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Seven Years Later: Effects of a Neighborhood Mobility Program on Poor Black and Latino Adults' Well-being*

REBECCA C. FAUTH,
Columbia University

TAMA LEVENTHAL, and
Tufts University

JEANNE BROOKS-GUNN
Columbia University

Abstract

This study explored program effects on adults' well-being seven years following the implementation of a court-ordered neighborhood mobility program. Low-income black and Latino adults residing in poor, segregated neighborhoods in Yonkers, New York were randomly selected to relocate to publicly funded town-houses in middle-class neighborhoods within the city. Adults who moved ($n = 141$) and demographically similar adults who were not selected to move ($n = 106$) were interviewed. Data indicate that 85 percent of adults who moved to the new housing remained there at follow-up. Results revealed that adults who moved resided in neighborhoods with higher collective efficacy and less disorder and danger, but had fewer neighborhood social ties than adults who stayed in poor neighborhoods. Movers were also more likely to work and less likely to receive welfare than nonmovers. Adults who remained in low-poverty neighborhoods at the time of the follow-up reported better physical health than adults residing in poor neighborhoods, but mental health did not vary by neighborhood.

Socioeconomic status (SES) and racial/ethnic disparities in health are seen for individuals as well as neighborhoods. As a result, public health experts have directed attention to "nonhealth" policies as mechanisms for improving the life chances of low-income adults. Given the high poverty rates in many large U.S. cities, housing policies have the potential to impact families beyond the provision of shelter.

CONCEPTUAL BACKGROUND

The increasingly high rates of unemployment coupled with declining industry in urban areas throughout the 1970s and 1980s awakened many experts to the potential importance of place on families' well-being (Wilson 1987). Not only were the lack of jobs seen as problematic from an economic perspective, but also from a social and health perspective. Poor health and mortality in impoverished areas were high, jobs scarce, and crime frequent (Geronimus and Thompson 2004). One approach to altering these conditions focused on housing, specifically moving residents out of high-poverty neighborhoods, and, often, out of housing projects.

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Address correspondence to Rebecca C. Fauth, National Center for Children and Families, Columbia University, Box 39, 525 West 120th Street, New York, NY 10027 (RCF25@columbia.edu).

Families were relocated to neighborhoods with presumably more economic opportunities, less crime, and stronger social cohesion. Much of the nonexperimental literature posits that neighborhood social dimensions, in particular, should account for “neighborhood effects” on health. These key social dimensions include: (1) collective efficacy, (2) neighborhood order and safety, and (3) diverse social networks. This study is a long-term follow-up of adults who participated in the Yonkers Family and Community Project (Yonkers Project), one of the few evaluations of a housing program aimed at moving low-income families to less-poor neighborhoods. We are able to examine whether the three social dimensions—in addition to economic outcomes—are associated with improvements in the health of adults who moved to the new neighborhoods, compared to those who did not.

Defined by a shared sense of mutual trust and solidarity (i.e., social cohesion) and a willingness of community members to work together for the common good (i.e., informal social control), neighborhood *collective efficacy* is one of the prevailing constructs thought to underlie associations between neighborhood SES and adults’ health outcomes (Sampson, Raudenbush, and Earls 1997). Communities as a whole may eschew risky behavior and hazardous conditions through their shared values and norms. Supporting this notion, two non-experimental studies found a negative association between collective efficacy and adults’ premature mortality (Cohen, Farley, and Mason 2003) and self-reported asthma (Cagney and Browning 2004), above and beyond the influence of neighborhood SES.

Exposure to violence and disorder are related mechanisms that may underlie neighborhood SES–health links. Perceptions of threat in dangerous neighborhoods may generate high levels of stress, which would have negative implications for adults’ physical and mental health (Hill, Ross, and Angel 2005; Ross and Mirowsky 2001). Theorists posit that the multiple hardships, traumas, and demands experienced by poor adults overload their biological systems, exposing them to health risks (Pearlin et al. 2005). Neighborhood danger also may impede a healthy lifestyle if residents fear leaving their homes and using nearby open spaces or facilities for exercise (Grzywacz and Marks 2001).

Social supports and ties might also be a link between neighborhood residence and adults’ health. Close friends and family members who provide emotional support and companionship are indicative of strong ties, while acquaintances who offer services such as babysitting and information about nearby organizations are indicative of weak ties (see Wellman and Wortley 1990). Residents of the most impoverished neighborhoods may experience social isolation from weak ties (Rankin and Quane 2000) or an inability to mobilize weak ties (Smith 2005), either of which could limit their ability to access health-promoting services. Research suggests that access to weak ties and not strong ties may drive favorable associations between residence in affluent or middle-class neighborhoods and adults’ outcomes (Ross and Jang 2000; Wen, Browning, and Cagney 2003). What is not entirely clear from this research, however, is the role of discrimination and relative disadvantage within neighborhoods as a possible impediment to the operation of weak ties. That is, even if affluent neighborhoods provide more weak ties than disadvantaged neighborhoods, low-income adults may not be able to access such ties due to SES and racial/ethnic differences between themselves and their neighbors (Rankin and Quane 2000).

Neighborhood Mobility Programs and Adult Outcomes

To provide a context for the Yonkers Project, we briefly review findings on neighborhood economic and social dimensions and adults’ health outcomes from three other neighborhood mobility programs. The Gautreaux Program followed a 1976 court order mandating the desegregation of Chicago’s public housing projects. Low-income black families in public housing and on the waiting list for public housing were given Section 8 housing vouchers applicable in the private housing market; 75 percent of families were required to use their

vouchers in housing outside of the city limits (i.e., the suburbs), while the remaining families could use theirs within the city limits (see Rubinowitz and Rosenbaum 2000). The Moving to Opportunity (MTO) program focused on low-income families residing in housing projects in high-poverty neighborhoods of Baltimore, Boston, Chicago, Los Angeles, and New York City. Program administrators employed random assignment to place participants into three groups: the treatment group received special Section 8 vouchers applicable in low-poverty neighborhoods for the first year, a second group received regular Section 8 vouchers, and the final group received no vouchers (see Goering and Feins 2003). The Hollman vs. Cisneros consent decree (approved in 1995) resulted in the desegregation of the North Side of Minneapolis and, like Gautreaux, mandated that families relocate to neighborhoods that were both low-poverty *and* low-minority. Deconcentration entailed involuntary displacement following demolition of old public housing units as well as voluntary relocation into other public housing in nonpoor parts of the city or into private housing (via vouchers) in low-poverty, primarily white neighborhoods (see Goetz 2003).

Regardless of the mobility strategy used, poor families who relocated out of high-poverty neighborhoods experienced improved neighborhood socioeconomic conditions and reported higher levels of social cohesion and less danger and violence compared with families who remained in high-poverty neighborhoods (Katz, Kling, and Liebman 2001; Leventhal and Brooks-Gunn 2003a; Rubinowitz and Rosenbaum 2000). Evidence is mixed, however, as to associations between relocation and adults' employment and wages, with benefits being found in the two nonexperimental studies (Goetz 2003; Rosenbaum and Popkin 1991) and inconsistent findings in studies of the MTO program, depending upon how the data are analyzed (Clampet-Lundquist and Massey forthcoming; Ludwig et al. forthcoming). Over time, positive impacts on adults' social ties were again found for the two nonexperimental programs, but not for MTO (Orr et al. 2003). Finally, only MTO examined health outcomes, reporting large reductions in anxiety and depressive symptoms and moderate reductions in obesity, but only short-term effects on general physical health (Katz et al. 2001; Katz, Kling, and Liebman 2003; Leventhal and Brooks-Gunn 2003b; Orr et al. 2003).

Current Study

Following years of deterioration within the city's public housing located in the Southwest area of Yonkers, a 1985 federal court order mandated that new public housing units be built and geographically dispersed throughout the largely white, middle class regions of the city. In the initial stage, eight clusters of new townhouse-style public housing units accommodating 200 families were constructed. Families in public housing or on the waitlist for public housing were randomly assigned to relocate to this new housing.

To date, evidence is available from an initial evaluation of Yonkers that was conducted approximately two years following relocation (Fauth, Leventhal, and Brooks-Gunn 2004). Adults who moved to low-poverty neighborhoods were more likely to work and less likely to receive welfare than were adults who stayed in high-poverty neighborhoods. Similar to the other studies, adults who relocated reported more social cohesion and less danger and disorder in their new neighborhoods than adults who did not relocate. Yet residents who moved reported fewer formal and informal neighborhood social ties compared with their counterparts who remained in high-poverty neighborhoods. Modest physical health, but not mental health, benefits were found as well.

The present study aims to add to the limited body of research on neighborhood mobility programs by exploring the long-term impacts of the Yonkers relocation effort on adults' economic outcomes, neighborhood characteristics, and physical and mental health measured seven years following the initial relocation. First, it is expected that adults who relocated will be more likely to work and less likely to receive income support than adults who did not

move. Second, adults who moved are expected to report more favorable neighborhood conditions—higher collective efficacy and less disorder and danger—than their counterparts who stayed in poor neighborhoods in Yonkers. Third, although adults who moved reported having fewer social contacts at the time of the two-year follow-up study, results from Gautreaux suggest that this unfavorable consequence of moving to nonpoor, nonminority neighborhoods may dissipate over time. To date, none of the mobility studies have examined weak ties as an outcome. Finally, given the expected improvements in the neighborhood economic and social conditions as a result of relocation and the small improvements in health observed in the earlier follow-up, we anticipate favorable impacts on self-reported health and well-being.

METHOD

Design

The Yonkers court-ordered neighborhood mobility program held a lottery in which residents of public housing and those on the waiting list could enter if they had no outstanding lease violations and were up-to-date on rent. Two hundred families were chosen, and 189 met eligibility criteria and moved (“movers”) to the new scattered-site housing; a take-up rate of 95 percent.

Since the Yonkers Project was initiated after mover families relocated, a two-tiered network sampling approach was used to generate a comparison group (“stayers”). First, movers named up to five families they knew who currently lived in Southwest Yonkers and had expressed interest in relocating to the new public housing. Second, since half of mover families had previously lived in the old public housing in southwest Yonkers, many families on the public housing waiting list replaced the mover families in the old public housing units and were canvassed. In all, 458 families were identified (with 402 being screened, 40 percent determined to have been eligible for the lottery, and all but three agreeing to participate). Of these, 46 percent ($n = 66$) had entered the lottery and lost, while the remaining 54 percent ($n = 79$), although eligible, never applied for the lottery (for further details, see Fauth et al. 2004). Comparisons between movers and the two stayer subsamples revealed that the families who never entered the lottery were demographically similar to the two randomized groups (movers and lottery losers; complete results available from authors).

Approximately two years ($M = 1.84$, $SD = 1.06$, ranging from .06 to 3) following relocation of the movers, all 334 household heads were interviewed by trained staff (Fauth et al. 2004). Five years later ($M = 5.50$, $SD = .42$, ranging from 4.23 to 6.69; seven years after relocation), mover and stayer families were re-interviewed in their homes. Although the content was similar, interviews were not identical at the two follow-ups. Participants were provided with a list of emergency numbers in Yonkers and referrals for any medical, mental health, and social services they felt they needed, and they were paid \$60.00 for their time.

Sample

The two-year follow-up sample was comprised of 315 black and Latino adults (after omitting the 19 participants who were not black or Latino, as they were not specifically targeted in the court order). At the seven-year follow-up, 247 of these adults were re-interviewed (78 percent response rate; $n = 141$ movers and $n = 106$ stayers). Participants were just over 40 years of age and, by and large, female, and slightly more than a quarter were Latino (vs. black). At the time of the initial two-year follow-up, two-thirds of respondents had at least a high school diploma (or GED), and most were lone household heads and had less than two dependent children living in their homes. Movers were more

than four years older, were more likely to be Latino, and had fewer co-resident children relative to stayers (see Table 1).

Movers were significantly more likely to remain in the same Census tract at the seven-year follow-up relative to stayers ($\chi^2[1, n = 247] = 16.98, p = .001$; 21 movers and 40 stayers had relocated). Those who relocated were demographically similar to those who did not. Movers who relocated from the scattered-site housing over time tended to move back to disadvantaged neighborhoods, while the opposite was true for those who relocated in the stayer group (full results are available from authors upon request).

At the seven-year follow-up, participants resided in 36 different Census tracts (16 tracts for movers; 29 tracts for stayers; 1 to 48 adults per tract). Comparisons between Census tracts (using 2000 U.S. Census data) for the two groups (weighted for the number of adults residing in each tract) indicated that movers were still living in significantly more advantaged neighborhoods than the stayers (see Table 2).

Attrition analysis revealed that attrition from the two- to seven-year follow-ups did not significantly differ across program groups, nor did those who left the study fit a different demographic profile than the long-term participants (results available from authors upon request).

Measures

Descriptive statistics on all variables appear in Table 1.

Program status—To assess mean differences between movers (adults randomly assigned to move to the new townhouses) and stayers (adults who remained in southwest Yonkers), a program status indicator variable was created (1 = movers, 0 = stayers).

Demographic—Demographic information to be used as control variables in analytic models was assessed at the time of the two-year follow-up with the exception of age, which we assessed at the seven-year follow-up. Participants reported on their age, race/ethnicity (0 = black, 1 = Latino), educational attainment (0 = less than high school, 1 = at least high school), household head status (0 = not female-headed, 1 = female-headed), and number of children under the age of 18 residing in the household.

Economic—Adults reported on two components of their economic status: (1) whether they were employed full- or part-time at the time of the interview and (2) whether they received welfare assistance from Temporary Aid to Dependent Families (TANF) in the past year. We created a combined indicator of economic well-being in which respondents who were both working and welfare-independent were given a score of (1) and respondents who were either unemployed or receiving welfare (or both) were given a score of (0).

Neighborhood—Adults rated five items on a Likert scale from “strongly disagree” (coded 1) to “strongly agree” (coded 5) assessing the level of social cohesion in their neighborhoods: (1) this is a close-knit neighborhood, (2) people around here are willing to help their neighbors, (3) people in this neighborhood generally don’t get along with each other (reverse coded), (4) people in this neighborhood do not share the same values (reverse coded), and (5) people in this neighborhood can be trusted. They also responded to five items measuring informal control in their neighborhood by rating the likelihood (from 1 = “very unlikely” to 5 = “very likely”) that residents would work together to maintain order in five situations: (1) “if children were skipping school and hanging out on a street corner,” (2) “if children were spray-painting graffiti on a local building,” (3) “if a child was showing disrespect to an adult,” (4) “if there was a fight in front of your house and someone was

being beaten or threatened,” and (5) “if, because of budget cuts, the fire station closest to your home was going to be closed down by the city.” We combined the scales for social cohesion and informal control ($r = .49$) to form a measure of collective efficacy ($\alpha = .85$) (Sampson et al. 1997). The neighborhood disorder scale is the mean of five items assessing the degree to which the following were problems in their neighborhoods: (1) litter or trash on the streets or sidewalks, (2) graffiti or writing on the walls, (3) people drinking in public, (4) drug dealers or users, and (5) abandoned buildings (1 = no problem at all, 3 = big problem; $\alpha = .90$) (Coulton, Korbin, and Su 1996). To measure residents’ perceptions of danger in their neighborhoods, participants responded to whether they felt “very safe” (coded 1) to “very dangerous” (coded 4) in three situations: at home at night, on the neighborhood streets during the day, and on the neighborhood streets at night; the mean of the items was computed ($\alpha = .63$) (Briggs 1997). We computed a measure of weak social ties by summing the number of reported neighbors whom residents knew who held steady jobs or a college degree (maximum of 6), and we estimated strong social ties by calculating the number of friends and relatives who resided in the same neighborhood or building as the adults in the sample, with 12 as a maximum (Briggs 1997).

Health—Adults reported on the status of their health on a five-point Likert scale from “poor” (coded 1) to “excellent” (coded 5). All participants responded to six items related to symptoms of depression: (1) “feeling too tired to do things,” (2) “having trouble going to sleep or staying asleep,” (3) “feeling unhappy, sad, or depressed,” (4) “feeling hopeless about the future,” (5) “feeling nervous or tense,” and (6) “worrying too much about things” ($\alpha = .82$) (Kandel and Davies 1982). They also responded to seven items focusing on symptoms of anxiety: (1) “nervousness or shakiness inside,” (2) “trembling,” (3) “suddenly scared for no reason,” (4) “fearful,” (5) “heart pounding or racing,” (6) “as if you had to avoid certain things, places, or activities because they frightened you,” and (7) “tense or keyed up” ($\alpha = .90$) (Rickels et al. 1976). For the anxiety and depression scales, adults reported the frequency each symptom was present during the past month from “not at all” (coded 1) to “all the time” (coded 5), and mean item scores of the respective items were calculated for each. The two scales were combined ($r = .69$).

Analytic Strategy

We examined economic, social, and health outcomes to see if benefits accrued for the movers compared to the stayers at the seven-year follow-up. We ran multiple regression models regressing each of the outcome variables individually on the program status indicator variable and the demographic controls (with the exception of gender, due to lack of variability).¹ We specified subsequent models in order to assess whether the economic indicator or any of our five neighborhood social dimensions accounted for associations between program status and adults’ health outcomes. Finally, to assess whether subsequent relocation over the course of the study moderated program effects on health outcomes, we specified additional models that included Census tract changes between baseline and seven-year follow-up and the interaction between this variable and treatment group. We used ordinary least squares (OLS) regression for continuous outcome measures and logistic regression for dichotomous outcomes.

¹Due to potential confounding as a function of the way the stayer sample was recruited, we assessed whether findings were comparable across the two stayer subgroups. We entered a stayer subgroup indicator variable into models (with the program status indicator variable and the control variables). The indicator comparing the two stayer groups did not reach significance for any of the outcomes. We subsequently dropped the stayer indicator variable from the models and report the more parsimonious models (using only the program status indicator variable).

RESULTS

Economic and Neighborhood

Seven years following relocation, movers were significantly more likely than stayers to work, and they were less likely to receive welfare (OR = 2.29; see Table 3). Net of the demographic control variables, movers reported significantly higher collective efficacy and significantly less disorder and danger in their neighborhoods than stayers (see Table 3). Effects sizes calculated using Cohen's d were .39 for collective efficacy, -1.57 for disorder, and $-.71$ for danger, where $|.2|$ represents a small effect, $|.5|$ a medium effect, and $|.8|$ a large effect. In terms of social ties, movers had significantly more weak ties in their neighborhoods than stayers, as evidenced by the number of reported neighborhood acquaintances who were steadily employed or college educated (Cohen's $d = .49$), yet movers reported a smaller network of neighborhood-based friends or relatives compared to stayers (Cohen's $d = -.59$).

Health

Program effects—Contrary to expectations, movers and stayers reported similar levels of physical and mental health (see model 1 in Tables 4 and 5).

Impact of economic outcomes and neighborhood social dimensions—The program status indicators did not reach significance when the economic and neighborhood social dimensions were entered in models 2 through 7; however, several of the coefficients for the proposed mediators were statistically significant, suggesting that economic and neighborhood conditions, which did vary by program status (as seen in Table 3), are linked with residents' physical and mental health. Specifically, respondents who worked and did not collect welfare had self-reported health scores that were half a point higher, and they had fewer depressive or anxious symptoms (one-third of a point) than respondents who were not economically active. Collective efficacy was associated with better physical and mental health. Perceived neighborhood disorder and danger were associated with lower health ratings; only perceived danger was moderately associated with increased depressive/anxious symptoms. The magnitude of these coefficients ranged from approximately one-fifth to one-third of a point. Adults' neighborhood weak ties were marginally associated with better mental health.

Modifying impacts of relocation—Relocation between the two-year and seven-year follow-ups was linked to adults' health, contingent on treatment group (see model 8 in Table 4). Movers who remained in their assigned housing in low-poverty neighborhoods and stayers who relocated into low-poverty neighborhoods had similar mean levels of reported health, which was between "good" and "very good," on average. Movers who moved out of low-poverty neighborhoods between follow-ups and stayers who remained in high-poverty neighborhoods reported their health to be between "fair" and "good," on average (see Figure 1). The comparable association was not seen for mental health (see model 8 in Table 5).

DISCUSSION

The present study followed 247 adults who participated in a seven-year evaluation of a neighborhood mobility program in Yonkers, New York. Program impacts on adult outcomes from this long-term follow-up was largely consistent with earlier results of a two-year follow-up (Fauth et al. 2004).

At the time of the seven-year follow-up, 85 percent of movers remained in their placement housing. Coupled with the fact that all but 11 of the 200 families randomly selected to move

to the scattered-site townhouses did indeed move, it is clear that poor families in Yonkers welcomed the opportunity to move to the new housing. The contrast with the MTO experience is striking: Only 47 percent of families assigned to relocate to low-poverty neighborhoods did so in MTO, and only 25 percent of families remained in low-poverty neighborhoods at the five-year follow-up. The whole of these findings suggests that relocation to scattered-site public housing is appealing to poor families and also results in stable residence relative to voucher-based approaches.

In line with program goals, relocation resulted in improved economic outcomes for movers compared with stayers, as movers' early economic gains in employment and declines in welfare receipt (relative to stayers) displayed at the first follow-up persisted at the seven year follow-up. Together with the Gautreaux findings as well as more recent re-analysis of MTO, these results point to the combination of neighborhood low-poverty and racial/ethnic diversity as potential contributors to the economic success of low-income, minority adults (notwithstanding that they are still low-income).

As anticipated, mover adults reported more favorable neighborhood conditions including higher collective efficacy and less danger and disorder than stayer adults. These results are in line with other mobility efforts, highlighting the success that these programs generally have at improving the neighborhood conditions in which low-income, minority families live (DeLuca and Rosenbaum 2003; Keels et al. 2005; Orr et al. 2003). Changes in these neighborhood conditions—poverty, social organization, and violence—are thought to be primary drivers for fostering a range of positive outcomes for participants.

Movers had fewer strong or close personal ties in their neighborhoods than stayers; however, movers' weak ties were stronger than stayers' ties. Further exploration of social networks revealed that movers had just as many friends and relatives as stayers—albeit not in their neighborhoods—who they saw often and could count on in times of crisis. These results contribute to emerging evidence that residential proximity, brought about through mobility programs and related initiatives, does not necessarily engender strong social bonds between neighbors (Kleit 2001a). Rather, the combination of economic and racial/ethnic differences between the poor, minority study participants and their more affluent, white neighbors likely created social barriers that precluded the formation of close personal ties, at least in the absence of targeted intervention.

Mover adults, however, were exposed to more diverse networks vis-à-vis their weak ties than stayers. Another study of a scatter-site public housing initiative (similar to the one in Yonkers) also found that residential proximity to more affluent neighbors promoted low-income adults' formation of weak ties (Kleit 2001b). Yet it remains unclear if these weak ties are accessed when residents are seeking out health-promoting activities and services, given that we only found one relatively small association between weak ties and mental health.

Similar to the early Yonkers follow-up, movers (at least those who remained in their placement, low-poverty neighborhoods) reported better health than residents of poor neighborhoods. Our health measure may have accounted for the modest health findings. It is possible that movers' reports of their health were downwardly biased due to relative comparisons with their middle-class neighbors, or that a self-reported global health measure may not have been ideal to capture variation in health within a relatively young sample. Although few adults overall reported poor health, movers were about one-third less likely than stayers to be in poor health. Findings were also suggestive that movers' greater economic well-being compared with that of stayers promoted better physical health, as an

SES health gradient exists even at the lower end of the income distribution. We suspect that economic–health links will only grow stronger over time as this cohort ages.

No program effects on adults' depressive and anxiety symptoms were found. While substantial evidence exists for the centrality of social support for adults' mental health, especially among low-income populations (Kawachi and Berkman 2001; McLoyd and Wilson 1990), our results do not suggest a significant association between strong ties, assessed by proximity to friends and family, and adults' mental health. We did find that, independent of program status, higher levels of collective efficacy in mover neighborhoods (compared with stayer) was associated with better mental health outcomes. Of course, the link between collective efficacy and mental health could be due to the fact that the same person was rating both variables, thereby allowing ratings on one scale to bias ratings on the other scale. It may also be that a longer time lag is needed for mental health benefits as a function of collective efficacy to be realized for movers.

The present study adds to the accumulating evidence exploring the impact of neighborhood mobility efforts on the well-being of low-income, minority adults. The quasi-experimental design of the Yonkers Project partially eliminated problems due to selection bias present in much of the nonexperimental literature. Despite this advantage, several limitations of this study merit attention. First, findings attributable to relocation from high- to low-poverty neighborhoods cannot be disentangled from simultaneous changes in respondents' housing type. Second, the sample was not fully randomized: 54 percent of the stayer group never entered the housing lottery to move out of southwest Yonkers. Third, the sample of low-income, minority adults who were willing to relocate to middle-class neighborhoods might not be truly representative of the full population of southwest Yonkers residents. Fourth, small sample sizes likely limited the statistical power necessary to detect program impacts. Fifth, our self-reported health symptom measures were also somewhat limited given our young sample, particularly from a clinical standpoint. Finally, no baseline data were available (also a shortcoming of MTO and Gautreaux), making it difficult to determine whether movers and stayers were equivalent on relevant outcomes prior to the move. Similarly, the inconsistency between survey measures used across follow-up studies limited our ability to take advantage of the longitudinal nature of the study.

Despite these limitations, the results of this study may have implications for housing policy. Relocating willing low-income, minority adults from poor segregated neighborhoods to public housing in middle-income, racially mixed neighborhoods had a range of benefits, particularly among the 85 percent of movers who remained in their placement neighborhoods at the follow-up. More recent policy efforts in Yonkers are focusing on revitalizing southwest Yonkers. Additional research is needed on the costs and benefits of revitalization compared with relocation as solutions for the neighborhood poverty crisis in U.S. cities. While revitalization capitalizes on extant networks, stability, and community, relocation may offer new residents access to weak ties and employment opportunities that do not exist in impoverished, minority neighborhoods. The findings from the present study indicate that the use of scattered-site townhouses constructed in nonpoor, primarily white neighborhoods, provides residential stability for adults and may result in their—as well as their children's—long-term well-being.

Biographies

Rebecca Fauth is a research affiliate at the National Center for Children and Families, Columbia University and a senior researcher at The Work Foundation in London, England. Her expertise is in the intersection of social policy and human development.

Tama Leventhal is assistant professor, Eliot-Pearson Department of Child Development, Tufts University. A majority of her research focuses on how neighborhood contexts affect children, youth, and families. She is currently a William T. Grant Scholar and a former U.S. Department of Housing and Urban Development Postdoctoral Urban Scholar.

Jeanne Brooks-Gunn is the Virginia and Leonard Marx Professor of Child Development at Teachers College and the College of Physicians and Surgeons, Columbia University. A developmental psychologist, she co-directs the National Center for Children and Families.

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FIGURE 1. Interaction between Program Status and Subsequent Relocation for Adults' Physical Health Ratings

Note: Figure presents means adjusted for adult age, race/ethnicity (Latino), education (at least high school), household head (female), and number of children in household assessed at the two-year follow-up.

TABLE 1

Demographic Characteristics; Economic, Neighborhood and Health Outcome Variables by Program Status

	Number of Items	Movers n = 141	Stayers n = 106	Total N = 247
Demographic characteristics				
Age	1	42.44 (9.20)	38.30 (8.13)	40.67 (8.98)
Female	1	97.2%	94.3%	96.0%
Latino	1	31.9%	18.9%	26.3%
At least high school education	1	65.2%	56.6%	61.5%
Female household head	1	78.0%	82.1%	79.8%
No. of children in household	1	1.74 (1.02)	2.01 (.99)	1.85 (1.01)
Economic variables				
Employed and not on welfare	2	63.6%	47.2%	56.5%
Neighborhood variables				
Collective efficacy	10	3.48 (.74)	3.10 (.91)	3.32 (.84)
Disorder	5	1.30 (.40)	2.16 (.64)	1.67 (.67)
Danger	3	1.70 (.52)	2.10 (.59)	1.87 (.58)
Weak social ties	1	1.71 (1.38)	1.22 (1.31)	1.51 (1.37)
Strong social ties	1	1.69 (1.84)	2.79 (2.06)	2.15 (2.00)
Health outcome variables				
Physical health	1	3.09 (1.08)	3.23 (1.27)	3.15 (1.16)
Depressive and anxious symptoms	13	1.75 (.75)	1.80 (.74)	1.77 (.74)

*
 $p < .05$;**
 $p < .01$;***
 $p < .001$ (two-tailed test)

Notes: All variables measured at two-year follow-up except for adult age. Table presents percentages with test statistic computed via χ^2 and M (SD) with test statistic computed via ANOVA.

TABLE 2

Neighborhood Characteristics Based on 2000 U.S. Census by Program Status

	Mover tracts n = 141	Stayer tracts n = 106	Total N = 241	F
Median family income (\$)	59,456 (15,473)	28,220 (12,728)	46,196 (21,097)	282.66***
Fraction below poverty	.10 (.11)	.33 (.13)	.19 (.16)	241.80***
Fraction black	.12 (.14)	.39 (.17)	.24 (.20)	188.09***
Fraction Latino	.14 (.09)	.38 (.15)	.25 (.17)	247.49***
Fraction white	.62 (.24)	.17 (.17)	.43 (.31)	274.99***
Fraction rental units	.52 (.22)	.79 (.16)	.64 (.24)	112.80***

 $p < .001$ (two-tailed test)

Notes: 2000 U.S. Census data are linked to families' addresses at seven-year follow-up and are weighted by the number of families in each tract (1 to 48 families per tract, N = 36 tracts). Table presents percentages with test statistic computed via χ^2 and M (SD) with test statistic computed via ANOVA.

TABLE 3

Unstandardized Regression Coefficients (Standard Errors) and Model Fit for Yonkers Program Effects on Economic and Neighborhood Social Dimensions at Seven-Year Follow-Up (N = 247)

	Employed/Not on Welfare	Collective Efficacy	Disorder	Danger	Weak Social Ties	Strong Social Ties
Program status (mover)	.83** (.29)	.32** (.11)	-.82*** (.07)	-.40 (.07)***	.63*** (.19)	-1.15*** (.27)
Age	-.01 (.02)	.01 (.01)	-.01 [†] (.00)	.00 (.00)	-.02 [†] (.01)	.00 (.02)
Latino	-.44 (.33)	-.01 (.13)	.00 (.08)	-.06 (.08)	-.30 (.22)	.12 (.31)
At least high school education	1.04*** (.29)	.07 (.11)	-.03 (.07)	-.13 [†] (.07)	-.26 (.19)	.03 (.28)
Female household head	-.27 (.36)	.12 (.14)	-.06 (.08)	-.15 [†] (.09)	-.34 (.23)	-.07 (.33)
No. of children in household	.25 [†] (.15)	.01 (.06)	.01 (.04)	.00 (.04)	-.01 (.10)	-.11 (.14)
R ² /χ ²	31.67***	.07	.41	.14	.07	.08

[†]
p < .10;

**
p < .01;

p < .001 (two-tailed test)

Unstandardized Regression Coefficients (Standard Errors) and Model Fit for Yonkers Program Effects on Physical Health at Seven-Year Follow-Up (N = 247)

TABLE 4

	Physical Health							
	1	2	3	4	5	6	7	8
Program status (mover)	.07 (.14)	-.02 (.14)	.00 (.15)	-.19 (.18)	-.03 (.15)	.22 (.15)	.08 (.15)	.38* (.16)
Age	-.04*** (.01)	-.04*** (.01)	-.05*** (.01)	-.05*** (.01)	-.04* (.01)	-.04*** (.01)	-.04*** (.01)	-.05*** (.01)
Race/ethnicity (Latino)	-.37* (.16)	-.33* (.16)	-.35* (.16)	-.37*** (.14)	-.38* (.16)	-.37* (.17)	-.44* (.17)	-.33* (.16)
Educational attainment (at least H.S.)	.38*** (.14)	.26† (.15)	.36*** (.14)	.37 (.55)	.35* (.15)	.35* (.15)	.33 (.15)	.39*** (.14)
Household head (female)	-.04 (.17)	-.02 (.17)	-.08 (.17)	-.06 (.17)	-.09 (.17)	-.15 (.18)	-.16 (.18)	-.08 (.17)
Number of children in household	.07 (.07)	.04 (.07)	.06 (.07)	.07 (.07)	.07 (.07)	.06 (.88)	.07 (.07)	.03 (.07)
Economic	—	.50*** (.14)	—	—	—	—	—	—
Collective efficacy	—	—	.21* (.08)	—	—	—	—	—
Disorder	—	—	—	-.31* (.13)	—	—	—	—
Danger	—	—	—	—	-.26* (.13)	—	—	—
Weak ties	—	—	—	—	—	-.07 (.05)	—	—
Strong ties	—	—	—	—	—	—	-.04 (.04)	—
Subsequent relocation (yes)	—	—	—	—	—	—	—	.67*** (.21)
Program status × relocation	—	—	—	—	—	—	—	-1.07*** (.32)
R ²	.20	.24	.21	.22	.21	.20	.19	.24

† $p < .10$;

* $p < .05$;

** $p < .01$;

*** $p < .001$ (two-tailed test)

Unstandardized Regression Coefficients (Standard Errors) and Model Fit for Yonkers Program Effects on Mental Health at Seven-Year Follow-Up (N = 247)

TABLE 5

	Depressive and Anxious Symptoms							
	1	2	3	4	5	6	7	8
Program status (mover)	-.07 (.10)	-.01 (.10)	-.01 (.10)	-.03 (.12)	-.02 (.10)	-.05 (.11)	-.08 (.10)	-.11 (.11)
Age	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)	.00 (.01)
Race/ethnicity (Latino)	.37** (.11)	.35** (.11)	.35*** (.11)	.37*** (.11)	.38*** (.11)	.38*** (.11)	.37*** (.11)	.37*** (.11)
Educational attainment (at least H.S.)	-.23* (.10)	-.15 (.10)	-.21* (.09)	-.23* (.10)	-.21* (.10)	-.25* (.10)	-.25* (.10)	-.23* (.10)
Household head (female)	.18 (.12)	.16 (.11)	.19 (.11)	.19 (.12)	.20 [†] (.12)	.18 (.12)	.20 [†] (.12)	.18 (.12)
No. of children in household	-.06 (.05)	-.04 (.05)	-.06 (.05)	-.06 (.09)	-.06 (.05)	-.06 (.05)	-.07 (.05)	-.06 (.05)
Economic	—	-.36*** (.10)	—	—	—	—	—	—
Collective efficacy	—	—	-.21*** (.06)	—	—	—	—	—
Disorder	—	—	—	.06 (.09)	—	—	—	—
Danger	—	—	—	—	.15 [†] (.08)	—	—	—
Weak ties	—	—	—	—	—	-.06 [†] (.04)	—	—
Strong ties	—	—	—	—	—	—	.00 (.02)	—
Subsequent relocation (yes)	—	—	—	—	—	—	—	-.05 (.15)
Program status × relocation	—	—	—	—	—	—	—	.16 (.22)
R ²	.10	.15	.14	.10	.11	.12	.11	.10

[†] $p < .10$;

* $p < .05$;

** $p < .01$;

*** $p < .001$ (two-tailed test)