Family and housing instability: Longitudinal impact on adolescent emotional and behavioral well-being

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Abstract

This study investigated the longitudinal effects of family structure changes and housing instability in adolescence on functioning in the transition to adulthood. A model examined the influence of household composition changes and mobility in context of ethnic differences and sociodemographic risks. Data from the National Longitudinal Study of Adolescent Health measured household and residential changes over a 12-month period among a nationally representative sample of adolescents. Assessments in young adulthood measured rates of depression, criminal activity, and smoking. Findings suggested housing mobility in adolescence predicted poorer functioning across outcomes in young adulthood, and youth living in multigenerational homes exhibited greater likelihood to be arrested than adolescents in single-generation homes. However, neither family structure changes nor its interaction with residential instability or ethnicity related to young adult outcomes. Findings emphasized the unique influence of housing mobility in the context of dynamic household compositions.

Keywords

Family instability; Housing instability; Household composition; Adolescence; Young adulthood; Longitudinal

1. Introduction

A growing body of research examines the role of family instability as a risk factor for emotional and behavioral problems among children and adolescents (Ackerman et al., 1999; Fowler, Henry, Schoeny, Taylor, & Chavira, 2014; Fomby and Cherlin, 2007). Instability has been operationalized and measured in various ways that reflect different foci of interest and levels of analysis, ranging from parent–child relationships to parent–child physical separations (Ackerman and Brown, 2010; Fomby and Cherlin, 2007). Past studies focused on family changes have most often investigated cumulative experiences of parental disruptions, such as the number of marital separations, cohabitations, and caregiver deaths

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endured since birth (Cavanagh and Huston, 2008; Fomby and Bosick, 2013). Investigations have also counted these family changes with other disruptive familial events, especially residential moves (Ackerman et al., 2002; Bakker et al., 2012; Milan et al., 2006). However, these approaches have obscured the role of family structure by failing to provide information on the presence or absence of other caregiver combinations and their influence on adjustment, nor have studies examined the unique contribution of housing instability in context of other household instability. Additionally, unique influences of race and ethnicity on the relation between family stability and developmental outcomes have yet to be fully articulated, especially in the transition to adulthood.

This study addressed these gaps by explicitly measuring family configurations over time among a nationally representative sample of adolescents. Family subtypes were identified by different combinations of caregivers that could change over time, and variation by race and ethnicity was explicitly examined. This allowed investigation of family structure effects on well-being in context of cultural differences and beyond previous measures that collapsed across parental disruptions. Given housing mobility represents another aspect of instability, the study tested the unique influences of family structures and structure changes in the context of residential changes and other sociodemographic risks. Longitudinal data provided an opportunity to examine longer-term effects in the vulnerable transition to adulthood. The study aimed to extend conceptualizations of family instability and child development to incorporate changes in where and with whom youth live.

2. Family instability: theoretical and research review

Family provides a key framework within which childhood development occurs. The structure, routines, and reliability of the family unit are crucial in shaping children's early experiences and healthy growth. Family instability has been consistently linked to poorer psychological, behavioral, and academic outcomes among children, although there remains a lack of consensus about the definition of family instability (Ackerman et al., 1999; Fomby and Cherlin, 2007). The most widely used measures have focused on family structure change, caregiver union status, and major negative life events. Ackerman et al. (1999) represented family instability as an aggregate of several indicators including number of moves, number of caregiver's intimate partners, number of families with whom the child has lived, serious childhood illness, and any other significant negative life changes such as parental job losses or deaths of relatives. Later studies included indicators such as serious physical or mental illness of family members (Bakker et al., 2012), proportion of time spent in a female-headed household (Fomby and Cherlin, 2007), school transfers (Marcynyszyn et al., 2008), and the birth of a new sibling or entry of a new child into the home (Milan et al., 2006). The common themes underlying these measures have been chaos and flux in the child's household, with a greater frequency of changes indicating a higher level of instability.

Family structures and transitions have been linked to a number of consequences in adolescent health and behavior, such as internalizing and externalizing problems (Bakker et al., 2012; Forman and Davies, 2003), emotional distress (Cavanagh, 2008), and cognitive achievement (Fomby and Cherlin, 2007). Family structure transitions have been associated

with delinquency and substance abuse (McLeer and DeHart, 2013; Lee et al., 2012). Extending into the transition to adulthood, Fomby and Bosick (2013) found family changes in childhood and adolescence predicted earlier disconnection from school, entrance into the workforce, and family formation. Disruption to relationships and routines may reflect emotional or economic hardship, destabilizing families and impairing adolescents in the transition to adulthood.

Housing factors contribute to childhood instability in ways that are both linked with and independent from household composition. While some studies have included housing as an indicator of family instability, housing problems alone have been shown to have independent effects on the mental and physical health of children and adolescents (Bakker et al., 2012; Brown and Low, 2008; Bugard et al., 2012). Fomby and Sennott found that housing and school mobility frequently accompanied family structure change, and that other related factors such as income loss, legal troubles, and exposure to different peer groups also predicted problem behaviors in adolescents (2013). Housing mobility predicted poorer behavioral outcomes over time beyond the effects of family changes in a national study of children and adolescents who were the subject of child maltreatment investigations (Fowler et al., 2014). Moreover, housing problems, including mobility, put low-income children and adolescents at risk for cognitive and behavioral consequences accounting for effects of socioeconomic status (Coley et al., 2013). Often compounded by financial or environmental problems, family instability can be difficult to disentangle from other disruptive household or social conditions.

Race and ethnicity also play an important role in context of family structure and instability. Household composition varies by race and ethnicity, with single-parent households far more prevalent among African American families than White or Hispanic families (Whitaker et al., 2014). Likewise, African American and Hispanic youth are more likely than whites to live with extended family members, including grandparents and other relatives (Chase-Lansdale et al., 1994; Eggebeen and Lichter, 1991). Race and ethnicity may combine with household instability in ways that produce differing outcomes for White versus Black and Hispanic youth. One study examined whether the effects of parental changes in childhood predicted adolescent sexual risk and delinquency (Fomby et al., 2010); models included the main effects of parental change and ethnicity, as well as their interaction. After controlling for risk and protective factors, more parental changes related with earlier nonmarital births, and the effect was smaller among African American teens. Youth from Mexican–American families reported greater rates of delinquent behaviors, while African American youth indicated earlier sexual intercourse; however, the combined influence of parental changes did not affect outcomes (Fomby et al., 2010). The study demonstrated the importance of ethnicity in understanding adolescent responses to family instability, as well as suggests White adolescents may experience greater risk associated with family instability.

The three outcomes measured in this study—depression, ever smoked regularly, and ever been arrested—capture a range of behavioral domains previously linked to child and adolescent instability and other adverse life events (Lee et al., 2012; McLeer and DeHart, 2013), and place youth at risk for impairment in the transition to adulthood. Depressive symptoms in adolescence strongly predict the likelihood of depression later in life

(Copeland et al., 2013). Smoking behavior typically increases with age, and experimenting with cigarettes during adolescence predicts adult nicotine dependence (Choi et al., 1997; Patton et al., 2006). Arrests in adolescence predict high school dropout and unemployment, and reduce college enrollment and earning potential (Kirk and Sampson, 2013; Wiesner et al., 2009). The enduring natures of these problems make them particularly costly to both individuals and society.

Despite widespread understanding of the impact on young people, relatively few researchers have attempted to distinguish between the effects of family instability and those of housing instability in context of racial and ethnic differences. Several recent studies have focused on the timing of household composition change, with early childhood emerging as a particularly vulnerable period. Instability in early childhood has been associated with poorer outcomes at various later stages from elementary school (Cavanagh and Huston, 2008; Ryan and Claessens, 2013) to young adulthood (Fomby and Bosick, 2013). Fewer studies have focused on family instability during adolescence, although this time period proves crucial in the transition to adulthood. Adolescents from unstable families have likely experienced more household composition, housing, school, and peer group changes than younger children, and long-term instability has been shown to have cumulative and lasting deleterious effects on behavior and mental health among adolescents (Fomby and Sennott, 2013; Forman and Davies, 2003).

3. Present study

The present study focused on the dual impacts of family changes and housing instability during adolescence on young adult outcomes. Data from a nationally representative sample of adolescents followed into young adulthood captured household and residential changes at multiple points in adolescence. Changes were assessed over a 12-month period to capture the effects of instability in a relatively specific time period in development. Latent class analysis (LCA) provided a useful tool to study structural changes in family composition. LCA used multilevel modeling to investigate unobserved subgroups of families within the general population (Collins and Lanza, 2010). It was assumed households varied in configuration of adults living with youth, and compositions would change over time. Instead of presuming how families arranged themselves, LCA allowed for empirical identification of family subtypes. Given variation in measurement of family instability in prior research, this analysis focused on family structure change alone as a unique aspect of instability, providing the basic framework within which adolescents were living. Change in household structural composition provided a unique way of measuring family instability. The data allowed tests of whether family structures and transitions in adolescence predicted well-being in young adulthood. Three young adult outcomes were measured: depression, whether or not the adolescent had ever been arrested, and whether or not the adolescent had ever smoked regularly. These outcomes capture a range of behavioral domains previously linked to child and adolescent instability and other adverse life events (Lee et al., 2012; McLeer and DeHart, 2013). Elevations across these key domains—mental health, health behavior, and criminal involvement— would be expected in the presence of enduring effects of family instability (Ackerman et al., 1999; Bakker et al., 2012; Porter and Vogel, 2014). Early arrest, tobacco use, and depression have been linked to increased likelihood of adult criminal

involvement, poorer health outcomes, and lower psychosocial functioning in adulthood, respectively (Fuemmeler et al., 2013; Keenan-Miller et al., 2007; McCluskey et al., 2006).

The measures used in this study, therefore, reflect a range of behavioral and emotional factors that predict long-term functioning and well-being. Given the far-reaching and lasting implications of instability, understanding the links between household environment and adolescent development is crucial for the implementation of effective interventions for at-risk families. The study tested the following hypotheses:

1. Family subtypes will emerge based on different adults living in the home. It is expected that families with two parents will differ from families with one parent and other adults in the home; however, analyses will empirically derive the most important constellations from the data.

2. Most families will remain in the same family structural subtypes at the 12-month follow-up. Some families will transition to different structures.

3. Family structure changes and housing instability will predict greater rates of depression, criminal activity, and smoking in the transition to adulthood.

4. Youth who experience family and residential instability will exhibit higher risk for problem behaviors in young adulthood.

5. Race and ethnicity will moderate the effects of family instability on problem behaviors in young adulthood such that White youth will experience greater behavior problems when also exposed to family instability.

4. Method

4.1. Data

The data for this study came from the National Longitudinal Study of Adolescent Health (Add Health). Add Health is a school-based, nationally representative study of adolescents who were in grades seven through 12 during the 1994–1995 school year. In-home interviews with parents and youth occurred at baseline and one year later. Youth were followed up between 2001 and 2002 and again between 2008 and 2009. The present study used the public dataset from Waves I, II, and III. For Waves I and II, this was limited to a randomly selected 50% of the core sample (Harris et al., 2009). The analytic sample for this study looked at respondents with data on family members and residential moves for Waves I and II, and outcome data for Wave III. Wave I data included 5596 adolescents in grades seven through 12. Wave II data, collected a year later, included a representative sample of 4494 adolescents. During Wave III, participants ($n = 3567$) were between 18 and 26 years old. The representative subsamples provided adequate statistical power to test study hypotheses.

4.2. Procedures

Add Health used a multistage, stratified, cluster sampling design to select a sample of students from 80 high schools and 52 feeder schools. At the beginning of the study, students in every school who were present on the day of administration completed a questionnaire that covered topics such as social and demographic characteristics, household structure,

parental employment and education level, health status, risk factors, and self-esteem ($n =$ 90,118). Approximately one year later, students in each school were stratified by race and gender, and a random subsample was selected for the Wave I in-home interview ($n =$ 20,475). Parents of the in-home participants completed a separate survey ($n = 17,670$). During these baseline interviews, researchers asked adolescents and their caregivers about a variety of topics including health status and nutrition, household composition and dynamics, expectations for the future, and criminal activity. Wave II included a similar interview one year later administered to all Wave I participants excluding those in 12th grade ($n = 14,738$). Wave III followed up with all youth, including Wave I high school seniors ($n = 15,170$). The Wave III interview asked youth about relationships, marriages, childbearing, educational history, and key labor force events as they transitioned to adulthood.

4.3. Measures

4.3.1. Independent variables—Household composition was assessed according to the household roster of adults provided by adolescents during the in-home interviews at Wave I and Wave II. Respondents were asked to list the names of people living in the household, and to indicate their relationship to each household member. Potential relationship types included 29 different options. This study used indicators of whether or not (0 = no, 1 = yes) youth reported living with mother, father, grandmother, grandfather, aunt, or uncle. Youth identification of mother and father included biological, step, adoptive, step/adoptive, foster, or other parental relationships. The household rosters captured stability and instability in household composition over the 12-month period.

Housing instability was indicated by a count of the number of residential addresses youth reported since the beginning of the study. Retrospective reports were collected at the Wave III follow-up interview. Number of address changes has been used in other studies and found to correlate with poorer child outcomes both prospectively and contemporaneously (Fowler et al., 2014; Cutuli et al., 2013; Voight et al., 2012).

Youth reported their gender, date of birth, and race/ethnicity at Wave I. Adolescent ethnicity was indicated by a series of dichotomous questions that asked whether or not the respondent was Hispanic or Asian. Race was self-reported as White, Black or African American, Native American, Asian or Pacific Islander, or Other by the respondent; additionally, the interviewer coded the respondent's race through observation alone. Single- and multiracial variables were constructed from Wave I race questions using a series of rules that combined adolescent self-report and interviewer observation (Udry et al., 2003). Urbanicity indicated whether youth at baseline lived in census block groups populated by 2500 or more people (urban = 1, not urban = 2). Maternal education indicated how far mothers went in school, and was dichotomized to indicate less than high school education (1) or high school and beyond (0). Both urbanicity and mothers educational attainment have been included in prior research using Add Health data to capture socioeconomic status and neighborhood context (Jones, 2002; Rushton et al., 2002).

4.3.2. Dependent variables—Adolescent depression was assessed at all three waves using a modified version of the Center for Epidemiologic Studies Depression Scale (CES-D;

Radloff, 1977). The 9-item scale asked respondents to rate their experience of depressive symptoms such as sadness, fatigue, frequent crying, difficulty concentrating, poor appetite, and self-esteem over the previous seven days using four possible responses: "Never or rarely" = 0, "sometimes" = 1, "a lot of the time" = 2, "most of the time or all of the time" = 3. Positively worded questions such as "You enjoyed life" or "You felt that you were as good as other people" were reverse-coded so that a high score still indicated a greater prevalence of depressive symptoms. Scores ranged from zero to 27. The scale of depressive symptoms had a Cronbach's alpha of .81 for Wave I and 0.82 for Wave III (Booth et al., 2008). The measure has demonstrated reliability (Chabrol et al., 2002) and validity (Bradley et al., 2010; Radloff, 1991) in measuring depressive symptoms in young adults. Female adolescents with scores greater than 11 and male adolescents with scores greater than 10 were classified as depressed (Frisco et al., 2012).

The Add Health Wave III in-home interview included a series of questions about the young adults' criminal justice involvement, although the current study focused on a single-item indicator only of past arrests. Respondents answered whether or not (no = 0, yes = 1) they had ever been arrested or taken into custody by the police. The responses were recorded using Audio Computer-Assisted Self-Interview (ACASI) to reduce nonresponse rates and social desirability bias (Harris, 2013). Number of arrests and age of first arrest have frequently been used as predictors of adult criminal outcomes, and early onset of criminal offending has been linked to adverse outcomes in adulthood including continuing criminal trajectories, escalating violence, and weapon use (McCluskey et al., 2006; Natsuaki et al., 2008).

Smoking among respondents was measured at Wave III using a single dichotomous item, "Since [last interview], have you smoked cigarettes regularly, that is, at least one cigarette every day for 30 days?" (no = 0, yes = 1). Answers were recorded using ACASI. Single-item indicators of cigarette smoking have been used to assess adolescent health risk and disparities over time (Farmer et al., 2004; Harris et al., 2006). Smoking behavior among adolescents has been linked to a number of negative outcomes, including depressed mood and greater likelihood of continuing to smoke regularly in adulthood (Fuemmeler et al., 2013).

4.4. Analytic strategy

Multilevel modeling combined with regression analyses investigated the context of family instability in the lives of adolescents. This person-orientated approach to analysis has been recommended to study contextual effects on change (Fowler & Todd, in press; Muthen and Asparouhov, 2011). Latent variable analysis captured unobserved subgroups of family configurations. Resulting subgroups were subsequently used as independent and dependent variables in regressions, and thus, regression coefficients better accounted for latent differences in family stability that left unaccounted bias parameter estimates (Muthen and Asparouhov, 2011).

Repeated measures latent class analyses used as outcomes the presence or absence of family members living in youths' households (Collins and Lanza, 2010). This included family roles of mother, father, grandmother, grandfather, aunt, or uncle. Household rosters included 64

possible unique family configurations at each wave. Latent class analyses allowed examination of contingencies across all possible family combinations and identified the most parsimonious latent subgroups. Analyses were conducted on Wave I and II separately to investigate whether family compositions fluctuated over time in conjunction with youth development. In addition, models were run within each ethnic category to evaluate whether the number or type of family structures varied across groups. Additional assumptions were not made regarding the quality of change over time, as would be imposed in other analyses, such as latent transition or latent growth models (Fowler & Todd, in press; Collins and Lanza, 2010; Muthén, 2004). The best fitting solution for each wave was determined by modeling household composition for one to 10 latent classes and comparing model solutions for Bayesian Information Criterion (BIC) and the classification error rate (Muthén, 2004). Models with the lowest BIC and error rate were chosen as the best fitting solutions. Multinomial logistic regressions examined whether youth characteristics at baseline related to latent class membership at Wave I, including youth age in years, gender, ethnicity, maternal education, and urbanicity. Analyses were conducted in the MPLUS Version 7.3 software package (Muthen & Muthen, Los Angeles, CA). To reduce potential bias associated with missing data, analyses were conducted across 10 datasets that imputed values of independent variables. All analyses weighted for sampling characteristics.

Analyses investigated both transitions between household compositions between Waves I and II, as well as the effects of household composition and other adolescent experiences on young adulthood outcomes. We cross-tabulated Wave I by Wave II family composition classes to estimate the transition probabilities, using the adjusted standardized residual to assess the statistical significance of each transition probability, or the likelihood youth experienced change in household composition over time. Logistic regressions conditioned distal outcomes on (1) latent household compositions at Wave I, (2) whether or not a change in household composition occurred across waves, (3) housing instability in adolescence, (4) the interaction between family instability and residential moves, (5) the interactions between ethnic groups and family instability, and (6) Wave I youth and family covariates, including age, gender, ethnicity, depression, maternal education, and urbanicity. Models were run on each distal outcome separately predicting whether or not youth experienced clinical elevations of depression, had been arrested, or had smoked regularly by the Wave III interview administered between 2001 and 2002 when youth were between 18 and 26 years of age. Together, analyses examined unobserved variability on household compositions predicted by youth characteristics, and examined the effects of family and housing instability on distal outcomes above and beyond effects of family and youth characteristics at baseline.

5. Results

5.1. Descriptive results

Youth involved in the Add Health study represented adolescents in grades seven through 12 in the United States during the 1994–1995 academic year. At Wave I, youth were 13 years of age on average and evenly divided on gender (51.5% female). Adolescents were primarily Caucasian (68.3%) with 17.6% African–American and 8.9% Latino/Hispanic youth. The majority of families lived in urban and suburban areas, and families were generally middle-

to upper-income; most caregivers (88.3%) earned at least a high school education. At Wave I, 91.2% of youth lived with mothers, 73.6% lived with fathers, 6.2% lived with grandmothers, 2.8% lived with grandfathers, 2.9% lived with aunts, and 2.9% resided with uncles. Most youth lived with both mother and father (69.9%), while few (5.3%) lived with neither. Also, 16.7% of adolescents reported having been diagnosed with depression. Youth and family demographics were similar among youth followed and included in analyses of Wave II and Wave III. At Wave III, 12.2% of youth reported clinically elevated levels of depression, 11.4% had been arrested, and 43.0% smoked regularly.

5.2. Multilevel and multivariate models

Household composition was modeled using six indicators of household composition in latent class analyses (LCA). Indicators included whether or not youth lived with the mother, father, grandmother, grandfather, aunt, or uncle. A series of models empirically examined various configurations across these indicators to capture subgroups of household composition types. Analyses began by modeling whether a single household composition best represented all families at Wave I, such as if all families included a mother and father as traditionally (factiously) defined in a two-parent family. Subsequent models allowed one additional family constellation to be fit to the data; for example, a two-class solution that empirically identified two-parent families plus single-mother households, and a three-class solution that found a subgroup of families headed by grandparents, etc. Solutions were derived for up to 10 household compositions at each wave. Model fit statistics were examined to identify the solution that best represented the data.

Fig. 1 presents model fit indices for Wave I and Wave II, including the BIC and classification error rate across models that were identified with stable solutions. Solutions at each wave converged on a three-class solution representing the point at which BIC values and classification errors were lowest relative to each other. Although the four-class solutions returned smaller BIC values at both waves, precipitous increases in classification errors suggested a less stable solution. The three-class solution included one large class, and two smaller subgroups. The same 3-class solution emerged when analyses were conducted within ethnic groups, suggesting similar family structures across the different backgrounds.

Percentages of household members included within the three emerging classes were examined to interpret household compositions. As shown in Fig. 2, the large class labeled 'single-generation' families was most likely to comprise a mother and most often a father without extended family members (91.7%). The next largest class comprising 5.0% of families included a parent (mostly mothers) plus a grandparent (mostly grandmothers). This family constellation was labeled 'multi generational' reflecting the presence of grandparents, parents, and adolescents. The smallest class, labeled 'extended' families, included 3.2% of families who reported that a parent, most likely a mother, plus an aunt or uncle, lived together with youth. Household compositions for the Wave II solution were very similar as displayed in Fig. 1. Single parent families did not emerge as a separate family subgroup at either time point although they comprised 20% of the largest class.

Analyses examined whether child and family characteristics were more typical among the different household composition subgroups at Wave I. Multinomial logistic regressions

predicted subgroup membership on child gender, age, race/ethnicity, maternal education, and urbanicity. No significant differences emerged across classes by demographic characteristics.

Table 1 presents the stability probabilities of remaining in the same family composition across waves. Stability characterized most families across household compositions. Nearly all single-generation families remained intact during the 12-month follow-up period. Extended families exhibited relatively less stability, and were significantly more likely to transition into multigenerational families. Multigenerational families experienced the least stability with nearly half transitioning to a different household composition; however, these families were equally likely to transition to single-generation and extended families.

A multinomial logistic regression predicted categories formed by Wave I and Wave II classes by demographics. Older youth were more likely to remain in extended families ($b = .17$, $SE = .08$, $p = .03$, $OR = 1.18$), as were African American youth ($b = .84$, $SE = .40$, $p = .04$, $OR = 2.31$) and youth in urban areas ($b = .31$, $SE = .16$, $p = .049$, $OR = 1.36$). Urban youth were also more likely to transition from extended families to live with parents ($b = .60$, $SE = .23$, $p = .01$, $OR = 1.83$). Older youth ($b = .26$, $SE = .08$, $p = .01$, $OR = 1.29$) and females ($b = .42$, $SE = .21$, $p = .04$, $OR = 1.52$) were more likely to transition from living with parents to living with extended families.

A series of logistic regressions tested the distal effects of family stability on youth behavioral outcomes in young adulthood. Table 2 displays model coefficients and effect sizes each outcome, including clinical elevations of depressive symptoms, arrest history, and smoking regularly. Models included dummy coded variables for each household composition type at Wave I with extended families serving as the reference group. In addition, a dummy code indicated whether or not change in household composition occurred between waves to examine the effects of family instability, while number of housing moves in adolescence investigated the role of housing instability. Logistic regression analyses controlled for youth ethnicity, gender, age, maternal education and urbanicity.

Results suggested youth from multigenerational families at Wave I exhibited a significantly lower probability of being arrested, compared to youth who lived in single or two-parent nuclear household compositions at Wave I. Increased housing instability in adolescence predicted significant elevations in rates of depression, arrest, and smoking regularly. Every move increased the odds ratio of a depression diagnosis by 1.10. Each additional move increased the odds ratio for arrest by 1.08. Each additional move increased the odds ratio for regular smoking by 1.12. The interaction between moves and structural instability was not significant for arrests or for regular smoking. Structural instability or change in household composition over time did not influence outcomes in young adulthood when accounting for other variables in the model.

Effects emerged after controlling for sociodemographic factors. Depression in the transition to adulthood was predicted by baseline depression ($b = .34$, $SE = .15$, $p = .03$, $OR = 1.40$), being female ($b = .76$, $SE = .13$, $p = .01$, $OR = 2.14$), and living in an urban area ($b = .21$, $SE = .07$, $p = .01$, $OR = 1.23$). Females were less likely to be arrested ($b = .34$, $SE = .15$, $p = .$

03, $OR = .20$), while youth in urban areas had greater risks ($b = .23$, $SE = .08$, $p = .01$, $OR = 1.26$). Females were also less likely to smoke ($b = -.17$, $SE = .08$, $p = .03$, $OR = .84$). Importantly, youth age, race, or maternal education did not predict outcomes beyond instability.

6. Discussion

It has long been established that upheaval and instability in the home environment place children at greater risk for multiple negative outcomes (Bakker et al., 2012; Cavanagh, 2008; Fomby and Bosick, 2013). While several factors have been examined in the context of childhood well-being, little is known about the unique impacts of varying types of instability. "Family instability" itself has been defined to include factors such as marriage or divorce, parental illness or addiction, family violence, parental employment changes, and proportion of time spent in poverty (Cavanagh and Fomby, 2012; Forman and Davies, 2003). Furthermore, few studies explicitly separate family and housing factors when assessing instability. In this study, we isolate particular aspects of instability by narrowing our focus to household composition, household composition change, and housing mobility as potential predictors of later mental health and behavioral outcomes.

Our study addresses two objectives. First, we separate family instability and housing instability, which are frequently combined in investigations of child and family well-being (Bakker et al., 2012; Forman and Davies, 2003; Milan et al., 2006). Family instability is assessed on a structural level, with three groups emerging from an empirical examination of household composition: single-generation, extended, and multigenerational. Results emphasize the importance of mothers and grandmothers in differentiating family subtypes. Single-generation families appear rooted by the presence of mothers, while the presence or absence of fathers is less central to the family structure. The pattern emerges across race and ethnic groups that vary in the prevalence of single-mother households. The importance of fathers likely functions through within home dynamics, including co-parenting and economic roles found in prior research (Fagan, 2013; McHale and Coates, 2014). Likewise, grandmothers differentiate multigenerational from extended families. This may reflect various motivations for co-residing with family. Grandmothers might provide stability and play important caregiving roles for the family, while cohabitating with other relatives could be drive by emotional or economic hardships that necessitate the change. Doubling up has been linked to periods of unemployment and financial strain as families frequently move in with relatives or friends to avoid homelessness, impacting relationships and family functioning (Miller, 2015 Wiemers, 2014). Future research that uncovers connections between family structure and dynamics will provide important information on housing choices and parenting practices.

The second objective examines the associations between household composition and housing mobility during adolescence with the following young adult outcomes: depression, smoking, and arrests. The results of this study confirm earlier findings suggesting family instability has harmful and enduring effects on adolescent well-being (Bakker et al., 2012; Forman and Davies, 2003; Marcynyszyn et al., 2008). Household composition changes, however, are not associated with poorer outcomes later in life after controlling for other

individual and family characteristics. Baseline household composition—though not composition transitions—predicts a problem behaviors in young adulthood.

A single-generation household composition is found to be protective against later likelihood to be arrested compared to multigenerational configurations. While family structure instability in early and middle childhood has been associated with negative outcomes, the present study finds baseline composition but not composition instability to be detrimental for adolescents. This distinction may be explained by patterns of prior family instability leading to specific family structures in adolescents' homes (Fomby and Bosick, 2013), or by caregiving practices, family dynamics, and attachment patterns that may differ by family structure type irrespective of subsequent transitions (Dolbin-MacNab and Keiley, 2009; Langton and Berger, 2011; Shin et al., 2010). The lack of significant findings associated with household composition change may reflect variation in family processes and dynamics implicated in healthy child and youth development that differ by family structure (Morrissey, 2008; Vanassche et al., 2014; Zito, 2013).

The study also finds that residential mobility during adolescence has significant effects on young adult outcomes above and beyond household composition patterns. This finding may be explained by the fact that moving is frequently precipitated by stressful environmental factors such as eviction or parental job loss. Furthermore, moving can have a tremendous impact on an adolescent's extra-familial support networks, particularly when combined with school mobility. During the high school years, adolescents typically begin to spend more time away from their households—with peers rather than family members (Lam et al., 2012). Prior research on adolescent development suggests an increasing significance of peer networks accompanied by a declining significance of family influence on multiple health, emotional, and behavioral outcomes. The impact of peers outweighs that of family in predicting problem behaviors (Fomby and Sennott, 2013), smoking (Scalici and Schulz, 2014), and substance use (Ramirez et al., 2012) as youth age. Peer relationships are crucial to development of self-esteem and self-identity (Tarant et al., 2006). The role of peers in adolescence may account for the powerful effects of moving, given the potential disruption of social connections outside the home.

This distinction between household composition and housing patterns is an important strength of this study. Isolating correlations between specific forms of instability and negative outcomes yields nuanced findings that may be unique to adolescent development. Furthermore, this is one of the first studies to focus on family and housing instability during adolescence as opposed to early childhood. Significant correlations between mobility and negative outcomes in this study indicate the primacy of external influences on adolescents. The range of emotional and behavioral outcomes suggests far-reaching consequences in young people's lives. The large, nationally representative sample allows us to generalize these findings to adolescents throughout the United States, with potential implications for school, family, and housing services.

This study contains a number of limitations. First, changes in mobility and household composition are assessed at only two points (baseline and follow-up) over approximately 12 months due to the Add Health study design. This allows for up to one move and one

household composition change, giving a conservative estimate of instability. A more comprehensive history of adolescents' household compositions might yield significant correlations between instability and negative outcomes. Secondly, we do not consider the distances of moves or whether moves co-occurred with school changes—both of which would likely influence the level of disruption to an adolescent's life. Unfortunately, Add Health data could not distinguish normative school changes, such as from junior high to high school, from changes associated with moves. Related to this point, the circumstances of moves—which may occur due to adverse situations such as job loss or eviction versus positive circumstances such as finding a new job—and neighborhood contexts of moves were not considered. Future research that incorporates school and neighborhood mobility as another important contextual level of instability will provide more precise estimates. Thirdly, family instability experienced prior to initial assessment in adolescence was not assessed; estimates therefore fail to capture cumulative or lagged influences of instability. Fourth, measurement of arrest history and smoking used single-item self-reports prone to unreliability. Objective measures of these constructs could produce different effects that would inform the meaning of family stability; however, such instruments are not available for this study.

Given the impact of housing mobility on youth wellbeing, our findings support policies promoting stable housing among families. Schools might facilitate assessing for housing instability among students, and implementing supports for mobile students. Potential interventions for youth experiencing instability may include school-based peer supports or community mentoring programs to promote healthy development and prevent negative coping mechanisms. The LCA grouping of single-generation families in this study suggests that there exist important differences between households with and without parents present; these distinctions may prove significant among minority populations in which greater numbers of youth grow up in multigenerational or extended family households. In context of racial and cultural differences in household composition, interventions for at-risk youth may involve better supporting both youth and caregivers through promoting community ties and neighborhood cohesion. The numerous household factors influencing a young person's well-being and psychosocial adjustment may necessitate a broader definition of family for minority populations.

Another important area of future research includes the impact of social cohesion through school and neighborhood factors. Prone to experimentation and susceptible to peer influences, adolescents from vulnerable household compositions may seek stability elsewhere. Our findings indicate the importance of social connections outside the home for teens, but the specific influences of peers, teachers, coaches, and non-cohabitating family members have yet to be elucidated. Given the evidence for vulnerable and protective family configurations found in this study, the extra-familial factors that contribute to adolescent well-being comprise a rich area for future investigation. The conclusions of this study provide an important framework through which to examine positive outcomes and domains of functioning among adolescents with varying family structures.

7. Conclusions

Instability has unique impacts on adolescents across a variety of domains that endure into adulthood. The findings of this study have significant implications for family- and housing-related policies. The risks associated with residential mobility independent of family structure factors underscore the need for programs that promote stable, affordable, permanent housing. Our findings similarly support policies that promote family welfare and stability, given that family structure is powerfully linked to adolescent well-being.

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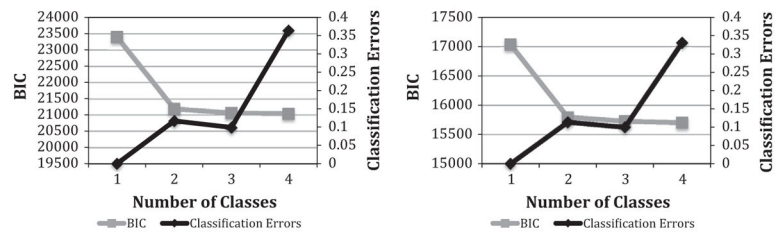
Fig. 1.
Model fit for latent class analyses examining family structure at Wave I (left panel, $n = 5959$) and Wave II (right panel, $n = 4506$) in the National Longitudinal Study of Adolescent Health. Lower Bayesian Information Criteria (BIC, Y axis) and classification errors (Z axis) represent better fit to the data. Optimal solutions at both waves converged for three unique subgroups of family structure.
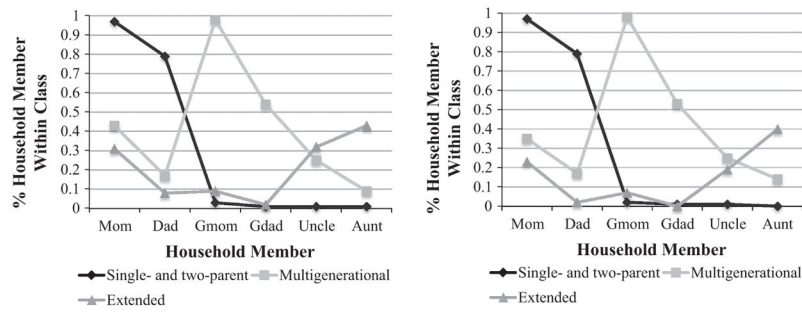
Fig. 2.
Percentages of household members included within the three subgroups of family structures at Wave I (left panel, $n = 5959$ families) and Wave II (right panel, $n = 4506$ families).

Table 1

Odds ratios predicting stability and instability in family subtypes between Wave I and Wave II ($n = 4494$).

Wave I family structure	Wave II family structure		
	Single-generation (91%)	**Multigenerational (4%)**	**Extended (5%)**
Single-generation (91%)	.97[**]	ns	ns
Multigenerational (4%)	ns	.53[**]	ns
Extended (5%)	ns	.08[**]	.65[**]

Notes. ns = not significant.

[*]
$p < .05$.

[**]
$p < .01$.

Table 2

Adolescent experiences of family structure, family instability, and housing instability predicting behavioral outcomes seven years later in young adulthood among a nationally representative sample ($n = 3567$).

Predictors	Depression			Arrested			Smoked		
	b	*SE*	*ES*	*b*	*SE*	*ES*	*b*	*SE*	*ES*
Single-versus multi	−0.23	0.16	0.79	−0.47*	0.17	0.62	−0.17	0.11	0.85
Extended versus multi	−0.10	0.22	0.91	−0.24	0.24	0.79	−0.24	0.16	0.79
Structure instability	0.03	0.78	1.03	−0.57	0.86	0.57	0.12	0.47	1.12
# Housing moves	0.10**	0.03	1.10	0.08**	0.03	1.08	0.11**	0.02	1.12
Moves × instability	0.02	0.08	1.02	0.19	0.11	1.21	0.09	0.07	1.10
Structure instability × African American	−1.32	1.37	0.27	0.04	1.08	1.04	−0.18	0.57	0.84
Structure instability × Hispanic	−0.25	0.94	0.78	0.13	0.98	1.14	−0.04	0.60	0.96
Structure instability × White	0.33	0.81	1.39	−0.55	1.05	0.58	0.04	0.51	1.04

Note. Single = single-generation families, multi = multigenerational families, extended = extended families, structure instability = any change in family structure over time. Coefficients (*b*) represent unstandardized coefficients presented with standard errors (*SE*) and effect sizes (*ES*) calculated as odds ratios (*OR*). Regression analyses controlled for youth age, gender, ethnicity, clinical elevations of depression at baseline, maternal education, and urbanicity.

*
$p < .05$.

**
$p < .01$.