



Annotated Bibliography: The Impacts of Affordable Housing on Education

May 2011

The abstracts in this annotated bibliography summarize studies that address affordable housing’s connection with children’s education. Entries include details about the research methods and findings, and are organized by hypothesis.

NOTE: This annotated bibliography updates and includes entries from a previous version published in July 2007.

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1. Stable, affordable housing may reduce the frequency of unwanted moves that lead children to experience disruptions in home life or educational instruction.

Astone, Nan Marie and Sara S. McLanahan. 1994. Family Structure, Residential Mobility, and School Dropout: A Research Note. *Demography* 31(4): 574-584.

In this study, the authors conducted a regression analysis on data from High School and Beyond (HSB), a study carried out by the National Opinion Research Center (NORC) biennially from 1980 to 1986 that surveyed randomly selected members of the sophomore or senior classes from a nationally representative sample of 1,000 U.S. high schools. The sample used in this study contains 10,434 cases (respondents who were sophomores in 1980; participated in all four waves of data collection; were either non-Hispanic white, black, Mexican, or Puerto Rican; and for whom data on the dropout status – the dependent variable – were not missing).

The paper examined the hypothesis that high levels of residential mobility (measured as moves that result in changing schools) among nonintact families account for part of the association between living in a nonintact family and dropping out of high school. The authors found that as much as 30 percent of the difference between children from stepfamilies and children from intact families regarding the risk of dropping out can be explained by differences in their respective rates of residential mobility. Residential mobility was associated with a smaller and statistically non-significant increase in drop-out risk for children in single-parent households.

The authors also speculated that residential mobility leads to a loss of social capital in children.

Burkam, David T., Valerie E. Lee, and Julie Dwyer. 2009. *School Mobility in the Early Elementary Grades: Frequency and Impact from Nationally-Representative Data*. Paper prepared for the Workshop on the Impact of Mobility and Change on the Lives of Young Children, Schools, and Neighborhoods, June 29-30, 2009, National Academies, Washington, DC. Available at: http://www.bocvf.org/children_who_move_burkam_paper.pdf (accessed March 1, 2011).

The authors assessed the impact to students of school mobility between kindergarten and third grade using the Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K) dataset which is a nationally representative sample from the kindergarten class of 1998-99. Data were collected at the start of kindergarten, end of kindergarten, end of first grade, and end of third grade and allow for the identification of a change in schools between any of these time points. However, the dataset does not allow for tracking of multiple school changes. Children's achievement was measured by reading and math assessments at the end of each school year.

The study examined which children changed schools, structural vs. family reasons for changing schools, timing of the school change, the impact on children's math and reading scores, and differential impacts by gender, race or ethnicity, socioeconomic status, grade retention in kindergarten, and special education status. The authors also controlled for initial achievement, number of parents in the household, total household size, language spoken at home, and age.

The authors used an ordinary least squares method with four regression models to assess the effects of school mobility on children's reading and math scores during each of four time periods: (1)

during the kindergarten year, (2) between the end of kindergarten and the end of first grade, (3) between the end of first grade and the end of third grade, and (4) between the beginning of kindergarten and the end of third grade. For moves that occurred during kindergarten, the authors compared children who changed schools with children who did not change schools. For the second and third time periods, the authors compared children who changed schools for structural reasons, children who changed schools for family reasons, and children who did not change schools. For the final time period, the authors compared children who changed schools two or more times, children who changed schools once, and children who did not change schools.

The authors found that approximately 45 percent of kindergartners experienced at least one school change between kindergarten and the end of third grade, 36 percent changed schools only once, and more than 8 percent changed schools at least twice. School mobility rates were higher for time spans that included summer, suggesting that school change is more common between school years. School changes were more likely to occur for family reasons than for structural reasons. African-American children and children with lower socioeconomic status had higher levels of school mobility.

Some detrimental educational impacts of school mobility for children overall were observed, and school changes were found to be more harmful for children with existing disadvantages or who changed schools during the first two years. Changing schools during kindergarten was associated with lower reading and math achievement, and the effects were even worse for children with lower socioeconomic status. Changing schools during the first two years was associated with an increased risk of grade retention, and changing schools twice in the first two years was associated with reduced achievement. A structural school change between kindergarten and first grade was associated with some achievement problems in first grade. School mobility across any time period was generally harmful for children receiving special education services.

Coulton, Claudia, Brett Theodos, and Margery A. Turner. 2009. *Family Mobility and Neighborhood Change: New Evidence and Implications for Community Initiatives*. Washington, DC: Urban Institute. Available at: <http://www.urban.org/url.cfm?ID=411973> (accessed April 21, 2011).

The authors examined residential mobility among families with children in 10 sites within Denver, Des Moines, Hartford, Indianapolis, Louisville, Milwaukee, Oakland, Providence, San Antonio, and a Seattle suburb (White Center). Data came from two waves of surveys conducted in *Making Connections* neighborhoods. The first wave was conducted between 2002 and 2003 at a random sample of residential addresses within each of the 10 neighborhoods. The second wave was conducted between 2005 and 2007 by returning to these same addresses and interviewing the current residents. Researchers also contacted and interviewed any initial respondents with children if they moved. For the purposes of *Making Connections*, a neighborhood may be a larger area than traditionally defined. The median neighborhood size is 4.92 square miles, and the largest neighborhood is 24.37 square miles. The sites are not intended to be representative of the nation.

Between the two waves of the study, 57 percent of households moved to a different housing unit, and 61 percent of households with children changed residences. The median distance moved by households with children was 2.6 miles and a third of the households with children that moved remained in the *Making Connections* neighborhood. Of those that left the neighborhood, 65

percent stayed in the same city. The study did not track the frequency of moves between the two waves.

The authors used cluster analysis to classify the different types of movers, stayers, and newcomers. Data on movers includes only households with children. The authors classified movers as churners (46%), nearby attached movers (24%), and up-and-out movers (30%). They classified stayers as dissatisfied stayers (22%), long-term older stayers (31%), and positive stayers (47%). Newcomers were classified as dissatisfied renters (36%), low-income retirees (24%), and positive newcomers (40%).

Crowley, Sheila. 2003. The Affordable Housing Crisis: Residential Mobility of Poor Families and School Mobility of Poor Children. *Journal of Negro Education* 72(1): 22-38.

Based on a broad literature review, the author posited that housing affordability problems, mediated by residential mobility, negatively affect education outcomes for low-income children and create unstable school environments that adversely influence not only highly mobile children but their teachers and stable classmates as well. She cited research that found a positive relationship between residential stability and receipt of federal rental assistance, and therefore argued that expanding rental subsidies may reduce problematic school mobility. Crowley recommended adopting school-based and housing-based strategies to increase low-income households' residential and school stability, so their children can perform better in school.

Fowler-Finn, Thomas. August 2001. Student Stability vs. Mobility – Factors that Contribute to Achievement Gaps – Statistical Data Included. *School Administrator* 36-40.

The author briefly described the mobility-related challenges faced by mobile and stable children, their teachers, and school districts. He argued that school mobility, which is often caused by residential mobility, reduces mobile children's opportunity to learn from their teachers and requires teachers to develop special strategies to facilitate learning by both mobile and stable students. The article is primarily based on the author's experience as superintendent of the Fort Wayne Community Schools.

Gillespie, Karry and Robert Everhart. June 1999. *Student Mobility and Its Effects on Student Achievement: A Preliminary Study Prepared for the Leaders Roundtable*. Portland, OR: The Leaders Roundtable.

The authors conducted a literature review, a series of focus groups, and best practices research on the effects of residential and school mobility on student achievement. They held four focus groups in the Portland, Oregon area with a total of 36 School Attendance Initiative (SAI) employees. The following themes emerged from the focus groups: (1) frequent mobility has negative effects on student achievement; (2) low income appears to be the major driver of local mobility; (3) parental issues also contribute to mobility-related problems; (4) high-mobility children with learning difficulties experience additional problems with school transitions; and (5) the largest negative effects are seen in the middle school years due to the increasing importance of prerequisite knowledge and social networks. Focus group participants mentioned a lack of low-income housing

in the Portland area as a problem that has resulted in crowding/doubling-up, loss of utilities, and eviction. Gentrification also appeared to be a driver of mobility in Portland.

Gubits, Daniel, Jill Khadduri, and Jennifer Turnham. 2009. *Housing Patterns of Low Income Families with Children: Further Analysis of Data from the Study of the Effects of Housing Vouchers on Welfare Families*. Prepared by Abt Associates for the Joint Center for Housing Studies Rental Housing Dynamics Initiative with support from the John D. and Catherine T. MacArthur Foundation. Cambridge, MA: Harvard University.

The authors used data from HUD's Welfare to Work (WtW) Voucher experiment to assess household outcomes. The initial evaluation of the experiment focused on household outcomes related to employment, receipt of public assistance, neighborhood quality, housing quality, food security, and other aspects of family and child well-being. Analysis of the WtW data is paired with in-depth interviews that targeted a sub-set of voucher recipients to obtain more detailed information on their outcomes and decisions.

The WtW evaluation was completed in 2006 and compared households that received a Housing Choice Voucher with households that did not. Assignment to the control or experimental group was random. Eligibility was restricted to current or former Temporary Assistance for Needy Families (also referred to as TANF or welfare) recipients and households eligible for TANF assistance. The experiment, conducted in Atlanta; Augusta, GA; Los Angeles; Fresno; Houston; and Spokane, included a baseline survey and a follow-up 4 ½ to 5 years later.

The study found that residential stability increased for families with voucher assistance. For families that started in their own housing units, receipt of a voucher was associated with 1.3 fewer moves over a 4 to 5 year period compared with the control group. The authors suggested that having a voucher helps families avoid moves due to financial difficulties.

The evaluation did not find a significant impact on children's likelihood of experiencing grade retention, and data analysis did not include other educational outcomes for children. The in-depth interviews indicated that school quality may have played a role in parents' decisions about where to live and in their level of neighborhood satisfaction. One parent described the new school as providing better communication about concerns. Another parent reported that after moving, her children had classmates whose parents were higher-income professionals.

Hartman, Chester and Alison Leff. May/June 2002. High Classroom Turnover: How Children Get Left Behind. *Poverty & Race*. Available at: http://www.prrac.org/full_text.php?text_id=748&item_id=7789&newsletter_id=62&header=Search%20Results (accessed May 2, 2011).

The authors discussed the adverse effects of school mobility and emphasized that housing policy reform merits additional attention as a method of reducing the pressure to move. They mentioned the specific goals of (1) increasing the supply of decent, affordable housing; (2) considering school relocation issues when relocating tenants in public and assisted housing; and (3) regulating privately owned housing to reduce evictions and other sources of residential instability.

Haveman, Robert, Barbara Wolfe, and James Spaulding. 1991. Childhood Events and Circumstance Influencing High School Completion. *Demography* 28(1): 133-157.

The authors explored the effect of a variety of family and economic circumstances on high school completion by conducting a regression analysis on Panel Study of Income Dynamics (PSID) data. The sample included around 1,300 children who were age 4 or younger during the first wave of the PSID and were still in the survey in 1987 (when they were between the ages of 19 and 23). Individuals age 19 and still in high school were coded as having completed high school. Results indicated that residential mobility has a significant, negative correlation with high school completion even after controlling for the effects of other variables. The timing of moves was also found to be important, with the mobility effect appearing stronger during early childhood (age 7 or younger) and adolescence (ages 12 to 15).

Howes, Carollee. 1988. Relations between Child Care and Schooling. *Developmental Psychology* 24: 53-57.

In this study, the author examined the relationship between early child care and school adjustment in 87 children who enrolled in a laboratory elementary school between the ages of 45 and 57 months (i.e., 3 years 9 months to 4 years 9 months). The sample was selected to match the U.S. population in terms of ethnicity and social class. After conducting a regression analysis with family characteristics held constant, the author found that both girls' and boys' academic skills are negatively associated with the number of different child care arrangements they experienced. The author did not report whether or how much residential mobility was a factor in child care mobility.

Howes, Carollee and Phyllis Stewart. 1987. Child's Play with Adults, Toys, and Peers: An Examination of Family and Child-Care Influences. *Developmental Psychology* 23: 423-430.

The authors assessed the playing capacity of 55 children ages 11 to 30 months and its association with their day care environment and family influences. Among other variables, the authors tested the impact of the number of different day care homes used and the level of family social support (which included measures of residential stability). Based on t-tests and Pearson product-moment correlations, they found the number of day care changes was negatively associated with the level of play with peers; for boys, it was also negatively associated with the level of play with objects. The authors also reported that having a more restricted and stressed family was negatively associated with children's level of play with objects, peers, and adults. However, since residential stability data were collapsed with other family social support factors and then further collapsed into a general family influence variable, there were no findings on the specific relationship between residential mobility and children's capacity to play.

Kaase, Kris. 2005. The Impact of Mobility on Academic Achievement: A Review of the Literature. *Research Watch*. Wake County Public School System Evaluation and Research Department. Available at: http://www.wcpss.net/evaluation-research/reports/2005/0439mobility_review.pdf (accessed May 2, 2011).

The author reviewed the literature on the negative effect of school mobility on academic achievement and the additional negative impact of moves that occur late in the school year. He discussed the relationship between residential mobility and school mobility as well as factors that contribute to families' residential mobility. His recommendations for reducing residential and school mobility included: (1) offering incentives to apartment owners to reduce mobility; (2) coordinating between landlords, schools, and social service providers to avoid starting or stopping services or tenancies during the school year; (3) providing information to parents about the negative effects of school mobility; and (4) additional school-based strategies.

Kerbow, David. October 1996. *Patterns of Urban Student Mobility and Local School Reform Technical Report*. University of Chicago Center for Research on the Education of Students Placed At Risk, Report No. 5.

Using a chi-square test and descriptive statistics, the author examined data from a stratified random sample of Chicago public elementary schools and the sixth grade students in these schools during spring of 1994, including a two-year retrospective school history. The sample included 13,908 students and 270 elementary schools. The author found that 58 percent of school mobility was associated (positively) with residential mobility, and the median distance of student residential moves was 3.1 miles. By sixth grade, children who had changed schools four or more times were found to have an educational gap of about one year, compared with children who had not changed schools. The author also found that schools with high levels of mobility had a slower curricular pace than schools with more stable student populations.

Kerbow, David, Carlos Azcoitia, and Barbara Buell. 2003. Student Mobility and Local School Improvement in Chicago. *Journal of Negro Education* 72(1): 158-164.

Using data from the study of Chicago sixth graders and their public elementary schools that was the topic of Kerbow's 1996 report, the authors presented some additional findings. They reported that for single-time movers, the academic loss associated with moving was typically remediated in subsequent stable years, but mobility effects were cumulative for frequent movers. By second grade, the authors discerned a noticeable gap associated with the slower curricular pace at schools with high rates of student mobility. By fifth grade, the pacing gap had widened so that high-mobility schools used a math curriculum usually presented at the fourth grade level in more stable schools.

Kids Mobility Project. 1988. *Kids Mobility Project Report*. Hennepin County, MN: Hennepin County Office of Planning and Development and Community Connections.

The Kids Mobility Project in Minneapolis presented the results of (1) a quantitative study of the relationship between residential mobility and elementary school achievement; (2) a qualitative

study of 100 families, 75 percent of which had frequent and recent moves; and (3) a literature review.

For the quantitative study, the sample included 6,098 public school students in first through sixth grades during the 1994-1995 school year. The authors found that residential mobility was higher among children of color than among whites. During the 1994-1995 school year, one in three African American, Hispanic, or American Indian children moved; one in six Asian children moved; but just one in seventeen white children moved. The authors identified higher mobility rates among children who did not live with both parents. They also found that children with three or more moves had an average reading score on the California Achievement Test (CAT) that was 20 points lower (almost one standard deviation) than the average score of children with zero moves. Among children who moved but stayed in the same school district (a district that prioritizes keeping children in the same school when possible), the data showed average CAT scores five points lower in reading and eight points lower in math than those of children who had not moved.

The authors shared numerous quotes from parents who participated in the qualitative study. These quotes often indicated that housing quality and affordability played a major role in residential mobility. The authors therefore recommended increasing the supply of safe, affordable housing as a means of improving children's educational outcomes.

Kingsley, G. Thomas and Christopher Hayes. 2008. *Housing Assistance in the Making Connections Neighborhoods*. Washington, DC: Urban Institute. Available at: <http://www.urban.org/url.cfm?ID=412202> (accessed April 21, 2011).

The report describes the use of HUD housing assistance by residents of ten neighborhoods that are the focus of the Annie E. Casey Foundation *Making Connections* initiative. The authors examined changes in families' outcomes and circumstances between the 2002-2003 wave of the survey and the 2005-2006 wave. Results for families receiving HUD assistance were compared with unassisted households in the neighborhoods. The study had 5,404 respondents across ten sites.

The authors examined the mobility patterns of recipients of HUD assistance between the two waves of the study and applied cluster analysis to further categorize the moves. They used typology from Coulton et al. to classify household mobility. Similar portions of households receiving HUD assistance (68%) and unassisted renters (69%) moved between survey waves. Half of the assisted households that did not move were in the "less satisfied stayer" cluster. Among the movers, 54 percent of assisted households were in the "nearby disconnected" category and 16 percent were in the "up-and-out" category. Among newcomers, assisted households mainly fell into the "jobless renters" (46%) and "less satisfied" (46%) clusters.

More information on the *Making Connections* surveys can be found in the annotation for *Family Mobility and Neighborhood Change: New Evidence and Implications for Community Initiatives* (Coulton, Theodos, & Turner, 2009).

Kutty, Nandinee K. 2008. *Using the Making Connections Survey Data to Analyze Housing Mobility and Child Outcomes among Low-Income Families*. Report submitted to the Center for Housing Policy.

The author used data from the *Making Connections* surveys to examine the effects of housing mobility and other housing factors on children's health and education. The report primarily involves the second wave of the study and data on when households moved into a neighborhood are used to classify households into three categories: "recent movers" – households that moved into the neighborhood in the past 12 months (22%), "medium-term stayers" – households that had been neighborhood residents for more than one year and up to five years (31%), and "long-term stayers" – households that had resided in the neighborhood for more than five years (47%). The report excludes residential moves that did not cross the boundaries of *Making Connections* neighborhoods.

The author used data from both waves to create a model that estimates the likelihood of a household with children moving between the two waves. The model incorporates housing costs, payment troubles, recent evictions, subsidy status, tenure, neighborhood perceptions and connections, employment, family composition, socioeconomic status, and race/ethnicity. Perceiving one's neighborhood as a good place to raise children is associated with a decreased likelihood of moving. Factors associated with an increased likelihood of moving to a different neighborhood include housing tenure changes, housing subsidy changes, family composition changes, recent eviction, and difficulty making a housing related payment. Compared to households without a subsidy, households that lost a housing subsidy had more than ten times the likelihood of moving neighborhoods.

When housing affordability was controlled for, children of long-term stayers were more likely to be able to focus on tasks and follow instructions. Children of long-term stayers were also less likely to have frequent school absences in some of the analyses.

More information on the *Making Connections* surveys can be found in the annotation for *Family Mobility and Neighborhood Change: New Evidence and Implications for Community Initiatives* (Coulton, Theodos, & Turner, 2009).

Mantzicopoulos, Panayota and Dana J. Knutson. 2000. Head Start Children: School Mobility and Achievement in the Early Grades. *Journal of Educational Research* 93(5): 305-311.

The authors studied the effects of mobility on children who had attended Head Start in a Midwestern suburb and relocated at least one time between kindergarten and second grade. The sample included 90 children and their mothers in three cohorts. Sixty-six percent of the mothers reported that they moved because they were "seeking a better place." School secretaries worked with the authors to track participants despite their high levels of school mobility. Only 28 percent of the children remained in the same school during the three-year period of the study.

To obtain baseline information on academic achievement, the authors used kindergarten results from the Peabody Picture Vocabulary Test – Revised (PPVT-R); at second grade, they used the Woodcock-Johnson Tests of Achievement – Revised (WJ-R) and had teachers provide ratings using the Academic Competence Scale of the Social Skills Rating System (SSRS). Based on a regression

analysis, the authors found a negative association between school mobility and academic competence even after controlling for gender and prior academic achievement.

Mills, Gregory, Daniel Gubits, Larry Orr, David Long, Judie Feins, Bulbul Kaul, Michelle Wood, Amy Jones & Associates, Cloudburst Consulting, and QED Group LLC. 2006. *Effects of Housing Vouchers on Welfare Families*. Prepared by Abt Associates, Inc., for the U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

The authors evaluated how Housing Choice Vouchers (HCV) affect various aspects of low-income families' well-being including residential mobility, housing quality, crowding, homelessness, health, and child well-being. The sample included 8,731 low-income families (with an average household size of four); within this sample, an experimental group received demonstration vouchers while a control group did not receive housing assistance. Among other findings, the authors reported that families receiving HCV (1) move to a better quality neighborhood, (2) have fewer moves overall during the follow-up period, (3) are less likely to become homeless, and (4) experience less crowding than the control group; however, their children are more likely to have repeated a grade than children in control group households, perhaps due to enrolling in a new school in a better quality neighborhood. For children under 6 at the study's baseline, HCV is negatively correlated with absence from school.

Moore, Kristin Anderson, Sharon Vandivere, and Jennifer Ehrle. 2000. *Turbulence and Child Well-Being. New Federalism: National Survey of America's Families, Series B, No. B-16*.

The authors conducted two-tailed t-tests and a chi-square test on data from the 1997 National Survey of America's Families (NSAF) to assess childhood turbulence (including residential and school mobility) and its relationship to school engagement and emotional and behavioral problems. The NSAF sample included parents of children ages 6 to 17 from 44,461 households. The authors classified a child as experiencing turbulence if he or she had experienced two or more of the following changes during the 12 months prior to the survey: (1) moving from one state to another, (2) moving to a different home, (3) moving in with another family, (4) two or more changes in employment by either a parent or a parent's spouse, (5) two or more school changes, or (6) a significant decline in the health of the child, parent, or parent's spouse.

The authors found that childhood turbulence is negatively correlated with school engagement levels, and the strength of the correlation increases with the child's age. Childhood turbulence is also associated with higher levels of emotional and behavioral problems. For children ages 12 to 17, turbulence is positively correlated with skipping school, suspension, and expulsion.

National Research Council and Institute of Medicine. 2010. *Student Mobility: Exploring the Impact of Frequent Moves on Achievement: Summary of a Workshop*. A. Beatty, Rapporteur. Committee on the Impact of Mobility and Change on the Lives of Young Children, Schools, and Neighborhoods. Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

The report summarizes presentations and discussions from a workshop on residential and school

mobility. The workshop was convened by the Board on Children, Youth, and Families in June 2009. The report provides background on mobility's consequences, factors that contribute to mobility, and approaches to reducing the detrimental effects on vulnerable children. It also includes highlights from papers presented at the conference. For details about individual papers, see each of their separate annotations.

Phinney, Robin. 2009. Residential Mobility, Housing Problems, and Child Outcomes in the Women's Employment Study. *Analysis of the Women's Employment Study prepared for the Center for Housing Policy.*

The author used data from the Women's Employment Study (WES) to assess the effects of residential mobility on child outcomes. WES respondents were low-income women in one urban Michigan county who were receiving welfare in 1997. They were selected with equal probability from welfare cases headed by a white or African-American female between the ages of 18 and 54. Respondents were mostly single mothers. The study involved five waves of in-person interviews over a period of six years. There were 753 respondents in the first wave, with some attrition in each subsequent wave. Questions about children's outcomes focused on one target child regardless of the number of children in the household. The sample included 525 target children between the ages of 2 and 12 at the start of the study.

Mobility questions in waves two through five measured the frequency of moves since the prior interview. Respondents were asked about housing tenure as well as evictions, homelessness, and doubling up between waves. The author divided respondents into three mobility categories: "stayers" – those who did not move between waves; "involuntary movers" – those who were evicted, homeless, or doubled up between survey years; and "voluntary movers" – those who moved for reasons other than those classified as involuntary. Other housing-related topics in the study included housing affordability, housing quality, neighborhood quality, and access to employment.

Respondents had high rates of residential mobility. Nearly 80 percent of respondents moved at least once between 1997 and 2003, nearly half moved at least three times, and 19 percent moved six or more times in six years. Among those who moved, the average was 1.3 moves annually. Thirty-eight percent of respondents had at least one involuntary move during the study, 34 percent had doubled up, 20 percent had been evicted, and 12 percent had at least one episode of homelessness. Beneficial moves also accounted for some of the respondents' mobility. Thirty-four percent of respondents became homeowners during the course of the study.

When looking at children's outcomes, the author found an association between involuntary moves and higher rates of school absenteeism. Frequent moving was associated with children's behavior problems.

Pribesh, Shana and Douglas B. Downey. 1999. Why are Residential and School Moves Associated with Poor School Performance? *Demography* 36(4): 521-534.

In this paper, the authors argued that prior research into the relationship between moving and academic achievement may have overstated the negative effect of moving itself by failing to (1)

make distinctions between different types of mobility (residential, school, or both), (2) examine the possibility that the apparent negative effect is not due to moving but rather to a loss of social capital, and (3) reliably account for associations between moving and other factors such as family background or parental involvement. The authors conducted a regression analysis on data from the National Educational Longitudinal Study (NELS) of 1988 and 1992, a study which in 1988 included 24,000 eighth-graders. The sample used in this analysis included 14,929 students who remained in the study in 1992 and answered two mobility-related questions on the 1992 questionnaire (one regarding the number of residential moves since 1988 and the other regarding the number of non-promotional school changes during the same period). The authors collapsed these data to look at school moves, residential moves, and combined moves without examining the frequency of moves.

The authors found that all the mobility categories were negatively associated with most kinds of social capital, with combined school-residential mobility having the largest negative effect. They reported that moving correlated negatively with educational performance and expectations, but that preexisting differences between movers and nonmovers (prior educational achievement and student and family characteristics) explained about 90 percent of the difference in educational outcomes between combined residential-school movers and others. Factors associated with the move, such as the presence of life stressors and the loss of social capital, accounted for an additional 5 percent of the educational difference.

Reynolds, Arthur J., Chin-Chih Chen, and Janette E. Herbers. 2009. *School Mobility and Educational Success: A Research Synthesis and Evidence on Prevention*. Paper prepared for the Workshop on the Impact of Mobility and Change on the Lives of Young Children, Schools, and Neighborhoods, June 29-30, 2009, National Academies, Washington, DC. Available at: http://www.bocvf.org/children_who_move_reynolds_paper.pdf (accessed March 1, 2011).

The authors used 16 studies of school mobility completed between 1990 and 2008 to assess the impact of changing schools on student achievement. All of the studies involved data on achievement prior to the school change. The authors included studies that did not separate school and residential mobility, but did not include studies that focused on residential mobility alone. Two of the studies did not find a statistically significant relationship between school mobility and reading or math achievement. One study regarding school mobility in first grade did not find a connection between school mobility and subsequent dropout after controlling for initial achievement and family background.

The authors reported a consistent association between school mobility and both reduced educational achievement and increased school dropout rates among studies with robust controls. The association with school dropout was larger in general, while the effects on both dropout and achievement increased with the frequency of moves. When controlling for prior achievement, the authors found that children who changed schools three or more times had a higher likelihood of school dropout and lower reading and math scores compared with stable children.

Rhodes, Virginia L. 2005. Kids on the Move: The Effects of Student Mobility on NCLB School Accountability Ratings. *Penn GSE Perspectives in Urban Education* 3(3). Available at: <http://www.urbanedjournal.org/articles/article0020.html> (accessed May 2, 2011).

The author assessed the impact of school mobility on schools by examining the relationships between school ratings as required by the No Child Left Behind Act (NCLB), mobility, ethnicity, socioeconomic status, and school enrollment size. She used predictive discriminant analysis on data from 527 urban Ohio schools for the 2003-2004 school year. The mean mobility rate of the schools in the sample was 29.5 percent (very high). Only 16 schools received the highest rating (Excellent), while 127 schools received the lowest rating (Academic Emergency). The author found that school ratings are negatively correlated with the mobility rate. She obtained significant analysis of variance results for all four independent variables; the significance was strongest for mobility and weakest for enrollment size. She also reported that mobility explained over 78 percent of the variance in school ratings and had a significant predictive influence.

Rhodes, Virginia L. 2006. Kids on the Move: School Mobility and NCLB. *NCA CASI e-News* 4(4).

The author summarized her prior research which found that school ratings are negatively correlated with mobility rates. She reviewed the literature concerning the effects of mobility on achievement, curriculum, staff morale, school records, amount of testing, and social issues, and summarized the views of teachers, parents, and students on mobility. The author recommended establishing interagency relationships between school districts and housing officials, as well as between school districts and public and private landlords.

Rothstein, Richard. October 2004. Class and the Classroom. *American School Board Journal* 191(10).

The author discussed the multiple factors – including the housing gap – that contribute to the achievement gap between low-income and middle-class black and white children. Regarding the housing gap, he presented multiple burdens faced disproportionately by low-income minority communities. According to Rothstein, the lack of affordable housing creates a lack of housing stability which in turn negatively affects students' educational performance. He stated that low-income children are more likely to miss school for minor problems because the relative scarcity of doctors in low-income communities results in children not being treated promptly. He argued that low-income children are also more likely to miss school or attend school while drowsy due to asthma episodes, which can be related to contaminants in their housing and neighborhood environment.

Rumberger, Russell. June 2002. Student Mobility and Academic Achievement. *ERIC Digest*. Champaign, IL: ERIC Clearinghouse on Elementary and Early Childhood Education.

The author discussed the state of the research on the academic consequences of mobility for elementary school students and recommended ways for schools, parents, and students to reduce school mobility. In this brief paper (2 p.), the author summarized the school mobility literature by reporting that (1) background characteristics account for much of the achievement differences

between mobile and stable students, (2) frequent moves predict grade retention, (3) one move is negatively associated with achievement except in two-parent families, and (4) mobility in elementary school as well as in high school correlates negatively with high school graduation.

Scanlon, Edward and Kevin Devine. 2001. Residential Mobility and Youth Well-Being: Research, Policy, and Practice Issues. *Journal of Sociology and Social Welfare* 28(1): 119-138.

The authors reviewed theoretical and empirical literature on the effects of residential mobility on child well-being. They found extensive empirical evidence that residential mobility negatively affects children's education. The authors cited numerous studies that found declines in academic performance, along with other studies which indicated a possible overstatement of mobility's negative effects. They further reported the findings of empirical studies related to mobility's correlation with children's likelihood of repeating a grade (positive), high school completion (negative), social and interpersonal functioning (negative), and psychological and behavioral problems (positive), although for each of these outcomes some studies suggested that mediating factors need to be taken into consideration. The authors recommended altering federal social policy to enhance residential stability and suggested that social workers count mobility among the risk factors that may need evaluation and intervention.

Schafft, Kai A. August 2002. *Low Income Student Transiency and Its Effects on Schools and School Districts in Upstate New York: The Perspective of School District Administrators: A Research Summary Report. Working Paper. Cornell University Department of Rural Sociology.*

The author examined the impacts of student mobility on school districts based on the findings from a 2002 study of low-income student mobility in upstate New York. The sample included 136 low-income school districts and 141 wealthier school districts. He found that poor school districts have more student mobility than wealthier districts. Respondents from poor school districts indicated the presence of a highly mobile population of families with consistent poverty and a high level of needs. The author reported that housing factors, such as eviction and the availability of affordable housing, were identified by school administrators as major factors influencing their school's mobility rate. The report (20 p.) included quotes from school administrators regarding their belief that greater housing affordability and the presence of multifamily rental housing draw poor families to the district, increase the schools' mobility rates, and decrease the academic achievement of the student body.

Swanson, Christopher B. and Barbara Schneider. 1999. Students on the Move: Residential and Educational Mobility in America's Schools. *Sociology of Education* 72(1): 54-67.

By conducting regression analyses on data from the National Educational Longitudinal Study (NELS) of 1988 to 1994, the authors examined the timing and duration of the effects of residential and school mobility on students' educational achievement and social outcomes in high school. The sample included about 25,000 students enrolled in eighth grade in 1988 in public and private schools. The authors looked at three types of mobility independently: residential move only (movers), school change only (changers), and combined residential-school mobility (leavers).

Regarding mathematics achievement, they found no immediate impact on movers and changers in the early years of high school; however, a positive correlation was identified between mobility early in high school and later mathematical achievement. According to this analysis, a school move in the final years of high school has a negative association with math achievement comparable to the impact of dropping out.

The authors found that movers, changers, leavers, and students with more mobility prior to eighth grade were significantly more likely than stable students to drop out of high school. This held true whether the mobility event occurred early or late in high school. However, the increased risk of dropout was only a short-term effect for students with early mobility. If a student with an early move or school change stayed in school past tenth grade, a significant increase in their chances of completion was noted.

Temple, Judy A. and Arthur J. Reynolds. 1999. School Mobility and Achievement: Longitudinal Findings from an Urban Cohort. *Journal of School Psychology* 37(4): 355-377.

By conducting a regression analysis on data from the Chicago Longitudinal Study of over 1,000 African American children from low-income urban households, the authors assessed the relationship between educational achievement and school mobility from kindergarten to seventh grade. Since school mobility was measured no more frequently than once a year, it may have been undercounted. After accounting for socioeconomic differences, the authors found that children who moved four or more times were about six months behind their peers in reading achievement and about five months behind their peers in math. Additionally, children who moved two or three times were found to have lower average achievement than their peers. However, no significant impact was noted in those moving only once. Overall, by the end of seventh grade, highly mobile children performed about one year behind their stable peers. When controlling for children's level of achievement in kindergarten, the mobility achievement gap dropped to six months.

The study reported indications that school quality may counteract the detrimental impact of mobility. Mobile children who moved into magnet schools with selective admissions policies had higher achievement scores than students who did not move at all.

Tucker, C. Jack, Jonathan Marx and Larry Long. 1998. Moving On: Residential Mobility and Children's School Lives. *Sociology of Education* 71(2): 111-129.

The authors reviewed the literature and conducted a regression analysis on data from the Child Health Supplement to the 1988 National Health Interview Survey (NHIS) to understand whether the effect of mobility on children aged 7 to 12 varies with family structure. This study used data on 4,499 children obtained via interviews with a parent or other responsible adult in the household. The authors found that hypermobile children (those who have moved eight or more times) are more likely to have problems in school including repeating a grade, performing "below the middle" or "near the bottom" of the class, classroom disobedience, trouble getting along with the teacher, suspension, or expulsion. For a hypermobile child, the odds of having problems in school increased almost 85 percent with each additional move; for a child who moved only once, each additional move increased the chance of having problems at school by 40 percent. When the authors accounted for family structure, moving only appeared to affect school performance for children if

they either (1) did not live with both biological parents, or (2) had been hypermobile. For children living in single-parent homes or other alternative family structures, the authors found that any amount of mobility had a negative effect on school performance.

Vandivere, Sharon, Elizabeth C. Hair, Christina Theokas, Kevin Cleveland, Michelle McNamara, and Astrid Atienza. 2006. *How Housing Affects Child Well-Being*. Coral Gables, FL: Funders' Network for Smart Growth and Livable Communities. Available at: http://www.fundersnetwork.org/files/learn/Housing_and_Child_Well_Being.pdf (accessed February 15, 2011).

In this paper, the authors examined the connection between children's housing characteristics and their health, social and emotional well-being, and cognitive development. They considered housing characteristics such as cost, physical quality, tenure, mobility, and neighborhood attributes. In the area of cognitive development, they reviewed the literature and found substantial intersections between housing and children's educational achievement. For example, parental homeownership is associated with higher educational achievement, and residential mobility can help or hinder children's education depending upon the reason, frequency, and timing of the move. Homeless children are more likely than others to experience developmental delays, poor test scores, and other educational problems. Children's educational outcomes are also related to the quality of their neighborhood, perhaps due to the presence of higher-quality schools, role models, and community resources.

The authors proposed four ways that funders can apply this knowledge to improve outcomes for children: (1) "Target families' budget constraints: Broaden the range of housing choices available to families"; (2) "Target families' housing and neighborhood conditions: Reduce children's exposure to potentially harmful conditions"; (3) "Target parents' well-being: Provide services or implement conditions that counteract...negative effects of housing conditions or constrained budgets on parents"; and (4) "Target child well-being directly: Provide services or implement conditions that counteract...negative effects of housing conditions on children."

Xu, Zeya, Jane Hannaway, and Stephanie D'Souza. 2009. *Student Transience in North Carolina: The Effect of School Mobility on Student Outcomes Using Longitudinal Data*. CALDER Working Paper 22. Washington, DC: Urban Institute. Available at: http://www.caldercenter.org/PDF/1001256_student_transience.pdf (accessed March 1, 2011).

The authors tracked four cohorts of North Carolina third graders for six years each to assess the effect of non-structural school mobility on student performance, using administrative data on students and schools in North Carolina from 1997 to 2005. They reported that both the likelihood and frequency of school mobility are higher for children who fall into any of four categories: minority, low-income, limited English proficiency, and/or low levels of parental education.

The authors found that more frequent school mobility was associated with increased negative educational effects. There was a connection between school mobility and lower math scores for African-American and Latino children. African-American children were more likely to move to a lower quality school, while Latino and white students were more likely to move to a higher quality school. Moves within the same school district were associated with lower achievement for students

regardless of race or ethnicity, while moving across school districts either had no connection with achievement or appeared to be beneficial for non-poor students. The authors referred to cross-district moves as “strategic.”

2. Some affordable housing strategies may help families move to communities that have stronger school systems or are more supportive of education.

Briggs, Xavier De Souza, Susan J. Popkin, and John Goering. 2010. *Moving to Opportunity: The Story of an American Experiment to Fight Ghetto Poverty*. New York: Oxford University Press.

The book presents the findings of a mixed-methods study of the Moving to Opportunity (MTO) program. The researchers used quantitative findings from the interim impacts evaluation conducted by Orr et al., paired with three additional study elements: (1) qualitative interviews with a random sample of 122 MTO families with an adolescent at three MTO sites (Boston, Los Angeles, and New York), (2) ethnographic research involving observation and interviews with 39 families that also participated in the qualitative study, and (3) quantitative analysis of relevant data from the Census and administrative sources. This mixed methods approach helped the researchers understand how and why MTO participants arrived at their choices. Chapter 8, “Finding Good Schools,” focuses on schools and education.

Families in the qualitative study included members of the experimental group who successfully relocated (“compliers”), members of the experimental group who did not successfully relocate (“non-compliers”), members of the comparison group of families who received vouchers with no mobility assistance, and members of the control group who were randomly selected to remain in public housing. Families in the ethnographic study were selected from the compliers and the control group only. Tests of the representativeness of the families included in the qualitative study showed that they were similar to MTO families overall in terms of background, income, employment, and social outcomes.

MTO did not show the strong, beneficial educational outcomes that were expected based on prior mobility experiments, such as *Gautreaux* in Chicago. One reason noted by the authors is that 70 percent of compliers stayed in their original school district, and the schools were generally only marginally better in terms of performance, poverty rate, and racial integration.

The authors took an in-depth look at the reasons families did not access better schools and found that many MTO families faced barriers that were unconnected to their residential location. Families often lacked information about educational opportunities, and these information gaps were not filled by their social networks. Following choice patterns with which they were familiar, families tended to make school decisions based on avoiding dangers rather than seeking out academic strengths. Parents did not always understand that good grades at a school with low academic standards did not necessarily mean that the school was providing their child with the best education. In some cases, parents opted to keep their children in their original school to avoid disrupting friendships. More resourceful families were the exception to this rule, enrolling their children in stronger schools and keeping them there even if the family moved back to a high-poverty area.

DeLuca, Stefanie. 2007. All Over the Map: Explaining Educational Outcomes of the Moving to Opportunity Program. *Education Next* 7(4): 28-36.

The author discussed reasons why the Moving to Opportunity (MTO) demonstration did not show an overall positive impact on children's education, as researchers had expected. Explanations identified by prior researchers were summarized, and interview data from MTO research in Baltimore were explored. The author posited that the reasons for the weak educational effects found in Baltimore were likely also responsible for the lack of impact found in other MTO sites.

In order to understand why parents don't switch their children's schools and why those school changes that do occur do not lead to educational improvements, the author conducted in-depth interviews between July 2003 and June 2004 with the heads of household for both control group families and families who moved using restricted vouchers (known as experimental movers). Approximately one quarter of the families in each of these groups were interviewed (55 control group families and 35 experimental movers). The interview process discovered a high level of instability and chaos in many households.

Control group families in Baltimore were often residents of public housing developments slated for demolition, so both control group families and experimental movers generally had to move. Control group families tended to move to high poverty, high minority neighborhoods. Experimental movers tended to move to lower poverty, high minority neighborhoods. Many experimental movers kept their children in inner city schools.

Findings from the qualitative interviews, including numerous quotes, were presented. Families often had concerns about their children's schooling, but delayed taking action on these concerns while dealing with more immediate problems. Often, they lacked information about school quality, options, and the ways that schools can make a difference. Parents who did not think schools mattered reported that either their children's motivation or the will of a higher power was ultimately responsible for any educational outcomes. Decision-making processes and passive attitudes about opportunities may also have affected the outcomes. Some parents did not want to stray far from their social networks and therefore did not make a big change. Some who took advantage of school options made their choices based on proximity to work or transit rather than graduation rates or other measures of quality.

Fauth, Rebecca C., Tama Leventhal, and Jeanne Brooks-Gunn. 2007. Welcome to the Neighborhood? Long-Term Impacts of Moving to Low-Poverty Neighborhoods on Poor Children's and Adolescents' Outcomes. *Journal of Research on Adolescence* 17(2): 249-284.

The authors examined the impacts of a court-ordered desegregation program in Yonkers, New York using seven-year follow-up data on movers and stayers. Families were randomly assigned to the control or experimental groups and were demographically similar. There were 189 experimental movers and 1,000 control group households. Eligible households were low-income African-American and Latino families living in high-rise public housing in southwest Yonkers or on the waiting list for public housing. The data include parental reports and self reports on 221 children ages 8 to 18 (128 movers and 106 stayers).

Due to school choice, both movers and stayers were attending the same or similar schools. Children of movers reported significantly lower math and reading performance than children of stayers. Children's school engagement was similar for movers and stayers between the ages of 8 and 11, but older children's engagement levels were lower for movers than for stayers.

Mills, Gregory, Daniel Gubits, Larry Orr, David Long, Judie Feins, Bulbul Kaul, Michelle Wood, Amy Jones & Associates, Cloudburst Consulting, and QED Group LLC. 2006. *Effects of Housing Vouchers on Welfare Families*. Prepared by Abt Associates Inc. for the U.S. Department of Housing and Urban Development.

The report presents findings from the evaluation of the Welfare to Work (WtW) voucher program. Participants had to be either current or former TANF recipients or eligible for both TANF benefits and Housing Choice Voucher assistance. Households were randomly assigned to receive either a WtW voucher or no housing assistance through the program. The study can be considered an evaluation of Housing Choice Vouchers in general, since employment-related supports provided to experimental families were similar to those available to the control group through the TANF agency.

The research involved a sample of 8,731 families in 6 sites. The evaluation used Census data, administrative data, a baseline survey, and a follow-up survey. In-depth interviews were also conducted with 141 families. "Treatment-on-treated" results are presented to account for the fact that some households in the experimental group did not end up using their vouchers and some control group members received vouchers through the regular waiting list during the course of the study.

Along with a wide range of other findings, the authors noted that vouchers reduced residential crowding, homelessness, and doubling up. Families with voucher assistance lived in residential locations with lower poverty rates and higher employment rates than the neighborhoods of control group families. Vouchers also reduced the overall number of moves for households by nearly one full move over the course of the five year study. For young children, vouchers reduced the likelihood of missing school due to health, disciplinary, or financial problems. Vouchers also increased the chances of grade retention.

Orr, Larry, Judith D. Feins, Robin Jacob, Erik Beecroft, Lisa Sanbonmatsu, Lawrence F. Katz, Jeffrey B. Leibman, and Jeffrey R. Kling. 2003. *Moving to Opportunity Interim Impacts Evaluation*. Washington, DC: U.S. Department of Housing and Urban Development.

The authors used t-tests to evaluate the Moving to Opportunity (MTO) demonstration program, a randomized experiment that provided an experimental group with housing vouchers for use only in low-poverty areas, and compared results for this group with (1) a control group, and (2) a group that received unrestricted housing vouchers. A total of 4,608 families participated. Regarding effects on children's education, the authors found that children in the experimental group attended somewhat better schools than those in the control or voucher groups, but that children's educational performance was unaffected. They expect a positive effect on education may emerge eventually as children catch up with their classmates at the better schools over time.

Popkin, Susan J., Michael Eiseman, and Elizabeth Cove. 2004. *How are HOPE VI Families Faring? Children*. Washington, DC: The Urban Institute.

The authors conducted regression analyses on data from the HOPE VI Panel Study – a study of the original residents at five distressed public housing developments that were demolished and redeveloped under the HOPE VI program – to evaluate the impact of HOPE VI on children. Prior to HOPE VI, a large share of the children were in special education classes (23%) or had been expelled or suspended from school (about 25%); nearly all of their classmates were poor and most performed below grade level on standardized tests. Regarding the outcomes after initiation of HOPE VI, the authors found that children of HOPE VI relocatees attended schools with a lower poverty rate than those in their prior neighborhoods, and that their parents were less likely to believe that school quality was a problem. The authors cited parental observations that their children faced difficulties adjusting to the new schools and supported these observations with references to the literature on mobility, but they did not report statistical findings on the relationship between HOPE VI and educational achievement. In addition, although the authors found that parental engagement and education correlate positively with children’s outcomes regardless of where families live, they did not report whether or to what degree the housing effects hold, regardless of parental characteristics.

Rosenbaum, James E. 1995. *Changing the Geography of Opportunity by Expanding Residential Choice: Lessons from the Gautreaux Program*. *Housing Policy Debate* 6(1): 231–269.

The author compared outcomes for urban movers and suburban movers in the *Gautreaux* program, a residential relocation program in Chicago in which low-income black families were randomly assigned to middle-income majority-white suburbs or low-income majority-black urban areas. For the children’s component of this study, the author randomly selected one child between the ages of 8 and 18 from each of 114 families in 1982; he then assessed their educational and employment outcomes in 1989, when they were adolescents or young adults.

Overall he found that the suburban moves were positively correlated with educational performance. By using chi-square and t-tests, the author identified that suburban moves were significantly correlated with dropping out of school (negative), taking college preparatory classes (positive), attending any college at all (positive), and attending a four-year college (positive). Suburban movers experienced short-term grade declines (perhaps due to difficulties adjusting to their new schools), but over time the author found no significant difference between the grades of city and suburban movers. He argued that suburban-city grade parity implies higher achievement by suburban movers because the High School and Beyond survey reported that suburban students average a half-grade lower than city students with the same achievement test scores. The author’s findings suggest that moving to a better neighborhood and better school can have a long-term positive effect on educational attainment.

Schwartz, Heather. 2010. *Housing Policy Is School Policy: Economically Integrative Housing Promotes Academic Success in Montgomery County, Maryland*. New York, NY and Washington, DC: The Century Foundation.

The author assessed the impact of low-poverty neighborhoods and schools on children's educational performance by examining outcomes for children living in public housing in Montgomery County, Maryland. Montgomery County's public housing includes clustered developments as well as scattered site public housing units located in market-rate apartment complexes throughout the county. A combination of random assignment of families to public housing units and neighborhood-based school attendance zones allowed the author to compare outcomes for children in low-poverty neighborhoods and schools with outcomes for children in higher-poverty neighborhoods and schools.

The study used data on the population of elementary school students who lived in Montgomery County public housing and attended the district's elementary schools for at least two years between 2001 and 2007. Around 850 students met these criteria. Following the county's classification of schools, the study compared outcomes for children in the more affluent half of the county's schools ("green zone" schools) with outcomes for children in the less affluent half of schools ("red zone" schools).

The author reported that after seven years, children in public housing who attended green zone schools scored eight points higher in math and five points higher in reading than their peers who attended red zones schools. Both sets of children had similar prior achievement. By the end of elementary school, children in public housing who attended green zone schools had reduced the achievement gap between themselves and non-public housing students by half. After controlling for school poverty levels, lower poverty neighborhoods were associated with small increases in math and reading scores, although the differences were less significant than those regarding schools.

Turner, Margery Austin and Dolores Acevedo-Garcia. 2005. *The Benefits of Housing Mobility: A Review of the Research Evidence*. In Philip Tegeler, Mary Cunningham, and Margery Austin Turner, Eds. *Keeping the Promise: Preserving and Enhancing Housing Mobility in the Section 8 Housing Choice Voucher Program. Conference Report of the Third National Conference on Housing Mobility*. Washington, D.C.: Poverty & Race Research Action Council.

The authors summarized the current state of the research on the benefits of mobility programs that help low-income families move from distressed neighborhoods to healthier areas with more opportunities. They discussed six ways that neighborhoods shape or constrain opportunities: (1) local service quality (especially the quality of local public schools), (2) shared norms and social control (such as common values that encourage or discourage education), (3) peer influence, (4) social networks (especially their knowledge of relevant opportunities), (5) crime and violence, and (6) job access. Studies that showed low-income neighborhoods to be negatively correlated with educational outcomes were reported, along with additional literature on mobility programs leading to improvements in the quality of the neighborhood environment and, often, in children's schools.

The report contends that the effect of mobility programs on children's educational achievement has been mixed. The *Gautreaux* research shows a strong positive relationship between moving to the suburbs and educational success, and HOPE VI research demonstrates improvements in behavior at

school. But the Moving To Opportunity research has not demonstrated educational improvements for the movers, perhaps due to students staying in their old schools or because insufficient time has elapsed for educational effects to be realized.

3. Affordable housing can reduce overcrowding and other sources of housing-related stress that lead to poor educational outcomes by allowing families to afford decent-quality homes of their own.

Braconi, Frank. 2001. Housing and Schooling. *The Urban Prospect*. New York, NY: Citizen's Housing and Planning Council.

The Citizens Housing and Planning Council conducted a regression analysis on a subset of respondents in New York City's 1991, 1993, and 1996 Housing and Vacancy Surveys (HVS) to analyze the connection between housing conditions and educational attainment (measured as high school graduation) in New York City. The sample included 2,268 females and 2,107 males between the ages of 19 and 22, but was further restricted to only those respondents who still lived with their parents (62% of females; 69% of males) in order to include data on family characteristics.

The study found that both overcrowding and the presence of deficient maintenance conditions in the home had a statistically significant negative effect on educational attainment. Homeownership (positive) had a statistically significant correlation with high school completion for boys but not girls, while neighborhood quality (positive) and residential mobility (negative) had statistically significant effects on high school completion among girls but not boys. Housing-related variables accounted for most of the differences in graduation rates among youth of different ethnicities.

This article also summarizes historical and modern arguments for housing quality improvements and critiques current research into the relationship between educational attainment and assisted housing, homelessness, and residential mobility.

Conley, Dalton. 2001. A Room with a View or a Room of One's Own? Housing and Social Stratification. *Sociological Forum* 16(2): 263-280.

In this study, the author used two-generational data from the Panel Study of Income Dynamics (PSID) to assess how socioeconomic status and race affect housing and how housing affects children's educational attainment. Conley measured the independent variables over the 1968 through 1972 time period – the years in which the PSID asked in more detail about housing. The amount of schooling completed was measured at age 25.

The study found that homeownership (positive) and household crowding (negative) had a significant effect on children's educational attainment (net of socioeconomic characteristics) but that housing quality did not. Note, however, that, due to limitations in the PSID, housing quality was defined by the presence of running water and an indoor toilet, and "whether the dwelling unit needs major repairs"; the definition did not include other potentially important factors such as the presence of roaches, rodents, and lead paint.

Deater-Deckard, Kirby, Paula Y. Mullineaux, Charles Beekman, Stephen A. Petrill, Chris Schatschneider, and Lee A. Thompson. 2009. Conduct Problems, IQ, and Household Chaos: A Longitudinal Multi-Informant Study. *Journal of Child Psychology and Psychiatry* 50(10): 1301-1308.

The authors used Western Reserve Reading Project data to explore the association between household chaos and children's IQ and conduct problems. The sample consisted of families with healthy same-sex twins who were followed for three waves of research. In wave one, there were 302 participants and by wave three, there were 182 participants. Participants were largely white, two-parent households with varied levels of parental education. The study is not representative of families with school-age children in the United States.

Data were collected through semi-structured in-home interviews and observations. Parent and child cognitive performance was assessed at the home visits. Each twin was assessed separately by a different researcher. Researchers rated the home environment based on observations during the visit. Parents also filled out questionnaires and returned them during the visit or by mail.

Chaos was measured using a short form of the Chaos, Hubbub, and Order Scale (CHAOS) that asked respondents how well their home environment could be characterized by six different descriptions: an inability to hear oneself think, a television usually turned on, a zoo atmosphere, a calm atmosphere, regular morning routines, and an ability to stay on top of things. Researchers also measured housing conditions using a Post-Visit Inventory that included 15 indicators of health and safety as well as two measures of dirt and clutter.

After controlling for other home environment factors, the authors found a connection between chaos and both higher levels of conduct problems and lower IQ scores for children.

Evans, Gary W., Stephen J. Lepore, and Karen Mata Allen. 2000. Cross-Cultural Differences in Tolerance for Crowding: Fact or Fiction? *Journal of Personality and Social Psychology* 79(2): 204-210.

The authors differentiated between crowding tolerance and personal space preferences, defining crowding tolerance as an "enhanced ability to withstand the adverse effects of high-density living conditions" (p. 204). They argued against confusing tolerance with different norms regarding interpersonal space or differences in the perception of crowding. The study tried to determine whether there are cultural differences in crowding tolerance by comparing the connection between density and both psychological distress and perceptions of crowding for Anglo Americans, African Americans, Vietnamese Americans, and Mexican Americans.

The study used data from phone interviews with 464 adults identified from a reverse street directory in the following metropolitan statistical areas: Los Angeles, CA; Orange County, CA; Pittsburgh, PA; and Syracuse, NY. Postcards about the study were sent in advance of the phone calls. Participants had lived in the United States for at least two years and in their current residence for at least six months. Interviews were conducted in the participants' preferred language.

Living in the home was defined as sleeping there three or more nights per week. The number of rooms in the home was measured by asking about each item on a lengthy list of room types.

Psychological distress was measured using the Psychiatric Epidemiology Research Instrument (PERI) Demoralization Index. PERI measures nervousness, anxiety, and depression. Crowding perception was measured through Likert scale responses to statements such as “In your home people get underfoot or in the way” (p. 206). An acculturation scale was also administered to assess assimilation by Mexican American and Vietnamese American respondents. All analyses controlled for income and controls were also used for education level, gender, and age.

The authors found a significant relationship between higher residential density and greater levels of psychological distress, and the relationship did not vary between the four cultural groups studied. The results held for unassimilated Mexican Americans and Vietnamese Americans, as well.

Although the effects of higher residential densities did not differ by culture, the study found different perceptions of crowding by culture, with Anglo Americans and African Americans perceiving crowding at lower residential densities than Mexican Americans and Vietnamese Americans.

Evans, Gary W., Stephen J. Lepore, B.R. Shejwal, and M.N. Palsane. 1998. Chronic Residential Crowding and Children’s Well-Being: An Ecological Perspective. *Child Development* 69(6): 1514-1523.

The authors (1) summarized literature which shows that residential crowding is correlated with children experiencing delayed cognitive development, lower reading skills, and behavioral adjustment problems at school, and (2) proposed that strained parent-child relationships may be a mediating factor. They further examined the effects of crowding by analyzing empirical data from a study of the effect of crowding on public school children in Poona, India. Based on a regression analysis and chi-square test, the authors found that crowding was correlated with behavioral problems at school (positive), academic standing (negative), and learned helplessness (positive, but found in girls only). Parent-child conflict accounted for some of the crowding effect. The results indicate that even in cultures with a perceived tolerance of it, crowding adversely affects children’s development.

Evans, Gary W., Henry N. Ricciuti, Steven Hope, Ingrid Schoon, Robert H. Bradley, Robert F. Corwyn, and Cindy Hazan. 2010. Crowding and Cognitive Development: The Mediating Role of Maternal Responsiveness Among 36-Month-Old Children. *Environment and Behavior* 42(1): 135-148.

The authors assessed whether maternal responsiveness explains the connection between crowding and reductions in children’s cognitive development using data from a small U.S. study and a nationally representative U.K. study.

The U.S. study included data on 36-month-old children born in 1991. The children came from families participating in the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development in Little Rock, Arkansas (the only site with data on residential density). The sample included 80 children for whom data were available about residential density between birth and age 36 months. Eighty percent of families were white, and 15

percent were below the poverty line. Data were collected through home visits and phone interviews when children were 15 months and 36 months old.

The U.K. study involved data on 36-month-old children born in the U.K. between 2000 and 2002. The sample included 10,050 children from the U.K. Millennium Cohort Study. Ninety-three percent of families were white. Oversampling of households in high poverty areas was adjusted through weighting. Children were studied in two waves, at age 9 months and at age 36 months. Data were collected through an interview, a questionnaire, cognitive testing, and observations.

Using the U.S. data, the authors found a correlation between higher levels of residential density and lower levels of cognitive development. They also found that higher levels of residential density were associated with lower levels of maternal responsiveness. A regression analysis controlling for maternal responsiveness showed that reductions in maternal responsiveness explained part or all of density's relationship with cognitive development. The data from the U.K. study confirmed these findings.

Evans, Gary W., Heidi Saltzman, and Jana L. Cooperman. 2001. Housing Quality and Children's Socioemotional Health. *Environment and Behavior* 33(3): 389-399.

The authors examined the relationship between housing quality and psychological distress and learned helplessness by studying 277 elementary school children from five rural counties in upstate New York. Although their research did not directly address educational outcomes, learned helplessness (measured by persistence in attempting to complete an unsolvable puzzle) has clear implications for school performance. For this analysis, the authors used data from a larger study on poverty and children's development. The housing quality rating incorporated children's access to resources, cleanliness/clutter, indoor climatic conditions, privacy, hazards, and structural quality. A regression analysis on the data showed that housing quality was negatively correlated with psychological distress, behavioral problems, and learned helplessness. The authors posited that higher levels of chaos in poor-quality housing may be a mediating factor.

Newman, Sandra J. 2008. Does Housing Matter for Poor Families? A Critical Summary of Research and Issues Still to Be Resolved. *Journal of Policy Analysis and Management* 27(4): 895-925.

The author summarized the previous 25 years of research on the effects of housing units on poor families and discussed unresolved measurement issues. She divided the review into discussions of housing quality, crowding, affordability, subsidized housing, and homeownership.

Regarding crowding, the literature suggests it may impact residents by causing an overabundance of social interaction and demands, reducing privacy, and limiting the ability to control exposure to stimuli. The author reported only one study (Goux and Marin's 2005 research in France) connecting crowding with children's education that is both generalizable and scientifically rigorous. She noted that research on crowding often does not control for other housing conditions that may be correlated with it. Additionally, the literature on crowding has not yielded consensus about how to define and measure crowding, or about theory, methods, and effects. Rather than defining crowding in the most common manner (persons per room), alternatives include the total number of

persons, the total number of children, the household composition, and other variations. Research may also need to accommodate preferences for crowding by different cultures.

4. Well-constructed, -maintained, and -managed affordable housing can help families address or escape housing-related health hazards (e.g., lead poisoning and asthma) that adversely impact learning.

Currie, Janet and Aaron Yelowitz. 2000. Are Public Housing Projects Good for Kids? *Journal of Public Economics* 75: 99-124.

The authors examined public housing participation's relationship with children's educational attainment using the Survey of Income and Program Participation, the Current Population Survey, and the 1990 Census. They found that children living in public housing projects are 11 percentage points less likely to have been held back than children in income-eligible families who live in other rental housing. When comparing results separately by race, they found that living in public housing appears to reduce the risk of grade retention for black children by 19 percentage points, but has no significant effect on education for white children.

Gaitens, Joanna M., Sherry L. Dixon, David E. Jacobs, Jyothi Nagaraja, Warren Strauss, Jonathan W. Wilson, and Peter J. Ashley. 2009. Exposure of U.S. Children to Residential Dust Lead, 1999-2004: I. Housing and Demographic Factors. *Environmental Health Perspectives* 117(3): 461-467.

Using data from the nationally representative cross-sectional National Health and Nutrition Examination Survey (NHANES) collected from 1999 through 2004, the authors assessed the extent to which housing and demographic characteristics are associated with lead dust levels in the homes of 2,155 children between the ages of 1 and 5. Regression analysis suggested that higher floor lead levels are associated with homes built before 1978 and pre-1950 homes that have undergone window, cabinet, or wall renovation in the previous 12 months. They also found that homes with deteriorated paint are more likely to have higher windowsill lead levels. In addition, after controlling for factors other than demographic characteristics, homes of non-Hispanic black families were shown to have significantly higher lead dust levels than those of non-Hispanic white families. Somewhat surprisingly, tenure – i.e., whether a family rented or owned – was not significantly associated with lead dust levels.

Kinney, Patrick L., Mary E. Northridge, Ginger L. Chew, Erik Gronning, Evelyn Joseph, Juan C. Correa, Swati Prakash, and Inge Goldstein. January 2002. On the Front Lines: An Environmental Asthma Intervention in New York City. *American Journal of Public Health* 92(1): 24–26. Available at: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1447378> (accessed May 2, 2011).

The authors stated that asthma is the leading cause of school absence among children of color in poor urban neighborhoods and that more frequent and severe asthma episodes occur with exposure to indoor allergens, such as roaches, rodents, and mold. They described a study, from which results are not yet available, in which they applied an integrated pest management (IPM) intervention either at baseline or eight months later in the households of 30 asthmatic children

between the ages of 5 and 18 years old with roach allergies who reside in roach-infested apartments. During the study, they found that poor housing quality and lack of enforcement of housing code violations contributed to the problem and complicated residents' ability to adhere to the pest-reducing intervention.

Moonie, Sheniz, David A. Sterling, Larry W. Figgs, and Mario Castro. 2008. The Relationship Between School Absence, Academic Performance, and Asthma Status. *Journal of School Health* 78(3): 140-148.

The authors assessed the connection between school absenteeism, asthma, and standardized test scores using data from a majority African American school district in the St. Louis metropolitan area. Both the presence and the severity of asthma were tested. The study used data on 3,812 students in grades 3, 4, 7, 8, 10, and 11 who took the Missouri Assessment Program (MAP) test in the 2002-2003 school year. Data on asthma came from each school's nurse and the child or caregiver.

Free or reduced lunch program eligibility was used as a measure of socioeconomic status. Other data on students included gender, age, race, grade level, school days enrolled, school days absent, MAP test subject, and MAP scaled score.

The authors found that higher levels of absenteeism were significantly related to lower MAP test scores. The presence of asthma and its severity level were both associated with higher levels of absenteeism compared with students without asthma.

Newman, Sandra and Joseph Harkness. 2002. The Long-Term Effects of Public Housing on Self-Sufficiency. *Journal of Policy Analysis and Management* 21(1): 21-43.

The authors discussed the potential effects of public housing residence on children. They posited that public housing, which has been shown to improve the physical adequacy of a family's housing, may affect children's outcomes if housing quality in general has an impact. They further proposed the possibility that children in public housing may have greater residential stability, although there is no empirical research on this relationship. In addition, the paper points to increases in the availability of residual income for spending on items beneficial to children's development as the point of connection between public housing and children's outcomes. One negative association proposed by the authors is the fact that children may be adversely affected by the concentrated poverty found in most neighborhoods with public housing. They cited literature, although sometimes very limited, in support of each of these theories.

The authors' new contribution to the literature does not relate to children's educational outcomes, but instead focuses on long-term effects, as measured between the ages of 20 and 27. These include welfare receipt, income in relation to federal poverty level, and labor force participation.

- 5. Affordable housing developments may function as a platform for educational improvements by providing a forum for residential-based afterschool programs or, more broadly, by anchoring a holistic community development process that includes new or improved schools.**

Anthony, Elizabeth K., Catherine F. Alter, and Jeffrey M. Jenson. 2009. Development of a Risk and Resilience-Based Out-of-School Time Program for Children and Youths. *Social Work* 54(1): 45-55.

The authors described a risk and resilience framework and explained how it was used in relation to the Bridge Project, an out-of-school time (OST) program operated in three public housing developments in a Western U.S. city. Findings from the 2004-2005 school year are described. The risk and resilience framework involves considering the presence or absence of various risk factors, protective factors that minimize the adverse effects of risk factors, and the child's resilience in the face of risks or adversity. This framework guides the development of new programming, including mentoring and summer programs, for the Bridge Project. It also allows the project to be evaluated on additional intermediate outcomes using a risk, protection, and antisocial conduct inventory.

The authors found that 75 percent of students attending the Bridge Project improved their reading scores by at least a grade level. Participants also increased their self-efficacy, or belief in their own abilities. Self-efficacy and higher levels of program participation were associated with higher grades. The authors reported mixed patterns regarding changes in risk and protective factors.

Durlak, Joseph A. and Roger P. Weissberg. 2007. The Impact of After-School Programs That Promote Personal and Social Skills. Chicago, IL: Collaborative for Academic, Social, and Emotional Learning (CASEL). Available at: <http://www.casel.org/downloads/ASP-Full.pdf> (accessed March 31, 2011).

Using controlled studies on 73 afterschool programs, the authors assessed the characteristics of afterschool programs that are likely to lead to better results for participants, including those with programming related to leadership, problem-solving, decision-making, self-control, conflict resolution, self-esteem, and self-efficacy. The authors found that effective afterschool programs lead to significant improvements in children's school performance, feelings and attitudes, and behavior indicators.

The authors described the components of evidence-based skill training approaches. These include using a sequenced set of activities, using active forms of learning, having at least one component focusing on social or personal skills, and targeting specific social or personal skills. Thirty-nine of the programs used all four components of evidence-based skill training approaches, and were consistently successful across multiple outcomes. Twenty-seven programs did not use these approaches and showed no success.

Enterprise Foundation and Neighborhood Reinvestment Corporation. 2005. *Real Investments, Real Results*. Published for the March 31, 2005 symposium “Resident Services: Linking Affordable Housing and Opportunities for Families” in Washington, DC. Available at: http://www.nw.org/network/pubs/studies/documents/RealInvestmentsRealResults_000.pdf (accessed May 2, 2011).

The authors highlighted 11 examples of affordable rental housing coupled with resident services including preschool classes, tutoring, and afterschool and other out-of-school time (OST) programs. The authors featured descriptive statistics on the effectiveness of selected resident services at each complex. They also provided photographs of the apartment communities, contact information, and basic performance indicators such as target market, size and number of units, rent range, occupancy rates, and average rent collection or cash flow.

Vandell, Deborah Lowe, Elizabeth R. Reisner, and Kim M. Pierce. 2007. *Outcomes linked to high-quality afterschool programs: Longitudinal findings from the Study of Promising Afterschool Programs*. Report to the Charles Stewart Mott Foundation.

Using a two-year study of low-income elementary and middle school students, the authors assessed the impact of high-quality afterschool programs on test scores, work habits, and behavior problems. The sample included 2,914 students from urban, rural, and metropolitan areas in eight states. Approximately half the students attended one of 35 high-quality afterschool programs that serve large concentrations of low-income, ethnically diverse children and youth in high-poverty areas. One-third of program participants also attended other organized activities during the week.

The authors found that after two years, elementary school students participating in the high-quality afterschool programs had higher math scores, improved work habits and task persistence as rated both by their teachers and themselves, better social skills, and reductions in misconduct and aggression. For middle school students, participation in the high-quality afterschool programs was associated with higher math scores, better work habits (as self-reported), less misconduct, and lower levels of drug and alcohol use. Reductions in drug and alcohol use were four to six times greater than those found in school-based substance abuse prevention programs.

6. Affordable housing may support children’s educational achievement by reducing homelessness among families with children.

Fantuzzo, John, Heather Rouse, and Whitney LeBoeuf. 2009. *Homelessness, School Mobility, and Educational Well Being in a Large Urban Public School System*. Presentation at the Workshop on the Impact of Mobility and Change on the Live of Young Children, Schools, and Neighborhoods, June 29-30, The National Academies, Washington DC. Available at: http://www.bocvf.org/fantuzzo_rouse_presentation.pdf (accessed March 1, 2011).

The presentation, summarized in the National Research Council and Institute of Medicine’s 2010 text, *Student Mobility: Exploring the Impact of Frequent Moves on Achievement: Summary of a Workshop*, described the use of the Kids Integrated Data System (KIDS) in Philadelphia to assess the connections between homelessness, school mobility, and educational outcomes. The authors used data on approximately 12,000 children who were born in Philadelphia and remained there in the

school system through the end of third grade. The children were primarily low-income minorities.

Using multiple regression analyses, the authors found a significantly higher risk of poor educational outcomes or behavior problems among children who experience homelessness, school mobility, or both as compared with their peers who experience neither event. They reported an association between homelessness, low classroom engagement, and academic achievement. School mobility was associated with truancy and suspension, and outcomes were magnified for students who experienced both these events. Children who experienced homelessness were also likely to experience other risks, including poor prenatal care, preterm birth, low birth weight, lead exposure, a teenage mother, low maternal education, and maltreatment. Ninety-five percent of homeless children were first homeless before entering first grade.

Shinn, Marybeth, Judith S. Schteingart, Nathaniel Chioke Williams, Jennifer Carlin-Mathis, Nancy Bialo-Karagis, Rachel Becker-Klein, and Beth C. Weitzman. 2008. Long-Term Associations of Homelessness with Children's Well-Being. *American Behavioral Scientist* 51(6): 789-809.

Using longitudinal data on homeless families and poor housed families in New York City, the authors examined the long-term impacts of homelessness on children's wellbeing. Wellbeing was assessed five years after shelter entry. Homeless families were drawn from a census of families applying for shelter at three of New York City's four emergency assistance units. Housed families were drawn from a random sample of public assistance cases. At the start of the study, families needed to include a female respondent and children or a pregnant woman. Families that experienced homelessness prior to wave one were not eligible for the study.

The authors randomly selected one child from each of four age groups (birth to 2, 3 to 6, 7 to 10, and 11 to 17) to serve as focal children for each family. The sample included 440 mothers (209 who experienced homelessness and 231 who were continuously housed) reporting on a total of 770 children (388 homeless and 382 housed). Five hundred fifteen of these children also reported data on themselves. All of the children had remained with their mothers during homelessness.

During wave two of the study, a median of 39 months after homeless families last left a shelter, eighty-six percent of families had their own apartment or room, and nine families were in a shelter (one continuously since wave one). The median length of time families had lived in their current residence was 28 months.

Regarding cognitive development and schooling, data were collected using verbal, non-verbal, and composite scores from the Stanford Binet Intelligence Scale (for 4- to 6-year olds); the Wechsler Intelligence Scale for Children-Revised (for 7- to 17-year olds); standardized test scores in reading and math between 1986 and 1994 (for 11- to 17-year olds); mother's reports; and children's reports of school attitudes (for the 11- to 17-year old group).

The authors found a significant negative association between homelessness and non-verbal scores for 4- to 6-year olds. Scores for homeless and housed 7- to 10-year olds were similar, but the homeless group had attended more schools and had worse reported experiences. For 11- to 17-year olds, the authors compared scores before, during, and after homelessness. They found that test scores were similar for both sets of children prior to initial homelessness, dropped for homeless children while homeless, and rose after these children were rehoused to become similar to their

low-income peers again. The authors noted that their findings may underestimate the problems associated with homelessness since the children in the study did not experience separation from their mothers during their homelessness.

Wong, John H., Lynda Thistle Elliott, Shelly Reed, Wendy Ross, Patricia McGuirk, Louis Tallarita, and Kim Chouinard. 2009. McKinney-Vento Homeless Assistance Act Subtitle B-Education for Homeless Children and Youths Program: Turning Good Law into Effective Education, 2008 Update. *Georgetown Journal on Poverty Law and Policy* 16(1): 53-115.

The report summarizes problems associated with family homelessness, describes the McKinney-Vento Homeless Assistance Act requirements and funding levels, and details the implementation of McKinney-Vento in six of the seven states that participate in a regional homeless education coalition in the Northeast United States. The authors argued that funding is insufficient and homeless education programs are not fully implemented.