

# The Impacts of Affordable Housing on Education: A Research Summary

By Maya Brennan

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A growing body of research suggests that stable, affordable housing may provide children with enhanced opportunities for educational success. While schools and teachers bear principal responsibility for children's education, research shows that a supportive and stable home environment can complement the efforts of educators, leading to better student achievement.

As an update to a 2007 literature review, the author recently surveyed the academic literature on various ways in which the production, rehabilitation, or other provision of affordable housing may affect educational outcomes for children.<sup>1</sup> Most of the original hypotheses have been retained, and the evidence has been updated.<sup>2</sup> The review revealed six promising hypotheses regarding the contribution of affordable housing to education, which are discussed below.

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

An extensive body of research documents the separate and combined effects of two different types of moves on children's education: residential mobility (moving to a new home, with or without changing schools) and school mobility (changing schools, with or without changing residences). Numerous studies document that children who change schools, particularly if they change schools often or at critical points in their education, experience declines in educational achievement.<sup>3</sup> Recent research suggests

that school mobility is more harmful if children change schools during kindergarten, during high school or if they move multiple times.<sup>4</sup> Studies also confirm the negative impact of residential moves – especially frequent moves (sometimes known as hyper-mobility), moving during key educational time periods, and moves by non-intact families.<sup>5</sup> Potential explanations for these negative consequences include disruptions in the children's instruction caused by changing schools, excessive absenteeism related to the move, an inability to study quietly and without chaos during

the move, stress caused by the move, disruption of peer networks (for older children), and interference with the development of close personal relationships (for younger children). The educational problems associated with hyper-mobility may also be worsened by other risk factors that can lead families



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Hyper-mobility, however, poses problems for both the hyper-mobile students themselves and for those around them. In schools with high rates of student mobility, the detrimental impact of moving also affects teachers and stable classmates – perhaps because the hyper-mobile students require a disproportionate share of teacher attention and school resources.

to move frequently, such as poverty, an unstable home life, and domestic violence.

Evidence of the negative effects of moving should not be taken to mean that any move will hinder a child's academic achievement. As is discussed later in this brief, some types of moves may be beneficial for children, particularly if the move provides access to better schools or a more supportive learning environment. If the child has time to recover from the disruption or if the move was made for positive reasons, a child who moves to a new home or school may not experience academic setbacks.<sup>6</sup> Earlier research has also found that parental support can reduce the likelihood that moving has negative educational consequences.<sup>7</sup>

Hyper-mobility, however, poses problems for both the hyper-mobile students themselves and for those around them. In schools with high rates of student mobility, the detrimental impact of moving also affects teachers and stable classmates – perhaps because the hyper-mobile students require a disproportionate share of teacher attention and school resources.<sup>8</sup> For example, a study of Chicago schools found that in those with a high rate of student mobility, teachers were unable to gauge the effect of their instruction, lessons became review-oriented, and the curricular pace slowed so that by fifth grade, the curriculum at hyper-mobile schools was a year behind that of more stable schools.<sup>9</sup>

By helping families meet the expenses of owning or renting a home, affordable housing can play an important role in improving families' stability, reducing the likelihood that they will be forced to move as a result of eviction, foreclosure, rent increases, or other financial struggles.<sup>10</sup> Households often move due to an inability to meet housing-related expenses, and losing a housing subsidy can be particularly detrimental. Research has associated the loss of a subsidy with a tenfold increase in the likelihood of moving out of one's neighborhood, as compared to households with no subsidy.<sup>11</sup> While the receipt of housing assistance may in some cases require or lead to a move

by the beneficiary, there is evidence that housing vouchers may reduce families' hyper-mobility. Research on the Welfare to Work voucher experiment found that having a housing voucher reduced the likelihood of low-income families moving during a 4 to 5 year period by nearly one full move (0.88) below the control mean of 1.98 moves for families without voucher assistance, and by more than a full move (1.3) for families who lived in privately owned or rented housing before receiving a voucher.<sup>12,13</sup>

Affordable and sustainable forms of homeownership can also help families achieve long-term stability. Research on the connection between homeownership and children's education has found that homeowners tend to move less frequently than renters and that this may account for part of the difference in educational outcomes between children of homeowners and children of renters.<sup>14</sup>

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

While frequent moves appear to have a negative impact on educational achievement, moves to better school systems (or to communities that offer stronger support for education) may have an independent positive impact on educational achievement. Knowledge of the educational impact of moving to stronger communities has primarily come from studying efforts to reduce concentrated poverty. Attempts to reduce concentrated poverty and racial segregation have led to housing policies and court orders that help low-income families move out of areas with concentrated poverty and gain access to neighborhoods of opportunity. Research on families impacted by the *Gautreaux* litigation in Chicago, for example, found that moves from inner-city urban areas to suburban neighborhoods led to better educational outcomes, such as an increased likelihood of

enrolling in college prep courses, completing high school, and enrolling in college.<sup>15</sup> Studies of some other “mobility” programs, particularly the *Moving to Opportunity* (MTO) demonstration, could not confirm this finding, perhaps due to children staying in the same school district or attending comparable schools after moving to new neighborhoods.<sup>16</sup> (See the Box on page 5 for more discussion of the differences in the results of housing mobility research studies.)

Some forms of housing assistance — particularly housing voucher programs with a mobility counseling component, the construction of affordable or mixed-income housing in low-poverty neighborhoods, and inclusionary zoning policies — are specifically designed to help families access neighborhoods of opportunity, which can include neighborhoods with strong schools. Research in Montgomery County, MD, found that attending low-poverty schools increased the reading and math scores of children living in public housing compared to peers who attended moderate-poverty schools.<sup>17</sup> Even housing subsidies not specifically intended to move families to lower-poverty or more integrated neighborhoods can positively impact children’s education. A recent study found that children in low-income households receiving Section 8 Housing Choice Vouchers live in better neighborhoods and are less likely to miss school than other low-income children.<sup>18</sup> When well-located, other types of affordable housing development may have similar impacts. Policies that revitalize neighborhoods or provide better schools for children living in concentrated poverty, as discussed in more detail on page 4, can also boost educational opportunities for children in families who prefer to stay in their original neighborhood.

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

Although research on overcrowding and children’s educational outcomes is not as developed as research connecting many other aspects of housing with children’s education,<sup>19</sup> studies have found an association between overcrowding and reduced academic performance for children. Most studies on overcrowding in the United States define it conventionally as more than one person per room (excluding bathrooms), meaning that a maximum of five people could live in a home with two bedrooms, a living room, a dining room, and a kitchen without it being overcrowded.<sup>20</sup> Studies have found that children growing up in overcrowded housing have lower math and reading scores, complete fewer years of education, and are less

likely to graduate from high school than their peers.<sup>21</sup> Some studies in the U.S. and India have also found a connection between higher levels of crowding and a lack of task persistence (also referred to as “learned helplessness”).<sup>22</sup>

Children living in crowded homes may experience reduced educational achievement for several reasons. Overcrowding may reduce parental responsiveness by creating social overload and withdrawal. It may also increase noise and chaos that interfere with children’s studies and cognitive development. Alternatively, the problem could be a simple lack of space to sit down and do homework. Research evidence suggests that a combination of reasons may be responsible. A recent study of crowding and cognitive development in early childhood yielded evidence connecting lower cognitive development with reduced parental responsiveness in more crowded homes.<sup>23</sup> It is unclear whether this same factor explains the lower levels of educational achievement among older children who experience crowding. Recent research has also linked household chaos with reductions in children’s IQ scores and increases in behavior problems.<sup>24</sup>

Additional research could help answer some of the lingering questions about the connection between crowding and children’s educational achievement. Little research has been carried out to assess the adequacy of the standard definition of overcrowding or determine whether crowding’s connection with reduced educational achievement holds true for households that prefer a higher number of people per room. One study of cultural differences in crowding found that problems connected with crowding persist even for individuals with cultural preferences for more crowded conditions; however, the study did not look at children’s outcomes or achievement.<sup>25</sup> Additional controls or more robust research methods could also help determine whether other factors that happen to be connected with crowding explain part or all of the effects.

The current body of knowledge about overcrowding suggests that children’s education could benefit



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from policies that help reduce overcrowding, or at least give families the opportunity to choose less crowded conditions. By reducing economic reasons for overcrowding and helping families afford decent-quality homes of their own, affordable housing can improve children's educational achievement. According to a randomized study, households that received a housing voucher had less than half the incidence of overcrowding found in similar households without voucher assistance.<sup>26</sup> Additionally, decent, affordable housing can reduce the likelihood of families living in substandard conditions, which also appears to be correlated with poor educational achievement.<sup>27</sup>

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

Substandard housing quality can negatively affect children's educational achievement by contributing to physical illness that impairs academic performance. Lead paint exposure is a clear example of poor housing quality impairing children's education. Studies show that the exposure of children to lead – a dangerous neurotoxin – through poorly contained lead paint in older homes can lead to developmental and educational deficits.<sup>28</sup>

Substandard housing can also cause or exacerbate health problems that result in children being absent from school. Research has connected higher levels of absenteeism with reduced performance on standardized tests and in the classroom.<sup>29</sup> Poor housing conditions – notably, the persistent presence of cockroaches, pesticides, and mold – contribute to the incidence of asthma, which can lead to absenteeism, even among children whose asthma is mild or moderate.<sup>30</sup> More severe asthma problems are associated with higher rates of school absence,<sup>31</sup> so housing interventions that reduce exposure to asthma triggers can be helpful for children's educational achievement.

Affordable housing programs can help address related health hazards by funding housing rehabilitation activities (such as lead paint abatement through the replacement of windows in older homes), improving the management and maintenance of older homes, helping families move to higher quality housing, and funding the construction of new homes that provide a healthier living environment. For more information on the connection between affordable housing and health, see the Center for Housing Policy's Insights brief on this topic.

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

A number of affordable housing developments provide on-site resident services such as afterschool programs. Research has found that high-quality afterschool programs can have a positive impact on children's educational achievement by increasing school attendance, enhancing work habits, and strengthening task persistence,<sup>32</sup> while lower quality programs do not yield such improvements.<sup>33</sup> Residential-based afterschool programs have a number of potential advantages over school-based programs. First, they reduce transportation problems by eliminating the need to make special arrangements for participating children who might otherwise miss their bus home. Second, in high-crime areas they may alleviate parents' concerns about protecting their children by providing a safe place and reducing the need for travel outside of the home. Third, by offering families more convenient options, they may enjoy higher participation rates. Finally, offering afterschool programs at locations where children are likely to be academically at risk – such as public housing developments – can provide protection against some of the hazards associated with concentrated poverty.<sup>34</sup>

More broadly, as the HOPE VI public housing revitalization program has shown, affordable housing developments can serve as an anchor for more holistic community development efforts that pair new or improved schools with revitalized affordable housing communities. A number of HOPE VI redevelopment projects and similar community revitalization efforts have included the construction of new schools, leading to enhanced benefits for children and the community.<sup>35</sup> In Atlanta, for example, the redevelopment of East Lake Meadows was coordinated with the creation of a new charter school in the community. This school has an admission preference for children who live in the East Lake community and outperforms the state average in its share of students who meet or exceed Georgia's academic standards.<sup>36</sup>

The growing interest in linking the revitalization of housing and schools has led to a new federal housing and education partnership in the form of the Choice Neighborhoods Initiative, an overview of which can be found on [HUD's website](#).

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

Children who experience homelessness face numerous educational barriers, including difficulties accessing preschool and Head Start programs, adverse living conditions that impede cognitive development and study time, and worries about obtaining personal records for enrollment in public schools. Legal protections from the federal McKinney-Vento Act aim to remove some of these barriers, but researchers suggest that states do not have sufficient funds to fully implement and enforce the Act.<sup>37</sup> Considering the obstacles that homeless children face, it is no surprise that they are more likely than their low-income peers to drop out of school, repeat a grade, perform poorly on tests and in the classroom, disengage in class, and suffer from learning disabilities and behavior problems.<sup>38</sup>

Homelessness can have different long-term effects on children depending on their age at the first episode of homelessness, and family separation may exacerbate the problems. Research on these effects suggests that experiencing homelessness is more detrimental in the long run for infants and toddlers than for older children. Five years after first entering a family homeless shelter, children who were homeless as infants or toddlers had lower non-verbal skills than low-income children who had never been homeless, while older children who had experienced homelessness had math and reading scores similar to other low-income children who had been continuously housed.<sup>39</sup> The researchers caution, though, that their study looked at outcomes for only those children who remained with their mothers, so the results may underestimate the long-term effects of homelessness for children overall.

By helping children avoid the disruptions associated with homelessness, affordable housing can help improve their educational achievement. Affordable housing programs that prevent homelessness among toddlers, infants, or pregnant women can be particularly important in reducing long-term harm.

## Differences in the Results of Housing Mobility Research

This note addresses the differences among the findings of major research studies regarding the educational outcomes associated with *Gautreaux* and *Moving to Opportunity* (MTO), two large-scale efforts to help low-income families access neighborhoods of opportunity. *Gautreaux* was a residential relocation program in Chicago in which more than 7,000 low-income black families were randomly assigned to either middle-income majority-white suburbs or low-income majority-black urban areas. The program was part of a legal settlement regarding racial segregation in Chicago's public housing. Most *Gautreaux* moves occurred during the 1980s. MTO was a demonstration project inspired by *Gautreaux* and conducted by the United States Department of Housing and Urban Development in five cities during the 1990s. MTO was a randomized experiment that provided an experimental group of low-income households living in public housing with housing vouchers for use only in low-poverty areas. The results for this group were compared with the results for a control group and a group that received unrestricted housing vouchers. The children of families who moved to low-poverty communities through *Gautreaux* experienced measurable educational gains, but the children in the experimental group in MTO did not.

A comparison of the schools attended by *Gautreaux* movers and MTO movers suggests that *Gautreaux* families were better able to access new school opportunities. Eighty-eight percent of children who moved to the suburbs through *Gautreaux* attended schools that performed at or above the national average for standardized test scores, but only 14 percent of children who moved to low-poverty neighborhoods through MTO attended schools that performed at or above their state's average.<sup>40</sup> Researchers who analyzed the results of MTO also suggested that the lack of educational benefits for movers may be due to one or more of several factors, including: (1) urban school reforms that increased school choice and improved educational outcomes for non-movers while also allowing movers to stay in their original school, (2) the evaluation occurring too soon for long-term effects to emerge, (3) families staying in lower-poverty neighborhoods for only a short time before returning to neighborhoods similar to the ones in which they started, (4) families moving to neighborhoods that were not substantially more affluent or less segregated than their original neighborhoods, (5) parental decisions to keep their children in the same school to maintain social connections, (6) lack of information about school performance and opportunities, and (7) the parents' perception that children's effort and the intervention of a higher power were more important than differences in school quality.<sup>41</sup>

A smaller mobility effort, referred to as Yonkers, involved the construction of 200 units of scattered site public housing in low-poverty areas of Yonkers, New York, during the 1990s. Similar to *Gautreaux*, it was the result of litigation regarding segregation in public housing. Research on Yonkers found that older children who moved reported less school engagement and gave themselves less favorable ratings for school achievement despite having equivalent performance to their non-moving peers. This may have been connected to a disruption in their social network due to the move or to exposure to negative stereotypes about minorities in their new communities.

## Resources

<sup>1</sup> This research brief is an update of the following: Lubell, Jeffrey and Maya Brennan. 2007. *The Positive Impacts of Affordable Housing on Education: A Research Summary*. Washington, DC: Center for Housing Policy and Enterprise Community Partners. The 2007 review, as well as annotated bibliographies of key research studies, are available for download at: <http://www.nhc.org/publications/Housing-and-Education.html>

<sup>2</sup> The 2007 review included a hypothesis regarding the effects of homeownership that has been omitted from the current update. The reason for this change is that new research has raised questions about the extent to which homeownership per se contributes to stronger educational performance, as opposed to the characteristics of homeowners or the residential stability that often accompanies homeownership. For more information, see Brennan, Maya. 2010. *Foundation for Success? A Review of New Research on the Effects of Homeownership on Children. Insights in Housing Policy Research*. Washington, DC: Center for Housing Policy.

<sup>3</sup> National Research Council and Institute of Medicine. 2010. *Student Mobility: Exploring the Impact of Frequent Moves on Achievement: Summary of a Workshop*. A. Beatty, Rapporteur. Committee on the Impact of Mobility and Change on the Lives of Young Children, Schools, and Neighborhoods. Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

<sup>4</sup> Burkam, David T., Valerie E. Lee, and Julie Dwyer. 2009. *School Mobility in the Early Elementary Grades: Frequency and Impact from Nationally-Representative Data*. Paper prepared for the Workshop on the Impact of Mobility and Change on the Lives of Young Children, Schools, and Neighborhoods, June 29-30, 2009, National Academies, Washington, DC. Available at: [http://www.bocycf.org/children\\_who\\_move\\_burkam\\_paper.pdf](http://www.bocycf.org/children_who_move_burkam_paper.pdf) (accessed March 1, 2011); Reynolds, Arthur J., Chin-Chih Chen, and Janette E. Herbers. 2009. *School Mobility and Educational Success: A Research Synthesis and Evidence on Prevention*. Paper prepared for the Workshop on the Impact of Mobility and Change on the Lives of Young Children, Schools, and Neighborhoods, June 29-30, 2009, National Academies, Washington, DC. Available at: [http://www.bocycf.org/children\\_who\\_move\\_reynolds\\_paper.pdf](http://www.bocycf.org/children_who_move_reynolds_paper.pdf) (accessed March 1, 2011).

<sup>5</sup> For an overview of the literature on this hypothesis, see Cohen, Rebecca and Keith Wardrip. 2011. *Should I Stay or Should I Go? Exploring the Effects of Housing Instability and Mobility on Children*. Washington, DC: Center for Housing Policy; Lubell, Jeffrey and Maya Brennan. 2007. *The Positive Impacts of Affordable Housing on Education*. Washington, DC: Center for Housing Policy; Scanlon, Edward and Kevin Devine. 2001. Residential Mobility and Youth Well-Being: Research, Policy, and Practice Issues. *Journal of Sociology and Social Welfare* 28(1): 119-138; Vandivere, Sharon, Elizabeth C. Hair, Christina Theokas, Kevin Cleveland, Michelle McNamara, and Astrid Atienza. 2006. *How Housing Affects Child Well-Being*. Coral Gables, FL: Funders' Network for Smart Growth and Livable Communities. Available at: [http://www.fundersnetwork.org/files/learn/Housing\\_and\\_Child\\_Well\\_Being.pdf](http://www.fundersnetwork.org/files/learn/Housing_and_Child_Well_Being.pdf) (accessed February 15, 2011).

<sup>6</sup> Cohen, Rebecca and Keith Wardrip. 2011. *Should I Stay or Should I Go? Exploring the Effects of Housing Instability and Mobility on Children*. Washington, DC: Center for Housing Policy; Kerbow, David, Carlos Azcoitia, and Barbara Buell. 2003. Student Mobility and Local School Improvement in Chicago. *Journal of Negro Education* 72(1): 158-164; Phinney, Robin. 2009. Residential Mobility, Housing Problems, and Child Outcomes in the Women's Employment Study. *Analysis of the Women's Employment Study prepared for the Center for Housing Policy*; Zeyu Xu, Jane Hannaway, and Stephanie D'Souza. 2009. *Student Transience in North Carolina: The Effect of School Mobility on Student*

*Outcomes Using Longitudinal Data*. CALDER Working Paper 22. Washington, DC: Urban Institute. Available at: [http://www.caldercenter.org/PDF/1001256\\_student\\_transience.pdf](http://www.caldercenter.org/PDF/1001256_student_transience.pdf) (accessed March 1, 2011).

<sup>7</sup> Hendershott, A. B. 1989. Residential mobility, social support and adolescent self-concept. *Adolescence* 24: 217-232, as cited in Leventhal, Tama and Sandra Newman. 2010. Housing and Child Development. *Children and Youth Services Review* 32: 1165-1174.

<sup>8</sup> Fowler-Finn, Thomas. August 2001. Student Stability vs. Mobility – Factors that Contribute to Achievement Gaps – Statistical Data Included. *School Administrator* 36-40.

<sup>9</sup> Kerbow, David. October 1996. *Patterns of Urban Student Mobility and Local School Reform Technical Report*. University of Chicago Center for Research on the Education of Students Placed At Risk, Report No. 5.

<sup>10</sup> Bartlett, Sheridan. 1997. The Significance of Relocation for Chronically Poor Families in the USA. *Environment and Urbanization* 9(1): 121-131; Mills, Gregory, Daniel Gubits, Larry Orr, David Long, Judie Feins, Bulbul Kaul, Michelle Wood, Amy Jones & Associates, Cloudburst Consulting, and QED Group LLC. 2006. *Effects of Housing Vouchers on Welfare Families*. Prepared by Abt Associates, Inc., for the U.S. Department of Housing and Urban Development, Office of Policy Development and Research; Schafft, Kai A. August 2002. *Low Income Student Transience and Its Effects on Schools and School Districts in Upstate New York: The Perspective of School District Administrators: A Research Summary Report*. Working Paper. Cornell University, Department of Rural Sociology.

<sup>11</sup> Kutty, Nandinee K. 2008. *Using the Making Connections Survey Data to Analyze Housing Mobility and Child Outcomes among Low-Income Families*. Report Submitted to the Center for Housing Policy.

<sup>12</sup> Gubits, Daniel, Jill Khadduri, and Jennifer Turnham. 2009. *Housing Patterns of Low Income Families with Children: Further Analysis of Data from the Study of the Effects of Housing Vouchers on Welfare Families*. Prepared by Abt Associates for the Joint Center for Housing Studies Rental Housing Dynamics Initiative with support from the John D. and Catherine T. MacArthur Foundation. Cambridge, MA: Harvard University; Mills, Gregory, Daniel Gubits, Larry Orr, David Long, Judie Feins, Bulbul Kaul, Michelle Wood, Amy Jones & Associates, Cloudburst Consulting, and QED Group LLC. 2006. *Effects of Housing Vouchers on Welfare Families*. Prepared by Abt Associates, Inc., for the U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

<sup>13</sup> A new, smaller study did not confirm these findings, but found instead that renters who receive a housing subsidy move about as often as renters with no subsidy. For more, see Kingsley, G. Thomas and Christopher Hayes. 2008. *Housing Assistance in the Making Connections Neighborhoods*. Washington, DC: Urban Institute.

<sup>14</sup> Holupka, C. Scott and Sandra J. Newman. 2010. *The Effects of Homeownership on Children's Outcomes: Real Effects or Self-Selection?* Forthcoming paper. Explanations for the differences in educational achievement between children of homeowners and children of renters also include self-selection and neighborhood conditions.

<sup>15</sup> Rosenbaum, James E. 1995. Changing the Geography of Opportunity by Expanding Residential Choice: Lessons from the *Gautreaux* Program. *Housing Policy Debate* 6(1): 231-269.

- <sup>16</sup> Briggs, Xavier De Souza, Susan J. Popkin, and John Goering. 2010. "Finding Good Schools." Chapter 8 of *Moving to Opportunity: The Story of an American Experiment in Ghetto Poverty*. New York: Oxford University Press; Fauth, Rebecca C., Tama Leventhal, and Jeanne Brooks-Gunn. 2007. Welcome to the Neighborhood? Long-Term Impacts of Moving to Low-Poverty Neighborhoods on Poor Children's and Adolescents' Outcomes. *Journal of Research on Adolescence* 17(2): 249-284; Orr, Larry, Judith D. Feins, Robin Jacob, Erik Beecroft, Lisa Sanbonmatsu, Lawrence F. Katz, Jeffrey B. Leibman, and Jeffrey R. Kling. 2003. *Moving to Opportunity Interim Impacts Evaluation*. Washington, DC: U.S. Department of Housing and Urban Development.
- <sup>17</sup> Schwartz, Heather. 2010. *Housing Policy Is School Policy: Economically Integrative Housing Promotes Academic Success in Montgomery County, Maryland*. New York, NY and Washington, DC: The Century Foundation.
- <sup>18</sup> Mills, Gregory, Daniel Gubits, Larry Orr, David Long, Judie Feins, Bulbul Kaul, Michelle Wood, Amy Jones & Associates, Cloudburst Consulting, and QED Group LLC. 2006. *Effects of Housing Vouchers on Welfare Families*. Prepared by Abt Associates Inc. for the U.S. Department of Housing and Urban Development. The study also found, however, that the children of families that received vouchers were more likely to repeat a grade, perhaps because of the stronger standards of the children's new schools.
- <sup>19</sup> Newman, Sandra J. 2008. Does Housing Matter for Poor Families? A Critical Summary of Research and Issues Still to Be Resolved. *Journal of Policy Analysis and Management* 27(4): 895-925.
- <sup>20</sup> Studies that break with this convention often measure the total number of residents per room in order to look at different levels of crowding rather than drawing a firm line between overcrowded and non-crowded homes. Newman (2008) notes that more work is needed to validate or improve the definition of overcrowding. Household density alone may not adequately depict whether a household is crowded. Other factors may include household preferences, the number of children in certain age groups, household composition, and the relationships among household members.
- <sup>21</sup> Braconi, Frank. 2001. Housing and Schooling. *The Urban Prospect*. New York, NY: Citizen's Housing and Planning Council; Conley, Dalton. 2001. A Room with a View or a Room of One's Own? Housing and Social Stratification. *Sociological Forum* 16(2): 263-280.
- <sup>22</sup> Evans, Gary W., Heidi Saltzman, and Jana L. Cooperman. 2001. Housing Quality and Children's Socioemotional Health. *Environment and Behavior* 33(3): 389-399; Evans, Gary W., Stephen J. Lepore, B.R. Shejwal, and M.N. Palsane. 1998. Chronic Residential Crowding and Children's Well-Being: An Ecological Perspective. *Child Development* 69(6): 1514-1523.
- <sup>23</sup> Evans, Gary W., Henry N. Ricciuti, Steven Hope, Ingrid Schoon, Robert H. Bradley, Robert F. Corwyn, and Cindy Hazan. 2010. Crowding and Cognitive Development: The Mediating Role of Maternal Responsiveness Among 36-Month-Old Children. *Environment and Behavior* 42(1): 135-148.
- <sup>24</sup> Deater-Deckard, Kirby, Paula Y. Mullineaux, Charles Beekman, Stephen A. Petrill, Chris Schatschneider, and Lee A. Thompson. 2009. Conduct Problems, IQ, and Household Chaos: A Longitudinal Multi-Informant Study. *Journal of Child Psychology and Psychiatry* 50(10): 1301-1308.
- <sup>25</sup> Evans, Gary W., Stephen J. Lepore, and Karen Mata Allen. 2000. Cross-Cultural Differences in Tolerance for Crowding: Fact or Fiction? *Journal of Personality and Social Psychology* 79(2): 204-210.
- <sup>26</sup> See, for example, Mills, Gregory, Daniel Gubits, Larry Orr, David Long, Judie Feins, Bulbul Kaul, Michelle Wood, Amy Jones & Associates, Cloudburst Consulting, and QED Group LLC. 2006. *Effects of Housing Vouchers on Welfare Families*. Prepared by Abt Associates Inc. for the U.S. Department of Housing and Urban Development. The study found that housing vouchers led to a reduction in the incidence of crowding.
- <sup>27</sup> Braconi. 2001. *Housing and Schooling*. New York, NY: Citizen's Housing and Planning Council; Evans, Gary W., Heidi Saltzman, and Jana L. Cooperman. 2001. Housing Quality and Children's Socioemotional Health. *Environment and Behavior* 33(3): 389-399.
- <sup>28</sup> Centers for Disease Control and Prevention (CDC). 2005. Preventing Lead Poisoning in Young Children. Atlanta, GA: US Department of Health and Human Services, CDC, National Center for Environmental Health. Available at: <http://www.cdc.gov/nceh/lead/publications/prelead-poisoning.pdf> (accessed March 1, 2011); Gaitens, Joanna M., Sherry L. Dixon, David E. Jacobs, Jyothi Nagaraja, Warren Strauss, Jonathan W. Wilson, and Peter J. Ashley. 2009. Exposure of U.S. Children to Residential Dust Lead, 1999-2004: I. Housing and Demographic Factors. *Environmental Health Perspectives* 117(3): 461-467.
- <sup>29</sup> See the review of the literature in Moonie, Sheniz, David A. Sterling, Larry W. Figgs, and Mario Castro. 2008. The Relationship Between School Absence, Academic Performance, and Asthma Status. *Journal of School Health* 78(3): 140-148.
- <sup>30</sup> Moonie, Sheniz, David A. Sterling, Larry W. Figgs, and Mario Castro. 2008. The Relationship Between School Absence, Academic Performance, and Asthma Status. *Journal of School Health* 78(3): 140-148; Rauh, Virginia A., Philip J. Landrigan, and Luz Claudio. 2008. Housing and Health: Intersection of Poverty and Environmental Exposures. *Annals of the New York Academy of Sciences* 1136: 276-288.
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As the research affiliate of the National Housing Conference (NHC), the Center for Housing Policy specializes in developing solutions through research. In partnership with NHC and its members, the Center works to broaden understanding of the nation's housing challenges and to examine the impact of policies and programs developed to address these needs. Combining research and practical, real-world expertise, the Center helps to develop effective policy solutions at the national, state and local levels that increase the availability of affordable homes.

## INSIGHTS from Housing Policy Research

The Insights series summarizes research on key housing policy topics in a format designed to be accessible to a wide range of readers.

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### Center for Housing Policy and National Housing Conference

1900 M Street, NW  
Suite 200  
Washington, DC 20036  
Phone: (202) 466-2121  
Fax: (202) 466-2122  
Email: [chp-feedback@nhc.org](mailto:chp-feedback@nhc.org)  
Website: [www.nhc.org](http://www.nhc.org)



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