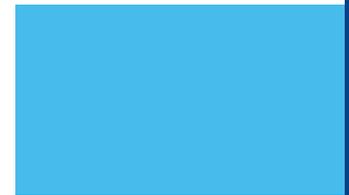


PARTNERSHIP
FOR AMERICA'S
ECONOMIC
SUCCESS

The Hidden Costs of the Housing Crisis



**The Long-Term Impact of
Housing Affordability and Quality on
Young Children's Odds of Success**



The Partnership for America's Economic Success was created by a group of business leaders, economists, advocates, and 13 funders, in order to document the economic impacts of investments in children prenatal to age five that help them grow to become successful, productive adults, and to disseminate that information to business leaders and policy makers. The Partnership is managed by The Pew Charitable Trusts, a public charity with over five decades of experience in making successful social investments that return results. Partnership funders include the Buffett Early Childhood Fund, Robert Dugger, George Gund Foundation, Horace Hagedorn Foundation, John D. and Catherine T. MacArthur Foundation, Paul Tudor Jones, Ohio Children's Foundation, Peppercorn Foundation, The Pew Charitable Trusts, PNC Financial Services Group, Inc., Scholastic, Inc., Schott Foundation for Public Education, and an anonymous donor.



The mission of the Economic Policy Institute is to inform people and empower them to seek solutions that will ensure broadly shared prosperity and opportunity. For more than 20 years, EPI has examined the impact of economic trends, heightened awareness, and recommended policies to improve the economic well being of working people in the United States and around the world. EPI stands behind the principle that social and economic justice are inseparable and that human values must be kept at the center of public debate over the economy.

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Roy, Joydeep, Melissa Maynard and Elaine Weiss, 2008.

The Hidden Costs of the Housing Crisis,

The Partnership for America's Economic Success.

Executive Summary

The current subprime lending and foreclosure crisis has elevated the importance of housing in the eyes of the public, the media and policy makers. However, a broader affordability crisis has been worsening for many years, threatening the well-being of many more Americans, especially young children. In recent years, researchers have found substantial evidence linking housing to a range of influences and outcomes with long-lasting impacts that are particularly critical to the health and education of children. These impacts have serious economic consequences for society as a whole; the preschoolers of today will become tomorrow's college graduates or high school dropouts. Today's housing issues will thus ripple through the economy for decades.

This report, written for the Partnership for America's Economic Success by Joydeep Roy of the Economic Policy Institute, and Melissa Maynard and Elaine Weiss at the Pew Center on the States, examines the links between housing and education in the United States, focusing on implications for cost-effective policies that have a real impact.¹ The report sets out the different ways in which a lack of affordable, safe and decent housing hampers children's educational attainment. It emphasizes the significance of housing features themselves as well as characteristics of the communities in which children reside. Among the key findings: twice as many Americans (95 million) spend more than 30 percent of their income on housing than lack health insurance (45.7 million); 11 percent of the U.S. homeless population is age 6 or younger; and three or more early life residential moves can reduce a child's odds of graduating high school by nearly 20 percent compared to their non-moving peers.

Children's development is significantly affected by the environment in which they live and interact, and housing quality and neighborhood characteristics are among the most fundamental aspects of that environment.

The goal of the Partnership for America's Economic Success is to document the economic and social returns on a range of investments in children during their earliest years, prenatal to age five. The best of those investments help ensure that the country produces a healthy, well-educated workforce.

This report pays particular attention to young children and their families, highlighting the short-run and long-term impacts on society of the homes and neighborhoods where children spend their early years. The report concludes with a brief description of various policies—existing, proposed and potentially promising—to ensure that all children have stable and safe homes and neighborhoods. As just two examples, supportive housing policies for families at risk of losing kids to foster care and targeted lead-abatement strategies can provide long-term societal benefits.

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Affordability and Quality: Pathways of Housing Impact

Housing is much more than four walls and a roof, basic shelter and a place to eat and sleep. Home is where people grow, think, learn, relax and form their first bonds and relationships. Housing is particularly important for young children because it is the foundation on which they build the rest of their lives. Children's healthy development requires that a home be sturdy and free of toxic hazards, and provide a place for them to eat well, play safely and sleep soundly. In short, the quality of a home affects a child's ability to grow, think, learn, relax and form those critical early bonds, initiating a promising or problematic trajectory. This trajectory can translate into not only school and life success or failure for the child, but also serious economic consequences for society.

National policies to ameliorate our urban housing crisis could have a big educational impact. Without such policies, middle class children in stable schools will inevitably achieve at higher levels, on average, than low-income children in schools with high transiency, even if the latter have excellent teachers.

– Richard Rothstein, author, Class and Schools: Using Social, Economic, and Educational Reform to Close the Black-White Achievement Gap¹

The impact of housing on kids—and, in particular, on their later educational outcomes—can be seen through two principal “lenses:” the affordability of housing, and the quality of both the house itself and the neighborhood in which it exists. While the two are linked in many ways and both are associated with household poverty, their negative effects are also independent of one another and of low income itself.

As the foreclosure crisis illustrates, affordability is by far the largest housing-related obstacle facing today's families with young children. One in 33 current U.S. homeowners nationwide faces foreclosure in the next two years as a result of a subprime loan, according to a report recently released by The Pew Center on the

States. The report also found that 47 states and the District of Columbia experienced at least a 20 percent increase in the number of foreclosures between December 2006 and December 2007, which has created a surge of new renters in an already tight rental market. The crisis will increase the stress on families with young children with respect to both housing affordability and quality.

Affordability

At the most basic level, the lack of affordable housing puts safe, healthy, well-maintained housing out of reach for too many families, leaving children in homes that can impede their development. Affordability problems also lead to increased residential mobility, which has detrimental effects on educational attainment. For example, one study finds that moving multiple times as a young child, versus not moving at all, can reduce the odds of high school graduation by nearly 20 percent. In addition, frequent moves take difficult to quantify psychological and emotional tolls on young children. When families pay “too much” for housing, they have less money left over to spend on their other needs, including food, clothing, child care and health care. If other income or housing options are unavailable, families are forced to make difficult tradeoffs among those basic necessities to meet housing expenses. Finally, the extreme stress caused by housing insecurity can strain parents' relationships with one another and their children.

Quality

Housing quality is much less of an issue than it was in prior generations. Many parents and grandparents of today's children grew up without telephones, working plumbing or proper insulation, conditions that are rare today. Still, dangerous and unhealthy housing conditions persist in some places, such as isolated rural communities or inner cities. And the foreclosure crisis has brought with it a new crop of housing quality problems. In California, for example, West Nile-infected mosquitoes have been making themselves at home in neighborhoods with high rates of abandoned or empty houses, thanks to the pools of water that tend to accumulate on these properties.²

Moreover, in some urban areas, concentrations of poor and minority populations and corresponding rates of crime, drug abuse and joblessness have brought about problems with other aspects of housing that counter some of the improvements in plumbing and other “basics”—insulation, quality of windows, removal of lead paint— that have been made in recent decades.

Long-term Implications

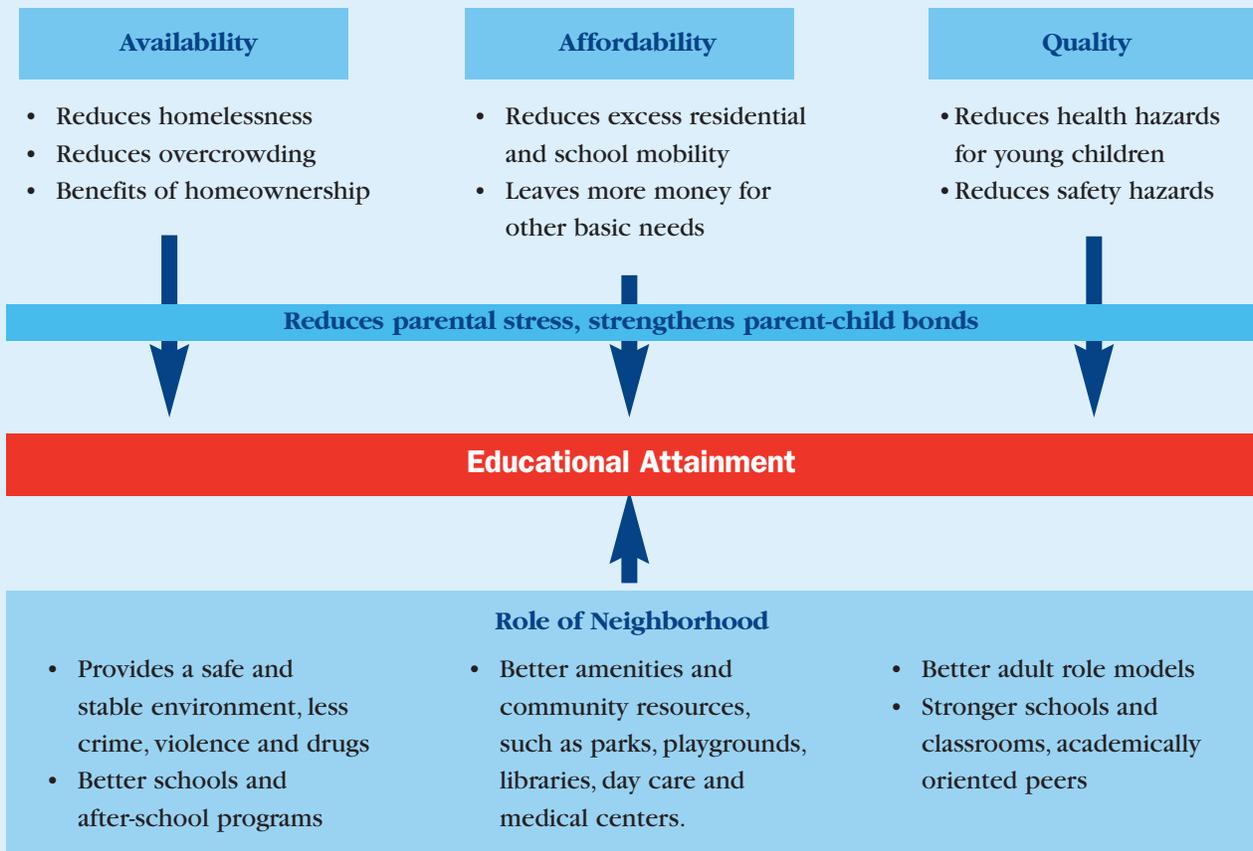
Existing research suggests a number of fairly strong conclusions, notwithstanding the lack of substantial longitudinal data that makes it difficult to pinpoint the negative effects of poor housing on young children’s long-term odds of success in some areas. A sturdy roof over a child’s head helps make it possible for that child to arrive at school healthy, well-rested and alert. A child who comes to kindergarten suffering from asthma, poorly rested and unprepared is much more likely to become a poor reader, drop out of high school and experience other negative outcomes than a child whose early home situation is stable and healthy. The

data also show that access to affordable housing is increasingly difficult for a growing number of families with young children. Many who are not poor, or even very close to poverty, suffer from the consequences of being unable to afford decent housing. More families are also unable to obtain homes that are safe, free of toxins and mold, and located in neighborhoods with good schools and neighbors.

Policy Options

But society can prevent the long-term economic consequences of putting children on early roads to failure through poor housing. A combination of enforcement and strengthening of existing safe housing and anti-discrimination laws; adoption of specific strategies such as effective foster care and lead poisoning prevention measures; consideration of new measures, including fair lending laws; and tests of and research into housing vouchers, income supports, and other programs and policies to improve housing quality and affordability can set the country on a better path.

Figure 1: Housing Affordability, Quality and Neighborhood Affect Educational Attainment



Housing Affordability and Education

The issue of housing is particularly relevant for young children who live in or near poverty. Of the 73.3 million children under age 18 in the United States in 2004, almost 40 percent, or roughly 29 million, were members of low-income families.⁵ For a parent with two children, this meant an annual income of \$30,438 or less, or up to \$38,314 for a two-parent family with two children. Low-income children are more likely to live in poor housing conditions that significantly affect their education—and their opportunities for a better life in the future.

A recent study by Pew's Economic Mobility Project estimates that if a child is born into a family in the lowest fifth of earners and grows up to earn a college degree, he or she will have a 19 percent chance of joining the highest fifth of earners in adulthood, and a 62 percent chance of reaching at least the middle class.⁶ Given the wide disparity in educational attainment among children from rich and poor families—the same

study estimates that just over one in 10 children from the poorest families have earned college degrees, compared with more than half among children from the top fifth of earners—these results clearly indicate the urgent imperative for policy makers to focus on improving schooling. And one important factor in achieving this improvement is helping parents create a stable learning environment for their children.

The Quiet Crisis: Current State of Affairs

Understanding the link between housing and education is particularly important because good, affordable housing is increasingly out of reach for today's American families—with renters in many cases at greater risk of losing their homes than homeowners. A recent report finds that a worker must now earn at least \$15.21 an hour to afford a two-bedroom home at the national median price, an increase of 37 percent since 1999.⁷ Housing experts tend to focus on 30 percent as a level

Limitations of This Study

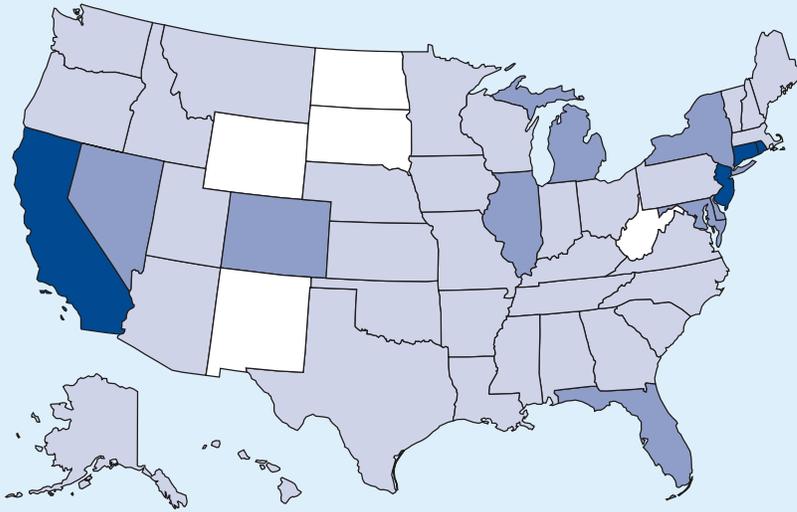
It is difficult to determine the precise effects of housing conditions on the educational attainment of children, particularly low-income and otherwise at-risk children. Because of the dearth of experimental evidence, researchers must estimate impacts by comparing outcomes among families who live in better and worse housing. There are, of course, many reasons why families end up living in lower-quality housing. Thus, the fact that a family lives in poor housing or in a lower-quality neighborhood may itself suggest something about the underlying characteristics of or resources available to that family. As such, the differences in outcomes between families who live in high- and low-quality housing are likely due to a combination of the housing itself and the underlying factors that led them to live where they do, and the two are quite hard to disentangle. Some family characteristics, such as parents' schooling or income, can be measured and controlled for, while others, such as mental health status, parenting skills, and others important for small children, are often unknown. Additionally, the lack of data is particularly acute with respect to young children, who are the focus of this report. Technical challenges include the difficulties noted above of sorting out family problems that are closely linked to housing challenges, the inherently self-selecting nature of housing location and type, the fact that many family characteristics that affect children's outcomes are difficult to capture in research, and, even if those obstacles are addressed, the applicability of research in one locality or context to others.

Nonetheless, this review is designed to be as rigorous as possible. Virtually all of the studies discussed are careful empirical analyses that attempt to control for potential omitted variables—such as income—and biases. With respect to the particular difficulties surrounding very young children, the report combines existing data on that age group with established facts about young kids' specific needs, vulnerabilities and capacities, and it gleans other information from school and later life outcomes. As such, despite the flaws in the existing research, that body of literature provides some fairly strong findings. In particular, affordability, as well as quality of both the housing unit itself and the neighborhood in which it resides, matter greatly for children's life success, and thus society's economic well-being.

Housing Burden: Low Income Families with Children

Percent of families with children who spend more than 30 percent of their income on rent or mortgage

● 75% or more ● 50% to 66%
● 66% to 75% ● less than 50%



Source: KidsCount

at which families begin to make trade-offs among other necessities in order to pay for housing. In 2001, 95 million Americans paid more than 30 percent of their income for housing, twice the number of people who

“[T]he gap between the wages of low-income Americans and their housing costs continues to widen. Mothers and fathers must work two or three jobs to be able to afford decent and safe housing. One in seven families pays over 50 percent of its income for housing, well above the affordability standard. These families are in precarious situations; they are one medical emergency, one sick child, one car problem away from losing the roof over their heads.”⁴

– Senator Christopher J. Dodd (D-CT)

lacked health insurance.⁸ Housing affordability poses a particular problem for low-income families, the elderly, people with disabilities and families with infants and small children. And the impact on the latter group has long-ranging economic implications for society as a whole.

Impact on Renters

The National Low Income Housing Coalition (NLIHC) finds in its 2007-2008 report that the situation continues to worsen. Due to the combination of rising housing costs and foreclosures that have forced lower-income ex-owners into the rental market, “the ranks of those searching for rental housing are swelling.”⁹

While the focus of the foreclosure crisis has been on ex-owners, many of those forced out are renters; in hard hit Cuyahoga County, Ohio, for example, rental units made up 35 percent of

foreclosure filings. A recent study examines the impact on renters of foreclosures there, which includes the renter-saturated markets of Cleveland and East Cleveland. The study estimates the total cost to county renters of foreclosure filings at more than \$10 million.¹⁰ Costs include lost and new security deposits, new rent increases, moving and storages costs, and property costs, with the totals averaging \$2,500 per family. These costs are hitting many renters—who tend to be more financially vulnerable than homeowners—while they already are struggling. The state’s manufacturing-based economy is faltering at the same time, with a net loss of 200,000 non-farm jobs since 2000.¹¹ “Often referred to as ‘collateral damage,’ renters across a variety of demographic characteristics can often find themselves, through no fault of their own, looking for a new residence with little notice,” the report states.

Housing Wage

The NLIHC tracks trends in the “housing wage,” or the full-time hourly wage that a household needs in order to spend no more than 30 percent of its income for an apartment in a specific community at the U.S. Department of Housing and Urban Development (HUD)-estimated fair market rent (FMR).¹² The 2008 Housing Wage is \$17.32 at the national level, ranging from \$9.10 in Puerto Rico to nearly \$30.00 in Hawaii. Several of the

Estimated Costs for a Family Forced to Move Due to a Foreclosure, Cuyahoga County, Ohio, 2007

Lost security deposit:	\$474
New security deposit:	\$503
Rent change (increase):	\$600 per year (\$50 per month)
Appliances, furniture, clothing, and other possessions lost:	\$520
Utility costs:	\$89
Moving and storage costs:	\$322
Total costs:	\$2,508

Source: Policy Matters Ohio

country's most populous states are also among the most expensive, with two-bedroom housing wages of:

- \$18.10 in Florida
- \$22.25 in New Jersey
- \$22.94 in Massachusetts
- \$23.03 in New York
- \$24.01 in California

Moreover, the housing wage has increased sharply in the past few years, with percent changes from 2000-2008 in the most expensive jurisdictions of 42.6 percent in New Jersey, 44.3 percent in California, 45.5 percent in the District of Columbia, 55.2 percent in New York, and 71.4 percent in Hawaii.¹³

This disparity between housing costs and wages is becoming increasingly commonplace. In 2006, roughly 8.8 million renter households (almost one quarter of all renters) reported household income below what a full-time job at their state's current minimum wage would pay today. The NLIHC report states that, in order to cover housing costs at minimum wage, a household must put in 66 to 120 hours per workweek, or 1.6 to 3.0 full-time jobs, to make ends meet. The study also points out that there is not a single county in the country where a minimum-wage worker can afford a one-bedroom apartment at the local FMR without working more than 40 hours per week.¹⁴

Residential Moves

One of the most important ways in which a lack of affordable housing manifests itself is in increased residential mobility, which has proven to be a critical factor limiting the educational success of poor and minority children. Residential mobility almost always means moving from one school to another, which, as detailed below, has additional adverse impacts for children, including very young kids who are developing school-readiness skills. This is true partly because frequent moves are difficult not only for the children who move, but also for their classmates—and poor children tend to go to school together. **In some schools in minority neighborhoods, mobility rates are more than 100 percent. In other words, for every seat in the school, more than two children are enrolled at some time during the year.** It is also important to note that mobility can be high not only for students, but for teachers and administrators as well—and for the same reason, a lack of affordable, decent housing in the neighborhoods where they work.

There is not a single county in the country where a minimum-wage worker can afford a one-bedroom apartment at the local fair market rent without working more than 40 hours per week.

Instability and Poverty

Children of low-income households tend to change residences more often than those from higher-income households. In 2002, 6.5 percent of all children, but 10.1 percent of low-income children, had been living in their current homes for less than six months. Low-income and minority students also change schools more often than do their peers. A 1994 U.S. Government Accountability Office (GAO) report found that 30 percent of the poorest children had already attended at least three different schools by third grade, compared with only 10 percent of middle-class children. Black children are more than twice as likely as white children to change schools this often. The same study also linked such mobility to serious economic failures: Students with two or more school changes in the previous year were half as likely to be proficient in reading as their stable peers. Mobile third grade students were nearly

twice as likely as their peers who had not changed schools to perform below grade level in math.¹⁵

Achievement Gap

Indeed, the literature strongly indicates that residential instability is associated with declines in academic performance, including a higher likelihood of grade retention and lower rates of high school completion. A 2004 meta-analysis of 26 studies¹⁶ by Mehana and Reynolds found that school mobility is associated with a decline in academic performance of elementary school children. Swanson and Schneider (1999) suggest that a school change in the final years of high school significantly affects math achievement, with the decline in mathematics performance comparable to that of leaving school altogether. Scanlon and Devine (2001), surveying the literature in this area, further argue that negative effects are magnified for children who experience cumulative moves, with “hyper-mobile” students having the greatest academic impairment.”¹⁷ Indeed, a recent study concluded that if black students’ average mobility were reduced to the level of their white counterparts, this reduction in residential instability by itself would reduce the black-white test score gap by 14 percent. Similarly, reducing the mobility of low-income students to that of other students would eliminate 7 percent of the test-score gap by income.¹⁸

Young Children and Mobility

Although the adverse effects of mobility may be more apparent in school-age children, research shows that the impacts begin much earlier, and thus may have a cumulative negative effect. In their review of the literature, Moore, Vandivere and Ehrle (2000) conclude that social and cognitive development are impaired among children who have multiple child-care providers compared with children who have a stable provider. For example, children with multiple early child-care providers displayed less developed playing capacity¹⁹—a predictor of later school readiness—and made less academic progress in first grade²⁰ than children with more stable care.

The impact of mobility on the achievement gap is surprisingly strong.

One recent study concluded that, if the high level of mobility among poor students were reduced to that of their non-poor peers, the income-based test score gap would shrink by  7%. If the relatively high level of mobility among black students were reduced to the level of their white counterparts, this alone would reduce the black-white test score gap by  14%.

Schooling and Mobility

The practical effect of mobility is surprisingly large, especially on young children. In a 1991 study, Haveman, Wolfe and Spaulding use careful controls to assess the specific impact of multiple moves on the

odds of high school graduation for a sample of children. Not only is excess mobility among the strongest predictors of lower school attainment—along with the family’s financial status and parents’ own level of educational attainment—but moves have the strongest impact when they happen early in a child’s life. With zero location moves, the predicted probability that a child in the sample will graduate high school is 88 percent; three location moves at any point prior to graduation decrease that probability to 80 percent. However, the study finds that if those three moves

One study found that a child who moves three or more times between the ages of 4 and 7 is 19 percent less likely than his non-moving peers to graduate from high school.

happen when the child is an adolescent—between ages 12 and 15—the odds drop to 74 percent. If the moves take place during the vulnerable ages of 4 to 7, the drop is even sharper—to just 71 percent. In other words, three moves during these children’s vulnerable early years reduced their odds of high school graduation from 88 percent to 71 percent—or nearly 20 percent—compared with no moves. Any factor that contributes to a nearly 20 percent drop in the odds of graduating high school—a basic requirement for making a living in today’s economy—merits the serious attention of policy makers.

School House Shock

Michael Jones, an 11-year-old who attends a Tennessee school that loses more than 50 percent of its students every year, told the *Chattanooga Free Press* that having so many classmates coming and going is disruptive to learning. “If we’re doing math stuff, when a new student comes, we’ve got to do it again,” he said.³¹

Mobility has substantial effects not only on the children and students who move, but also on their classmates, on the entire school, and even the school system. Schafft (2002) finds that evictions, the poor quality of low-cost housing stock, and the lack of availability of affordable homes were perceived by school administrators as major causes of school mobility in upstate New York. The Kids Mobility Project in Minnesota, which conducted detailed surveys of families who move,³² states that families reported “relentless and often futile searches” for safe and affordable housing. They were often forced to stay with relatives or friends and sometimes experienced episodic homelessness. As such, policies that promote housing stability seem to bring substantial positive impacts. Indeed, Bartlett³³ finds that stable, affordable housing was one of the few supports that could improve residential mobility patterns for poor mothers in Brattleboro, Vermont.

Research has documented the impact of mobility on schools and districts. Kerbow finds that in the typical Chicago elementary school, only 46 percent of the children who started in a given year were still in the school four years later. Such high rates of school mobility sharply disrupt the instructional environment for other children in the school.³⁴ In Chicago’s most mobile schools, Kerbow reports that teachers find it difficult to pace their instruction and classes become more review-oriented, so that by fifth grade, highly mobile schools lag almost an entire grade level behind the more stable schools. Fowler-Finn writes of the “enormous challenge” faced by administrators and teachers in highly mobile schools trying to educate simultaneously mobile and stable students.³⁵ As Rothstein argues, “It is hard to imagine how teachers, no matter how well trained, can be as effective for children who move in and out of their classrooms as they can be for those who attend regularly.”³⁶

A number of studies also have noted the detrimental effects that a high-mobility school imposes on stable students, teachers and administrators.³⁷ Rumberger et al³⁸ report that average student test scores for non-mobile students are significantly lower in high schools with high student mobility rates. And Aaronson’s research on homeownership suggests that highly mobile neighborhoods may bring about detrimental effects for both the mobile and stable children who live there.³⁹

School Mobility

Most studies have found that the effects of mobility intensify when school and residential mobility are combined,²¹ but the circumstances surrounding the moves matter. One study, the 1988 Kids Mobility Project, assesses the academic performance of children who moved homes but stayed in the same Minnesota school district. The study finds that standardized test scores were lower for the children who moved, even when they remained in the same school. Temple and Reynolds (1999) find fewer negative consequences of school mobility for students who moved into better-quality schools, such as magnets or academic academies. And data from the “natural experiments” that resulted from the Gautreaux litigation, discussed in detail below, similarly suggest that moving to a different home may be positive in the long run, if the move means that the child attends a stronger school.²²

Residential stability may work in multiple ways. First, staying longer in the same neighborhood may benefit children by giving them knowledge of and access to available community resources and may provide social support networks for families.²³ Residential moves often mean declines in social connections—families’ social networks as well as children’s friendship networks.²⁴ When children change schools, they must adapt to new teachers, peers and curricula, disrupting their educational progress. Moreover, the underlying economic hardships that often cause the frequent moves in the first place can exacerbate the impact of the disruptions in peer and social networks.²⁵ Finally, as a source of stress for parents, frequent moves may affect parenting styles and limit the degree to which parents can attend to their children’s needs.

Family Characteristics

How children are affected by residential moves may depend partly on the reason for the move, as well as on pre-existing characteristics of families. For example, some studies have found that the impacts of moving vary depending on the children's age;²⁶ gender;²⁷ and whether the family includes two biological parents (neutral) or a single-parent, step-parent or other family structure (negative).²⁸ For many disadvantaged families, a move may be unwanted (for example, it may be necessary to move following a divorce or a job loss), and the resources available to deal with the stresses that accompany the move may be limited. Thus, moving can be more challenging for children in low-income or single-parent families, or for those whose parents have relatively low levels of educational attainment themselves, than it is for children in more advantaged families.

A Promising Practice

The Michigan Department of Human Services launched a pilot program in 2004 aimed at curbing high rates of student turnover in economically devastated Flint by providing housing supports that allow families to stay in their homes.⁴⁰ The median household income in Flint is \$27,891—far less than what is needed to cover essential needs such as food, clothing, transportation and housing, according to the Economic Policy Institute's city-specific budget calculator. In Flint, a single mother with two children would need to make \$30,384 to cover basic necessities, including \$612 per month for housing. And a family with two parents and two kids would need to make \$36,420.

Through Flint's program, the state provides monthly \$100 subsidies directly to landlords, who agree to remain in compliance with housing codes and promise not to raise rents. The program also creates family resource centers within schools, where caseworkers help connect families with social services. The pilot group of 40 families has benefited greatly from the program, with decreased moves and significantly higher third grade test scores. State officials hope that evaluations of the 2006 outcomes will provide the evidence they need to take the program to a larger scale.

In a study of young children, Tucker et al.²⁹ find that elementary school children living with both biological parents who had moved multiple times did not lose ground in school compared with their classmates who had moved only a few times or never. By contrast, children living in less ideal family structures suffered significantly. The authors argue that this may be due to lack of family resources to compensate for the loss of routines and relationships. Results from the Moving to Opportunity (MTO) housing voucher experiment—a large-scale, multi-site test of the impact of moving families from public housing units, discussed in detail later—also suggest that there were significant gender differences in the effects on a variety of behavioral and health outcomes among children. Girls appeared to benefit from a move to lower-poverty neighborhoods and boys appear to suffer from such moves. For example, girls in the treatment group experienced a reduction in stress and depression, as well as a decrease in arrest rates for violent crime, while boys experienced an increase in self-reported behavior problems, along with a rise in arrests for property crimes.³⁰

Affordability

Adequate, affordable housing provides important benefits beyond basic stability: Families have more money left over after paying the rent or mortgage. And this financial surplus benefits the children in those families. Parents who can afford food, clothing, and

In 2005, lower-income families with children who spent 50 percent or more on housing had **only \$536 per month** to cover all other expenses.

As a result, they spent...

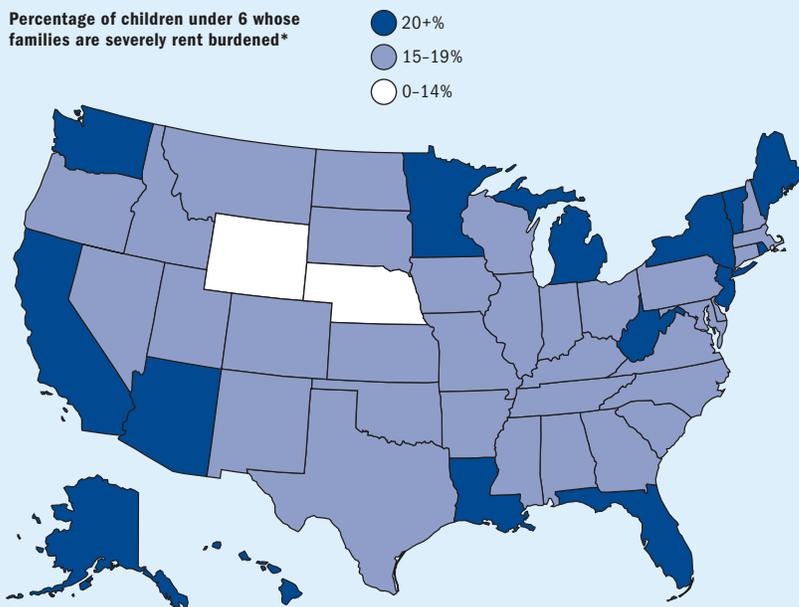


Source: Joint Center for Housing Studies at Harvard University.

heating and cooling, as well as books and other educational materials, may experience less stress. Richard Rothstein notes a recent study's finding that families receiving housing subsidies spent a higher proportion of their incomes on food than did eligible families who did not receive them. If housing subsidies allow families to redirect income to nutrition, they may

Too Many Families Spend More Than Half of their Income on Rent

Percentage of children under 6 whose families are severely rent burdened*



Source: PUMS, Census 2005

* Severe rental burden is defined as a family spending 50 percent or more of its income on rent.

also avoid weight-related health problems and their consequent depressing effects on academic achievement. Indeed, the Joint Center for Housing Studies at Harvard University estimates that, among households in the lowest quartile of annual spending capacity in 2005, families with children and high housing outlays (more than 50 percent of spending) had, on average, only \$536 per month left to cover other expenses. This amount represents about half the amount that their counterparts with low housing outlays (less than 30 percent of expenditures) had available to spend. As a result, bottom-quartile families with children that had high housing outlays spent 30 percent less for food, 50 percent less for clothes, and nearly 70 percent less for health care.

Renter families with young children are of particular concern, because the trade-offs of such a heavy rent burden are especially costly. As Figure 2 shows, such families are not uncommon: In only Wyoming and Nebraska do fewer than 15 percent of children under age 6 live in families that pay half their income or more for rental housing. And in 14 states, including California, Florida, New York and Michigan, more than a fifth of such families are severely burdened.

Trade-Offs

Similar assessments of the burden that housing might impose on poor and middle-class families are obtained by researchers using alternate approaches. For example, Kutty (2005) develops the concept of “housing-induced poverty,” following the residual income approach to measuring housing affordability, and applies this to the 1999 American Housing Survey. She estimates that nearly 4 million households in the United States are not officially in poverty—but—after paying for housing cannot afford the “poverty

basket” of non-housing goods. This demonstrates the impact of housing costs on the level of resources devoted to children’s health and education. Indeed, a 2005 report from the Center for Housing Policy, titled “Something’s Gotta Give,” discusses in detail the tradeoffs between housing costs and other categories of household expenditures.

Effects on Parenting

As noted in the state-to-state figures on hourly wages needed to afford decent housing, one casualty of the lack of affordable housing can be the need for parents to work multiple jobs. The availability of decent, affordable housing can lower parents’ stress and anxiety and reduce the need for them to take on a second job. Because parents are by far the most important influence on very young children’s healthy development, simply having more time to spend with children—and being able to spend that time under less stressful circumstances—may have a major impact. In their review of the literature, Yeung, Linver and Brooks-Gunn (2002) note that “economic hardships... lead to less supportive parenting practices, which ultimately have a negative effect on children’s development.”⁴¹ Parents who have to work multiple jobs to afford their housing may not be able to be as involved with and

supportive of their children as parents who have affordable homes. Reducing housing burden may therefore facilitate greater parental involvement in their children's education, which is a key input in child cognitive development.⁴²

Homelessness

For some of the most at-risk families, extreme housing burden leads to homelessness. This status combines the stresses of excess mobility with myriad other problems, putting children in a severely vulnerable position and potentially impeding their healthy development. The U.S. Conference of Mayors estimates that, as a result of the growing housing affordability crisis, between 4 and 6 percent of America's poor become homeless each year. In 2006, this translated to between 1.5 and 2.2 million people who were newly without a home. The conference also finds that homeless families with children now represent 41 percent of the U.S. homeless population, and that they are the fastest-growing segment (U.S. Conference of Mayors, 2002). Nearly half of homeless people in suburban and rural areas are in families with children. Indeed, today's "typical" homeless family is a mother in her twenties with two children under the age of 6. This is not a common image of the homeless, and it illustrates the threat that the housing burden poses to young kids and their families.

In San Luis Obispo County, California, the problem is acute: almost 700 homeless students were enrolled in school last year, a number that is expected to increase as a result of the faltering economy.⁴³ "Homelessness has a terrible effect on children," says Kathy Hannemann, assistant superintendent for Atascadero Unified School District, in an interview with the *New Times* of San Luis Obispo. "There's no family play time, no reading with their parent in the evening, no way to take a bath. They come to school day after day in the same clothes." In that district alone, there are 270 homeless students, most of whose parents have jobs.

Numbers: Large and Increasing

In a 2001 estimate of annual homelessness, Martha Burt and others at the Urban Institute conclude that the number of persons (including children) experiencing homelessness during a one-year time period was between 2.5 and 3.5 million. In other words, roughly one out of every hundred Americans is homeless at some

Homeless families with children now represent 41 percent of the U.S. homeless population, and they are the fastest-growing segment (U.S. Conference of Mayors, 2002). Nearly half of homeless people in suburban and rural areas are in families with children. Indeed, today's "typical" homeless family is a mother in her twenties with two children under age 6.

point in a given year. The rising cost of housing and the fact that poverty is often chronic contribute to these startling numbers (Burt, Aron and Lee, 2001).⁴⁴ HUD estimates that there were more than 400,000 homeless people in emergency shelters or transitional housing on an average day in January 2005 during the peak winter season (HUD 2007). It also finds that homelessness disproportionately afflicts minorities, and that nearly one-quarter of all sheltered homeless persons are age 17 or under. Young children are disproportionately homeless; **about 11 percent of all sheltered homeless people are under age 6, while only 8 percent of the total U.S. population is in this age group.**

Impacts on Children

Homelessness is a source of extreme stress for children who experience it. Nearly half of all homeless children exhibit symptoms of anxiety or depression, and many have difficulties with social or personal development (Hicks-Coolick, Burnside-Eaton, and Peters 2003). Homeless students tend to score poorly on achievement tests, have behavior problems, are more likely to repeat grades in school and have lower future expectations for secondary educational attainment.⁴⁵ Furthermore, when parents are unable to provide adequate housing for their children, child protective services may intervene and place children in foster care, resulting in additional stress for children. Families across the country report being forced to put their children in "limbo care" (foster care, kinship care or informal care with relatives or friends) after losing their welfare benefits or becoming homeless. Of homeless families surveyed in San Diego, 18 percent reported that they had a child placed in foster care.⁴⁶

In their review of the literature, Jozefowicz-Simbeni and Israel (2006) discuss the challenges homeless students face, including the inability to find transportation,

residency restrictions, lack of access to personal and school records, difficulties accessing preschool and Head Start programs,⁴⁷ guardianship problems and a lack of basic resources, such as clothing and school supplies (Rafferty, 1995; U.S. Department of Education, 2001; Wall, 1996). The educational performance of homeless children suffers not only from the stress and anxiety associated with homelessness, but also from frequent school changes, which, as discussed, significantly reduce attainment. Further, parents who are or have been homeless often have a history of housing instability, economic hardship and psychological problems that can lead them either to voluntarily place their children with friends or relatives or to have their children removed from them involuntarily by child protective services because of abuse or neglect.⁴⁸ Given the rootless nature of homelessness, it is no surprise that some of these hurdles and negative outcomes are similar to those faced by highly mobile students.⁴⁹

Impacts on Schools

Serving homeless children effectively— including meeting the McKinney Act requirement to remove barriers to education for the homeless⁵⁰—is a challenge for schools. Teachers and administrators may have trouble discerning which students are homeless and may not be aware of the special educational needs of this population (Jozefowicz-Simbeni and Israel 2006). In some areas, separate schools have been set up at homeless shelters to try to reach more of these disadvantaged children; however, some argue that segregating homeless students in this way leads to social isolation and the provision of poor-quality education by uncertified teachers, in inappropriate classrooms and with insufficient resources (National Law Center on Homelessness and Poverty 2000).

Impacts on States

Homelessness takes a toll on children and families, and thus society as a whole, through its links to foster care placement. While “abuse and neglect” can mean leaving one’s children unattended or punishing them too harshly, failing to provide proper shelter also can be grounds for state intervention. Indeed, a lack of affordable housing is the reason why a large number of children are removed each year from their homes, creating dire psychological and educational consequences for the children and parents, in addition to

significant financial costs to the state. **According to one report, homelessness is the reason for foster placement for as many as three in 10 foster children.**⁵¹

While states spend large sums of money on supportive housing and related services in their attempts to reunite families after they have already gone through the trauma of separation, as few as one in 50 parents of all foster children receive any housing assistance before removal—assistance that might have prevented the removal and foster care placement to begin with.⁵¹ Indeed, Harburger and White assert that **every state, as well as the District of Columbia, could save substantial amounts of money by providing such supportive housing assistance to at-risk families,** compared with what states currently spend to provide foster care and services post-hoc. As shown in Table 1, estimated potential savings per state range from around \$3 million annually in small states such as North Dakota, Hawaii and Washington, D.C.; to \$50 million in Missouri or Minnesota; and well over \$100 million in the highest-spending states, including Illinois (\$139 million), Pennsylvania (\$140 million), California (\$213 million) and New York (\$216 million).

Homeownership

At the other end of the spectrum, homeownership can alleviate many of the stresses discussed above. In addition to the benefits associated with the mortgage interest tax deduction, owners who have fixed-rate mortgages do not have to worry about rising monthly payments. They are much more stable, on average, than renters, and thus suffer few of the adverse consequences of mobility. Homeowners also have more control over the quality of their homes. Indeed, the perceived benefits of ownership, coupled with the positive association between heavily owner-occupied neighborhoods and the higher quality and better characteristics of those areas, are among the reasons for the federal mortgage interest deduction. In other words, Americans have long held that owning is usually better than renting, and research suggests that it may in fact be better for young children. In 2002, 39 percent of all children under age 18, but 64 percent of low-income children, lived in a home not owned by a family member (Vandivere et al. 2006).

Table 1: Potential Annual Savings from Providing Supportive Housing Services to at-Risk Families versus Providing Foster Care with Services, in millions of dollars⁵²

State	Housing with Supportive Services	Foster Care with Services	Estimated Savings	State	Housing with Supportive Services	Foster Care with Services	Estimated Savings
Alabama	6.8	26.6	19.9	Nebraska	7.2	13.6	6.4
Alaska	3.8	6.8	3.1	Nevada	2.7	9.9	7.2
Arizona	10.3	30.9	20.6	New Hampshire	2.3	8.8	6.5
Arkansas	3.6	10.3	6.7	New Jersey	18.8	61.6	42.8
California	228.3	441.7	213.5	New Mexico	2.5	8.8	6.2
Colorado	12.7	49.6	37.0	New York	88.0	304.5	216.5
Connecticut	12.6	75.8	63.2	North Carolina	14.7	38.4	23.6
Delaware	1.7	6.6	4.9	North Dakota	1.4	4.1	2.7
District of Columbia	6.7	20.3	13.6	Ohio	28.1	111.8	83.7
Georgia	17.1	43.2	26.1	Oklahoma	10.4	18.1	7.7
Hawaii	4.1	7.4	3.3	Oregon	13.8	35.4	21.7
Idaho	1.3	6.5	5.2	Pennsylvania	31.7	171.5	139.8
Illinois	54.8	193.6	138.9	Rhode Island	3.4	26.1	22.7
Indiana	9.9	48.0	38.1	South Carolina	5.9	26.9	21.0
Iowa	6.3	42.6	36.3	South Dakota	1.6	4.4	2.9
Kansas	8.5	23.8	15.2	Tennessee	13.0	52.2	39.3
Kentucky	7.5	37.4	29.9	Texas	27	89.0	62.0
Louisiana	6.9	28.3	21.4	Utah	2.7	16.9	14.3
Maine	4.6	8.8	4.3	Vermont	2	8.4	6.4
Maryland	24.4	49.1	24.6	Virginia	12.2	17.1	4.9
Massachusetts	24.5	87.9	63.4	Washington	14.4	52.6	38.3
Michigan	29.6	112.4	82.8	West Virginia	3.9	18.9	15.0
Minnesota	13.7	68.9	55.2	Wisconsin	13.8	57.3	43.5
Mississippi	3.9	7.0	3.1	Wyoming	1.0	2.5	1.5
Missouri	17.5	66.3	48.9	National Average	16.9	53.3	36.4
Montana	2.8	5.5	2.7	National Total			1,856.5

Better Education

Not surprisingly, homeownership is positively associated both with higher school attainment and with some of the behavior indicators that tend to accompany it. Using data from the Panel Study of Income Dynamics (PSID), with supplemental analysis of parental involvement conducted using the National Longitudinal Survey, Aaronson (2000) finds that homeownership, controlling for several other factors, including income, is positively correlated with children’s educational attainment (graduation from high school by age 19). However, some of the effect is likely due to difficult-to-measure family characteristics, and much of the homeownership effect is due to lower rates of residential mobility among homeowners. For example, the marginal impact of living

in owner-occupied housing on the probability of high school graduation is 9.6 percent, but this declines to about 5 percent when variables are added to control for the effects of mobility and residential stability in the previous years.⁵³ Using New York City data from 1991, 1993 and 1996, Braconi (2001) finds that homeownership was statistically significantly positively correlated with high school completion for boys (but not for girls). Boyle (2002) and Galster et al. (2003) also find that homeownership is associated with improved high school completion,⁵⁴ and Boyle (2002) finds that homeownership seems to reduce the incidence of problematic child behavior, as assessed by both parents and teachers of students ages 4 to 16.

While income, mobility and other factors contributing to the benefits of owning a home clearly play a role in children's outcomes, homeownership itself also seems to be an independent factor. Conley (2001) finds that homeownership has a significant positive effect on children's educational attainment, net of socioeconomic characteristics. Green and White (1997) find that parental homeownership is associated with children staying in school longer, even when controlling for other family traits that may independently affect children's educational outcomes. Haurin et al. (2001) observe that children of homeowners have better home environments, higher math and reading scores (among elementary school-age children), and fewer behavior problems than do children of renters, even after accounting for socioeconomic and demographic variables. In addition, Boehm and Schlottmann (1999) assert that children of homeowners have a greater chance of becoming adult homeowners themselves, and that the benefit of ownership appears to be stronger for children in low-income households. For example, in their work, Harkness and Newman (2003) find strong evidence of a causal relationship between years of homeownership and positive long-term educational outcomes for low-income children, but they do not find a similar effect for children from high-income families.

Why Owning Helps

The research suggests several potential explanations for the positive association between homeownership and children's cognitive development, academic attainment and overall well-being.⁵⁵ Some studies point to the fact that homeowners tend to be more residentially stable than renters. In the 2002-2003 period, 7.4 percent of owners moved, compared with 30.7 percent of renters (Schachter 2004). Aaronson (2000) finds a significant part of the educational advantages of homeownership to be related to increased residential stability,⁵⁶ and similar results are reported by Rumberger (2002) and Scanlon and Devine (2001).

Another line of research links college enrollment and graduation with parents' net worth. For example, Conley (2001a) and Harkness and Newman (2003) suggest that the educational benefits of homeownership may be due to the role of a home as one of a family's principal financial assets, which can help families weather the loss of a job or meet other financial

challenges. Parents also may be able to draw from their home equity to pay for their children's higher education (FinAid 2005). Haurin et al. (2001) suggest that the positive impact also may be due to improvements in both the physical and emotional environments of homeowners relative to renters.

A third important causal channel of the link between homeownership and educational attainment may come via the effects of neighborhoods. The homeownership effect, even after accounting for household mobility, has been found to be stronger in neighborhoods in which a smaller percentage of households moved during the prior five years. Because homeowners tend to develop stronger social ties with neighbors than do renters, homeowners may play a more active role in monitoring the behavior both of their children and of children of their neighbors. Also, given the incentive to protect the value and appreciation of their properties, homeowners may put in the extra effort needed to maintain their neighborhoods and to support such community resources as schools, playgrounds and public libraries. These investments in the community and neighborhood social ties can reduce juvenile crime and delinquency, as well as promote children's school engagement and youth civic participation.⁵⁷

Homeownership may also indirectly improve child well-being by benefiting adult well-being and adults' parenting skills (Cairney 2005). Relative to renters, adult homeowners tend to experience better physical health (Rohe, VanZandt, and McCarthy 2000) and mental health.⁵⁸ Moreover, successful homeowners develop property maintenance and financial planning skills, which may transfer to the types of parenting skills that benefit children (Green and White 1997).⁵⁹ In sum, while other factors play a role, homeownership can have independent effects on schooling and the overall well-being of children.

Housing Quality and Education

Although affordability is by far the biggest housing-related obstacle families with young children face today, housing quality remains a real problem for some. Moreover, affordability and quality are tightly linked; being unable to afford one's home and neighborhood of choice often results in a lower-quality home and a neighborhood that is less desirable. And housing quality problems can have a number of long-term effects on children, their families and society.

Overcrowding

First, in its essential sheltering role, housing provides its inhabitants with space to sleep, eat, learn, relax and grow. Children growing up in crowded housing—where noise from television, radio, siblings and other family members is the norm—may find it difficult to concentrate, or to find quiet space to read, do homework or rest. In 2002, about one in 10 children under age 18 lived in a crowded home, with “crowded” defined as having more than two people per bedroom. For children in low-income families, the rate of overcrowding is double—one in every five low-income children (21 percent) live in a crowded home (Vandivere et al., 2006). Further, there are significant disparities in the incidence of overcrowding, particularly across racial and ethnic groups.

Impacts on Education

Overcrowding has been associated with negative developmental and educational outcomes, including symptoms of psychological problems, among elementary school-age children.⁶⁰ In their summary of results from prior studies, Evans et al. (1998) find that residential overcrowding is correlated with delayed cognitive development, lower reading skills and behavioral adjustment problems among school-age children. A subsequent study of children in low-income urban and rural households in New York State finds a connection between higher levels of crowding and feelings of helplessness for both girls and boys.⁶¹ In a study of New York City families, Braconi (2001) finds that both overcrowding and the presence of deficient maintenance conditions in the home are significantly and negatively correlated with high school graduation.

Although living in overcrowded conditions is likely due to lack of money and other related socioeconomic realities, it seems to have its own, independent effects on children's well-being. In a 2001 study, Conley finds household crowding to be significantly negatively related to children's educational attainment, above and beyond the family's socioeconomic characteristics.⁶²

Although the precise ways through which crowding negatively affects educational achievement is unclear, some experts hypothesize that overcrowding may impair parent-child relationships, simply due to the stress of having too little space.⁶³ Overcrowding also is associated with adult psychological distress,⁶⁴ which negatively affects child rearing and adult-child relationships.⁶⁵ Braconi (2001) suggests that it may be more difficult for children to find a quiet place to study in an overcrowded home. It also has been hypothesized that children living in crowded spaces might have less control over their actions, leading to a loss of self-sufficiency and feelings of helplessness. For example, young children living in crowded conditions are less likely to persist in solving challenging puzzles.⁶⁶ Finally, crowding can itself adversely affect the physical condition of the home.⁶⁷

Physical Quality

Children's physical health depends on the characteristics of the home in which they live,⁶⁸ and other aspects of housing quality also can adversely affect educational achievement. Poor-quality housing may not only lead to poor childhood health (including asthma, lead poisoning and respiratory distress), but also to accidents and injuries—often with serious consequences for schooling and academic performance.⁶⁹ In addition to increasing stress and impairing parent-child relations, poor housing quality can negatively affect educational achievement by contributing to the types of physical illnesses that independently negatively impact student performance.

Impacts on Education

One researcher finds that, on top of the negative educational impact due to overcrowding, there is a negative and statistically significant correlation between

Doctors and lawyers join forces to combat unhealthy housing in Washington, D.C.

Some of the sick children who walk into Dr. Terry Kind's Southeast Washington office cannot be treated by medicine alone. Although a medical intervention might help a child to cope with asthma or rodent bites, without a change to the child's housing conditions, the solution will be only temporary. "We could go through almost every medical condition and think of ways in which housing conditions can either enhance or detract from the child's condition," Kind says. "It's really that important."

Acknowledging that reality, the Children's National Medical Center has incorporated lawyers from the Children's Law Center into its treatment team—in the hopes of addressing non-medical barriers to good health, such as poor housing conditions. Through the Health Access Project, lawyers are embedded in community health centers and are often called in to consult with parents when a legal intervention might be necessary. When doctors treated a toddler recently for head-to-toe insect bites, a lawyer was called into the room to consult on the spot with the child's parents and take pictures to document the condition. Although it may be tempting to fault the parents in such a situation, says Laura Rinaldi, a supervising attorney at the Children's Law Center, many of the parents involved have done everything in their power to persuade their landlords to alleviate the infestations.

One young patient missed 40 days of school last year because of asthma that often left her wheezing and coughing up blood, and with severe, persistent reactions to environmental allergens. The family cat—the only available source of rodent abatement—killed more than 40 mice that same year. During six months, the child was brought in for treatment 10 times, and her mother, who also suffers from chronic bronchitis, sought medical advice from a health hotline one to two times each week. The family was recently granted an emergency transfer to another public housing unit, thanks to free legal assistance from the Health Access Project.

general housing quality and the probability of graduating from high school for both boys and girls.⁷⁰ And Evans et al. (2001) find a connection between poor housing quality (using a composite measure that includes structural quality, privacy, indoor climate, hazards, cleanliness/clutter and children's resources) and children's psychological distress and helplessness. They posit that household disorder may be the mechanism through which poor-quality housing impacts children. Moreover, while children may be more susceptible to the negative physical consequences of poor housing quality because their bodies are still developing, poor-quality housing can pose similar health risks to adults. Homes that are old, in disrepair and of poor quality can psychologically distress parents,⁷¹ and the stresses of keeping up a dilapidated home may reduce parents' patience with their children.⁷²

Where Quality is Poor

Although there have been significant declines in the incidence of physically inadequate housing in the United States, there are still pockets within states—especially in highly concentrated urban poor neighborhoods and isolated rural ones—in which substantial portions of the population have significant problems with housing quality. In Southwestern Kentucky, for example, one of the poorest regions in the nation, a venture capital firm called Kentucky Highlands has started its own business with the dual intent of fixing longstanding problems of substandard housing, particularly lack of proper plumbing, and creating jobs. It builds "housing cores" containing finished kitchens, bathrooms, and laundry rooms for installation in homes that lack them. The company has built about 20 cores so far, but it says that there are 17,000 homes in Appalachian Kentucky that could use them.

Similarly, in so-called "colonias," neighborhoods that have been built from the ground up by Mexican-American immigrants along the South Texas border, many homes have never had access to basic water systems. Indeed, the *New York Times* reported just last year that, "after years of protests by residents, belated regulation by the state and an influx of aid from government and private groups, more than two-thirds of the colonia dwellers in six border counties finally have access to water lines, safe sewage disposal or both, compared with a small minority just 15 years ago."⁷³ Moreover, these are not small or

insubstantial communities; in 2006, 442 colonias in those six counties were home to 62,675 residents.

Lead and Other Toxins

Lead poisoning is the most common cause of environmental disease in children (Kim et al. 2002). In the period from 1999 to 2002, 1.6 percent of children under age 6—or 310,000 children—had elevated blood lead levels.⁷⁴ The most prevalent cause of lead poisoning is paint chips and dust in older homes (lead paint was banned in 1978). Lead paint remains a serious health hazard for a substantial number of children, especially toddlers who may eat paint chips and breathe in lead-tainted dust. According to the most recent data available, 68 percent of pre-1940 homes, 43 percent of 1940-1959 homes, 8 percent of 1960-1977 homes, and 3 percent of post-1977 homes present lead paint hazards, with 38 million homes total presenting such hazards as of 2000 (Jacobs 2002).⁷⁵

Impacts of Lead

The irreversible effects of lead poisoning include reduced IQs, impaired growth and neurological development, and behavior problems.⁷⁶ In addition to the direct causal link to lower IQs,⁷⁷ Lanphear et al. (2000) find lead poisoning to be associated with decreases in reading and math scores.⁷⁸ Children under the age of 6 are especially vulnerable, because their brains and central nervous systems are still developing, and lead can interfere with this process. Young children also are more likely than older children or adults to be affected by hand-to-mouth contamination when exposed to lead. Children at greatest risk for lead poisoning include those living in poor families, inexpensive housing, and older homes, or in communities with high rates of poverty and many older residences (Kim et al. 2002; Sargent et al. 1995), factors common among children living in older urban areas. Indeed, data show that poor and minority children have much higher rates of lead poisoning than do their peers.⁷⁹

In response to the clear threat of lead poisoning and its societal and economic costs, federal and state governments and health authorities have engaged in vigorous education and public health campaigns in recent decades. Leaded gasoline, which also played a substantial role in the elevated blood levels of young children, had begun to be phased out in 1973 and was

totally banned for most cars by the 1996 Clean Air Act. Both the bans on leaded gasoline and on lead paint in new homes were components of the same public health campaign. As a result of this multi-faceted effort, the number of young children with levels associated with harmful health risks has fallen from an estimated 13.5 million in 1980 to just under half a million today. Unfortunately, those remaining cases are both the most difficult to prevent and the most costly to treat. Still, a 2005 report by economist Elise Gould of the Economic Policy Institute finds that lead abatement in those affected homes would be cost-effective. Given that the vast majority of the remaining cases also are found in households where children are otherwise vulnerable—due to lack of affordable housing, poor quality, overcrowding and other housing-related risk factors—the case may be all the more pressing.

Other Toxins

In addition to lead paint exposure, urban home environments often are contaminated with other neurotoxins, including some pesticides that are used to kill cockroaches and rodents. Another potential source of toxins is contaminated water. In 1999, 8 percent of children in homes receiving public water service had water with health-based violations, including treatment and filtration problems or contamination by microbes, lead and copper, nitrates/nitrites and other chemicals and radiation.⁸⁰

The recent concern about formaldehyde in U.S. Federal Emergency Management Agency (FEMA) trailers serves as yet another reminder of the higher risk of exposure to toxins for low-income children, who are disproportionately likely to be displaced by such natural disasters as Hurricane Katrina, and who are also more likely to be placed for extended periods in temporary housing and exposed to the toxins they sometimes bring. As the *Washington Post* reported, “industry and government experts depict the rushed procurement and construction as key failures that may have triggered a public health catastrophe among the more than 300,000 people, many of them children, who lived in FEMA homes.”⁸¹ Indeed, an article from *USA Today* tells the story of Nakeva Narcisse and her 5-year-old daughter, Asanta Mackey, who has a persistent cough that her mother believes is due to their extended time living in one of the trailers.⁸²

Asthma Triggers and Other Illness Inducers

Asthma is one of the most common chronic diseases among children.⁸³ In 2003, 5.5 percent of all U.S. children, and 7.2 percent of poor children, had asthma.⁸⁴ Poor ventilation and indoor moisture and dampness sustain mold and bacteria, which can help set off asthma attacks.⁸⁵ Some children whose asthma is aggravated by poor housing conditions might experience multiple health risks if they are also exposed to toxic pesticides intended to combat rodents or insects. In addition to the direct, short-term costs associated with medical treatment, asthma also has impacts on school achievement that can result in long-term economic impacts. Richard Rothstein, who has studied the intersection between children's health and educational attainment, says that asthma attacks triggered by poor housing quality make children more likely to miss school or to be inattentive during the school day.⁸⁶ Indeed, one study finds asthma to be a leading cause of school absences.⁸⁷

An Increasing Problem

While relatively rare, such unhealthy housing conditions are more common in certain urban areas, especially those with high concentrations of poor families. In Manhattan, for example, complaints of such conditions are sharply on the rise, suggesting possible lapses in maintenance and/or enforcement, according to *The New York Times*. "In New York City, mold complaints to the city's housing agency have increased to roughly 21,000 in the 2007 fiscal year from 16,000 in the 2004 fiscal year. Mold complaints to the health department also have jumped in recent years, and legal advocates for low-income tenants say mold cases brought against landlords are increasingly commonplace in New York City Housing Court."⁸⁸

Poverty and Environments

Although it is difficult to fully isolate the effects of asthma triggers in homes—and in the kinds of low-income neighborhoods where the air quality tends to be poor and may carry pollutants that exacerbate asthma attacks—the correlation between poor housing and neighborhood conditions and the frequency of respiratory problems is fairly clear. Indeed, a recent article in *Environmental Health Perspectives* asserts that, "Low-income and/or ethnic minority communities—already burdened with greater rates of

diseases, limited access to health care, and other health disparities—are also the populations living with the worst built environments.⁸⁹ It also notes the results from a detailed baseline evaluation of 78 asthmatic children living in three public housing developments, finding that while many children did have access to primary care physicians, their actual care was limited in terms of addressing specific needs. Moreover, because they lived in high-violence neighborhoods, their asthma was exacerbated by an inability to play outside. The link between poor-quality homes and the neighborhoods in which they tend to be clustered is linked in many ways, contributing yet another layer to the effects of housing on children.

One family's story

Finding a better, higher-paying job at Costco proved to be a mixed blessing for Vicki Steele, a single mother from Lorain, Ohio. No longer eligible for subsidized housing, Vicki decided to try her hand at homeownership. She had tired of putting most of her paycheck toward a house that she would never own. "I wanted a piece of the American dream," she says.

Vicki moved her daughters Alexxis, then 6, and Taryn, then 15, from their well-lit Section 8 townhouse to a home that was for sale by owner. She purchased the home with their father in the hopes of cobbling together a family.

When the monthly payments on her adjustable-rate mortgage rose from \$853 to \$1,300, Vicki fell behind. She hadn't anticipated the hike, and her new salary at Costco wasn't enough to keep up. "I ended up holding the bag with the home and two girls, and I couldn't afford to pay the mortgage," she says. Sewer disruptions began to cause flooding in the basement—and Vicki had no money for repairs. Black mold grew, creating a health hazard for the girls. Both daughters were forced to change schools, and Taryn was sent to spend her senior year of high school with her grandmother in a different city.

After being forced into foreclosure, Vicki and Alexxis moved—for the second time in a few years—into a dry rental.

Neighborhood Effects

A child's neighborhood is a vital component of his or her home environment, and thus significantly affects educational achievement. The effects can be positive when community networks, social ties and role models are strong, and when they are supported by other community resources, such as good schools, playgrounds and libraries. However, the effects can be very negative when young children reside in unsafe neighborhoods characterized by crime, violence drugs and a lack of opportunity—often because of a lack of affordable, decent housing in better neighborhoods. In 2000, more than 20 percent of children—over 14.7 million—lived in high-poverty neighborhoods (in which 20 percent or more of the population was poor).⁹⁰

Health Impacts

Extensive research suggests that educational outcomes are better for children living in higher-quality neighborhoods, and numerous studies have discussed the ways in which neighborhoods that are resource-rich or resource-poor might enhance or hinder the well-being of children.⁹¹ At a basic level, communities with high rates of poverty and crime and easy access to drugs can threaten children's health. Evidence suggests that adolescents raised in such neighborhoods are more likely to use drugs, engage in delinquent behavior, and engage in sexual intercourse and become pregnant.⁹² In addition, poor neighborhoods also tend to lack restaurants or supermarkets with affordable, healthy choices for meals, or access to good medical care.⁹³ These characteristics affect obesity and other adverse health outcomes that tend to be disproportionately prevalent among low-income children and families.⁹⁴ Other research has found that parents who live in violent neighborhoods are less likely to allow their children to play outside, due to safety concerns,⁹⁵ another factor that can adversely affect children's long-term health, both psychological and physical.

Poor Amenities

High-poverty neighborhoods can lead their residents to feel socially isolated, in part because they lack many of the basic amenities taken for granted in more affluent nearby areas. An extreme example is Detroit, a large city with high levels of concentrated poverty. As National Public Radio reported in the summer of 2007, "Many

would assume that a city with nearly a million residents has no problem attracting major grocery store chains. But Detroit just watched its last mainstream grocer, Farmer Jack, close its doors for good." No other chain stepped in to buy the Farmer Jack store, and the entire city—the country's 11th most populous—therefore lacks a single large supermarket.

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But while Detroit is an extreme example, it is far from alone. According to a 2007 report from the Local Initiatives Support Corporation (LISC), "The number of food stores in low-income neighborhoods is nearly one-third fewer than in wealthier areas, and the quality of these stores—their size and physical condition, the range and nutritional content of their merchandise—tends to be poorer."⁹⁶ Indeed, a *Detroit News* article on the remaining options for city residents in the aftermath of the Farmer Jack closing notes that local small stores are often lacking both in terms of quality and affordability.⁹⁷ One Detroit resident interviewed for the story stated, "Sure, there's other grocery stores, but try finding something to eat in there. You can't buy quality food in the city anymore." Shoppers accuse small stores of selling meat and produce that is past its expiration date. The city has raided stores and cracked down on many such offenses, but problems remain.

New techniques in research increasingly allow scholars, planners and neighborhood advocates to look beyond traditional experimental methods, using such technology as geographic information systems (GIS) mapping to assess the quality of entire neighborhoods in untraditional ways. Such technology can visually zoom in on and photograph neighborhoods to assess their physical characteristics, so researchers need not be limited to census tract data, which often is not closely correlated with people's perceptions of their neighborhood. For example, Marilyn Winkleby, an associate professor of medicine at Stanford's Prevention

Research Center, points to the ability of GIS to “look at the density and proximity of goods, services and community resources such as parks, youth clubs, fast food outlets, convenience stores and other factors that might enhance or hinder health, in relationship to where people live and work.”⁹⁸ Among her preliminary findings: of 82 neighborhoods studied in four northern/central California cities, stores selling alcohol were most concentrated in the most deprived neighborhoods. Such neighborhoods also have higher rates of alcohol-related injuries and violence, including youth drinking and driving, assaults and car crashes. In other words, there are clear links between key aspects of the built environment and the incidence of related social ills.

Peer Effects—Classrooms, Schools, and Neighborhoods

The types of adult role models and peers in the neighborhood, as well as exposure to crime and violence, may be partly responsible for the poorer social and emotional well-being of children who grow up in disadvantaged neighborhoods.⁹⁹ Living in a neighborhood with high crime rates makes parents feel worried or stressed about their children’s safety, affecting how closely, and how strictly, they monitor them.¹⁰⁰ Further, good housing and neighborhoods promote better health outcomes in adults in the form of lower rates of hypertension, lower incidence of cardiovascular disease and lower rates of premature death.¹⁰¹ These positive health outcomes can in turn be expected to improve parenting and result in better educational outcomes for children. Parents living in socio-economically disadvantaged neighborhoods also are more likely to perceive that their neighborhood impacts their child negatively.¹⁰²

Role Models

Studies find that, controlling for income, high school graduation rates, educational achievement and adult earnings are higher in more socio-economically advantaged neighborhoods.¹⁰³ Reasons for these improved outcomes include reduced crime rates, the availability of high-quality schools, and role models in the form of neighbors who have attained higher levels of education and work in professional fields. Children whose academic peers intend to achieve in school and go on to attend college absorb those expectations. Conversely, children who are living and going to school

with other kids who lack such expectations, and whose parents also lack them, may be less likely to assume that their futures hold such promise. Additionally, institutional resources that are more prevalent in wealthier neighborhoods, such as good libraries, museums and after-school programs, facilitate school readiness and provide educationally enriching experiences that promote educational achievement.¹⁰⁴

School Peers

Neighborhoods play a particularly important role in determining a child’s peers, both in the classroom and outside it. Researchers have long argued that peer “quality” and behavior are vital inputs into the educational production function. Indeed, the U.S. Supreme Court emphasized the issue in its landmark *Brown v. Board of Education* decision in 1954, with isolation of black students from their white peers cited as a rationale for the finding that separate schools are inherently unequal. Eleven years later, James Coleman

Using a sample of tenth graders, Gaviria and Raphael (2001) find strong evidence of peer-group effects at the school level on drug and alcohol use, cigarette smoking, church attendance and dropping out of school.

pointed to the issue in his widely cited report analyzing minority students’ lower educational attainment.¹⁰⁵ The premise underlying these findings, and many more since, is that the composition of a student’s peer group—classmates, friends, and neighbors—strongly influences his or her activities, including educational choices and academic progress.

Impacts on Education

Two researchers using data on inner-city Boston youth find large peer effects on youth criminal behavior and drug use,¹⁰⁶ and others report similar results. Aaronson (1998) asserts, based on his review of the developmental psychology literature, that the impacts of neighborhoods exist even when difficult-to-observe family-specific factors are controlled for. Harris (1998) finds that, among environmental factors studied, peer effects have the biggest impact on outcomes. Moreover, both the positive and negative effects of peers seem to continue after the

peers themselves have gone; Betts and Morell (1999) find that high school peer group characteristics affect undergraduate grade point average (GPA). Using a sample of tenth graders, Gaviria and Raphael (2001) find strong evidence of peer-group effects at the school level on drug and alcohol use, cigarette smoking, church attendance and dropping out of school.

Given the multiple factors contributing to peer effects, and the interaction between classroom and neighborhood, it is not surprising that there are important disagreements among social scientists regarding the precise magnitude of peer effects and the groups for whom the effects are largest. Some researchers find larger effects for disadvantaged students; others find the opposite, depending on data set and controls employed. That said, most researchers believe that peer effects do significantly impact student achievement and, given the extent to which school and classroom peers are determined by neighborhood demographic composition, the role of neighborhoods in children's schooling cannot be underestimated. Carr and Kutty (2008) argue that heavily minority neighborhoods present complex environments within which segregation, both in itself and when combined with poverty, negatively influences children's education and health. This complexity is particularly germane given census data revealing that racial segregation has persisted in most large U.S. cities during the past three decades. Jargowsky (1997) estimates that, between 1970 and 1990, the number of people living in concentrated poverty census tracts, where 40 percent or more of the residents have incomes below the federal poverty line, nearly doubled. More than half of these residents are black, and another quarter are of Hispanic origin.

And while concentrated poverty declined by many measures during the 1990s, that trend has seen a sharp reversal in recent years, particularly among the working poor. A recent report from the Brookings Institution notes that taxpayers living in areas with high rates of working poverty increased by 40 percent, or 1.6 million, between 1999 and 2005. Of the 58 large metropolitan areas studied, 34 saw increases in concentrated poverty among working people.¹⁰⁷

Benefits of Living in a Safer, Less Crime-Prone Area

Other aspects of neighborhoods can significantly affect children's education as well. Families living in nonviolent and safe neighborhoods can reduce a key source of stress, enabling parents to give their children more attention, and increasing the odds that the attention will be more positive, and less restrictive, in nature. Recent research also suggests that there might be a positive relationship between a good night's sleep and IQ: Living in safe communities that enable children to work and rest in peaceful conditions might affect those children's education through multiple pathways.

Effects of Living in Subsidized Housing

For the past 50 years, the U.S. government has granted housing assistance to low-income families, with the number of households assisted rising from 3.2 million in 1977 to 5.7 million in 1997.¹⁰⁸ High-rise public housing has often come under scathing criticism—detractors argue that it fosters racial and economic segregation, leads to higher levels of crime and delinquency, and hampers educational and labor market outcomes for people residing therein.¹⁰⁹ Evidence that concentrated poverty brings with it a host of costly social ills has thus resulted in a policy shift in the past 20 years toward providing low-income families with housing vouchers for use in the private market.

An emerging literature in economics and public policy looks at the overall impact of living in public housing, but relatively little is known about its effect on educational outcomes. In particular, it is difficult to assess the net result from potential negative impacts of concentrated poverty and low-achieving peers versus the likely benefits of freeing money for other uses and strong neighborhood networks. A subset of this literature analyzes the effects of housing voucher use based on experimental studies. Studies show that children in low-income families may benefit from moving into neighborhoods that are safer, and that have better schools and role models and stronger community networks. A number of government housing programs offer families the chance to move from public housing in high-poverty areas to homes in neighborhoods with lower poverty rates. Two of the most important programs—the Gautreaux and Moving to Opportunity (MTO) projects—have been extensively evaluated by researchers.¹¹⁰

Housing Voucher Experiments

THE GAUTREAUX PROGRAM

The Gautreaux program was created as a result of settlements of a series of class-action lawsuits, filed in 1966 against the Chicago Housing Authority (CHA) and HUD, alleging that the two agencies' policies served to segregate African-American families. The intention of the program (named after Dorothy Gautreaux, who filed the original lawsuit) was to remedy past segregation by offering African-American residents of CHA public housing and those on the waiting list an opportunity to find housing in desegregated areas throughout the Chicago metropolitan region. The program ended in 1998 after meeting its target of serving 7,100 families.

THE MTO PROGRAM

The MTO program, which was loosely modeled on the Gautreaux program, and whose objective was to relocate poor families out of high-poverty neighborhoods by providing housing vouchers, began in 1994 in five cities (Baltimore, Boston, Chicago, Los Angeles and New York). During the subsequent four years, a total of 4,248 families participated in the program. Of those participants, 1,729 were offered restricted vouchers that enabled them move only to low-poverty neighborhoods; 1,209 were offered unrestricted HUD Section 8 vouchers; and 1,310—the control group—were offered neither.¹¹¹ About half of the families who were offered a voucher actually used it to relocate, though many subsequently returned.¹¹²

COMPARING THE TWO PROGRAMS

Although modeled on Gautreaux, per-family MTO resources were much lower, and, as such, critical differences can be seen. Among these differences is the latter's failure, on average, to move families to areas that were substantially, rather than marginally, lower in minority concentration and poverty, and where schools were integrated and had better test scores. Indeed, only about half of those offered restricted vouchers actually moved to lower-poverty neighborhoods.¹¹³ At the same time, movers did live in neighborhoods with somewhat lower percentages of minority neighbors and school peers and rates of unemployment, and slightly more educated neighbors.

Research on Gautreaux families finds that moving from inner-city Chicago to suburban neighborhoods can lead to long-term educational improvements. Participating children who moved to the suburbs were substantially more likely to complete high school, take college-track courses, attend college, be employed and work in better paying jobs, relative to students who remained in inner-city schools.¹¹⁴ The MTO research demonstration did not find similarly solid outcomes,¹¹⁵ with two studies that have assessed the program's impact on student test scores delivering mixed results. Using data from district-administered achievement tests in Baltimore, Ludwig, Ladd and Duncan (2001) find statistically significant differences between the experimental and control groups for students who entered the program when they were less than 12 years old,¹¹⁶ although none for students entering the program after age 12. However, a later study, which included all the five cities in which MTO was implemented, did not find an overall impact on student test scores (Sanbonmatsu et al. 2006). Among the potential reasons for the sharp difference between the Gautreaux and MTO outcomes, the most likely is the difference in moves—Gautreaux families moved from high-rise public housing to Chicago suburbs, while most MTO families moved small distances to only slightly less poor neighborhoods that still had weak schools. In other words, as is true in other policy areas, details of the program, including the type and level of investment, make a big difference in determining its outcome.

Conclusion

As this report documents, housing affordability and quality have substantial impacts on young children that can manifest themselves in a range of ways. Although there are clear limits to the existing literature's ability to establish causal links between the effects of housing affordability and quality on children's outcomes, the research to date nonetheless sets out important findings. Stability is a critical factor in children's academic attainment, with multiple moves especially harmful for children who are already at risk of poor education outcomes. Living in overcrowded housing, in a home that is unsafe or unhealthy, or in a neighborhood with few resources and/or positive peers and role models can similarly put children on the wrong track early and keep them there.

In many ways, the current foreclosure crisis represents just one piece of the puzzle. Children whose families rent in an already tight market are squeezed further as owners of foreclosed-upon homes are forced to enter the rental market, or to push their former tenants into it. The lack of affordable housing that has now become starkly evident has actually existed as a quiet but slowly growing crisis for more than a decade, with low- and even moderate-income families forced to make hard tradeoffs among basic necessities. Further, families are increasingly unable to find decent, affordable housing in safe neighborhoods—homes that do not trigger asthma attacks; that do not pose safety hazards due to electric, plumbing or other malfunctions; and that do not have broken windows or holes in walls or roofs. The reality is that large numbers of young children are growing up in conditions not at all conducive to healthy development or to later achievement. Both children and their parents are put under stress by these adverse conditions and hard choices, straining the relationships that are particularly critical in children's earliest years.

At the same time, there are several actions society can take to reverse this bad news. The first is supporting and enforcing existing laws—including by ensuring that anti-discrimination measures are strictly enforced and by compelling landlords and others who own rental properties to maintain them so that the families who rent have a decent place to live. A range of policy options demonstrated to help families with young

children buy wisely, rent affordably and stay in their homes also merit serious consideration.

There are specific policies that, adopted at the state and federal levels, would provide a net benefit to society, without a very long-term wait for the pay-off. State programs that provide housing assistance and other supportive services to families at risk of losing their children to foster care can often prevent the drastic measure of removing children from their homes.

Such policies would not only prevent trauma to the affected families, but research indicates they could also avert nearly \$2 billion in annual state spending nationally. These savings would come from resources that states currently spend on foster care placement and on later supportive housing services and reunification efforts. And this estimate does not count the substantial potential savings from indirect costs associated with children's cognitive, emotional and behavioral difficulties due to removal from their families.

A second policy with demonstrated, albeit smaller, net benefits is lead abatement. Given the concentration of lead among at-risk populations, states should focus their efforts on identifying the areas in which housing is most likely to pose a risk and target initial abatement programs there.

In addition, there are other policies and interventions that are potentially cost-beneficial but require more research. **Providing housing vouchers to low-income families can help them avoid having to do without food, clothing, health care, child care and other necessities in order to pay for rent.** It would thus be very useful to better understand how vouchers are best allocated, which families should have priority, and, perhaps most important, what is the optimal level of investment in these types of programs, at both the state-specific and national levels. The MTO and Gautreaux literature should be carefully assessed to maximize the benefits (such as living in better neighborhoods and attending better schools) versus the potential negative effects (including losing social networks and potentially disrupting academic progress) of such programs.

Likewise, additional information about the potential benefits and negative effects of public housing would enable states and the federal government to allocate resources efficiently and strategically. Finally, given the strong link between household income and decent housing, income supports could be increased for working families with young children to enable them to improve and stabilize their children's earliest environments.

These policy questions and implications bring about one of the clearest conclusions of this report: Although we know quite a bit about the impacts of housing on young children, there is far too much that we do not know. And, given the breadth and depth of the impact that housing affordability and quality have on children and on our economic future—Americans will see the ripple effects of today's housing crisis for 10, 25, and 50 years to come—it is imperative that we fill in those knowledge gaps. Unfortunately, lack of sufficient funding for research into these issues has made it increasingly difficult to obtain such data. This puts agencies and advocacy groups at a severe disadvantage in their attempts to help shape policies that can put our country on a positive path.

Now more than ever, raising bright, healthy children to be the thinkers and workers that our nation and economy need requires giving them and their parents the necessary tools to help them to grow and thrive. Today, too many of our nation's children lack clean, sturdy, affordable homes in safe, stable neighborhoods. A combination of solid research and smart investments will be required to change that reality and chart a better future.

Appendix

Impacts of Housing on School Attainment

Aspect of Housing	Study/Impact
Mobility	<p>GAO (1994): 30 percent of poorest children had attended at least three different schools by third grade, compared to only 10 percent of middle-class children. Black children are more than twice as likely as white children to change schools this often. Rumberger (2003): Mobility linked to economic failure: students with two or more school changes in previous year were half as likely to be proficient in reading as their stable peers, and mobile third grade students were nearly twice as likely as their peers who had not changed schools to perform below grade level in math.</p>
	<p>Mehana and Reynolds (2004) meta-analysis of 26 studies (1975-1994): school mobility associated with decline in elementary school students' academic performance.</p>
	<p>Swanson and Schneider (1999): school change in final years of high school significantly decreases math achievement, with effect comparable to having dropped out altogether.</p>
	<p>Hanushek, Kain, and Rivkin (2004b): If black students' average mobility were reduced to level of their white counterparts, the increased residential instability would, itself, reduce the black-white test score gap by 14 percent. Similarly, reducing the mobility of low-income students to that of other students would eliminate 7 percent of the test-score gap by income.</p>
	<p>Howes and Stewart (1987): Children with multiple early child care providers showed less developed playing capacity, a predictor of later school readiness, and made less progress in first grade (Howes, 1988) than those with stable care.</p>
	<p>Haveman, Wolfe and Spaulding (1991): Assess impact for sample of children of multiple moves on odds of high school graduation. Excess mobility among strongest predictors of lower school attainment—along with family income and parents' level of educational attainment—and moves have strongest impact when they happen early. With no location moves, predicted probability that child in the sample will graduate high school is 88 percent; three location moves at any point prior to graduation decrease probability to 80 percent. If the three moves happen during adolescence (ages 12- 15), odds drop to 74 percent, and if they happen between ages 4 and 7, the odds drop to just 71 percent.</p>

Aspect of Housing	Study/Impact
	<p>Kerbow (1996): In typical Chicago elementary school, only 46percent of children who started in a given year were still in the school four years later. In most mobile Chicago schools, teachers' difficulty pacing instruction and need for frequent review mean that, by fifth grade, highly mobile schools lag almost an entire grade level behind the more stable schools.</p> <hr/> <p>Rumberger et al (1999): Average student test scores for non-mobile students significantly lower in high schools with high student mobility rates.</p>
Affordability, Other Basics	<p>Yeung, Linver, and Brooks-Gunn (2002): "Economic hardship [e.g., having to work two jobs to pay for housing] diminishes parental abilities to provide warm, responsive parenting."</p> <hr/> <p>Caldwell and Bradley (1984): Reducing housing burden may facilitate greater parental involvement in children's education, a key input in child cognitive development.</p>
Home ownership	<p>Aaronson (2000): homeownership, controlling for several other factors, including income, positively correlated with high school graduation by age 19, but some of effect likely due to difficult-to-measure family characteristics, and much of homeownership effect due to homeowners' lower residential mobility rates. E.g., marginal impact of living in owner-occupied housing on odds of high school graduation is 9.6percent, but that declines to about 5percent when effects of prior years' recent mobility, residential stability controlled for.</p> <hr/> <p>Braconi (2001): homeownership statistically significantly positively correlated with high school completion for boys (but not for girls), based on New York City data from 1991, 1993 and 1996. Boyle (2002), Galster et al. (2003): home ownership associated with odds of high school completion.</p> <hr/> <p>Conley (2001): homeownership (positive) and household crowding (negative) have significant effects on children's educational attainment, net of socioeconomic factors. Green and White (1997): homeownership associated with children staying in school longer, even when controlling for other family traits that may independently affect outcomes.</p>
Overcrowding	<p>Evans et al. (1998): residential overcrowding correlated with delayed cognitive development, lower reading skills, and behavioral problems among school-age children.</p> <p>Braconi (2001): overcrowding in sample New York families significantly correlated with lower high school graduation.</p>

Aspect of Housing	Study/Impact
Quality	<p>(Braconi 2001): negative, statistically significant correlation between general housing quality and odds of graduating from high school, controlling for effects of overcrowding.</p> <hr/> <p>Lubell and Brennan (2007) and Vandivere et al. (2006): The irreversible effects of lead poisoning include reduced IQs, impaired growth and neurological development, and behavior problems. Lanphear et al. (2000): lead poisoning associated with decreases in reading and math scores.</p> <hr/> <p>Rothstein (2005): asthma attacks triggered by poor housing quality make children more likely to miss school and to be inattentive when at school. Kinney et al. (2002): asthma is a leading cause of school absences.</p>
Neighborhood/ peer effects	<p>Crane (1991): when proportion of residents in managerial or professional jobs fell below 5percent, high school dropout rate increased.</p> <hr/> <p>(Brooks-Gunn et al. 1993; Clark 1992; Connell and Halpern-Felsher 1997; Ensminger, Lamkin, and Jacobson 1996): all find that the percentage of affluent neighbors is positively related to school achievement and completion</p> <hr/> <p>Harris (1998): among environmental factors studied, peer effects have biggest impact on outcomes, and both positive and negative effects of peers continue after peers are gone.</p> <hr/> <p>Gaviria and Raphael (2001): strong evidence among sample of tenth graders of peer-group effects on drug, alcohol, and cigarette use, church attendance, dropping out of school.</p> <hr/> <p>Kaufman and Rosenbaum (1992): Among families who, as part of Gautreaux project, moved from inner-city Chicago to suburbs, participating children substantially more likely to complete high school, take college-track courses, attend college, be employed and work in better paying jobs, compared to those who remained in inner-city schools.</p>

Endnotes

- 1 This study is concerned only with the direct relationships between housing and education from a microeconomic point of view. Note that, from a macroeconomic point of view there are well-documented effects of the housing sector and the affordability of housing on economic development, including state fiscal conditions, economic growth and competitiveness, and infrastructure development. See the issue brief published by the National Governors Association (Houstoun 2004) for a discussion on this topic and for a summary of recent policy initiatives of states across the nation in this regard.
- 2 “Meet the New Neighbors” (2008).
- 3 Rothstein (2007).
- 4 National Low Income Housing Coalition (2008).
- 5 Low-income is defined here as a family whose income is below 200 percent of the poverty threshold. (Child Trends 2000).
- 6 Eckholm (2008a).
- 7 National Low Income Housing Coalition (2004).
- 8 The Joint Center for Housing Studies of Harvard University (2003).
- 9 National Low Income Housing Coalition (2008)..
- 10 Rothstein (2008).
- 11 Ohio Department of Job and Family Services (2008).
- 12 According to HUD, FMRs are gross estimates that “include the shelter rent plus the cost of all tenant-paid utilities, except telephones, cable or satellite television service, and Internet service. HUD sets FMRs to assure that a sufficient supply of rental housing is available to program participants. To accomplish this objective, FMRs must be both high enough to permit a selection of units and neighborhoods and low enough to serve as many low-income families as possible. The level at which FMRs are set is expressed as a percentile point within the rent distribution of standard-quality rental housing units. The current definition used is the 40th percentile rent, the dollar amount below which 40 percent of the standard-quality rental housing units are rented. The 40th percentile rent is drawn from the distribution of rents of all units occupied by recent movers (renter households who moved to their present residence within the past 15 months).” <http://www.huduser.org/datasets/fmr.html>.
- 13 National Low Income Housing Coalition (2008, p. 13).
- 14 National Low Income Housing Coalition (2008, p. 5).
- 15 U.S. GAO (1994), Rumberger (2003).
- 16 The studies are dated between 1975 and 1994.
- 17 Scanlon and Devine (2001, p. 129).
- 18 Hanushek, Kain and Rivkin (2004b).
- 19 Howes and Stewart (1987).
- 20 Howes (1988).
- 21 Pribesh and Downey (1999), Swanson and Schneider (1999).
- 22 Rosenbaum et al. (1993).
- 23 Galster (2003).
- 24 South and Haynie (2004).
- 25 Mehana and Reynolds (2004), Schafft (2002), Bartlett (1997).
- 26 See, e.g., Swanson and Schneider (1999) and Jacob (2004).
- 27 Braconi (2001).
- 28 Rumberger (2002), Tucker, Marx, and Long (1998), Astone and McLanahan (1994).
- 29 Tucker, Marx, and Long (1998).
- 30 Jacob (2004).
- 31 Cooke (2007).
- 32 Kid’s Mobility Project (1998).
- 33 Bartlett (1997).
- 34 Kerbow (1996).
- 35 Fowler-Finn (2001).
- 36 Rothstein (2004).
- 37 Rhodes (2005, 2006), Kerbow, Azcoitia, and Buell (2003), Schafft (2002), and Crowley (2003).
- 38 Rumberger et al. (1999).
- 39 Aaronson (2000).
- 40 Eckholm (2008b).
- 41 Yeung, Linver, and Brooks-Gunn (2002, p. 1862).
- 42 Caldwell and Bradley (1984).
- 43 Johnston (2008).
- 44 See the appendix for more details on housing cost and how it burdens working class and low-income families.
- 45 See, e.g., Rafferty, Shinn, and Weitzman (2004), Israel, Urberg, and Toro (2001), Masten, Miliotis, Graham-Bermann, Ramirez, & Neemann (1993), and Ziesemer, Marcoux, and Marwell (1994).
- 46 *Homes for the Homeless*, Figure 2, p.2.
- 47 According to Hunter, Willis, and Foscarinis (1997), 70 percent of eligible homeless children do not attend preschool. See also National Law Center on Homelessness and Poverty (1997).
- 48 In their study of more than 8,000 homeless New York City children, Park, Metraux, Brodbar, and Culhane (2004) find that one in four of the children studied had been involved with child protective services either before or after their stay in a shelter. See also Culhane, Webb, Grim, Metraux, and Culhane (2003).
- 49 See Braconi (2001), Ernst and Foscarinis (1995) and the National Law Center on Homelessness and Poverty (1995).
- 50 The McKinney-Vento Homeless Assistance Act of 1986 is a federal law that provides federal money for shelter programs for the homeless. The Act ensures homeless children transportation to and from school, free of charge, allowing families to choose the school that they want to attend, regardless of the district in which the family resides. The Act further requires schools to register homeless children even if they lack normally required documents, such as immunization records or proof of residence. Although the McKinney Act has helped to alleviate many of the educational barriers faced by homeless children, these children are still at a significant educational disadvantage (National Law Center on Homelessness and Poverty 2000).
- 51 Harburger and White (2004).
- 52 From Harburger and White (2004), Table 1, Comparison of Cost Savings, at pp.503-504. All costs reported in millions of dollars and rounded to the nearest tenth.
- 53 The instrumental variables estimates are slightly smaller, but the general picture is the same.
- 54 Galster (2003) found that children whose families never owned their home were less likely to graduate from high school compared with students who spent half of their first 18 years in homes owned by their parents.
- 55 Some authors believe that most of the difference is attributable to unmeasured differences between homeowners and renters. Although a plausible hypothesis, the regularity and consistency of the effects found in the literature suggest that a significant part of the effect may be causal.
- 56 When he controls for the fraction of years moved between ages seven and 16, about half of the homeownership effect disappeared.
- 57 See, e.g., Brody, Ge, and Conger (2001), Elliot, Wilson, and Huizinga (1996), Sampson, Morenoff, and Gannon-Rowley (2002) and Sampson, Raudenbush, and Earls (1997).

- 58 Homeownership has been linked with adults' satisfaction with their home and with overall life satisfaction, higher self-esteem, and perceived control over life (for reviews of the literature, see Boehm and Schlottmann 1999; Cairney 2005; Rohe, VanZandt, and McCarthy 2000), as well as with lower rates of psychological distress in general (Cairney and Boyle 2004; Ross, Reynolds, and Geis 2000).
- 59 An interesting point here is the role played by favorable tax policy toward homeowners. The mortgage interest deduction allowed for homeowners ensures that they have more money on the table, relatively speaking, compared with a renter of a similarly valued home. If renters were allowed similar tax treatment for their housing payments, they too might have more disposable income available to invest in their children's education and health.
- 60 Evans, Saegert, and Harris (2001).
- 61 Ibid.
- 62 Conley (2001) at p.11.
- 63 Evans et al. (1998) and Saegert (1982).
- 64 Ross, Reynolds, and Geis (2000).
- 65 Measures of crowding might sometimes differ from study to study—for example, some measures count persons per room rather than persons per square foot—and flaws in proper measurement can lead to biased results. Further, as mentioned, some of the studies may simply show an association between crowding and poor outcomes, not a causal relationship. It may be, for instance, that the multiple challenges faced by families both force them to live in crowded housing and lead to worse educational outcomes. In this case, it may be those other factors, rather than the crowding itself, that actually causes the poor outcomes.
- 66 See Evans et al. (1998) and Evans, Saegert, and Harris (2001).
- 67 In her study using the American Housing Survey, Kutty (1999) that room density (persons per room) had a negative effect on the likelihood of a dwelling being of adequate quality.
- 68 Breysse et al. (2004).
- 69 Factors that can lead to such diseases include structural conditions relating to building quality and maintenance, safety hazards, functional systems (for example, ventilation, smoke alarms heating/cooling, plumbing) or environmental toxins including lead, asbestos and neurotoxins.
- 70 Braconi (2001).
- 71 Evans et al. (2000).
- 72 Saegert and Evans (2003).
- 73 Eckholm (2007).
- 74 Alternate data sources suggest that as many as 3.6 percent of children under age 6 may have elevated blood lead levels (Child Trends Databank 2003).
- 75 Jacobs et al. (2002, Table 5, p. A602).
- 76 See references cited in Lubell and Brennan (2007) and Vandivere et al. (2006).
- 77 Bellinger and Needleman (2003).
- 78 Lead poisoning has also been argued to cause social and emotional problems such as attention deficit disorders and behavioral problems (Bellinger et al. 1994).
- 79 CDC data from 1999 to 2002 show that, among all children ages one to five, 4.4 percent had lead levels at or above 10 ug/dl, but varied tremendously by race, with just 2.3 percent of white and 4 percent of Mexican-American children, but 11.2 percent of black non-Hispanic children at elevated levels. A 2002 study of Kentucky children found higher rates of elevated blood lead levels among children in housing valued less than \$50,000 and those in neighborhoods with a high percentage (at least 60 percent) of non-owner residences than among other children (Kim et al. 2002).
- 80 U.S. Environmental Protection Agency (2003).
- 81 Hsu (2008).
- 82 "CDC finds source of FEMA trailer health problems" (2008).
- 83 Breysse et al. (2004).
- 84 Child Trends Databank (2003).
- 85 Brunekreef et al. (1989).
- 86 Rothstein (2004a, p. 40).
- 87 Kinney et al. (2002).
- 88 Fernandez (2007).
- 89 Hood (2005).
- 90 Vandivere et al. (2006).
- 91 See, e.g., Brooks-Gunn, Duncan, and Aber (1997a), Brooks-Gunn, Duncan, and Aber (1997b), Leventhal and Brooks-Gunn (2000), Leventhal and Brooks-Gunn (2003a), Popkin, Eiseman, and Cove (2004), Braconi (2001) and Rosenbaum (1995).
- 92 See Jencks and Meyer (1990); Leventhal and Brooks-Gunn (2000).
- 93 Duncan and Brooks-Gunn (1999); Furstenberg et al. (1999); Tolan et al. (2004).
- 94 Joint Center for Political and Economic Studies, (2004).
- 95 Molnar et al. (2004).
- 96 LISC (2007).
- 97 Smith and Hurt (2007).
- 98 Hood (2005).
- 99 Ellen and Turner (1997).
- 100 Kling, Liebman, and Katz (2005).
- 101 Cohen, et al., (2003).
- 102 Galster and Santiago (2006).
- 103 Crane (1991) found that when the rate of residents employed in managerial or professional jobs fell below 5 percent, the incidence of school dropout increased. Similarly, the percentage of affluent neighbors has been positively related to school achievement and completion (Brooks-Gunn et al. 1993; Clark 1992; Connell and Halpern-Felsher 1997; Ensminger, Lamkin, and Jacobson 1996).
- 104 See, e.g., Eccles and Gootman (2002) Leventhal and Brooks-Gunn (2000) and Roth and Brooks-Gunn (2000).
- 105 Coleman et al. (1966).
- 106 Case and Katz (1991).
- 107 Brookings Institution, *Reversal of Fortune: A New Look at Concentrated Poverty in the 2000s - Concentrated Poverty, Working Poor, Earned Income Tax Credit, U.S. Poverty, Inequality*, August 8, 2008.
- 108 Jacob (2004).
- 109 Massey and Denton (1993), Ong (1998).
- 110 In particular, participants into the MTO program were randomly assigned to treatment and control groups, so it is unlikely that an individual's or a family's unobserved characteristics are responsible for observed outcomes.
- 111 The two treatment groups together were 54 percent black and 39 percent Hispanic and had household incomes averaging less than \$10,000 per year.
- 112 DeLuca, (2007).
- 113 Among families who used restricted vouchers, only 18 percent lived in neighborhoods where the poverty rate was below the state median. Additionally, only 21 percent resided in neighborhoods where more than half of the residents were non-Hispanic whites.
- 114 Kaufman and Rosenbaum (1992).
- 115 Orr et al. (2003).
- 116 The authors note that readers should take some caution in interpreting the results due to missing data.

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