A). Theoretically, adult family structure could explain why income mobility differs by childhood family structure given that childhood family structure predicts adult family structure, and adult family structure predicts mobility.[19] In practice, however, I observe large and statistically significant differences in intergenerational family income elasticities among men and women regardless of adult family structure (whether never married, unstably married, or stably married from ages 30 to 50, when income was observed), thus suggesting that family processes alone are insufficient to account for

[17] Children who lived with stepparents tended to experience more transitions than children who did not. Models including two-way and three-way interactions among parental income, childhood family composition, and number of childhood family transitions cannot distinguish differences in mobility among children who experienced two transitions but did versus did not live with stepparents.

[18] Point estimates for two versus three or more transitions are not statistically distinguishable in the nonlinear model. Yet, neither is the difference significant between the estimate for three transitions from the linear model and the estimate for three or more transitions from the nonlinear model. The confidence interval for the nonlinear, three or more estimate is wider, reflecting data sparsity. Only about 6 % of the sample experienced three or more transitions.

[19] Among people experiencing zero versus two childhood family transitions, 51.2 % versus 37.7 % were stably married throughout adulthood. Income mobility differs by adult family structure even though income is family size–adjusted.

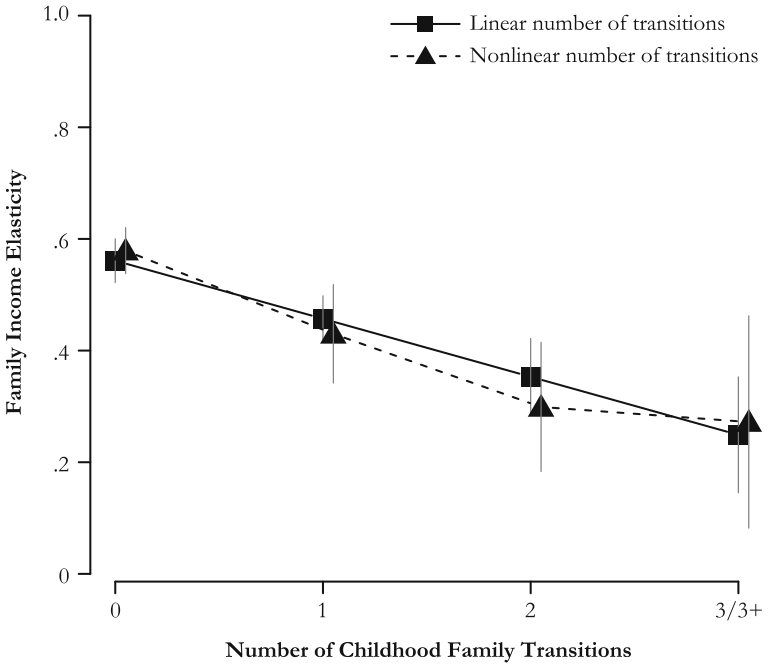

Fig. 2 Intergenerational family income elasticities by number of childhood family structure transitions: NLSY79 data. Point estimates are shown in black, with 95 % confidence intervals based on robust standard errors shown in gray

the observed mobility differences.[20] Nevertheless, mobility differences are smallest among stably married people. The lower likelihood of stable adult marriage among people from unstable childhood families than among people from stable childhood families helps explain mobility differences.

Both labor market and family processes contribute to these income mobility differences. Family income includes individuals' own labor earnings and, for married people, spouses' labor earnings. Childhood family transitions condition mobility in both, particularly among men. Among never-married people, associations between parents' income and own labor earnings are much stronger among people who experienced zero versus two childhood family transitions (Table 2, panel B). The same pattern holds for ever-married men but not ever-married women. For married women, mobility variation appears more reflective of joint labor supply decisions within couples and assortative mating processes. Associations between married women's parents' income and their spouses' labor earnings are stronger among those who experienced zero versus two childhood family transitions (Table 2, panel C). Likewise, these spousal associations are stronger among married men from stable versus unstable families.

[20] Although the difference in family income elasticities between people experiencing zero versus two childhood family transitions is not statistically significant within every gender-by-adult family structure group (Table 2, panel A), *F* tests reveal that interactions among log parental income, number of childhood family transitions, and adult family structure can be jointly statistically distinguished from zero but cannot be distinguished from one another. These tests indicate that childhood family transitions predict family income mobility even in models that condition on adult family structure and that there is insufficient power to pinpoint how transitions predict mobility differently across adult family structures.

Table 2 Intergenerational elasticities by sex and childhood family structure transitions (columns) and adult marital status (rows); NLSY79 data

	Men		Women	
	0 Transitions	2 Transitions	0 Transitions	2 Transitions
A. Predicting Adult Family Income				
Never married	0.710***	0.409***	0.716***	0.501***
	(0.073)	(0.102)	(0.069)	(0.138)
Unstably married	0.463***	0.283***	0.498***	0.266**
	(0.050)	(0.061)	(0.040)	(0.093)
Stably married	0.428***	0.330***	0.328***	0.278***
	(0.030)	(0.063)	(0.037)	(0.064)
B. Predicting Own Wages/Salary				
Never married	0.737***	0.402**	0.601***	0.396*
	(0.104)	(0.120)	(0.097)	(0.178)
Unstably married	0.447***	0.280***	0.329***	0.367**
	(0.061)	(0.068)	(0.068)	(0.127)
Stably married	0.440***	0.390**	0.078	0.258
	(0.041)	(0.124)	(0.080)	(0.134)
C. Predicting Spouse's Wages/Salary				
Unstably married	0.311***	0.219**	0.353***	0.248
	(0.073)	(0.081)	(0.045)	(0.146)
Stably married	0.262***	0.137	0.360***	0.264***
	(0.067)	(0.116)	(0.054)	(0.068)

Notes: Estimates are weighted, with robust standard errors shown in parentheses. Elasticities for each outcome are estimated from fully interacted models including intercepts, main effects for childhood family structure transitions, adult marital status, sex, log parental family income, and their interactions. Own wage/salary equation includes only people with positive wages/salary. Spouse's wages/salary equation includes only ever-married people with positive spousal wage/salary. Adult marital status describes status over the same ages that income is measured, 30–50.

*$p < .05$; **$p < .01$; ***$p < .001$

These results suggest that spouses' childhood family transitions will condition married women's mobility more than married men's. This gender difference reflects married men's higher labor force attachment and earnings. Married men's childhood family transitions condition their own labor earnings mobility, suggesting that they also condition married women's income mobility. The association between married women's childhood family transitions and their spousal earnings mobility likely partly reflects the association between married men's childhood family transitions and their own labor earnings mobility. Yet, married women's childhood family transitions do not condition their own labor earnings mobility, suggesting that married men's mobility is not strongly affected by their spouses' childhood family transitions. The association between married men's childhood family transitions and their spousal labor earnings mobility may reflect couples' labor supply decisions that are more strongly influenced by married men's childhood family transitions than married women's. In short, these

results suggest that among married people, spouses' origin family transitions affect women's mobility more than men's. Further, within married couples, the man's childhood family transitions may be more predictive of mobility than the woman's. Unfortunately, I cannot directly test these hypotheses. Respondents' spouses were not asked about their childhood family transitions.[21]

In sum, intergenerational income persistence appears much stronger in stable two-parent families than in others. This stronger persistence is evident across adult family structures and is reflected in both labor market and family processes. People tend to experience less income persistence when they experience more childhood family transitions. Table 5 in the appendix shows that this finding is not driven by inappropriate timing of parental income measurement relative to family transitions. Family transitions generate large, lasting income changes. In the 1980s, the median married mother's income dropped approximately 40 % in the month of divorce and remained that low for at least a year (Tach and Eads 2015). Parental income measures aim to capture the economic circumstances in which children were raised. Thus, we might like to measure income pretransition for children spending most of their youth with two parents but posttransition for children who did not.[22] The latter preference applies to the majority of this sample. Among children experiencing at least one transition, 84 % experienced their first transition before the initial parental income measurement, and two-thirds of this 84 % spent one-half or more of their childhood posttransition. For people spending most of childhood with both parents, though, measuring income pretransition is necessary to capture their childhood economic standing. In Table 5 of the appendix, Model 1 explores this subset of children, focusing on children living with both parents at least through 1980 and comparing those who did versus did not experience post-1980 family transitions as teenagers. Parental income is measured pretransition, in 1979–1980. The elasticity is much higher among people from stable families than among people experiencing late-childhood transitions, at .52 versus .34. Because few people experienced late-childhood transitions, I lack the power to reject the null hypothesis that these elasticities are equal. Still, the magnitude of their difference is remarkably consistent with the significant difference between .58 and .33 shown in Model 2. This high elasticity is for children who lived in stable families. The low elasticity is for children who did not and whose parental incomes were measured posttransition, like most spent the majority of their childhoods. Mobility differences by childhood family structure appear undistorted by the timing of parental income measurement relative to family transitions.

Intergenerational income persistence is lower among children experiencing more family transitions. The mobility difference between stable two-parent families and all others captures the typical distinction between people who experienced zero versus two childhood transitions (close to 1.8, the mean number of transitions among those experiencing instability). I next examine what this mobility difference means in terms of children's upward versus downward moves and their consequences for inequality.

[21] These hypotheses might be tested using linked census data, which should capture both spouses' childhood family structures, assuming that married women can be linked to their parents despite surname changes.

[22] Researchers might disagree about when to measure childhood income relative to family transitions. Future studies might explore data that permit investigations of income throughout childhood, including how mobility differs depending on the degree of homogamy among single/divorced parents who marry after a transition.

Mobility Asymmetries by Childhood Family Structure

The substantive meaning of relatively high mobility among people raised outside stable two-parent families depends on the direction of this mobility. High upward mobility would indicate that these people are not constrained by low-income backgrounds and enjoy ample economic opportunity. Alternatively, high downward mobility would indicate that middle- and high-income single or divorced parents have trouble transmitting their economic advantages.

Figure 3 supports the latter interpretation. This figure plots intergenerational income quintile transition probabilities by childhood family structure. Downward mobility is particularly prevalent among people from unstable families. Upward mobility from poverty does not differ much by childhood family structure. Among people from the lowest parental income quintile, those raised within versus outside stable two-parent homes were equally likely to be upwardly mobile; the chance of exiting the lowest quintile across generations was 53.9 % versus 55.7 %. Yet, people from stable two-parent families were substantially less likely to fall down the income ladder. Comparing children who were raised in stable two-parent homes with those who were not, the chance of falling to a lower quintile was 34.4 % versus 44 % (among those from the third parental income quintile), 49.6 % versus 56.8 % (among those from the fourth quintile), and 60.6 % versus 79.9 % (among those from the top quintile). The chance of dropping to the lowest quintile was particularly high for people experiencing childhood family instability. This chance was 48 % (from the third quintile), 36 % (from the fourth), and 211 % (from the top quintile) more likely among children who were not raised in stable two-parent families than among children who were.

These downward mobility differences are not driven by high-income outliers. Tercile transition probabilities evidence the same patterns as quintile transition

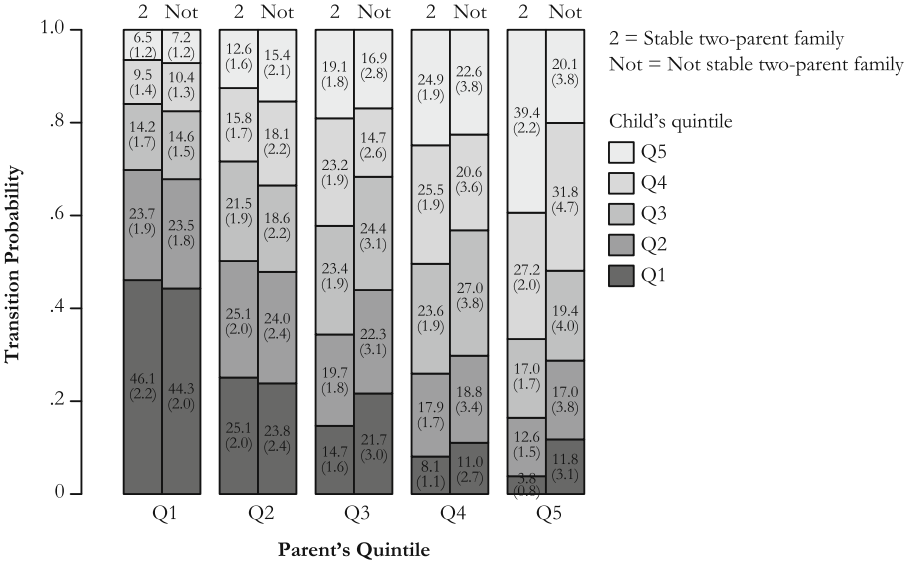

Fig. 3 Origin-by-destination quintile transition probabilities by childhood family structure: NLSY79 data. Robust standard errors are shown in parentheses below point estimates

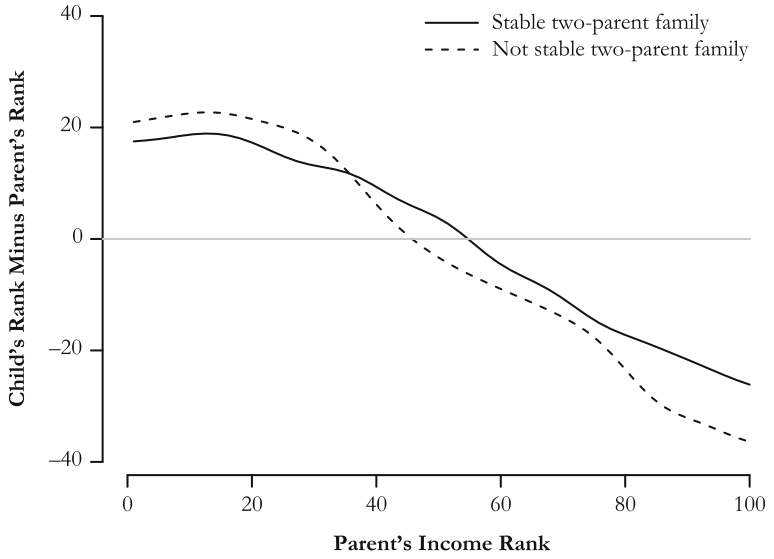

Fig. 4 Kernel-smoothed income rank change across generations by parental income rank and childhood family structure: NLSY79 data

probabilities. Neither are these downward mobility differences artificial reflections of income differences within quintiles. It is not the case that all children are equally likely to make small downward moves but that these moves create the illusion of more mobility among children raised outside stable two-parent homes because their small moves are more likely to cross lower quintile thresholds. Rather, children raised outside stable two-parent homes from the top three quintiles were about 8.3 percentage points more likely to drop at least one percentile and 10.6 percentage points more likely to drop at least 10 percentiles than their counterparts from stable two-parent families.

Figure 4 further confirms that high mobility among people from unstable homes derives more from downward than upward income moves. These people tended to gain a few more income ranks than people from stable two-parent families if their parents were very low income. Yet, above the 35th parental income percentile, people raised outside stable two-parent families either gained fewer or lost more income ranks than people from stable two-parent homes, on average. Relatively weak intergenerational income persistence among people from unstable homes reflects somewhat higher upward mobility from the bottom but substantially higher downward mobility.

Implications of Mobility Asymmetries for Inequality

This asymmetry in mobility differences by childhood family structure perpetuates inequality between groups because relatively more children raised outside than inside stable two-parent homes fall down the income distribution. Yet, the importance of mobility differences for income inequality depends on parents' income distributions. Approximately 34.1 % of children raised outside stable two-parent families grew up in the lowest income quintile versus 13.6 % of children from stable two-parent families (Fig. 1). Children from unstable families are more exposed to

Table 3 Decomposition of adult family income quintile by childhood family structure: NLSY79 data

Adult Quintile	Share Among Those From Stable Two-Parent Homes	Share Among Those Not From Stable Two-Parent Homes	Difference, Stable – Not	% Difference Due to Mobility	% Difference Due to Composition
Q1	16.51***	27.66***	–11.15***	22.81*	77.19***
	(15.29, 17.75)	(25.50, 29.91)	(−13.64, −8.69)	(1.16, 37.84)	(62.16, 98.84)
Q2	18.98***	22.21***	–3.23**	35.29	64.71**
	(17.70, 20.24)	(20.18, 24.22)	(−5.64, −0.81)	(−130.65, 70.63)	(29.37, 230.65)
Q3	20.29***	19.38***	0.91	–75.60	175.60
	(18.98, 21.61)	(17.49, 21.28)	(−1.42, 3.21)	(−1,640.32, 1,636.87)	(−1,536.87, 1,740.32)
Q4	21.60***	16.54***	5.06***	19.69	80.31***
	(20.24, 22.98)	(14.80, 18.35)	(2.80, 7.34)	(−47.92, 48.49)	(51.51, 147.92)
Q5	22.62***	14.21***	8.41***	40.14**	59.86***
	(21.30, 23.99)	(12.54, 15.90)	(6.27, 10.58)	(16.35, 54.96)	(45.04, 83.65)

Note: Estimates are weighted, with 95 % intervals shown in parentheses.

*0 outside the 95 % interval; **0 outside the 99 % interval; ***0 outside the 99.9 % interval

the risk of remaining low income into adulthood. This risk is high albeit similar across childhood family structures. Downward mobility differences by family structure further reinforce inequality.

Approximately 27.7 % of children raised outside stable two-parent families end up in the lowest quintile as adults—11.2 percentage points more than the 16.5 % of children from stable two-parent homes (Table 3). Almost one-quarter of this difference is driven by mobility differences (specifically, the higher probabilities of downward mobility from quintiles 2–5 into quintile 1 among people raised outside stable two-parent homes). The remaining three-quarters is attributable to compositional differences (i.e., the much higher chance of growing up in the bottom quintile among people raised outside stable two-parent homes). Mobility differences contribute even more to inequality at the top of the adult income distribution. Approximately 40.1 % of the 8.4 percentage point gap in the probability of being in the top quintile during adulthood is attributable to relatively high downward mobility among high-income children raised outside stable two-parent homes (and their lower upward mobility into the top quintile from the third and fourth quintiles).

In sum, children raised outside stable two-parent homes are more mobile than children from stable two-parent families. They are not more likely to remain in the lowest income quintile. They are significantly more likely to move down the income distribution. These asymmetric mobility differences combine with large differences in parental income to perpetuate income inequality between people from different childhood family structures. Mobility differences lead an even more disproportionate share of people raised outside stable two-parent homes to become low-income adults than would be predicted from parental income differences alone.

Discussion

Well-developed research literatures have documented how socioeconomic status persists across generations and how childhood family structure directly shapes achievement. Less is known about how parents in different family structures transmit class-specific resources to their children (Tach 2015). The declining prevalence of stable two-parent families led to worries about children's "diverging destinies" (McLanahan 2004). This paper documents how childhood inequalities persist into adulthood not only via the additive effects of parental income and family structure on adult income but also via their interaction. It provides insight into both the obstacles that families face in transmitting advantages intergenerationally and the evolution of income inequality between groups defined by childhood family structure.

The analysis yields three principle findings. First, people raised outside stable two-parent homes are more economically mobile than people from stable two-parent families. They are particularly likely to be downwardly mobile, but they are not especially likely to escape childhood poverty. The chance of remaining in the lowest quintile across generations is similar across childhood family structures (see also Musick and Mare 2006). At the bottom of the parental income distribution, people raised outside stable two-parent families tend to gain a few more income percentiles than people from stable two-parent homes. However, these gains are too small to

significantly boost transition rates across the second quintile threshold. They are also outweighed by asymmetrically larger declines in income percentiles experienced by people from higher-income unstable families. High mobility here reflects a "perverse sort of egalitarianism" (Hogan and Featherman 1977:101). This phrase originally referred to African Americans' high downward mobility. Now it also appears applicable to children raised outside stable two-parent homes, who have relatively high chances of becoming low-income adults, regardless of parental income.[23] As stable two-parent families become less prevalent, average mobility may increase,[24] but this would indicate individuals' declining ability to maintain childhood advantages, not rising economic opportunity.[25]

The second principle finding indicates that family-structure differences in income mobility primarily reflect differences between people who spend their entire childhoods living with both biological parents and everyone else, particularly people experiencing multiple family transitions. Mobility increases with the number of childhood family transitions. Conditional on a transition, mobility is high regardless of stepparents' coresidence. Similarly, mobility does not differ with the number of years spent living with both parents among people raised outside stable two-parent homes. Mobility differences between children from stable two-parent versus stable single-parent families are uncertain (because very few people are observed living stably with single parents from birth to age 18). These facts help clarify the mechanisms driving family-structure differences in mobility. Both socialization- and instability-based theories predicted that income advantages would persist most strongly in stable two-parent families. Yet, only instability-based theories predicted that among children raised outside stable two-parent homes, mobility would vary more by the number of family transitions than by the time spent living with both parents. Likewise, only instability-based theories predicted that mobility among stepparent families would be more similar to mobility among unstable families without stepparents than to mobility among stable two-parent families. The stresses and adjustments accompanying family transitions may hinder the transmission of advantages, even among people who live with both parents for substantial time or who benefit from stepparents' additional hands. Disrupted income transmission is associated with the absence of stable marriage in adulthood. It involves increased mobility in both individuals' own wages and salaries and their spouses' wages and salaries, particularly among men.

[23] Analyses of three-way interactions among parental income, childhood family structure, and race (supported by an oversample of African American respondents in the NLSY79) indicate that both non-Hispanic white and African American children experience higher intergenerational income mobility outside stable two-parent families than within them. The mobility difference is slightly, but not statistically significantly, larger among African Americans. Yet, because African American children are much less likely than white children to grow up in stable two-parent families, the family structure–mobility association is more consequential for perpetuating income inequality among African Americans than among whites at the population level. It also contributes to the persistence of racial inequalities in income (Bloome 2014).

[24] Aggregate income elasticities are not simple weighed averages of group-specific elasticities but also reflect income differences between groups. Consequently, decreasing the weight on stable two-parent elasticities could put downward pressure on the aggregate elasticity, but this change could be offset by changing income inequalities between family-structure groups or changing mobility patterns.

[25] U.S. income mobility appears trendless in recent decades (Chetty et al. 2014b; Lee and Solon 2009). Forces increasing and decreasing mobility may have counterbalanced one another (Bloome 2015).

Childhood family processes shaping both labor market and marriage market outcomes appear disrupted.

This article's third principle finding indicates that family-structure differences in intergenerational mobility contribute significantly to adult income inequality. People raised outside stable two-parent families are more likely to be in the lowest income quintile as adults and less likely to be in the highest quintile than people raised in stable two-parent families. Approximately one-quarter of the low-income difference and more than one-third of the high-income difference can be attributed to differences in income mobility. Mobility differences contribute to the diverging destinies that McLanahan (2004) predicted for children from different family situations.

The implications of these findings for future mobility and inequality trends depend on how the mobility patterns documented here change. Changing selection into single parenthood may alter how incomes persist intergenerationally. If single and divorced parents have increasingly low incomes relative to married parents, then the population at risk for downward mobility may shrink, and the high mobility documented here may decline. Yet, increases in the economic well-being of single mothers since the 1970s (Baker 2015) and increasing family instability, at least among children born to parents not married or cohabiting at birth (Brown et al. 2016), suggest that downward mobility risks may remain high. Moreover, some previous literature has suggested that family structure–mobility associations may not change. Between the 1960s and 1990s, the relationship between childhood family structure and occupational success remained stable (Biblarz and Raftery 1999). The importance of downward mobility in boosting overall mobility rates for children from one-parent homes has been highlighted in both studies about occupational mobility that examine older birth cohorts (Biblarz et al. 1997) and studies about educational mobility that examine somewhat more recent birth cohorts (Martin 2012). Nevertheless, this could change. Future research should continue to track the adult outcomes of today's children. Because marriage and educational completion are increasingly delayed, we might expect mobility differences by childhood family structure to manifest later in life for more recent birth cohorts.

Changing institutional or policy supports for children raised outside stable two-parent homes could also alter the relationships among childhood family structure, intergenerational income mobility, and income inequality. Increased availability of preschool programs, affordable higher education, paid parental leave, and flexible work arrangements could provide opportunities for all children to receive support that today children from stable two-parent homes are more likely to receive. Increasing children's access to resources in nonfamily programs (such as preschools) or at home (by helping parents balance work and family) could help single parents transmit their income advantages. Mobility differences by childhood family structure are not inevitable. They may be reduced through changes in public policies or private business practices. Changes in normative evaluations of different childhood family structures also might alter the mobility and inequality associations documented here. The fact that family instability appears most tightly associated with mobility toward the middle and top of

the parental income distribution, where married-parent families are most prevalent, suggests that mobility differences could reflect broader social stigmas and barriers facing children from 'nontraditional' families. Future research may pinpoint interventions that reduce downward mobility not necessarily by targeting family structure directly but by changing the social and political environments in which families operate. Today's population of adults raised outside stable two-parent homes, however, appear to have experienced *perverse equality:* regardless of their childhood incomes, they were relatively likely to become low-income adults.

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Appendix

Table 4 Descriptive statistics for log family income (adjusted for family size and inflated to 2007 dollars with CPI-U-RS) and childhood family structure. Weighted means reported, with weighted standard deviations shown in parentheses; NLSY79 data

	Full Sample	Stable Both Parents, Ages 0–18	Not Stable Both Parents, Ages 0–18
Adult Income	10.382	10.464	10.204
	(0.768)	(0.727)	(0.824)
Childhood Income	10.132	10.267	9.836
	(0.644)	(0.573)	(0.689)
Years With Both Parents	15.521	19.000	8.075
	(6.180)	(0.000)	(6.171)
Number of Transitions	0.521	0.000	1.665
	(1.022)	(0.000)	(1.198)
Share From Different Family Types:			
Stable both parents, ages 0–18	0.686	1.000	0.000
Stable not both parents, ages 0–18	0.023	0.000	0.075
Unstable with stepparent	0.112	0.000	0.358
Unstable without stepparent	0.178	0.000	0.567
Share living with both parents, age 14	0.749	1.000	0.276
Median Year Age 18: Child	1981	1980	1981
Median Year of Birth: Child	1963	1962	1963
Median Year of Birth: Mother	1936	1936	1939
N	5,213	3,309	1,904

Table 5 Intergenerational family income elasticities by childhood family transitions, with Model 1 measuring parental income pretransition among children living with both parents through 1980 and Model 2 measuring parental income posttransition; NLSY79 data

	Model 1	Model 2
A. Model Coefficients		
Log family income (LFI)	0.520***	0.579***
	(0.038)	(0.019)
LFI × (1+ family transitions post-1980)	–0.179	
	(0.151)	
1+ family transitions post-1980	1.885	
	(1.487)	
LFI × (1+ family transitions, ages 0–18)		–0.246***
		(0.035)
1+ family transitions, ages 0–18		2.429***
		(0.350)
Intercept	5.200***	4.513***
	(0.391)	(0.196)
B. Implied Elasticities		
0 family transitions, ages 0–18	0.520***	0.579***
	(0.038)	(0.019)
1+ family transitions, ages 0–18, parental LFI measured before first transition	0.342*	
	(0.146)	
1+ family transitions, ages 0–18, parental LFI measured after first transition		0.333***
		(0.029)
Parental LFI measured before first transition (%)	8.26	0
Parental LFI measured before first transition, given 1+ transition (%)	100	0
R^2	.155	.193
N	1,033	4,736

Notes: Estimates are weighted, with robust standard errors shown in parentheses. Model 1 includes all sample members whose living situations were observed in all years between 1979 and 1983 between ages 14 and 19 who lived with both parents in 1979–1980, during which time parental income was measured (pretransition for those experiencing a transition post-1980 before age 18). Model 2 includes all sample members who lived stably with both parents from ages 0 to 18 or who experienced one or more transitions and had parental income measured posttransition.

*$p < .05$; **$p < .01$; ***$p < .001$

References

Augustine, J. M. (2014). Maternal education and the unequal significance of family structure for children's early achievement. *Social Forces, 83,* 687–718.

Axinn, W. G., & Thornton, A. (1993). Mothers, children, and cohabitation: The intergenerational effects of attitudes and behavior. *American Sociological Review, 58,* 233–246.

Axinn, W. G., & Thornton, A. (1996). The influence of parents' marital dissolutions on children's attitudes toward family formation. *Demography, 33,* 66–81.

Baker, R. S. (2015). The changing association among marriage, work, and child poverty in the United States, 1974–2010. *Journal of Marriage and Family, 77,* 1166–1178.

Battle, J. (1997). The relative effects of married versus divorced family configuration and socioeconomic status on the educational achievement of African American middle-grade students. *Journal of Negro Education, 66,* 29–42.

Battle, J. (1998). What beats having two parents? Educational outcomes for African American students in single- versus dual-parent families. *Journal of Black Studies, 28,* 783–801.

Bhattacharya, D., & Mazumder, B. (2011). A nonparametric analysis of black-white differences in intergenerational income mobility in the United States. *Quantitative Economics, 3,* 335–379.

Biblarz, T. J., & Raftery, A. E. (1993). The effects of family disruption on social mobility. *American Sociological Review, 58,* 97–109.

Biblarz, T. J., & Raftery, A. E. (1999). Family structure, educational attainment, and socioeconomic success: Rethinking the pathology of matriarchy. *American Journal of Sociology, 105,* 321–365.

Biblarz, T. J., Raftery, A. E., & Bucur, A. (1997). Family structure and social mobility. *Social Forces, 75,* 1319–1339.

Björklund, A., & Chadwick, L. (2003). Intergenerational income mobility in permanent and separated families. *Economics Letters, 80,* 239–246.

Black, S. E., & Devereux, P. J. (2011). Recent developments in intergenerational mobility. In O. Ashenfelter & D. Card (Eds.), *Handbook of labor economics* (Vol. 4B, pp. 1487–1541). Amsterdam, The Netherlands: North-Holland.

Bloome, D. (2014). Racial inequality trends and the intergenerational persistence of income and family structure. *American Sociological Review, 79,* 1196–1225.

Bloome, D. (2015). Income inequality and intergenerational income mobility in the United States. *Social Forces, 93,* 1047–1080.

Brady, D., & Burroway, R. (2012). Targeting, universalism, and single-mother poverty: A multilevel analysis across 18 affluent democracies. *Demography, 49,* 719–746.

Bratberg, E., Rieck, K. M. E., & Vaage, K. (2014). Intergenerational earnings mobility and divorce. *Journal of Population Economics, 27,* 1107–1126.

Brown, S. L. (2006). Family structure transitions and adolescent well-being. *Demography, 43,* 447–461.

Brown, S. L. (2010). Marriage and child well-being: Research and policy perspectives. *Journal of Marriage and Family, 72,* 1059–1077.

Brown, S. L., Stykes, J. B., & Manning, W. D. (2016). Trends in children's family instability, 1995–2010. *Journal of Marriage and Family, 78,* 1173–1183.

Burtless, G. (1999). Effects of growing wage disparities and changing family composition on the U.S. income distribution. *European Economic Review, 43,* 853–865.

Cancian, M., & Haskins, R. (2014). Changes in family composition: Implications for income, poverty, and public policy. *Annals of the American Academy of Political and Social Science, 654,* 31–47.

Chadwick, L., & Solon, G. (2002). Intergenerational income mobility among daughters. *American Economic Review, 92,* 335–344.

Chetty, R., Hendren, N., Kline, P., & Saez, E. (2014a). Where is the land of opportunity? The geography of intergenerational mobility in the United States. *Quarterly Journal of Economics, 129,* 1553–1623.

Chetty, R., Hendren, N., Kline, P., Saez, E., & Turner, N. (2014b). *Is the United States still a land of opportunity? Recent trends in intergenerational mobility* (NBER Working Paper No. 19844). Cambridge, MA: National Bureau of Economic Research.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology, 94,* S95–S120.

Couch, K. A., & Lillard, D. R. (1997). Divorce, educational attainment, and the earnings mobility of sons. *Journal of Family and Economic Issues, 18,* 231–245.

DeLeire, T., & Lopoo, L. M. (2010). *Family structure and the economic mobility of children* (Economic Mobility Project report). Philadelpia, PA: Pew Charitable Trusts.

Dragoset, L. M., & Fields, G. S. (2008). *U.S. earnings mobility: Comparing survey-based and administrative-based estimates* (ILR working paper). Ithaca, NY: Cornell University.

Fomby, P., & Cherlin, A. J. (2007). Family instability and child wellbeing. *American Sociological Review, 72,* 181–204.

Fomby, P., & Osborne, C. (2010). The influence of union instability and union quality on children's aggressive behavior. *Social Science Research, 39,* 912–924.

Furstenberg, F. F. (2014). Fifty years of family change: From consensus to complexity. *Annals of the American Academy of Political and Social Science, 654,* 12–30.

Gelman, A., Carlin, J. B., Stern, H. S., & Rubin, D. B. (2004). *Bayesian data analysis* (2nd ed.). Boca Raton, FL: Chapman and Hall/CRC Press.
Gottschalk, P., & Huynh, M. (2010). Are earnings inequality and mobility overstated? The impact of nonclassical measurement error. *Review of Economics and Statistics, 92,* 302–315.
Grusky, D. B., & Cumberworth, E. (2010, February). *A national protocol for measuring intergenerational mobility?* Paper presented at the National Academy of Science Workshop on Advancing Social Science Theory: The Importance of Common Metrics, Washington, DC.
Haider, S., & Solon, G. (2006). Life-cycle variation in the association between current and lifetime earnings. *American Economic Review, 96,* 1308–1320.
Hofferth, S. L., & Anderson, K. G. (2003). Are all dads equal? Biology versus marriage as a basis for paternal investment. *Journal of Marriage and Family, 65,* 213–232.
Hogan, D. P., & Featherman, D. L. (1977). Racial stratification and socioeconomic change in the American North and South. *American Journal of Sociology, 83,* 100–126.
Hout, M. (2004). How inequality may affect intergenerational mobility. In K. M. Neckerman (Ed.), *Social inequality* (pp. 969–984). New York, NY: Russell Sage.
Jäntti, M., & Jenkins, S. (2013). *Income mobility* (SOEP Papers on Multidisciplinary Panel Data Research, No. 607). Berlin, Germany: German Socio-Economic Panel.
Jodl, K. M., Michael, A., Malanchuk, O., Eccles, J. S., & Sameroff, A. (2001). Parents' roles in shaping early adolescents' occupational aspirations. *Child Development, 72,* 1247–1265.
Jones, J., & Mosher, W. D. (2013). *Fathers' involvement with their children: United States, 2006–2010* (National Health Statistics Reports, No. 71). Hyattsville, MD: National Center for Health Statistics.
Kalil, A., Ryan, R., & Chor, E. (2014). Time investments in children across family structures. *Annals of the American Academy of Political and Social Science, 654,* 150–168.
Kalmijn, M. (2015). Family disruption and intergenerational reproduction: Comparing the influences of married parents, divorced parents, and stepparents. *Demography, 52,* 811–833.
Kennedy, S., & Bumpass, L. L. (2008). Cohabitation and children's living arrangements: New estimates from the United States. *Demographic Research, 19*(article 47), 1663–1692. doi:10.4054/DemRes.2008.19.47
Kitagawa, E. M. (1955). Components of a difference between two rates. *Journal of the American Statistical Association, 50,* 1168–1194.
Lee, C.-I., & Solon, G. (2009). Trends in intergenerational income mobility. *Review of Economics and Statistics, 91,* 766–772.
Lee, D., & McLanahan, S. (2015). Family structure transitions and child development: Instability, selection, and population heterogeneity. *American Sociological Review, 80,* 738–763.
Li, J.-C. A., & Wu, L. L. (2008). No trend in the intergenerational transmission of divorce. *Demography, 45,* 875–883.
Lopoo, L. M., & DeLeire, T. (2014). Family structure and the economic wellbeing of children in youth and adulthood. *Social Science Research, 43,* 30–44.
MaCurdy, T., Mroz, T., & Gritz, R. M. (1998). An evaluation of the National Longitudinal Survey on Youth. *Journal of Human Resources, 33,* 345–436.
Magnuson, K., & Berger, L. M. (2009). Family structure states and transitions: Associations with children's well-being during middle childhood. *Journal of Marriage and Family, 71,* 575–591.
Manning, W. D., Brown, S. L., & Stykes, J. B. (2014). Family complexity among children in the United States. *Annals of the American Academy of Political and Social Science, 654,* 48–65.
Mare, R. D. (1996). Demography and the evolution of educational inequality. In J. N. Baron, D. B. Grusky, & D. J. Treiman (Eds.), *Social differentiation and social inequality: Theoretical and empirical inquiries. Essays in honor of John C. Pock* (pp. 117–162). Boulder, CO: Westview Press.
Mare, R. D. (1997). Differential fertility, intergenerational educational mobility, and racial inequality. *Social Science Research, 26,* 263–291.
Mare, R. D. (2011). A multigenerational view of inequality. *Demography, 48,* 1–23.
Martin, M. A. (2006). Family structure and income inequality in families with children: 1976–2000. *Demography, 43,* 421–445.
Martin, M. A. (2012). Family structure and the intergenerational transmission of educational advantage. *Social Science Research, 41,* 33–47.
Mayer, S. E. (1997). *What money can't buy: Family income and children's life chances*. Cambridge, MA: Harvard University Press.
Mazumder, B. (2005). Fortunate sons: New estimates of intergenerational mobility in the United States using Social Security earnings data. *Review of Economics and Statistics, 87,* 235–255.
Mazumder, B. (2014). *Black-white differences in intergenerational economic mobility in the United States* (Economic Perspectives Report No. 1Q). Chicago, IL: Federal Reserve Bank of Chicago.

McLanahan, S. (2004). Diverging destinies: How children fare under the second demographic transition. *Demography, 41,* 607–627.
McLanahan, S., & Sandefur, G. D. (1994). *Growing up with a single parent: What hurts, what helps?* Cambridge, MA: Harvard University Press.
McLanahan, S., Tach, L., & Schneider, D. (2013). The causal effects of father absence. *Annual Review of Sociology, 39,* 399–427.
Mitchell, C., McLanahan, S., Hobcraft, J., Brooks-Gunn, J., Garfinkel, I., & Notterman, D. (2015). Family structure instability, genetic sensitivity, and child well-being. *American Journal of Sociology, 120,* 1195–1225.
Mitnik, P. A., Bryant, V., Weber, M., & Grusky, D. B. (2015). *New estimates of intergenerational mobility using administrative data* (Statistics of Income Division working paper). Washington, DC: Internal Revenue Service.
Musick, K., & Mare, R. D. (2006). Recent trends in the inheritance of poverty and family structure. *Social Science Research, 35,* 471–499.
Pergamit, M. R., Pierret, C. R., Rothstein, D. S., & Veum, J. R. (2001). Data watch: The National Longitudinal Surveys. *Journal of Economic Perspectives, 15*(2), 239–253.
Peters, H. E. (1992). Patterns of intergenerational mobility in income and earnings. *Review of Economics and Statistics, 74,* 456–466.
Ribar, D. C. (2015). Why marriage matters for child wellbeing. *Future of Children, 25*(2), 11–27.
Seltzer, J. A. (1994). Consequences of marital dissolution for children. *Annual Review of Sociology, 20,* 235–266.
Solon, G. (1999). Intergenerational mobility in the labor market. In O. Ashenfelter & D. Card (Eds.), *Handbook of labor economics* (Vol. 3, pp. 1761–1800). Amsterdam, The Netherlands: North-Holland.
Tach, L. M. (2015). Social mobility in an era of family instability and complexity. *Annals of the American Academy of Political and Social Science, 657,* 83–96.
Tach, L. M., & Eads, A. (2015). Trends in the economic consequences of marital and cohabitation dissolution in the United States. *Demography, 52,* 401–432.
Teachman, J. D., Paasch, K., & Carver, K. (1996). Social capital and dropping out of school early. *Journal of Marriage and Family, 58,* 773–783.
Teachman, J. D., Paasch, K., & Carver, K. (1997). Social capital and the generation of human capital. *Social Forces, 575,* 1343–1359.
Thornton, A., Axinn, W. G., & Xie, Y. (2007). *Marriage and cohabitation*. Chicago, IL: University of Chicago Press.
U.S. Census Bureau. (2017). *Living arrangements of children under 18 years old: 1960 to present* (Table CH-1). Retrieved from http://www.census.gov/hhes/families/data/children.html
Western, B., Bloome, D., & Percheski, C. (2008). Inequality among American families with children, 1975–2005. *American Sociological Review, 73,* 903–920.
Wu, L. L. (1996). Effects of family instability, income, and income instability on the risk of a premarital birth. *American Sociological Review, 61,* 386–406.
Wu, L. L., & Martinson, B. C. (1993). Family structure and the risk of a premarital birth. *American Sociological Review, 58,* 210–232.