Getting to Better Performing Schools: The Role of Residential Mobility in School Attainment in Low-Income Neighborhoods

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Abstract

This article builds on the two largely separate literatures on school and residential mobility by investigating the dynamic interplay of residential mobility, school mobility, and educational opportunity in 10 low-income neighborhoods that were targeted for improvement through Making Connections, a place-based initiative. We analyzed a person-period dataset spanning the years 2002 through 2010, created from representative samples of families, including more than 2,000 children living in the target areas. Most study children attended low-performing schools, and more than one-half attended schools outside the target area. Children moved schools and homes frequently, but these types of moves were often independent. Ordinary least squares models predicting change in school rank showed that, compared with their less educated counterparts, better educated parents were more likely to experience increases in the rank (as measured by aggregate test scores) of their child's school. Compared with White children, African-American and Hispanic children more often experienced a drop in school rank. Housing tenure was not associated with change in the quality of schools children attended, but worsened food security was associated with decline in school rank. The variable most strongly associated with improvement in school rank was moving out of the baseline school district, yet most residential moves were not associated with such gains. We conclude with a discussion of the implications of our findings for place-based initiatives.

Introduction

Place-based initiatives that work to improve school quality, community supports, and parental involvement are gaining increased attention as policy options for improving educational outcomes for children in low-income neighborhoods. High rates of residential and school mobility in such neighborhoods, however, can interfere with the implementation and success of these policies. Although residential moves and school changes each have been studied in isolation, few studies have taken a close look at these changes together within the context of low-income neighborhoods. The study described in this article takes advantage of a panel study of households with children that resided in neighborhoods in 10 cities that were selected to participate in a national place-based initiative. The purpose of the study is to examine the relationship between residential and school mobility in these sites and to determine the circumstances that are associated with children switching to better or worse performing schools as a result.

Understanding the role that mobility plays in children's access to good schools is important, because switching schools may be one way that children in distressed neighborhoods can gain an educational advantage. Changing schools can also set children back, however, especially if they move frequently or experience residential or school changes that are disruptive but do not provide any benefit regarding school quality. In addition, if many children change schools, it can undermine place-based initiatives' work to improve school and neighborhood quality. Although a number of studies of school mobility have been conducted, considerable heterogeneity likely exists in the process and effect of school switching and residential relocation. A deeper understanding of this heterogeneity may help refine studies of school and residential mobility that have heretofore yielded some conflicting results. Furthermore, because the sites in this study operate within the context of a place-based initiative, the study can draw important lessons about how these efforts may be affected when many children move or change schools. Taken together, these analyses are designed to describe the dynamic interplay of residential mobility, school mobility, and educational opportunity as they unfold in the types of neighborhoods that are targeted by place-based initiatives and policies.

Background and Literature Review

Place-based initiatives often include the goal of improving educational success for the low-income children in their midst. The federal government's Promise Neighborhoods program is an example of an approach in which low-income children in a defined geographic area are expected to achieve at similar levels as their more affluent peers as a result of concerted efforts by citizens, parents, agencies, and schools to change the odds of success. Other federal initiatives, such as the U.S. Department of Housing and Urban Development's Choice Neighborhoods, anticipate indirect effects on educational success as a result of physical redevelopment; institutional partnerships; and the creation of vibrant, mixed-income communities. Moreover, for a decade or more, foundation-sponsored community change initiatives have invested in building the social fabric, institutional capacity, and civic engagement in distressed neighborhoods, with the expectation that doing so would lead to improved educational outcomes for children.

Evaluations of place-based improvement efforts often show mixed results regarding individual outcomes such as educational success and community transformation goals (for example, Kubisch

et al., 2010; Popkin et al., 2004). One challenge that was insufficiently anticipated is the high rate of mobility in low-income neighborhoods, which raises questions about whether individuals will experience a sufficient length of exposure to the initiative to benefit from community changes and whether the cadre of experienced residents will suffice to drive transformation forward (Silver et al., 2012). For example, in an earlier study of 10 neighborhoods involved in a national place-based initiative, Coulton, Theodos, and Turner (2012) found that more than one-half of the families with children in the study had relocated within less than 3 years. Approximately one-third of the families who relocated moved up and out, presumably of benefit to them but a potential loss to the community they left behind. Another two-fifths were categorized as churning in place, sometimes making more than one move because of economic and family problems but generally staying in the vicinity. These moves could be construed as disruptive to both the individuals and to the institutions in which they participated. The remainder of movers relocated to an adjacent neighborhood, improving their situation marginally but potentially maintaining some ties with the people and institutions in their previous place.

School mobility is another type of movement that plays an important role in place-based initiatives. Like changing residences, changing schools can have both positive and negative aspects. Switching schools can be disruptive for the child and for the other students in the classroom. Staying put may not always be the best educational option for children living in disadvantaged neighborhoods, however, because the immediate vicinity often suffers from a dearth of high-performing schools. A recent national study found that low-income students, on average, attend schools that perform at the 42nd percentile on state proficiency examinations, whereas middle- and high-income students attend schools that perform at the 61st percentile (Rothwell, 2012). Such disparities are of significant policy concern, because attending schools with students who perform well has been shown to contribute to positive educational outcomes for all students. For example, a study based on a natural experiment of student reassignment in North Carolina estimated that, "adding peers who raise mean achievement by one point raises a student's own achievement by about 0.25 points." (Hoxby and Weingarth, 2006: 19–20). Another study, which also used school reassignment to construct a counterfactual, found that an increase of 0.10 standard deviations in peer average achievement led to a 0.02-standard-deviation increase in individual achievement (Hanushek et al., 2003). Moreover, peer effects may be particularly important for disadvantaged children, who tend to gain more when surrounded by high-performing students. This effect was found in Florida public schools, where the lowest performing students experienced the greatest positive effect from having high-performing peers, whereas high-ability students experienced the weakest peer effects on their own performance (Burke and Sass, 2008).

Although residential and school mobility are an important backdrop for place-based initiatives, little is known about the intersection of these two types of moves and how children may be harmed or benefited (Swanson and Schneider, 1999). Studies of school mobility generally find that children make more school moves than residential moves and that students who change schools frequently fall behind students who stay in place (Hanushek, Kain, and Rivkin, 2004; Mehana and Reynolds, 2004; Reynolds, Chen, and Herbers, 2009). The overall picture of the consequences of student mobility is mixed, however, because many school changes are reflective of parental trade-offs regarding housing and school quality, and some of these moves may be advantageous with respect to school quality (Hango, 2006; Hanushek, Kain, and Rivkin, 2004). It is important also

to recognize that disadvantaged families are often caught up in a cycle of school and residential moves because of unstable social and economic conditions, resulting in distressed moves that produce few benefits and disrupt educational progress (Rumberger and Thomas, 2000; Schafft, 2006; Xu, Hannaway, and D'Souza, 2009).

Household-level decisions to change schools or move homes can add up to high rates of turnover in schools and neighborhoods, a common concern in areas targeted for place-based initiatives. The concentration of frequently mobile children in particular schools has been associated with decreased educational attainment (Gibbons and Telhaj, 2011) and increased risk of dropping out (Rumberger and Thomas, 2000) in the student body as a whole. In addition, extreme rates of residential turnover in neighborhoods are associated with crime and violence (Sampson, Raudenbush, and Earls, 1997), and exposure to violence is thought to be a significant factor in undermining the educational attainment of children and the performance of schools in such places (Burdick-Will et al., 2010). Although both residential and school mobility can be undertaken for positive reasons and with good results, the consequences for disadvantaged children, families, and neighborhoods may often be quite negative.

The evidence that the overall performance of a school's student body influences individual achievement nevertheless raises the question of how children in disadvantaged neighborhoods can improve their access to higher ranked schools. Residential mobility programs that enable families to move out of high-poverty neighborhoods provide some findings related to this question. One of the earliest examples comes from the Gautreaux program, a desegregation mobility program in Chicago that moved many African-American public housing families to White suburbs (Keels et al., 2005). The children who moved to these predominantly White areas attended less heavily minority and higher ranked schools and also improved their educational achievement compared with that of children whose families relocated to neighborhoods in the central city. The Gautreaux findings are in contrast with those of the Moving to Opportunity (MTO) experiment, which supplied vouchers and counseling to help families move from public housing to low-poverty neighborhoods without regard to race or whether the neighborhood was in the central city or suburbs. When educational outcomes for children in the treatment group were compared with those of children in a control group, the anticipated improvements in test scores were not apparent for the MTO movers (Sanbonmatsu et al., 2006). Researchers who subsequently examined school characteristics and test performance rankings for the MTO children found that many families who moved to low-poverty neighborhoods still enrolled their children in relatively low-performing schools that were part of the central-city school system. They noted that access to high-performing schools was limited and that parents may have lacked the capacity to make optimal school choices within their new locations (Briggs et al., 2008; DeLuca and Rosenblatt, 2010). In a reanalysis of the MTO data by site, Burdick-Will et al. (2010) concluded that the lack of an average effect of MTO on educational outcomes obscured some informative differences among sites. They specifically found that, in Chicago and Baltimore (but not in New York, Los Angeles, and Boston), children in the treatment group did experience significantly better educational achievement, and they found that these improvements were not because of school quality but arguably because of moving out of the extremely high-poverty and high-crime areas where they resided before being randomized into the study. These researchers nevertheless reported that, although the experimental-group families moved to much higher income and less dangerous neighborhoods, the children continued to

attend fairly low-performing schools overall and that educational gains were modest (Burdick-Will et al., 2010). In addition, Turner et al. (2012) noted that MTO families who were helped to move to low-poverty areas did not stay put, which may have had important implications. On average, the sample drifted back to areas with higher poverty and fewer educational resources over time, thus mitigating the potentially positive effects of the initial moves on educational outcomes.

The evidence that a school's performance level matters for individual children, along with the fact that residential and school mobility do not necessarily result in sufficiently improved educational settings for low-income children, points to the need to look more deeply into the processes at work. This study attempts to fill this gap by examining school and residential mobility patterns in selected low-income neighborhoods in 10 cities and the circumstances that result in children reaching better or worse performing schools. It differs from the existing literature in several respects. First, it follows representative samples of school-age children residing in the types of neighborhoods that are the focus of place-based initiatives. This sample is a broader population than the public housing families who volunteered for mobility experiments but a narrower population than that in many national or statewide studies of student mobility. Second, it examines performance measures of the schools that the children attend, whether the schools are in or outside the neighborhood, and the co-occurrence of school and residential mobility within the context of these neighborhoods. Finally, it evaluates how residential moves and family and neighborhood factors contribute to the chances that children who change schools succeed in reaching better preforming schools.

Method

Data and Sample

The individuals in this study come from three waves of a household survey that was carried out in distressed neighborhoods as part of the Making Connections (MC) initiative, a program of the Annie E. Casey Foundation. Implementation of the MC initiative took place in selected areas of 10 cities: Denver, Des Moines, Hartford, Indianapolis, Louisville, Milwaukee, Oakland, Providence, San Antonio, and Seattle/White Center. The MC target areas were chosen through a deliberative process involving the foundation and local stakeholders to represent distressed neighborhoods with concentrations of poverty and of immigrants or racial and ethnic minority groups. Although not a national probability sample, these study households and neighborhoods are illustrative of those that are typically selected for place-based initiatives.

The primary data source for this analysis is the MC survey. The National Opinion Research Center (NORC) at the University of Chicago and the Urban Institute jointly designed and collected three waves of household surveys in the MC target areas at 3-year intervals. Of the 10 sites, 7 had three survey waves; in Hartford, Milwaukee, and Oakland, only the first two waves were administered. The interviews were conducted in residents' homes in English, Spanish, and additional languages, as appropriate for the particular site. Wave 1 was completed from 2002 through 2004, wave 2 from 2005 through 2007, and wave 3 from 2008 through 2010.

Samples for the MC survey were designed to give equal probabilities of selection to all households within each target area. In designing and selecting the samples, NORC used the procedures it

developed for list-assisted probability sampling of households using as a basis the United States Postal Service master list of delivery addresses (Iannacchione, Staab, and Redden, 2003; O'Muircheartaigh, Eckman, and Weiss, 2002). Geocoding software was used to map the addresses, and field checks were made to confirm the validity of the lists. The sample design was directed to obtaining a representative sample of households and children in each target area. In households with children, NORC compiled a roster of all children in the household. At wave 1, one focal child was selected at random; information was collected only about this child. At waves 2 and 3, surveyors gathered information about all children in that household. The respondent was the adult most knowledgeable about a randomly selected child.

The sample for this study is restricted to children represented in at least two consecutive waves of data, between the ages of 6 and 17, and for whom we had valid information about the school they attended in each wave. To best take advantage of the available data, we created a person-period dataset, with each observation representing a child from either wave 1 to wave 2 or from wave 2 to wave 3. Therefore, in the text, we refer to children's experiences between "period 1" and "period 2," which represents changes either from wave 1 to wave 2 or from wave 2 to wave 3. The total number of unweighted cases meeting these criteria was 2,387, with 2,137 children contributing one observation to the dataset and 250 children contributing two records. The sample is weighted for the probability of selection and nonresponse at each wave.

To characterize the schools that the children attended, we incorporated data from several additional sources. Using the names of the children's schools that were collected at each wave of the survey, we standardized the names using information from the National Center for Educational Statistics (NCES) Common Core of Data. From this source, we also retrieved information about the geographic location of the school, school district, and the grade levels within the school. We obtained information about each school's statewide standardized test results from one of two sources, depending on the year of the survey. Statewide, school-level standardized test results for the years 2000 through 2005 and for 2007 were retrieved from http://www.schooldata.org, which has data compiled in accessible formats. For the years 2006, 2008, and 2009, we accessed standardized test performance data from the websites of state education agencies for each state in the analysis.

Variables and Measures

Change in School Rank

The principal dependent variable of interest is change in school rank (period 2 to period 1; that is, wave 3 to wave 2 or wave 2 to wave 1), as measured by test-score data for the school that the child attended. Note that test scores are a widely used but imperfect measure of the quality of schooling. The fact that they are highly correlated with social class means that the composition of the student body is an important contributory factor to school rankings based on tests (Caldas and Bankston, 1997; Goldhaber and Brewer, 1997; Lee, Smith, and Croninger, 1997; Rumberger and Palardy, 2005). Many observers view student growth measures as a better indicator of the effectiveness of schools in educating children, in part because they adjust for socioeconomic factors and the student's baseline performance (Schwartz et al., 2011). This study relies on proficiency test scores, however, because value-added measures were not available for the schools in this study.

Because proficiency levels are state defined and, therefore, vary across states and over time, we first ranked reading and math scores for each grade (where tests were administered) for every school in each of the 10 states in this study, based on the percentage of students who tested at or above the state's proficiency level in that subject. This methodology provided a ranking of each school's relative performance on each test administered for each grade at that school in that year. We then averaged the schools' math and reading rankings for all tested grades in a given year to get a yearly composite rank score for each school in our analysis. We then merged the rank data for the schools and years attended by children in the study into the child-level dataset.

Finally, it is possible that a state's lowest ranked schools could have made considerable gains and narrowed the test score gap with high-performing schools and that, as such, these improvements would not have been captured by the relative ranking measure. As a sensitivity test, we also ran models using the average test score for schools, not ranked as a percentile. The study's findings remained substantively unchanged.

School Change Measures

We determined whether each child changed schools between periods. For those children who switched schools, we used NCES information on the grade range of the schools attended to determine whether the child had made a promotional or nonpromotional move. We defined promotional movers as those children who switched schools between survey waves and whose grade at period 2 exceeded the highest grade offered at the schools they attended at period 1. We defined nonpromotional movers as those children who attended a different school at period 2 than at period 1 but who could have stayed at the original school because their period 2 grades did not exceed the maximum offered by their period 1 school.[1] The school addresses were geocoded to calculate the distance between the new and old schools and the distance between the child's home and school at each period.

Residential Mobility

We specified several different definitions of residential mobility. First, cases were classified as having moved homes or stayed at the same address during the two periods (0 = did not move, 1 = moved). Second and third, cases were classified according to whether their residence was in the same census tract (0 = no, 1 = yes) and in the same political jurisdiction (0 = no, 1 = yes). Fourth, cases were classified as to whether their residential address was in the same or a different school district between periods (0 = no, 1 = yes).[2] Fifth, we calculated the distance of residential moves in miles, categorized into a three-level variable (0 = did not move, 1 = moved less than 2 miles, 2 = moved more than 2 miles).

[1] The MC survey captures only the school attended at the time of the interview. It is possible that some children made additional school changes within periods that are missed in this measure.

[2] To determine the school district of a household, we matched XY coordinates of household location to shapefiles from the School Attendance Boundary Information System, or SABINS, which is a project of The College of William and Mary and the Minnesota Population Center at the University of Minnesota.

Child and Household Characteristics From the MC Survey

Household characteristics included household income (continuous measure, in thousands of dollars), employment status of the respondent or partner (dichotomous; 1 = respondent or partner employed, 0 = neither respondent nor partner employed), educational attainment of the parent or guardian (continuous variable with seven levels), housing tenure (dichotomous; 1 = owner, 0 = renter), race and ethnicity (four categories; non-Hispanic White, non-Hispanic African American, Hispanic, and other), and length of time the household has lived in their neighborhood (dichotomized; greater than or equal to 3 years = 1, less than 3 years = 0). We also calculated a change in financial hardship measure based on whether the respondent reported difficulty paying for food at some point in the past year (indicator variables representing each combination of the dichotomous yes/no measure). This measure complements other insights into the economic neediness of the household; for example, income. Child age is also included in the model (continuous measure). We also include parental satisfaction with the child's school, reported on a 1-to-5 scale, with 1 indicating parents were very dissatisfied and 5 indicating they were very satisfied.

Control Variables

The multivariate model contains control variables for the MC sites and for temporal effects (that is, wave). In addition, we control for the school rank quartile at period 1. Although we relied on a continuous measure of school rank in period 1 to calculate changes in school rank for the descriptive statistics, in the multivariate model we experimented with different specifications for period 1 school rank. Out of concern that period 1 school rank was not linearly associated with rank at period 2, we elected to divide the variable into four quartiles.

We provide a summary of the variables included in the multivariate model in exhibit 1.

Exhibit 1

Key Definitions of Variables Included in Model (1 of 2)

Variable	Definition	Source
Dependent		
Rank score change	Composite test score ranking of school attended by child in period 2 and period 1.	School-level state test scores
Residential mobility		
Change school district	1 if child lived in a different school district in periods 1 and 2; 0 otherwise.	MC survey, SABINS boundary files
Residential move < 2 miles	1 if child moved homes and distance of move was less than 2 miles.	MC survey
Residential move ≥ 2 miles	1 if child moved homes and distance of move was greater than or equal to 2 miles.	MC survey
School and child characteristics		
Promotional school change	Promotional school change between periods 1 and 2.	MC survey, NCES grade information
School stayer	No school change between periods 1 and 2.	MC survey, NCES grade information
Child age	Child's age in period 1.	MC survey
Parent satisfaction with schools	Parent's satisfaction with child's school in period 1 (out of 5).	MC survey

Exhibit 1

Key Definitions of Variables Included in Model (2 of 2)

Variable	Definition	Source
Economic, education, and housing characteristics		
Parental education	Parental education level in period 1.	MC survey
Income	Household income (continuous) in period 1 (in thousands).	MC survey
Employed	Respondent or spouse has job in period 1.	MC survey
Difficulty affording food (n1y2)	"Family couldn't afford to pay for food at some point in the past year." No in period 1; yes in period 2.	MC survey
Difficulty affording food (y1n2)	"Family couldn't afford to pay for food at some point in the past year." Yes in period 1; no in period 2.	MC survey
Difficulty affording food (y1y2)	"Family couldn't afford to pay for food at some point in the past year." Yes in periods 1 and 2.	MC survey
Own home	Respondent owns home in period 1.	MC survey
Years in neighborhood ≥ 3	The number of years respondent had lived in current neighborhood as of period 1.	MC survey
Race/ethnicity		
Non-Hispanic African American	1 if respondent is non-Hispanic African American; 0 otherwise.	MC survey
Hispanic	1 if respondent is Hispanic, any race; 0 otherwise.	MC survey
Other	1 if respondent is not Hispanic, African American, or White; 0 otherwise.	MC survey
Site, wave, and period 1 school performance controls		
Site controls	1 if observation comes from particular site; 0 otherwise.	MC survey
Wave flag	Control, whereby 1 if from wave 2-to-wave 3 period; 0 if from wave 1-to-wave 2 period.	MC survey
Rank score p1 (by quartile)	Composite test score ranking of school attended by child in period 1, divided into quartiles.	School-level state test scores

MC = Making Connections. NCES = National Center for Educational Statistics. SABINS = School Attendance Boundary Information System.

Analytic Approach

Rates of residential and school mobility and the various combinations of both types of mobility were calculated for each site. For school changers, we calculated the mean distance between schools, the proportion that crossed district boundaries, and the amount and direction of change in school composition and performance measures. We compared children on the school change measures, on residential move characteristics, and on child and household variables at both periods.

Change in school rank was modeled as a function of residential and school mobility characteristics between periods 1 and 2 and a set of household and child factors, controlling for site, a temporal control variable that indicates whether period 1 corresponds with the survey data collected in 2002

or 2005 and school rank at period 1, using ordinary least squares regression.[3] Our analyses adjusted the standard errors of the estimates to account for the subset of children being represented twice in the dataset. The regression model incorporates design effects resulting from households (not children) being the unit of selection for the MC survey.[4]

Findings

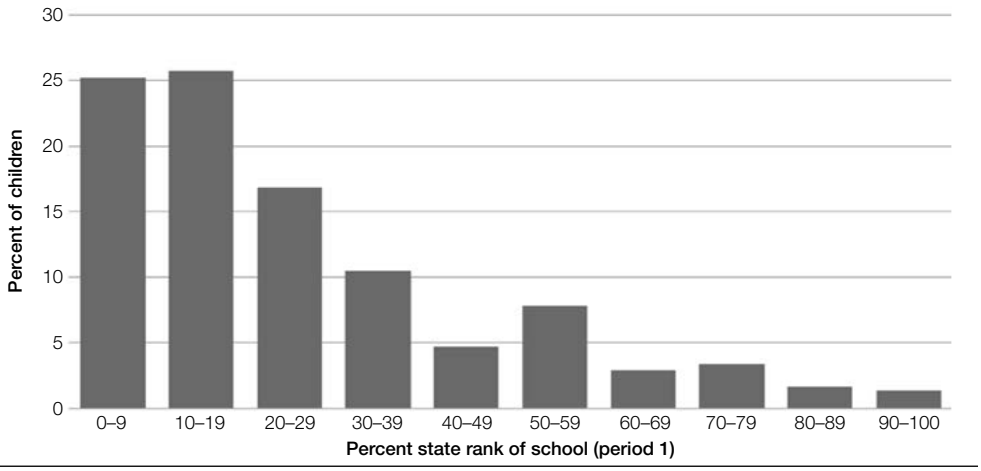
School Performance in Period 1

Children in the study neighborhoods began, in period 1, in strikingly low-ranked schools. The schools these students attended performed far below their respective state averages. More than one-half of the children (51 percent) attended schools ranked in the worst performing 20th percentile in the state, and more than four in five children (83 percent) attended schools that were ranked below the 50th percentile in the state. These trends held for children at all levels of schooling—elementary, middle school, and senior high—and for children who subsequently remained in their same school or switched schools (exhibit 2).

Across the 10 MC sites in the study, children in every city attended low-ranked schools, although the distribution was not uniform. Variation in school rank across the sites was the product of many factors, including local and state education policies, the level of deprivation of the target

Exhibit 2

Distribution of School Performance for Children in Period 1



[3] Running the model as a fixed effects (within) estimator is not advisable, because many of the characteristics are time invariant.

[4] Child-level weights were created taking account of the fact that each household might include multiple children. We used a jackknife replication method to estimate design effects, which we used to adjust standard errors of the child-level estimates.

communities, and the degree of their isolation or geographic access to higher ranked schools (often in higher income neighborhoods). Exhibit 3 summarizes the ranks of schools that children in the MC survey attended in periods 1 and 2 for each MC site.

Exhibit 3

Percentile Rank of School Performance, by MC Site and Period

Site	Number of Children	Period 1			Period 2		
		Mean	Median	Std Dev	Mean	Median	Std Dev
Denver	261	21.3	13.1	20.9	25.5	14.8	24.9
Des Moines	323	20.6	14.8	22.7	16.8	6.8	21.3
Hartford	51	25.4	15.8	26.3	22.2	8.3	26.9
Indianapolis	328	29.5	26.8	22.0	29.1	25.2	26.2
Louisville	279	42.8	34.2	30.8	28.1	17.8	28.2
Milwaukee	81	9.9	4.7	14.1	16.0	9.4	20.3
Oakland	73	30.6	24.7	24.3	36.7	35.9	21.2
Providence	309	15.3	11.6	13.5	17.4	11.7	18.0
San Antonio	391	34.9	30.0	19.3	33.6	30.3	18.1
Seattle/White Center	291	22.6	17.8	16.8	27.6	24.2	20.1
Total	**2,387**	**26.6**	**19.7**	**23.3**	**25.7**	**19.8**	**23.4**

MC = Making Connections. Std Dev = standard deviation.

Two examples illustrate variation across the sites. The Milwaukee site was among the most distressed, concentrated in some parts of the city with the lowest incomes. Across all 10 sites, children attended schools ranked in the 27th percentile in period 1 on average (20th percentile at the median), but the average child in the Milwaukee site attended a school ranked in only the 10th percentile in the state of Wisconsin (5th percentile at the median). At the other end of the distribution was the MC site in Louisville, which allows for a high degree of school choice. Although poverty among the families in the Louisville site was no less prevalent than among those in the Milwaukee site, the average child in Louisville attended a school ranked in the 43rd percentile in the state of Kentucky on average (34th percentile at the median).

A striking subtext to this context, especially given the focus of place-based initiatives, is the role of distance traveled to school. Only 49 percent of the children attended schools inside the target area. Those students who traveled great distances to schools in period 1, on average, attended higher ranked institutions. School rank and distance traveled to school were not correlated, however, among children attending schools within shorter distances (for example, 1, 2, or 3 miles from their homes). Only when children attended schools more than 3 miles from their homes were they systematically able to arrive at higher ranked schools.

School and Residential Mobility

Children in the MC survey were very likely to change schools during the 3 years that elapsed between survey waves, with 78 percent of the person periods involving a school change. Of all the children in the study, about 56 percent made promotional changes, 22 percent made nonpromotional changes, and the remaining 22 percent were at the same school in both periods. Thus, although most children changed schools for natural promotional reasons, one-half of those who could have stayed at their original school left for another school. Although no directly comparable

studies exist, Rumberger (2003) found that 34 percent of fourth graders and 21 percent of eighth graders nationally changed schools at least once in a 2-year period. Several state-level studies have provided rates of nonpromotional moves for comparison. For example, between fourth and seventh grades, approximately one-third of Texas public school students made a nonpromotional move (Hanushek, Kain, and Rivkin, 2004). In North Carolina, 37 percent of students who were in third grade in 2000 made at least one nonpromotional move by ninth grade (Xu, Hannaway, and D'Souza, 2009).

Exhibit 4 displays selected characteristics of the children who made different types of school changes. Unless noted otherwise, all differences discussed in the text are statistically significant across the three school change types (no change, promotional change, or nonpromotional change). Statistical significance levels are also displayed in the table for the reader.

A few important distinctions emerge. Given the 3-year followup period, it is no surprise that children in elementary schools, which offer more grades than middle and senior high schools, were more likely to stay in the same school or make nonpromotional school changes than were older children. The average ages for school stayers and nonpromotional changers were 8.5 and 8.2 years, respectively, whereas for promotional school changers it was 11.0 years.

Also, non-Hispanic White children switched schools less than children of other races or ethnicities: they constituted 27 percent of children who stayed at their school but only 19 percent of those who made promotional school changes and 18 percent of those who made nonpromotional school changes. Non-Hispanic African-American children were overrepresented among those changing

Exhibit 4

Characteristics of Study Children, by School Change Type (1 of 2)

	Stayers and Changers	All School Stayers	All School Changers	Promotional Changers	Nonpromotional Changers
Summary					
Count**	2,643	585	2,058	1,481	578
Percent of total	100.0	22.1	77.9	56.0	21.9
Period 1 child characteristics					
Child age (average in years)*	9.8	8.5	10.2	11.0	8.2
	(2.7)	(2.9)	(2.5)	(1.9)	(2.7)
In grades K–5*	68.5	79.6	65.4	59.4	80.5
	(48.9)	(41.8)	(50.3)	(51.4)	(43.0)
In grades 6–8*	25.7	5.0	31.6	40.6	8.6
	(46)	(22.7)	(49.2)	(51.4)	(30.4)
In grades 9–12*	5.8	15.3	3.1	0.0	10.9
	(24.6)	(37.4)	(18.2)	(0.0)	(33.9)
Non-Hispanic White*	20.7	27.2	18.9	19.1	18.3
	(42.7)	(46.1)	(41.4)	(41.2)	(42.0)
Non-Hispanic African American*	30.8	22.9	33.1	34.9	28.5
	(48.6)	(43.6)	(49.8)	(49.9)	(49.1)
Hispanic	41.1	42	40.9	39.2	45.3
	(51.8)	(51.2)	(52)	(51.1)	(54.1)
Other	7.4	8.0	7.2	7.0	7.9
	(27.5)	(28.1)	(27.4)	(26.6)	(29.3)

Exhibit 4

Characteristics of Study Children, by School Change Type (2 of 2)

	Stayers and Changers	All School Stayers	All School Changers	Promotional Changers	Nonpromotional Changers
Period 1 parent and family characteristics					
Used SNAP in past year*	48.9	44.3	50.2	49.6	51.9
	(52.7)	(51.6)	(52.9)	(52.4)	(54.3)
Used TANF in past year	45.0	42.9	45.6	44.3	48.8
	(52.3)	(51.4)	(52.6)	(51.9)	(54.3)
Own home*	34.9	40.0	33.5	35.4	28.6
	(50.2)	(50.8)	(49.9)	(50.0)	(49.2)
In public housing*	14.1	10.9	15.0	14.3	16.6
	(36.6)	(32.3)	(37.7)	(36.7)	(40.5)
Using a voucher	12.7	9.3	13.7	13.4	14.4
	(35.1)	(30.1)	(36.4)	(35.7)	(38.2)
Parental education—no HS degree	37.4	35.8	37.8	36.4	41.6
	(50.9)	(49.8)	(51.2)	(50.3)	(53.6)
Parental education—HS degree	34.8	35.9	34.4	34.8	33.5
	(50.1)	(49.8)	(50.2)	(49.8)	(51.4)
Parental education—some college	27.9	28.3	27.7	28.9	24.9
	(47.2)	(46.8)	(47.3)	(47.4)	(47.1)
Income (average in dollars)	18,799	20,138	18,419	18,917	17,176
	(24,343.5)	(25,199.7)	(24,073.6)	(24,556.0)	(22,714.3)
Parent satisfaction with schools* (average rating)	4.2	4.4	4.2	4.2	4.2
	(1.0)	(0.9)	(1.0)	(1.0)	(1.0)
Residential mobility					
Moved between periods*	54.9	40.7	59.0	55.2	68.7
	(52.4)	(50.9)	(52.0)	(52.1)	(50.4)

HS = high school. K = kindergarten. SNAP = Supplemental Nutrition Assistance Program. TANF = Temporary Assistance to Needy Families.

**Differences between the three school change types (no change, promotional change, or nonpromotional change) are statistically significant at the p > .05 level.*

***Weighted counts. Subgroup counts may not add exactly to totals because of weighting and rounding.*

Notes: Standard deviations are shown in parentheses. Binary variables are shown as percentages.

schools, constituting 33 percent of school changers but only 23 percent of school stayers. Hispanic children and children of other or mixed races were neither more likely nor less likely to switch schools than the sample average.

Although the residents of these distressed communities generally had quite low incomes, household income did not vary by type of school change (or no change). Children who stayed in the same school, however, were more likely to live in an owner-occupied home than those who changed schools (40 versus 34 percent). Parents of children remaining in the same school were less likely to receive support from safety net programs such as the Supplemental Nutrition Assistance Program, or SNAP, and public housing (exhibit 4). Parents' educational attainment and whether their children switched schools exhibited no statistical association.

It may appear surprising, given the low performance levels of schools attended by MC students, that parents generally reported being satisfied with their children's schools in period 1. On a 5-point satisfaction scale, parents reported an average satisfaction level of 4.2, whereby a rating of 4 represented "satisfied." Statistically significant variation nevertheless exists in the parental satisfaction with schools across school change types, with greater satisfaction among parents of school stayers than of either type of school changers.

Although less prevalent than school switching, residential relocation was also common in the MC sites (see the last row of exhibit 4). Approximately 55 percent of all children moved homes between periods 1 and 2. Note that this mobility rate exceeds the rate of moving nationally, but it is in line with other estimates of residential mobility for low-income families.[5] Although residential mobility rates are higher among school changers (59 percent) than school stayers (41 percent), these two types of mobility also occur independently for many children and households. Non-promotional school changes are more often associated with a residential move than promotional changes, however.

Change in School Performance

For MC students, school ranks in period 2 largely resemble those of period 1 when examining summary statistics. The mean state rank of schools attended by these children was in the 26th percentile in period 2 and in the 27th percentile in period 1. At both points in time, the median student attended a school ranked in the 20th percentile of his or her state. Therefore, a significant share of students in the MC sites was exposed to low-performing schools at some point: 68 percent of children attended a school ranked in the worst one-fifth of the state in either period, and 35 percent of children were persistently in the lowest one-fifth of schools in the state. By contrast, only 5 percent of children attended a school ranked above the 50th percentile in both periods.

These aggregate summary statistics mask some important individual-level changes, however. Exhibit 5 shows where students in each decile of school rank in period 1 fared, in terms of school rank, in period 2. The diagonal set of dashed boxes in the matrix shows what share of all students started in a given decile in period 1, and remained in that same decile in period 2 (for example, starting and ending in the lowest decile).

Approximately 30 percent of children remained in the same decile of state rank in both periods (the sum of the dashed boxes in exhibit 5, also shown in summary exhibit 6). Another 33 percent of students attended schools that were different in state rank by only one decile (17 percent moved up one decile, and 16 percent moved down one decile). The remainder of students, 38 percent, ended up at schools ranked two or more deciles from those where they started, however. Again, these moves were evenly split, with 19 percent of all students arriving at schools two or more

[5] Data from the March Supplement of the Current Population Survey during the years covered in this study period indicate that 19 percent of people in the lowest income quintile moved in the previous year. Extrapolating this percentage to the 3-year study period indicates an estimated mobility rate of 58 percent, which is comparable with the mobility rate for MC households. A similarly estimated 3-year national average that includes middle-income and upper income people is much less—roughly 39 percent.

Exhibit 5

Change in Rank of School Attended

Period 1 rank score decile (%)	Period 2 rank score decile (%) 1	2	3	4	5	6	7	8	9	10	Total N	Total %
1	13	7	2	1	1	0	0	0	0	0	667	25
2	8	7	5	3	1	1	1	0	0	0	680	26
3	3	3	5	3	2	1	0	0	0	0	445	17
4	2	1	2	2	1	1	1	0	0	0	276	10
5	1	1	1	1	0	0	0	0	0	0	124	5
6	2	1	1	1	1	1	1	0	0	0	207	8
7	0	0	0	0	1	0	0	0	0	0	76	3
8	1	1	0	1	0	0	0	0	0	0	89	3
9	1	0	0	0	0	0	0	0	0	0	44	2
10	0	0	0	0	0	0	0	0	0	0	36	1
Total N	769	567	444	298	203	121	88	52	45	55	2,643	
Total %	29	21	17	11	8	5	3	2	2	2		

Note: Numbers are weighted and may not add to totals because of rounding.

Exhibit 6

Summary of Change in Rank of School Attended, by School Change Type

	Stayers and Changers (%)	All School Stayers (%)	All School Changers (%)
Remained in same decile	30	44	26
Changed one decile	33	37	31
Moved up one decile	17	19	17
Moved down one decile	16	18	15
Changed two or more deciles	38	19	43
Moved up two or more deciles	19	12	21
Moved down two or more deciles	19	7	22

deciles higher or lower ranked than where they began. In short, although school rank in period 1 predicted school rank in period 2, a sizable minority of children in the study moved to both better and worse schools.

As expected, the degree of fluctuation in school rank was higher for children who switched schools than for those who remained in the same school. Whereas 44 percent of school stayers remained in the same decile of state rank in period 2 as in period 1, only 26 percent of school changers did. On the other end of the spectrum, only 19 percent of school stayers saw changes in performance of two or more deciles, whereas 43 percent of school changers did. These figures help underscore the reality that students are more likely to encounter higher or lower performing schools as a result of switching than as a result of changes within schools.

Predicting Change in School Performance

Exhibit 7 presents the multivariate analysis that explores factors related to the change in school rank between the two periods. Most striking are the role and specific nature of residential mobility. The most important variable explaining changes in school performance was *whether a child*

moved out of the school district where he or she had previously been educated. Such a change was associated with an average improvement in percentile state rank of 8.9 points, controlling for other factors.

Exhibit 7

OLS Model of Change in School Performance State Ranks

Variable	Coef	Std Error	T Value	P Value
Residential mobility				
Change school district	8.94	1.93	4.63	0.00
Residential move < 2 miles	– 0.18	1.62	– 0.19	0.91
Residential move ≥ 2 miles	2.25	2.11	1.07	0.30
School and child characteristics				
Promotional school change	– 3.86	2.36	– 1.63	0.12
School stayer	1.53	2.44	0.63	0.54
Child age	0.06	0.33	0.19	0.85
Parent satisfaction with schools (p1)	– 0.85	0.77	– 1.09	0.29
Economic, education, and housing characteristics				
Parental education (p1)	0.81	0.25	3.27	0.04
Income (p1) (in thousands)	0.05	0.03	1.46	0.16
Employed (p1)	0.37	1.80	0.21	0.84
Difficulty affording food (n1y2)	– 2.57	1.13	– 2.28	0.03
Difficulty affording food (y1n2)	– 2.94	1.79	– 1.65	0.12
Difficulty affording food (y1y2)	– 2.49	1.37	– 1.82	0.08
Own home (p1)	0.02	1.52	0.01	0.99
Years in neighborhood ≥ 3 (p1)	0.75	0.97	0.78	0.44
Race/ethnicity				
Non-Hispanic African American	– 4.37	1.83	– 2.38	0.03
Hispanic	– 3.39	1.82	– 1.86	0.08
Other	– 1.72	2.48	– 0.69	0.50
Site, wave, and period 1 school performance controls				
Denver	0.72	2.48	0.29	0.78
Des Moines	– 7.27	2.18	– 3.33	0.00
Hartford	– 1.89	4.10	– 0.46	0.65
Indianapolis	1.51	2.60	0.58	0.57
Louisville	– 3.69	2.05	– 1.80	0.09
Milwaukee	– 1.35	4.03	– 0.34	0.74
Oakland	10.52	3.99	2.63	0.02
Providence	– 4.19	1.71	– 2.46	0.02
San Antonio	5.19	2.01	2.58	0.02
Wave flag	0.75	1.30	0.58	0.57
Rank score p1 first quartile	38.09	2.20	17.30	0.00
Rank score p1 second quartile	31.67	1.75	18.07	0.00
Rank score p1 third quartile	25.54	1.97	12.94	0.00
Constant	**– 22.69**	**4.12**	**– 5.51**	**0.00**

Coef = coefficient. OLS = ordinary least squares. Std = standard.

Note: The omitted category is no move for residential move < 2 miles and residential move ≥ 2 miles; is nonpromotional school change for promotional school change and school stayer; is "no" in both periods for difficulty affording food; is non-Hispanic White for race/ethnicity; is Seattle/White Center for site; and is the fourth quartile for period 1 rank score.

A trichotomous measure of residential mobility (residential move < 2 miles, residential move ≥ 2 miles, no move) did not have a significant effect on change in school quality. Children making residential moves of more than 2 miles were no more likely to reach higher ranked schools than children who moved nearby or did not move at all, controlling for other factors. We also tested other specifications for residential move such as linear distance, moving as a dichotomous measure (0 = did not move, 1 = moved), whether children resided in the same census tract in both periods (0 = no, 1 = yes), and whether they resided in the same political jurisdiction (0 = no, 1 = yes). Note that, after controlling for moves outside the school district, none of these other specifications of residential mobility were associated with reaching higher or lower ranked schools. It is not the case that no children who remained within the same school district saw improvement (or that all children leaving their school district did). These findings, however, do indicate that, on average, residential moves out of the distressed neighborhoods targeted by the MC initiative were not associated with gains in school rank unless those moves were to a new school district.

A child's age did not predict changes in school rank, meaning that older youth did not face greater obstacles in reaching higher performing schools than did younger children. Whether children made a nonpromotional, a promotional, or no school change were also not statistically significant predictors of change in school rank. This finding indicates that children who made the transition from elementary or middle school to middle or high school, respectively, were no better or worse off than other school switchers or school stayers, after controlling for other factors.

Parental dissatisfaction with schools at period 1 is not associated with their children getting to higher ranked schools by period 2, despite the fact that less satisfied parents were more likely to have children who switched schools between periods. It is evident from these results, however, that those school moves do not, ceteris paribus, result in children reaching higher ranked schools, and that children are equally likely to change to lower performing schools.

Increased parental education is associated with positive increases in school performance levels. Each additional level of parental education is associated with an increase in state rank of 0.8 by period 2. Children with an employed parent did no better than children whose parents were not working, however, and household income was not associated with changes in school performance after controlling for other factors. Whether children lived in homes owned by their parents (at either period or calculated as tenure changes between periods) was likewise not linked with improvements in school performance. The length of time the household had spent in the neighborhood in period 1—a possible proxy for previous residential stability—was not statically significant.

A measure of changes in a household's economic insecurity (operationalized as difficulty affording food) is significantly associated with the dependent variable. Households that experienced worsened food security between the two periods or that experienced food insecurity at both periods were associated with declining school performance ranks (-2.7 and -2.5, respectively) relative to households that did not report difficulty affording food at either period. We believe that this food security measure is a sign of financial distress for households, and, apparently, children living in households with this distress are at risk for attending schools with worse performance.

Racial differences emerged in the multivariate analysis, confirming findings from previous research on school performance and mobility. Relative to non-Hispanic White children and controlling for

other factors, non-Hispanic African-American children had more negative school performance change measures. Regression results showed that non-Hispanic African-American children experienced a decline in the percentile of school state rank on the order of 4.4 compared with that of non-Hispanic White children. Hispanic children also fared worse than non-Hispanic White children controlling for other factors, with a decline of 3.4 in the percentile of school state rank relative to non-Hispanic Whites.

The analysis controlled for the ranks of schools that children attended in period 1, because those who start at the extremes face floor or ceiling effects. For example, children in the lowest ranked schools in the state are unable to attend *worse* performing schools, whereas children in higher ranked schools will have difficulty reaching *even better* performing schools. For example, children attending schools in the lowest 10 percent of the state (which equates to the first quartile of children in this study) are not likely to switch to an even worse school: they are almost guaranteed to find a comparable or higher ranked school. We found, as predicted, that children at the lowest end of the state performance distribution were most able to improve in state rank; however, they were still in very low-ranked schools.

We included a temporal control variable indicating whether period 1 corresponded with the survey data collected in 2002 or 2005. This control variable was not statistically significant, however. Site variables were also included as controls, and indeed residence in some sites appears to have been related to changes in the rank of the schools youth attended. These changes may capture citywide improvements or declines in school performance relative to state levels.

Discussion

Summary of Findings

This study finds high rates of residential and school mobility in a representative sample of children living in low-income neighborhoods in 10 U.S. cities. The study sites are illustrative of the kinds of neighborhoods targeted for place-based initiatives. Switching schools in these sites is linked with residential mobility—although not as tightly as might be commonly understood. As expected, residential moves were most frequent among nonpromotional school changers: roughly two-thirds of children making nonpromotional changes moved homes (69 percent). It is then obvious, but worth emphasizing, that one-third of children who made nonpromotional school changes did so without making a residential move. More than one-half (55 percent) of children making promotional changes between periods 1 and 2 also moved homes. A lesser, but still sizable, share of school stayers moved homes (41 percent), further evidence that residential and school moves do not necessarily coincide. These patterns of residential and school mobility collectively add up to neighborhoods that, at any given point in time, have many children attending school outside the target area of a place-based initiative and numerous other children who attend school in the area but live outside it.

Despite the high levels of mobility, children switching schools in the study neighborhoods did not, on average, get into higher ranked schools. Getting to higher performing schools was relatively rare and depended to a considerable extent on making an advantageous residential move. Children

who moved out of the original school district most notably were significantly better off regarding the percentile ranking of their schools. Parents with more education also tended to have children whose school moves were to higher ranked schools. Non-Hispanic White families, a relatively small subgroup in this sample, had somewhat more success in moving their children into higher ranked schools than individuals classified as non-Hispanic African American and Hispanic.

Parental dissatisfaction with their children's schools was linked with the decision to switch schools, but it was not an important factor in the attainment of improved schools. How then do we understand parents' views of their children's education setting? It is possible that, even if they are dissatisfied with their children's original schools, parents are unable to access higher performing ones. This inability might be because they lack information about better schools or because school switching is the result of other factors besides the desire to obtain a place in a higher performing school. In addition, it is possible that factors other than the performance of schools as reflected in test scores are at play in parental choices. As noted in the literature review, test scores do not adequately measure many aspects of school performance, such as student growth or types of learning not covered by the tests. Also, emerging qualitative research has found that parents in low-income communities may value other attributes, such as school safety, more than academic performance (DeLuca and Rosenblatt, 2010). In addition, qualitative studies point out that finding homes that are affordable and of adequate size and quality are factors that can outweigh school quality in families' residential choices.

This study also finds that families who fall into financial hardship are more likely to have children who switch to lower preforming schools. This finding supports the contention that certain kinds of residential mobility hold great promise for families but that not all residential moves are helpful, and some can do damage. In previous research on residential mobility in low-income neighborhoods, Coulton, Theodos, and Turner (2012) identified a cluster of residential movers who are moving in response to family and economic distress. Their moves are not making them better off and, on many measures, they are worse off than households that stay in place and engage more positively with the neighborhood and local schools.

Limitations and Additional Research Needs

This study has several limitations. The neighborhoods in this study are not a representative sample of neighborhoods in the United States. In fact, they were deliberately selected because they were disadvantaged in terms of child and family well-being and neighborhood resources. The schools in these neighborhoods were generally low performing relative to other schools in the state and metropolitan area.

This study was limited by the few measures of school performance that were available for this research. We were able to obtain school-level performance only on math and reading proficiency tests across all sites and were not able to include any other indicators, such as school climate, teacher effectiveness, and so forth. Most educators agree that proficiency test scores are limited in what they measure and tend to reveal as much about who goes to the school as the quality of the education in the classroom. Thus, this study is able to suggest only whether children get to schools with a more favorable mix of students' test performance, and it masks some differences in quality

that are not apparent by these measures. Indeed, we noted that parent satisfaction with the school was not highly correlated with the proficiency test-based performance measures in our study, but parents may have been selecting schools based on qualities not measured here.

Another limitation of this study is that we do not know the exact dates of school changes or residential moves, simply that they occurred between waves of the survey. Although the model treats residential mobility as a predictor of a change in school rank, it is possible that some children changed schools before a residential move took place. For example, children could have made promotional changes to magnet high schools, and then families could have relocated to be closer to the new school. In addition, residential moves may occur to a new school zone or district in anticipation of school promotion, making the two selections jointly determined. Thus, this study is ambiguous about which comes first, both in reality and in family decisionmaking, but the model treats the residential and school moves as correlated but exogenous.

Of final note, although this study represents an important step toward a better understanding of the complicated interplay between residential and school mobility, additional work would be of interest to further examine the heterogeneity of outcomes for children. Other categorization or classification techniques may inform how different residential and school mobility scenarios affect different groups of children differently.

Relevance for Policy and Practice

Despite these limitations, this study reveals the interconnected nature of residential moves and school changes within distressed neighborhoods. The fact that rates of residential mobility are high, but the chances of reaching higher performing schools are low, is an important backdrop that must be acknowledged in place-based initiatives that seek to improve educational outcomes for low-income children. Previous research is mixed on whether school and residential moves have a negative effect on educational outcomes, probably because national samples are heterogeneous, with many moves being neutral or positive in terms of school quality.

This study, however, affirms that many residential and school moves in low-income neighborhoods do not lead children to attend higher ranked schools and, in fact, actually result in children attending schools with lower performance levels. Under these circumstances, changing schools is likely to be disruptive at both the individual and school levels, without commensurate benefits in terms of academic results. These types of moves to schools that are worse or no better performing are frequent among families moving relatively short distances in response to financial distress or household compositional changes. It is only when residential relocation takes families outside the originating school district that we see reliable gains in terms of school rank, but these types of strategic moves are relatively rare among the families living in the low-income neighborhoods studied here.

This study is unique in the school mobility literature because it views the phenomenon from a place-based vantage point of low-income neighborhoods and the schools in that vicinity. Such a purview is consistent with the reality that faces policymakers and practitioners responsible for implementing place-based initiatives that promote educational success for children in the area. These programs often make considerable investments in raising the quality of one or a few schools in the neighborhood and enabling the school to become an anchor point for numerous partnerships that strengthen programs for children and promote parent and community engagement.

The reality, however, is that children in the study neighborhoods attended a variety of schools at varying distances and changed schools fairly often. This condition is likely to be the baseline for place-based initiatives, suggesting that targeted investments in one school, although potentially able to decrease school and residential mobility for some students, may not add up to a measureable effect on the educational outcomes for the neighborhood as a whole. If the schools nearby are not also improved, children will certainly shift among them, diluting the effect, unless a critical mass of students experiences the improved conditions over time. At a minimum, place-based initiatives can do more to help children from disadvantaged families remain at or switch into highly ranked schools and can attempt to minimize student switching to low-performing educational settings.

Residential mobility is another reality with which these place-based initiatives must contend. Moves generated by housing and financial instability tend to be associated with children switching to worse performing schools. If place-based initiatives that focus on education do not have the wherewithal to address these vexing housing and economic problems, the unproductive churning of families and students may overwhelm the investments being made in that place. Attention should be given to methods of reducing the number of residential moves that are the result of distress or that are producing little gain in terms of school performance or neighborhood quality. Policies that enable residentially mobile children to avoid nonpromotional moves that are not to better performing schools may also be needed. In addition, efforts to increase parental and community engagement with schools have to be based on the reality that many families experience multiple schools across a wider geography than those efforts may have heretofore factored into their programming and outreach. Network connections, important ingredients of building community for children, need to be made to function across such barriers of time and space.

This study also has implications for residential mobility policies. Such programs use housing vouchers and other methods to help households move to lower poverty neighborhoods than they could otherwise afford. This research, along with other studies cited in the background section of this article, suggests that only certain types of such moves are likely to result in children enrolling in better performing schools. Children starting out in these 10 low-income communities reliably gained access to highly ranked schools only through moves outside the school district. Residential mobility programs that do not go far enough in supporting relocation to areas with high-quality schools cannot reasonably expect improved educational outcomes for children, given the educational environment in most cities. Educational outcomes are also unlikely to improve if mobility to opportunity neighborhoods is only short lived.

Place-based and residential mobility policies to improve the well-being of children have come about because of the recognition that children's lives are profoundly diminished when they grow up in disadvantaged neighborhoods and do not have access to high-quality schools. Although it makes good sense to focus investments in small, manageable geographic areas to reach a critical mass of improvements, the anticipated effect on child well-being may not occur if mobility is not also addressed. Moreover, programs that promote residential moves to lower poverty areas may falter in terms of educational effect if they do not address the structural barriers to reaching high-quality schools. This study demonstrates that such specificity does not comport with the reality that many children will experience school and residential moves that take them in and out of any target area. If the areas nearby are not experiencing similar improvements, or if the families

lose their connections with the place-based resources, gains as a result of the initiative may be lost. Reducing unproductive school and residential churning may be a key to the success of both in-place investment approaches and mobility strategies, and doing so would be fruitful for future experimentation and policy development.

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