

Residential Mobility Among Children: A Framework for Child and Family Policy

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Abstract

More children move than almost any other age group in the United States, with nearly one in five children moving in 2011 alone. A considerable research base links moving, or residential mobility, with adverse outcomes across childhood, including depression, problem behaviors, risk taking, and deficits in achievement. Nonetheless, we lack a framework for understanding how residential mobility is associated with children's outcomes during different periods of development, such as early childhood, middle childhood, and adolescence. It is unlikely that moving itself is directly linked with children's outcomes. Rather, the changes in children's contexts concurrent with a move, such as changes in the child's family, neighborhood, peer group, and school, likely underlie the relationship between moving and children's well-being. In this article, we present a developmental-contextual framework for understanding the relationship between moving and adverse child outcomes. We illustrate our framework through a review of the literature and an empirical example. Evidence from the literature and our empirical example suggest that moving is associated with children's family, neighborhood, and peers and, to a lesser extent, school contexts, with possible consequences for child outcomes. These associations with related contexts may be more pronounced in later developmental periods. In conclusion, we identify knowledge gaps and provide tentative policy implications.

Introduction

The United States is a country with high rates of residential mobility (for example, Long, 1992). Children move more than adults, a trend pronounced among those children who were less than 10 years old and for whom mobility rates exceeded 13 percent in 2010 (U.S. Census Bureau, 2011b). For children who are of a racial or ethnic minority group or are living in poverty, multiple moves per year are common (Alexander and Entwisle, 1988; Schachter, 2004; Ziol-Guest and McKenna, 2013). Growing research employing diverse samples and a range of analytic strategies, including innovative ways to account for selection bias, points to adverse consequences associated with residential mobility, such as victimization, poor health, felony arrest, and compromised socioemotional development and achievement (Busacker and Kasehagen, 2012; Coley et al., 2012; Foster and Brooks-Gunn, 2012; Herbers et al., 2012; Voight, Shinn, and Nation, 2012). Given the high rates of residential mobility among U.S. children and youth and the evidence that links moving with unfavorable outcomes (for example, Jelleyman and Spencer, 2008), it is critical to understand the implications of moving across developmental periods and the manner in which co-occurring contextual shifts accompany residential mobility. Without this understanding, a sound foundation for policy interventions is lacking.

In this article, we develop a comprehensive theoretical framework to elucidate the pathways between residential mobility and children's outcomes. We examine residential mobility from a developmental-contextual perspective that recognizes that moving may not be an equivalent experience for all children during all developmental periods. We describe how relevant developmental contexts—notably families, neighborhoods, peers, and schools—may be key pathways linking residential mobility and children's outcomes. This article has two main sections: the first is theoretical and the second empirical. In the first section, we discuss the theoretical foundations that justify a developmental-contextual approach to residential mobility. Then, we critically review the literature on residential mobility and children's health and well-being for three developmental periods: early childhood, middle childhood, and adolescence. Next, we present four contextual pathways that may link residential mobility with children's outcomes: family, neighborhood, peers, and school. Building on the contextual pathways model, the second section provides an empirical example for exploring how residential mobility and children's contexts may be interrelated across development. We conclude with a discussion of current child and family policies for residentially mobile children and then make recommendations for further research and future policy.

Theoretical Foundations

Our theoretical model linking residential mobility with children's development is an ecological, developmental systems perspective (Bronfenbrenner and Morris, 2006; Lerner, 2006). This perspective views the developing child as being nested within multiple contexts, ranging from proximal to distal, and as being embedded within a system that entails dynamic relations between the child and these contexts and among the contexts themselves. Although all contexts are thought to influence children's development, those contexts in which the child regularly interacts (or are more proximal) may be particularly important for development, including family (Crosnoe and Cavanagh, 2010), neighborhood (Leventhal and Brooks-Gunn, 2000), peers (Bukowski, Brendgen,

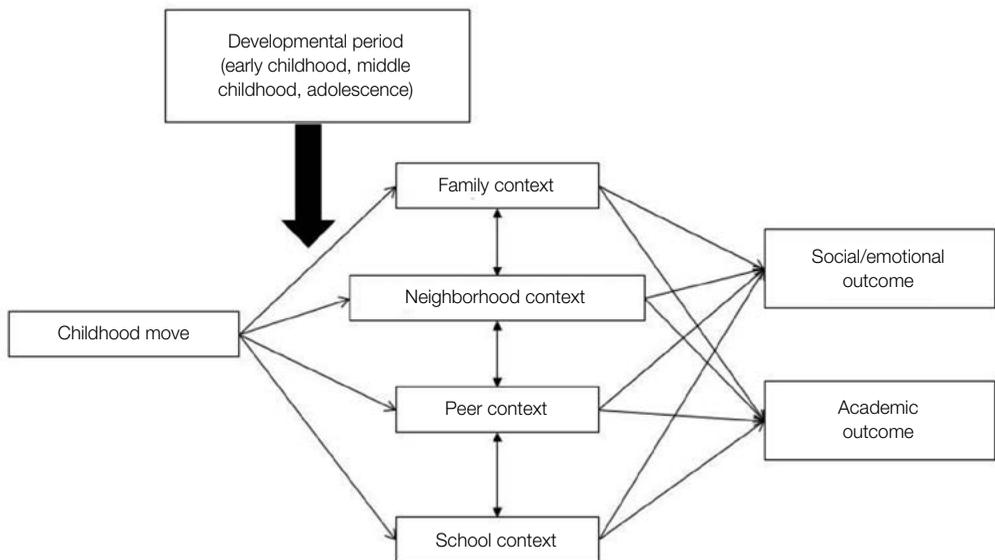
and Vitaro, 2007), and school (Wentzel and Looney, 2007). This framework is relevant to the topic of residential mobility and child development, given that moving often requires changes in these proximal settings, and to the reorganization of the child's developmental system after a move. The manner in which that reorganization takes shape has implications for a child's development. For example, children interact daily with their parents, and the qualities of interactions influence development. Moving may alter child-parent interactions either temporarily or permanently, because parents may become stressed in the short term or may be influenced by new neighborhood or professional contexts in the long term.

Building on the work of Elder (1995), Bronfenbrenner also argued that time is critical to human development, because each person is influenced by the timing of major events and transitions he or she experiences (Bronfenbrenner and Morris, 2006). Residential moves may have different implications for development, depending on whether moves occur during early childhood, middle childhood, or adolescence. As typically conceptualized, developmental periods encompass at least one major transition in a child's life, such as school entrance or exit, biological maturation, role shifts, and possibly cognitive alterations (Graber and Brooks-Gunn, 1996). Because the developmental challenges during these periods are relatively universal and require new modes of adaptation to biological, psychological, or social changes, moving may confer differential effects depending on when it occurs. Exhibit 1 demonstrates how childhood mobility may be related to children's outcomes through family, neighborhood, peer, and school contexts as moderated by developmental period.

Relatively limited research takes a developmental approach to studying the effects of residential mobility. Findings from two studies suggest that moving in early childhood (versus other

Exhibit 1

Conceptual Model of the Role of Residential Mobility in Child Development



Note: Relationships are net child, family, and neighborhood covariates.

developmental periods) is associated with adverse achievement outcomes either concurrently (Heinlein and Shinn, 2000) or in adolescence (Haveman, Wolfe, and Spaulding, 1991), although only Haveman, Wolfe, and Spaulding's study used a representative dataset. Using longitudinal data from a national sample, Gillespie (2013) also found that moving at a younger age was associated with more problem behaviors than moving during adolescence. Swanson and Schneider (1999) instead found differential associations for residential mobility in early and late adolescence, with potential gains in math skills for moving early in adolescence and with adverse association with behavioral problems for moving in late adolescence. Finally, Coley et al. (2012) did not find that the timing of exposure to residential mobility moderated associations. In sum, residential mobility, contexts, and outcomes are likely not associated in a similar fashion across developmental periods; however, clear causal associations remain to be established. In the next sections, we briefly review how associations between residential mobility and children's outcomes may vary by developmental period based on distinct aspects of each period.

Early Childhood

During early childhood (or approximately birth to 54 months old), children experience rapid physical, cognitive, and socioemotional development and rely on parents to a great extent (Shonkoff and Phillips, 2000). Alterations to children's developmental contexts, notably the family, during this period could have lasting repercussions in a number of domains (for example, Duncan and Brooks-Gunn, 1997). A range of developmental contexts, including childcare and the neighborhood, are part of young children's ecology, but the family context is the most proximal and relevant context and, thus, is a likely pathway of residential mobility effects in early childhood. If the family is disrupted by a move, parents may not be as responsive to their children's needs or may monitor them less, perhaps resulting in deficits in socioemotional development (Smetana, 2011). Changes in the nature of the home environment also may mean compromises in the provision of a cognitively stimulating environment, potentially leading to shortfalls in cognitive development (Bradley, 1987). On the other hand, moving may confer benefits, particularly if logistical disruptions resulting from actually changing households are brief in duration and the quality of the home or neighborhood improves, which is possible, given the upward mobility of families with young children (Schachter, 2004).

Middle Childhood

During middle childhood (approximately 4 1/2 to 11 years of age), children transition to elementary school and then to middle school and continue to develop cognitively, physically, and socioemotionally. The children gain independence, which suggests a growing relevance of extrafamilial contexts, although parents remain of paramount importance (Eccles, 1999; Sameroff and Haith, 1996). The neighborhood is relevant in middle childhood because of the institutional resources beyond just schools, including recreational, social, and health programs and services (Leventhal, Dupéré, and Brooks-Gunn, 2009). Moreover, the neighborhood conveys norms and expectations for children and parents (Leventhal and Brooks-Gunn, 2000). Children who are likely to have direct access to all these neighborhood resources may also be connected to the resources via their parents, and moving away could decrease ease of access (Kan, 2007). In addition, children who move in middle childhood are likely to change schools, and thus need to adjust to new teachers

and peers. Children's adjustment to new teachers, expectations, and school climate are critical during this period as student-teacher relationships are important for achievement (Pianta et al., 2008). Depending on the nature and success of the adjustment, children could benefit from higher quality facilities or face adverse consequences if student-teacher relationship quality deteriorates (Hanushek, 2004). Finally, the quality of peer relationships may erode after a move, perhaps because of increases in feelings of loneliness and rejection (Hay, Payne, and Chadwick, 2004). In this period, family, neighborhood, peer (to a lesser extent), and school contexts are possible pathways that link residential mobility with children's development.

Adolescence

During adolescence (approximately 11 to 18 years of age), children develop close peer groups and critical thinking skills, experience puberty, and have exposure to diverse contexts, all while participation in risk-taking behaviors becomes normative (Steinberg and Morris, 2001). Mobile adolescents may have more opportunity to participate in risk-taking behaviors than stable youth because their parents may be distracted with requirements of the move, perhaps leading to less parental monitoring and more direct exposure to their neighborhoods (Haynie and Osgood, 2005). With a move to a new home and perhaps neighborhood or school, the loss of peer networks may have consequences for mobile youth because of the salience of peers during this period (Brown and Larson, 2009; Evans, Oates, and Schwab, 1992; Rubin et al., 2008). (The ubiquity of social media and smart phones, however, may mitigate these associations [Subrahmanyam and Greenfield, 2008].) Residentially mobile children often affiliate with more delinquent peers than their stable counterparts and may demonstrate more risk-taking behaviors as a result (Gasper, DeLuca, and Estacion, 2010; Haynie, Silver, and Teasdale, 2006). Thus, residential mobility may be linked to adolescents' development through any of the contexts reviewed because of their persistent (family and school) or growing (neighborhood and peers) relevance.

A Note on Studying Residential Mobility

We offer one cautionary note before we discuss the literature on residential mobility among children. Most of the residential mobility literature employs observational, cross-sectional designs, precluding causal conclusions. Moreover, selection bias is a persistent issue in the field, as unmeasured characteristics of the child, family, or neighborhood may explain associations between residential mobility and children's development (Leventhal and Newman, 2010). For example, maternal depression may lead families to move because of job instability and result in adverse child outcomes; thus the omitted variable, maternal depression, explains the association and not moving itself. Researchers have attempted to cope with selection bias by employing analytic approaches that better account for preexisting differences (including fixed effects analyses and propensity score matching). These attempts to overcome bias establish modest to nonexistent direct associations between moving and children's outcomes (Anderson, 2012; Gasper, DeLuca, and Estacion, 2012, 2010).

In addition, only a handful of studies have examined residential mobility from a developmental or a contextual perspective. Most extant research conceptualizes residential mobility in terms of recent mobility (moving within the past 2 years in the case of the National Longitudinal Study of

Adolescent Health [Add Health]), number of lifetime moves, or moves within a select number of years, based on limitations of the sample. Measuring residential mobility within developmental period is an important extension of the literature. Significant differences in the structure and quality of developmental contexts may be related to residential mobility compared with stability; however, limited research has taken a developmental-contextual approach. We address these topics in the following section.

Where We Are: Residential Mobility and Developmental Contexts

As discussed, residential mobility may be associated with child development through salient developmental contexts. In this section, we review theoretical and empirical evidence that demonstrate a plausible link between residential mobility and children's outcomes through family, neighborhood, peer, and school contexts. Each context focuses on a different or complementary set of processes or structures that vary in prominence during the course of child development.

We conducted an extensive review of the literature on residential mobility among children employing the following search engines: PsychInfo, ERIC, and JSTOR. The search terms "residential mobility" or "residential instability" and "child*" or "adolesc*" were employed. Citations from our selected articles also were cross checked with the articles found in the original search for inclusion in the review. Reviewed articles were limited to those from scholarly peer-reviewed publications, employing a nationally based or large-scale U.S. sample, and for quantitative studies, those publications that used comprehensive covariates. Because a limited number of studies used longitudinal samples, we were unable to restrict our review to longitudinal examinations of residential mobility across periods.

Family

Family members, most importantly parents, are the principal socialization agents of children, and as noted earlier, their primacy endures across childhood and adolescence (Collins et al., 2000). A move is likely to alter parent-child interactions, but the nature of the change is unclear. We propose that residential mobility is associated with children's outcomes through family stress, financial constraints, and instability.

Family stress models posit that with few economic resources and concomitant family economic pressure, parents evince emotional and behavioral problems, which give rise to interparental or interpartner conflict associated with inconsistent, harsh, and unsupportive parenting (for example, Conger and Donnellan, 2007). Recent work has employed natural experiments, randomized experiments, and conceptualized income and wealth in a variety of ways to demonstrate that constrained material resources lead to compromised interactions between children and parents (for example, harsh parenting), which then affects children's academic and behavioral functioning (Costello et al., 2003; Gershoff et al., 2007). Like family economic pressure, moving may be stressful for parents because it entails physically relocating to a new home, which may be accompanied by financial pressures associated with purchasing or renting a residence and possibly adjusting to a new job,

social network, and neighborhood (for example, Lee, Oropesa, and Kanan, 1994; South, Crowder, and Trent, 1998). These stressors in turn may result in suboptimal child outcomes in a cascading fashion as outlined in the family stress model (Myers, 2005).

Empirical evidence suggests that family stress and its related components are plausible mechanisms for explaining the association between residential mobility and a range of children's outcomes, and that the model is relevant across child development. Adam's (2004) review of the literature concluded that parental well-being may explain the association between residential mobility and children's outcomes. As a more recent example, in a study employing HLM analyses with comprehensive covariates, Coley et al. (2012) found that higher average rates of residential mobility were associated with greater internalizing (or depressive and withdrawn symptoms) and externalizing (acting out and aggressive) behaviors in low-income children and adolescents through maternal psychological distress. In early and middle childhood, family stress is a relevant factor partially explaining associations between residential mobility and subsequent high school completion (Haveman, Wolfe, and Spaulding, 1991). Mobile families also report considerable stress when asked directly about their experience of moving (Bradshaw et al., 2010), and children in such households have lower academic achievement than stable peers (Warren-Sohlberg and Jason, 1992).

Moving could lead to constrained financial resources, with consequences for the provision of a stimulating learning environment (Bradley and Corwyn, 2002). Families may move because they cannot afford their current housing situation (Holupka and Newman, 2011) or because of parental separation or divorce (South, Crowder, and Trent, 1998), or they may face immediate financial strains after a move because of the sheer cost of changing households. The economic toll, in turn, may lead to an inability on the part of families to provide stimulating materials and experiences, such as books or extracurricular activities, or to respond sensitively and in a developmentally appropriate manner with their children. No empirical evidence, to our knowledge, has demonstrated associations between residential mobility and the quality of the home learning environment.

In addition to extra familial stress and financial constraints, residential mobility likely has related implications for family instability. Research demonstrates that family structural changes are associated with moving (Hoffmann, 2006; Tucker, Marx, and Long, 1998). It is not surprising that moving—particularly multiple times—often co-occurs with divorce, is particularly high among single-parent families, and frequently corresponds with parental job and family structure changes (Jelleyman and Spencer, 2008; Michielin and Mulder, 2008; Schachter, 2001). Chaos and family instability, in turn, are consistently associated with compromised child well-being (Cavanagh and Huston, 2006; Evans, 2006). Research that directly explores the links between residential mobility and children's outcomes through family instability suggests it is a plausible mechanism (Astone and McLanahan, 1994).

In sum, theoretical and empirical work indicates a link between residential mobility, the family, and children's outcomes for a range of behaviors throughout childhood. Again, simply moving may not lead to adverse developmental outcomes. Instead, moving may undermine parenting or result in constrained financial resources (or may co-occur with such events), potentially leading to children's adverse socioemotional and achievement across development. The exact nature, strength, and timing of these relationships are unknown. The specific processes, whether related to warmth and supportive parenting or the provision of stimulating resources, also remains an

unanswered question. We might presume, for example, that compromised maternal sensitivity would lead to problem behaviors (Connell and Goodman, 2002), whereas constrained resources would be associated with achievement deficits (Davis-Kean, 2005; Hart and Risley, 1995). Regardless of the specific process, it is likely that family processes and structures are operative across childhood and adolescence because of the prominence of parents across the life span (Grusec and Davidov, 2007).

Neighborhood

Neighborhoods are significant contexts for child and adolescent development and comprise institutional resources, social connections, and a set of norms and expectations for their residents (Leventhal and Brooks-Gunn, 2000). Neighborhoods should be considered in investigations of pathways of residential mobility and child development, because a move is likely accompanied by a change in neighborhood, necessitating adjustments on the part of family and child.

Social capital within the community (Coleman, 1988) is the theoretical framework often employed by researchers investigating residential mobility (for example, Scanlon and Devine, 2001). It is construed as access to community resources consisting of interpersonal connections that can be used by individuals for sharing information, establishing and enforcing social norms, and engaging in shared obligations and expectations. Children who move may have exposure to fewer such social resources than their stable peers, at least initially, because they and their families are not connected to new peers, neighbors, institutions, or information channels. Forming relationships and accessing knowledge of the best enrichment activities or healthcare facilities takes time. Mobile families also may relocate to neighborhoods characterized by greater residential instability than their more stable counterparts, further compromising access to resources because of the transient, and potentially ill-informed, nature of the population in such communities. In sum, with potentially less access to social capital, families and children may struggle to integrate into their communities, leading to compromised well-being (Dufur, Parcel, and Troutman, 2013). An important caveat to this model is that youth from families with low social capital (that is, fewer interpersonal and institutional connections to their neighborhood) may move more frequently than their peers whose families have greater social capital, because their families lack connections to their communities and have less success at building them (Pettit and McLanahan, 2003). Mobile families, that is, may move because they are not connected to their neighbors and communities.

Research generally supports the neighborhood pathways model. Evidence from nationally representative studies and a low-income sample demonstrates that residentially mobile parents had fewer social connections, experienced less instrumental support, and were less likely to know their children's friends than residentially stable parents (Gillespie, 2013; Haynie, South, and Bose, 2006b; Pribesh and Downey, 1999; South and Haynie, 2004; Tucker, Marx, and Long, 1998; Turney and Harknett, 2010). Furthermore, loss of social capital mediated the link between residential mobility and adolescents' outcomes in school-based and national samples (Hendershott, 1989; Hurd, Stoddard, and Zimmerman, 2012; Pribesh and Downey, 1999). In addition, qualitative studies of housing mobility programs found that youth who moved from high-poverty to low-poverty neighborhoods had a difficult time forming social ties and meaningful relationships and adjusting to acceptable norms of behavior in their new low-poverty neighborhoods (Briggs, Popkin, and

Goering, 2010; Clampet-Lundquist, 2004; Clampet-Lundquist et al., 2011), indicating that residence in a new neighborhood, particularly one of a different socioeconomic status, is accompanied by a range of challenges. Taken together, this work implies that youth and their families who move have fewer connections to and involvement in their neighborhoods than their counterparts who are residentially stable, which might account for the observed association between mobility and children's development.

It is important to note that it remains unclear when deficits in social capital among residentially mobile children emerge. Most research has been conducted with adolescents and none has compared associations across developmental periods. Social capital may not differ among movers and nonmovers in early and middle childhood because parents, for the most part, must be involved in their children's care, education, and activities (Izzo et al., 1999). Upon a move, parents may, by necessity, become engaged in educational and caregiving institutions when their children are younger, leading to connections within the community (Small, 2009). Among adolescents, however, the importance of school and peer contexts is increasing, so they may be less likely to benefit from their parents' connections and may experience lower levels of social capital than younger children as a result. If social capital declines subsequent to a move, adolescents' achievement and socioemotional behavior may suffer because they lack information from social networks that might promote participation in prosocial and achievement-oriented activities (Drukker et al., 2009; Duke, Borowsky, and Pettingell, 2012).

Peers

Developing relationships with peers is an integral part of healthy child development. Peer relationships become increasingly salient during adolescence (Brown and Larson, 2009) but are of great importance for children as well, with rejection and acceptance and popularity in elementary school having long-range consequences (Asher and McDonald, 2009). Peer groups are agents of socialization that can have consequences for individual children's achievement, internalizing, and externalizing behaviors, among numerous other attitudes and behaviors (Brown and Larson, 2009; Bukowski, Brendgen, and Vitaro, 2007). Depending on the distance of a move, children's peer groups and the quality of peer relationships may change. Moving to a new neighborhood, town, or school could disrupt ties with former peer groups and establishing new peer groups may prove difficult. On the other hand, peer networks frequently shift during middle childhood, in particular, and moving may not be associated with different qualities of peer networks during this period because their structure is likely to change anyway (Gifford-Smith and Brownell, 2003).

Numerous studies with the National Longitudinal Study of Adolescent Health (Add Health)¹ and other national samples find a link between residential mobility and youth behavioral and achievement outcomes via peer victimization and changing peer networks, including more deviant peers and smaller, less popular peer networks for mobile youth compared with their stable counterparts (Dupéré et al., unpublished; Haynie, Silver, and Teasdale, 2006; Haynie and South, 2005; Haynie, South, and Bose, 2006a; South and Haynie, 2004). Recent work employing fixed effects analyses

¹ Add Health is a longitudinal study of a nationally representative sample of adolescents in grades 7 through 12 during the 1994–95 school year. Participants have since been followed across four waves.

to better account for preexisting differences between residentially mobile and stable adolescents questions these findings and suggests that peer groups of mobile adolescents systematically differed even before moving (Gasper, DeLuca, and Estacion, 2010). Moreover, it is unclear if the nature of these peer groups, including their orientation toward academics and participation in prosocial activities, are implicated in the residential mobility-child outcome relationship.

Qualitative studies also converge to suggest associations between residential mobility and the peer context. Bradshaw et al. (2010) found that youth in mobile military families experienced strains in their new peer relationships. Evidence from *Moving to Opportunity*, an experimental housing mobility program that randomly provided vouchers to families with children living in public housing in high-poverty neighborhoods to move to low-poverty neighborhoods (comparing them with families who remained in public housing in high-poverty neighborhoods), also reveals that children, adolescent boys in particular, who moved associated with deviant neighborhood peers and demonstrated problem behaviors in their new neighborhoods (Clampet-Lundquist et al., 2011).

A sizeable body of work examines connections between residential mobility and children's peer group characteristics (for example, delinquency and victimization). In general, it finds primarily behavioral consequences for residentially mobile adolescents who affiliate with deviant peers, with potential ancillary adverse associations with their achievement. Current research, however, does not elucidate whether moving is linked to children's achievement and social functioning via the quality of peer relationships (for example, support and closeness) (Cillessen and Mayeux, 2007; Wentzel, Barry, and Caldwell, 2004), suggesting an important direction for the field. In addition, extending the current literature to earlier developmental periods is a requisite next step.

School

School quality is another potential pathway linking residential mobility and children's outcomes. Mobile students in new schools must develop relationships with teachers, a formidable and not always successful task (Rumberger, 2003), and adjust to new school expectations and climate, critical features for students' success (Eccles and Roeser, 2011). Even if students move but do not change schools, their relationships could suffer if children experience difficulties associated with moving more generally, particularly in the context of family instability (Cavanagh and Huston, 2006). Student-teacher relationships characterized by greater closeness, warmth, and support and lower levels of conflict are associated with children's fewer behavior problems and higher achievement, especially in elementary and middle school (Hamre and Pianta, 2001; Pianta, Hamre, and Stuhlman, 2003; Wentzel, 1998). School climate, or a sense of belonging and school community, also is linked to children's behavioral outcomes (Wentzel and Looney, 2007).

Limited research addresses whether teacher relationships and school climate explain mobility-child development associations. Bradshaw et al. (2010) found that residentially mobile military children reported stressors from moving including those from developing new student/teacher relationships and adapting to a new school. A review of the literature on military families suggests that residentially mobile military children may be buffered by the adverse consequences of moving in part because of connections to school staff and teachers (Drummet, Coleman, and Cable, 2003). In addition, teacher support may help promote mobile children's favorable attitudes toward school (Gruman et al., 2008).

Inconsistencies exist in how the school context is conceptualized in the residential mobility literature in terms of student-teacher relationships and broader school characteristics. Future residential mobility research should consider these aspects. Children who move (versus those who are stable) may experience initial declines in relationship quality and climate, but whether such changes influence their behavior and achievement or are protracted is unknown. In sum, limited evidence suggests the potential role of the school context in connecting residential mobility to children's development, and considerably more research is needed in this area.

Incorporating Children's Contexts in Residential Mobility Research: An Illustration of the Approach

As reviewed, theory and research generally converge to suggest that residential mobility among children co-occurs with changes in relevant proximal contexts, and that these associations may shift, or vary in relevance, for children across developmental periods. No research to date has employed longitudinal data on children and related contexts to explore this premise, however. Our goal in this section is to provide an example of such a developmental-contextual approach to residential mobility among children. This study takes a step back to investigate what features of children's environment may change in conjunction with moving—that is, co-occurring contextual alterations that are potential antecedents and/or consequences of mobility (although we cannot determine directionality). We describe our effort to empirically examine this theoretical model using longitudinal data on a sample of more than 1,000 U.S. children.

We specifically examine how family, neighborhood, peer, and school contexts are associated with the number of times children moved (including no moves). We consider this topic for three developmental periods: early childhood, middle childhood, and adolescence because moving may be differentially associated with children's outcomes by developmental period. We hypothesize that residential mobility will be adversely associated with the family context across all three developmental periods, whereas the neighborhood, peer, and school contexts will be unfavorably associated with moving in middle childhood and adolescence only.

Method

We analyzed data from the NICHD Study of Early Child Care and Youth Development (SECCYD; NICHD Early Child Care Research Network, 1997). The SECCYD collected data from children and their parents, peers, teachers, and caregivers across a 15-year period starting in 1991 at 10 geographically diverse sites in the United States. To be selected for the study, a child had to be a singleton and healthy, and the child's mother had to be at least 18 years old and conversant in English. Participants were recruited for the study in hospitals around the time of the child's birth. Three developmental periods—early childhood (birth to 54 months of age), middle childhood (kindergarten through fifth grade) and adolescence (sixth grade through 15 years of age)—were the focus of this study. The sample reflected the economic, educational and racial-ethnic diversity of the catchment area at each site, and included 24 percent racial/ethnic-minority children, 10 percent low-education (less than a high school education) mothers, and 14 percent single-parent mothers.

As discussed, the threat of selection bias is pernicious in residential mobility research. We accordingly employed multiple regressions (either OLS or logistic depending on the nature of the outcome) with covariates to account, to the extent possible, for preexisting differences between children who moved and those who did not. Covariates, taken from around the time the child was born and reported by the mother, included child birth order, Hispanic status, race, gender, and percent of unemployed residents in the neighborhood (census blockgroup); maternal education, age, marital status; family income/needs ratio; and study site² (see exhibit 2). A change in school (not school promotion but change during the academic year) in middle childhood and adolescence also was employed as a covariate in those periods. In addition, for each analysis conducted in middle childhood and adolescence, a lagged measure of the context of interest from the previous period was employed as a covariate. Finally, missing data were an issue in this longitudinal study with between 0 and 35 percent missing data, notably among later waves of data collection. To mitigate the loss of data, we employed multiple imputation with 20 multiply imputed datasets using Stata 12.0 procedures (Allison, 2001). In addition, we employed only the sample of children who participated in all four waves of data collection ($N = 1,056$).

Several variables were used to operationalize aspects of the contexts under investigation. See exhibit 3 for child context variables used across developmental periods. It is unfortunate that

Exhibit 2

Covariates Used in Regression Analyses

Variable	Measure	Source
Child characteristics		
Child birth order	Order in which study child was born (= 1 if no siblings).	Mother
Hispanic	Yes = 1; no = 0.	Mother
White	Yes = 1; no = 0.	Mother
African American	Yes = 1; no = 0.	Mother
Gender	Male = 1; female = 0.	Mother
Change in school	School transition not during summer months; sum within developmental period.	Administrative records
Maternal characteristics		
Education	Years of education at time child born (example: 12 = high school graduate; 16 = college graduate).	Mother
Age	In years at time child was born.	Mother
Marital status	Whether or not mother married at time child born (yes = 1; no = 0).	Mother
Family income/needs	Total household income divided by poverty threshold for respective year and household size.	Calculated from mother-reported income
Community characteristics		
Percent who are unemployed	Percent of unemployed adults more than 18 years old in blockgroup.	U.S. Census Bureau
Site	Site of data collection (1 of 10 sites across the United States); dummy coded.	Administrative records

² We also tested additional specifications of our analytic model, including those with more covariates and different specifications of residential mobility (one move and multiple moves versus no move). Results were similar across analytic technique and are available, on request, from the first author, who completed the analyses.

Exhibit 3

Child Context Variables and Measures With Developmental Period (1 of 2)

Variable	Measure	Source	Developmental Period
Family context			
Proportion of time father in home	Percent of time within developmental period that father lived with family.	Reported from mother annually.	EC, MC, Adol
Change in maternal marital status	Indexed if marital status changed within developmental period (1 = yes; 0 = no).	Reported from mother annually.	EC, MC, Adol
Change in parental employment	Indexed if employment status (employed versus no) changed within a developmental period (1 = yes; 0 = no).	Reported from mother annually.	EC, MC, Adol
Maternal sensitivity	Observational measure and composite (sum) of supportive presence, respect of autonomy, hostility with higher score (from 5 to 21) indicating more sensitivity.	The NICHD Study of Early Child Care Parent-Child Interaction Scales (Owen, Klausli, and Murrey, 2000); collected from every 6 months (EC) to 2 years.	EC, MC, Adol
Quality of home learning environment	Semistructured interview; quality composite sum of responsiveness, learning materials, and harsh parenting higher score (from 1 to 59) indicate higher quality.	Home Observation for Measurement of the Environment (Bradley and Caldwell, 1979); collected from every 12 months (EC) to 2 years.	EC, MC, Adol
Neighborhood context			
Neighborhood residential instability	Percent of residents who lived in a blockgroup more than 5 years.	U.S. Census Bureau decennial census estimates; 1990 census = EC; 2000 census = MC, Adol; calculated annually.	EC, MC, Adol
Social capital	Questionnaire with four items about involvement with neighborhood groups; higher scores indicate more involvement (from 4 to 16).	Reported from mother; neighborhood social involvement (from Fast Track Project) (Pinderhughes et al., 2001); collected in third and fifth grades.	MC
Social capital	Questionnaire with 21 items about activities that parent participates in; higher scores indicate more involvement in neighborhood (from 0 to 21).	Reported from mother; activities in communities (Furstenberg et al., 1999); collected at 15 years old.	Adol

Exhibit 3

Child Context Variables and Measures With Developmental Period (2 of 2)

Variable	Measure	Source	Developmental Period
Peer context			
Number of friends	Count of number of friends in peer group.	Reported by mother at 54 months in EC; third and fifth grade in MC.	EC, MC
Positive peer group	Questionnaire with nine items about quality of child’s peer group; higher scores indicate positive peer group (5 to 45).	Reported by mother; kids with my kid; collected third and fifth grades.	MC
Total peer group quality	Questionnaire with 15 items about positive and negative qualities of peer group; higher scores indicate more positive peer characteristics (5 to 75).	Reported by adolescent; what my friends are like (Oliveri and Reiss, 1987); collected at 15 years old.	Adol
School context			
Low-income school	Percent of students who have free/reduced price lunch within school.	National Center for Education Statistics; reported annually.	MC, Adol
School diversity	Percent of students who are a racial/ethnic minority within school.	National Center for Education Statistics; reported annually.	MC, Adol
Positive classroom climate	Observational measure; sum of overcontrol, chaos, negative emotional climate, teacher detachment; higher score is more positive (20 to 41).	Classroom Observation System (NICHD Early Child Care Research Network, 2004); collected third and fifth grades.	MC
Classroom instructional quality	Observational measure; sum of richness of instructional methods, productive use of time, evaluative feedback; higher score is higher quality (5 to 18).	Classroom Observation System (NICHD Early Child Care Research Network, 2004); collected third and fifth grades.	MC

Adol = adolescence. EC = early childhood. MC = middle childhood.

not all variables were consistently collected across developmental periods, leading to variation in measurement over time. When multiple measures of the same construct were collected across one developmental period, an average or index was employed to capture the context within that period. Across all measures, higher scores indicated higher quality contexts. With few exceptions, mothers were the primary respondents across measures.

The focal variable of interest was residential mobility. A change in blockgroup from one year to the next was indexed as a move, which was then summed across years for the developmental period under investigation, creating a continuous measure of residential mobility for each developmental period.³

³ We are not examining the distance of the move for two reasons: (1) available data precluded this approach because all blockgroup identifiers were dummy-coded, and (2) although it is possible that contexts may change *more* the greater the distance of a move, we contend that a move of any distance will be associated with related contextual changes. We encourage future analyses to more carefully examine how distance of a move moderates associations.

The family context incorporated measures of structural change, maternal sensitivity, and quality of the home. Structural change variables included the proportion of the time that the father lived in the home and whether change in maternal marital status or parental employment status was reported by the mother. Maternal sensitivity was measured by videotaped mother-child structured observations at regular intervals across periods (Owen, Klausli, and Murrey, 2000) and was a composite of supportive presence, respect for autonomy, and hostility. Quality of the home learning environment was measured at regular intervals by the Home Observation for Measurement of the Environment (HOME) inventory, a semi-structured interview (Bradley and Caldwell, 1979). The quality composite combined the responsiveness, learning materials, and harsh parenting subscales.

Neighborhood context measures included U.S. Census measures at the blockgroup level of residential stability (the proportion of residents who were in their household for at least 5 years) and parental reports of social capital and safety. Neighborhood social capital was assessed by measures of parental social involvement (for example, how many of your neighbors do you say you know well) measured in middle childhood (Pinderhughes et al., 2001). When the child was 15 years old, parents were administered a different set of questions about neighborhood social involvement (Furstenberg et al., 1999), which assessed the number of times in the past year the parent participated in neighborhood activities (for example, library, volunteer activities, community watch program).

The peer context was indicated by the number of peers in one's group of friends (early and middle childhood only) and measures of peer group quality as reported by the mother or child during middle childhood and adolescence, respectively. In middle childhood, the mother was asked to assess the quality of the child's peer group with a measure designed for the study. Children also responded to a questionnaire about the positive or negative qualities of their social network in adolescence (Oliveri and Reiss, 1987).

Finally, school structural characteristics, including the school-level percent of students receiving free or reduced price lunch and the proportion of students of an ethnic or racial minority background (as reported by the NCES), were investigated in middle childhood and adolescence in addition to several measures of teacher and instructional quality. The middle childhood period benefitted from the availability of systematic classroom observations taken on several occasions through the Classroom Observation System (COS, see NICHD Early Child Care Research Network, 2002). An observational measure, the COS focused on the child's activities, behavior, and interaction with the teacher and whole classroom. Positive climate and classroom instructional quality were employed in analyses.

Analytic Strategy

To analyze the association between residential mobility and children's developmental contexts, we took a multiple regression approach (OLS or logistic, depending on the nature of the outcome). Within each developmental period (early childhood, middle childhood, and adolescence), we predicted the quality of each child context from the number of within-period residential moves and all child, family, and community covariates. We also included the quality of each context from the previous developmental period as an additional covariate when available. Finally, all results are combined across 20 multiply-imputed datasets per Stata built-in procedures.

Results

The results of our regression analysis predicting the quality of each context from residential mobility (while incorporating various controls) are presented in exhibit 4. The results generally imply that, with the exception of the school context, the greater number of times that children moved, the lower quality contexts the children experienced. The family context in particular shifted concurrent to residential moves. We review findings by context and developmental period.

In the family context, the more times a child moved during early childhood, the less likely it was for the father to be present in the home. In middle childhood, children were 46 percent more likely to experience a change in maternal marital status and 74 percent more likely to experience a change in parental employment status for every additional move. Children also experienced a lower quality of the home environment the more times they moved in this period. In adolescence, a similar pattern was found with the previous two periods. That is, adolescents who moved more times were significantly less likely to live with their father and significantly more likely to have experienced more parental marital and employment instability.

A limited number of significant associations were found between the neighborhood context and childhood residential mobility. In early childhood, children experienced neighborhoods with a significantly less residentially stable population (middle childhood, too), the more times they

Exhibit 4

OLS and Logistic (OR) Regression Coefficients (with standard errors) Predicting Children’s Contexts From Residential Mobility, by Developmental Period

Context Indicator	Early Childhood	Middle Childhood	Adolescence
Family			
Percent of time father in home	- 1.41 (0.59)*	- 2.99 (0.64)	- 4.40 (1.04)***
Change in maternal marital status ^a	1.11 (0.08)	1.46 (0.09)***	1.38 (0.19)*
Change in parent employment status ^a	0.97 (0.12)	1.74 (0.14)***	1.79 (0.23)***
Maternal sensitivity	- 0.07 (0.04) [†]	0.02 (0.04)	0.06 (0.22)
HOME	- 0.11 (0.08)	- 0.40 (0.10)***	- 0.20 (0.17)
Neighborhood			
Percent who were in same HH past 5 years	- 1.35 (0.39)***	- 0.97 (0.29)***	- 0.24 (0.40)
Neighborhood parental social involvement ^b	—	- 0.24 (0.05)***	- 0.11 (0.15)
Peers			
Number of peers	- 0.04 (0.03)	- 0.04 (0.01)***	—
Positive peer interaction	- 0.09 (0.07)	- 0.18 (0.10) [†]	- 0.51 (0.26) [†]
Friendship quality	—	- 0.00 (0.01)	- 0.00 (0.02)
School			
Percent who receive a free lunch	—	- 0.00 (0.00)	0.00 (0.00)
Percent who are an ethnic/racial minority	—	0.86 (0.54)	0.24 (0.62)
School delinquency problems	—	- 0.00 (0.01)	0.07 (0.08)
Teacher has a positive relationship with child	—	- 0.22 (0.17)	—
Positive emotional climate	—	0.02 (0.02)	—
Instructional quality	—	0.04 (0.07)	—

HH = household. HOME = Home Observation for Measurement of the Environment. OLS = ordinary least squares. OR = odds ratio.

^a Coefficient is an odds ratio.

^b Different indicator used across developmental periods.

* $p < .05$. *** $p < .001$. [†] $p \leq .10$.

moved. Mothers who moved more times when their children were in middle childhood also reported significantly less social involvement in their neighborhoods. No significant associations between the neighborhood context and childhood residential mobility arose in adolescence.

Scant evidence was found to indicate an association between peer context and childhood residential mobility. We found modest but significant reductions in the number of peers for each additional move in middle childhood, but we found no significant associations between residential mobility and the school context during middle childhood or adolescence.

Implications

Results from the multiple regression analyses generally support a developmental-contextual approach to residential mobility among children. Our expectation that the family context would be unfavorably associated with residential mobility in a similar fashion across development was partially met in that moving was adversely associated only with the quality of the home learning environment in middle childhood, which may have potential implications for children's achievement during this period. In middle childhood and adolescence, changes in family structure were associated with residential mobility. These findings, along with related evidence (for example, Schachter, 2004), suggest that family instability co-occurs with residential moves, and further implies that this pattern may be more marked during later rather than earlier developmental periods.

The neighborhood context also appears to be associated with children's residential mobility in early and middle childhood. Moving more during these periods was associated with living in neighborhoods with higher rates of residential mobility. Children in these new neighborhoods may struggle to integrate and face victimization or lack of social support, as related research suggests (Ainsworth, 2002; Foster and Brooks-Gunn, 2012), although our peer models do not bear this out. Such neighborhoods also may be conducive to participating in problem behaviors (Beyers et al., 2003), and limited parental involvement may have unfavorable consequences for children's behavior as well (Duke, Borowsky, and Pettingell, 2012). In sum, residentially mobile families' neighborhood social capital *may* shift (or already be low); however, these associations are not consistent across developmental periods, and we cannot be certain of the implications for children's behavior and achievement.

The peer and school contexts had very few associations with childhood residential mobility. The number of peers in middle childhood was significantly lower among residentially mobile children as compared with stable children, but the number in absolute terms overall was low. The formation of peer groups is a central task across development (Rubin et al., 2008), and making friends may occur naturally for residentially mobile children. Perhaps for children who relocated to neighborhoods with higher rates of residential instability, forming friendships was a notable challenge, a question future research should investigate. Lastly, future research should examine the implications of the distance of a move for peer groups and schools, because we are unsure at present if move distance would exacerbate associations.

Results indicated that middle childhood was a period when children's contexts may be the most likely to change concurrent with a residential move. Children who moved generally experienced lower quality contexts than children who did not. Given the importance of middle childhood to

subsequent cognitive and social/emotional development (Magnuson, Duncan, and Kalil, 2006), compromised developmental contexts during this period could have lasting consequences. Middle childhood has received relatively little attention in the residential mobility literature, but our findings suggest that middle childhood is a period when mobile children experience several contextual changes. As a consequence, understanding the potential consequences or antecedents of moves and associated contextual changes in middle childhood is an important extension of the literature. Given the potential for long-term ramifications, supporting mobile families with children through this transition may be a worthy investment.

Policies for Residentially Mobile Children

This section reviews the limited federal policies regarding residentially mobile children. Our review of policies for residentially mobile children will then inform our final reflections on future research and policy approaches to residential mobility among children. Federal policies for residentially mobile children are limited to select groups including children of military parents, migrant workers, children in foster care, those receiving housing assistance, and the homeless. These policies focus almost exclusively on the school context and children's education (with the exception of children whose families receive state or federal housing assistance;⁴ Gibson and Hidalgo, 2009; The Council of State Governments, 2010). The common goals of these programs include easing progress toward graduation and persistence in school by streamlining administrative processes and providing support services or encouraging familial stability (as in the case of foster children). For example, if a child moves from one state to another, the sending school district transmits the child's records, and the receiving one ensures that the child is properly placed in courses, provided individualized advising to ensure on-time graduation, and has requirements (for example, state history) waived to prevent schedule overloads or a late graduation. Nearly all these programs are administered through state or local education agencies with funding from the U.S. Department of Education. Despite more than two decades of implementation, a paucity of research into the efficacy of these programs remains (Cunningham, Harwood, and Hall, 2010; De Pedro et al., 2011).

Children also experience relocation through housing programs (for example, receipt of a housing voucher may necessitate a move). Although more families seek than receive assistance, these mechanisms both provide housing opportunity and encourage families to relocate. A recent review of these relocation programs concluded that the educational benefits conferred were limited (Johnson, 2012) and suggested several reasons, relevant to our approach to residential mobility, for the programs' lackluster effects. Johnson (2012) observes that children and families feel disconnected from peers, neighbors, and schools after relocating and posits that it is the reliance on children, families, and neighbors to facilitate a smooth transition that ultimately limits mobility programs' efficacy. In other words, adjustments to contextual changes prove challenging, and relatively few supports are systematically provided to ease the transition.

⁴ Fostering Connections to Success and Increasing Adoptions Act of 2008; McKinney-Vento Homeless Assistance Act of 1987.

The average family with children who moves does not receive assistance, support, or flexibility in terms of relocation or schooling. Employers may offer relocation assistance programs by providing information about the institutions and resources in the community, but the scope, availability, and consumption varies widely (Eby and Allen, 1998). In the final section, we reflect on extant policies (or lack thereof) and the present state of the literature based on our theoretical model. We then conclude with tentative policy recommendations for all children who experience residential mobility.

Residential Mobility and Child Development: The State of the Literature

The framework and supporting empirical evidence presented in this article situates children's residential mobility in a developmental-contextual perspective. Despite the evidence reviewed and novel results, considerable gaps in knowledge remain, particularly those that can inform policy, and here we provide recommendations for future research. We focus on four main themes: pathways linking residential mobility to child outcomes, developmental differences in associations, a policy-focused approach to research, and methodological limitations.

Pathways

A requisite next step is to make a systematic effort to examine contextual pathways—family, neighborhood, peers, and school—across all developmental periods. Contextual pathways have been analyzed in a piecemeal fashion and without a comprehensive framework that can weigh the relative contributions of each: the family, neighborhood, peers, and school. Our analyses are a first step in this direction, but clearly additional studies are required to reinforce (or refute) our findings, ones that address the limitations of our approach such as the restricted age range, sociodemographic mix, and lack of consistent variables across periods. In addition, research is needed to delineate if elements of the contexts considered are relevant for which aspects of development.

Current research demonstrates that the family context is a relevant pathway for explaining the link between mobility and children's behavior. Furthermore, these links may be more evident for achievement than socioemotional outcomes, perhaps more in support of the family financial resources model than the family stress model. One might anticipate associations with achievement to be evident for residential mobility because it could impede a family's ability to invest in their children and provide developmentally enriching experiences (Raver, Gershoff, and Aber, 2007; Yeung, Linver, and Brooks-Gunn, 2002). On the other hand, recent research links residential mobility to emotional and behavioral functioning through compromised maternal well-being (Coley et al., 2012). Thus, it remains critical for policymakers to understand which family model (if either) may lead to which adverse developmental outcome to have knowledge to intervene with appropriate services. For example, if the family resources model is relevant, providing residentially mobile children access to stimulating environments and programs may prove beneficial. If parenting is compromised concurrent with a move, however, coaching, guidance, and supports for mobile parents could be a recommended step.

The neighborhood context also may be a relevant pathway, particularly the amount of social capital or intergenerational closure and connection to residents in the neighborhood that parents have built. Our results and much of the relevant literature suggest that families struggle, at least in the short term, to form relationships and obtain information after moving (Gillespie, 2013; Pettit, 2004; Pettit and McLanahan, 2003), perhaps the most relevant indicators for achievement outcomes. Moreover, these associations may be conditioned by children's developmental status (Pettit, 2004). When these social connections may be the weakest and what the policy implications are for children remain pertinent issues.

Although our results demonstrated few significant associations for the peer context, we argue that researchers should continue to probe this context. Examining affiliations with delinquent or antisocial peers in middle childhood and earlier is a recommended next step, but one out of our research because of limitations in extant data. Moreover, researchers may consider evaluating schools' buddy programs, those that match children who move to the school with a prosocial peer (Hektner, August, and Realmuto, 2003). Do children in such programs experience less victimization or display less aggression? Evaluating extant programs would provide theoretical and programmatic evidence for the peer context.

As discussed, school quality has received little attention as a potential pathway. Limited research (including our findings) supports this pathway, but additional research is needed because all (or nearly all) children attend school. If proactive policies *can* improve mobile children's achievement levels, one of the most accessible avenues of intervention is through the public school system. Targeted school-based interventions may not be a successful point of intervention, however, given the lack of evidence that residential mobility is associated with the school context. Other contexts have demonstrated associations with child development, so they may be a more viable point of intervention.

Development and Residential Mobility

Drawing firm conclusions on developmental differences in the contextual consequences of residential mobility for children, from both the extant literature and our empirical findings, is challenging. Our findings and the literature suggest that the timing of moving *may* matter. The first challenge in identifying relevant periods is that very few studies have employed longitudinal data to actually compare whether the timing of a move has differential associations with children's development. Without longitudinal analyses comparing the same individuals over time, identifying developmental differences in associations between moving and child outcomes is virtually impossible. Studies that have identified developmental differences have not generally included developmental contexts or developmental periods as this study broadly defines them (early childhood, middle childhood, and early adolescence) but instead have examined timing within one developmental period.

The preponderance of extant research has focused on adolescence as opposed to childhood, and nearly no work directly examines young children. Our findings suggest that more developmental contexts shift in middle childhood than early childhood or adolescence. The significance of the early childhood period for phenomena like poverty and socioeconomic status, however, through related changes in the family context has been confirmed in related literature (Duncan and Brooks-Gunn, 1997; Hart and Risley, 1995), underscoring the potential importance of this developmental

period for understanding the consequences of residential mobility. We may anticipate that contexts shift during middle childhood and adolescence, when residential mobility is demographically less common than in early childhood (U.S. Census Bureau, 2011a), which implies that families relocate concurrent to changing family structure. As such, changes in contexts beyond the neighborhood or home are likely during these periods. Current research, ours included, is inconclusive but suggests that contextual shifts may be more common in later than earlier developmental periods.

Future Research: A Policy-Focused Approach

Although it is challenging to make definitive statements about how residential mobility, children's contexts and outcomes, and developmental timing are associated, given the extant literature, we provide tentative policy reflections, notably those with research implications. First, future research should strategically approach studies of residential mobility by considering which pathways during which developmental periods are amenable to policy intervention and focus efforts there. For example, children are almost wholly reliant on parents during early childhood and also do not have universal access to affordable childcare or educational opportunities, which could be difficult to obtain after moving because of long waitlists at high-quality care facilities and constrained resources after moving. Given these developmental and economic factors, future research should investigate this developmental period with regards to the family context and access to affordable, high-quality care, with links to child outcomes. In addition, instead of investigating associations between residential mobility and affiliation with delinquent peers, researchers may be advised to consider how interventions focused on the peer group in adolescence, as discussed, may ameliorate the negative effects of the transition (or not). In sum, researchers should continue to probe child development-mobility associations while pursuing applied and policy-relevant research.

Second, the focus in the literature on social capital as a pathway linking residential mobility and children's development may reveal social capital as a potential policy lever. The scope, cost, and venue of intervention could be significant, perhaps resembling Promise Neighborhood-type interventions to promote intergenerational relationships and integrate newcomers; however, the actual benefits for children may be minimal, given limited effect sizes. Related efforts made by school programs that promote social connections have proven effective in reducing school mobility through the promotion of social capital among parents (Fiel, Haskins, and Turley, 2013). Examinations of existing neighborhood-based programs should explore the efficacy of similar approaches, with an eye toward the way in which new residents adjust to neighborhoods. Because of the high cost and extensive effort involved, we are reluctant to recommend such policies at present.

Third, policy initiatives that relocate families with children to alternative housing should weigh the potential benefits of the new residence (lower poverty neighborhood, higher quality housing, and so on) with the possible pitfalls of moving. Beyond the allocation of housing or rental assistance, supports and services provided to relocating families, and an evaluation of these programs, may be critical to both ease the transition and determine if and which services work for whom and when. Evaluations of mobility-assistance programs that identify critical components, or contexts, that ease the transition of a move are an important next step to determine which, if any, approaches are recommended on a broader scale.

Fourth, no policies are directed at the general population of mobile children, although mobility is a relatively common event. What currently exists is a patchwork of initiatives provided by schools and community groups. Whether additional policies are needed is unclear because existing policies have not been evaluated to determine their efficacy (as a whole or individual components)—a critical next step—however, current research provides sufficient insights into the underlying mechanisms of mobility on child outcomes and links to inform policymaking efforts. First, the McKinney-Vento and Fostering Connections Acts both enable children to remain in the school of origin even if they relocate out of their original district. It is reasonable to extend these requirements to infants and preschool-aged children, particularly given the concurrent upheaval among the family unit. Transferring school records and amending graduation requirements also are reasonable requirements for districts that receive and send residentially mobile children, notably those with high mobility rates. Given demonstrated associations between residential mobility and students dropping out of high school (Galster, 2012), efforts should be made to mitigate this threat to every extent possible by lowering administrative barriers to graduation (Rumberger, 2003).

Lastly, the ubiquity of the selection bias problem cannot be ignored, but perhaps this issue should not limit our ability to draw conclusions about, or to assist with, residentially mobile children. Residential mobility is typically an obvious event. An address change necessitates administrative changes that *could* be used as an indicator of other co-occurring contextual transitions, which our findings and related research suggests. Perhaps residential mobility should be used as a screener in schools, with healthcare providers, and other professionals who regularly interact with children to indicate that other changes could be present. If moving occurs with other adverse experiences (Dong et al., 2005), interventions may be advised; however, the targets of interventions should be co-occurring changes or problems and not the move itself.

Methodological Recommendations

Finally, most of the extant research employs methodologically weak designs, such as cross-sectional studies and analyses that typically employ only modest covariates to adjust for preexisting factors that select families into mobility (Leventhal and Newman, 2010). These weaknesses leave open questions about whether differences are attributable to the selection effect. To address this concern, we strongly recommend that future studies use rigorous analytic approaches, like several of the studies reviewed (for example, propensity score matching and fixed effects) and harness longitudinal data that can better account for preexisting differences. Such research could bolster confidence that moving per se is adverse for children's outcomes because, if it is not, policy efforts aimed at this population may be misguided.

In addition, future studies should take a developmental approach with longitudinal data, should employ covariates appropriate to the developmental period of the child (for example, temperament among young children), and must incorporate lagged measures of the outcome under investigation. Numerous factors account for why families move and how children develop, and some account for both simultaneously. Statistically controlling for a variety of neighborhood, family, parent, and child characteristics in nonexperimental investigations of residential mobility is critical for obtaining relatively unbiased estimates of the association between moving and children's outcomes.

Conclusion

In sum, the literature suggests that residential mobility should be considered in relation to children's developmental status and their social contexts. We argue that moving, taken alone, is not likely to adversely influence children. Instead of independent direct associations, children who move at particular times and with related contextual changes may face adverse developmental consequences. Future research should focus on developmental and contextual factors, particularly with an eye toward examining the most likely paths of successful intervention, to inform policy efforts.

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