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Housing Mobility and the Intergenerational Transmission of Neighborhood Poverty

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Abstract

This article uses a mixed methods analysis to identify factors that account for the intergenerational transmission of neighborhood poverty, drawing on longitudinal data from the Moving to Opportunity study in Baltimore from 1994 to 2010. We use quantitative survey data from nearly 500 young adults and qualitative interview data from a subset of 51 young adults to examine family characteristics during childhood that account for residence in high-poverty neighborhoods in young adulthood, with special attention to whether housing assistance can break the intergenerational cycle of neighborhood poverty. We find that family economic resources, social ties to high-poverty neighborhoods, and parents' neighborhood experiences and expectations all influence where young adults live in the next generation. Moreover, housing assistance has both replacement effects—substituting for what families lack—and enhancement effects—enabling families with more resources—for neighborhood outcomes across generations. This study contributes to the growing literature on neighborhood selection, treating it as a process to be examined rather than statistically controlled away and the literature on intergenerational neighborhood outcomes, focusing on how childhood contexts and parents' prior experiences shape neighborhood outcomes for young adults.

Introduction

Where one grows up can have serious consequences for future life chances, including the odds of teen pregnancy, educational attainment, adult employment, and involvement in delinquent activities (Crane 1991; Rosenbaum and Popkin 1991; Brooks-Gunn et al. 1993; Sampson 1997; Sampson, Morenoff and Gannon-Rowley 2002; Harding 2003; Wodtke, Harding, and Elwert 2011). To estimate the relationship between neighborhoods and individual outcomes, researchers have searched for ways to account for “selection bias,” or how individual-level characteristics affect an individual’s choice to live in a poor neighborhood (Tienda 1991; Duncan and Raudenbush 1999; Ludwig et al. 2008). However, in recent years, social scientists have emphasized the importance of treating neighborhood selection not as a statistical nuisance but as an important puzzle itself. Understanding how individuals come to live in their neighborhoods and the constraints and opportunities shaping neighborhood mobility is key to understanding not only current neighborhood residence, but why low-income families remain in “poverty traps” over time and over generations (Hedman and van Ham 2012; Sampson 2012; Sharkey 2012; Rosenblatt and DeLuca 2012).

One explanation for why people live in poor neighborhoods is that they grew up in poor neighborhoods (Sharkey 2008). Therefore, growing up in poor neighborhoods not only affects individuals’ education, employment, and health outcomes, but it also can influence where one lives as an adult, which can shape future opportunities for individuals and their children. Neighborhood disadvantage can endure not just across one generation, as adults live in similar neighborhoods to where they grew up, but cumulatively across multiple generations. Sharkey and Elwert (2011) found that the neighborhood contexts in which parents grew up have a nearly equal effect on children’s cognitive abilities as that of the children’s own neighborhood contexts.

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Parents' neighborhood experiences during childhood shape their educational and economic resources, which may influence children's academic outcomes. In turn, children's outcomes can affect their own neighborhood residence as adults. Parents' neighborhood experiences throughout their life may also affect their norms, aspirations, and expectations about neighborhoods (Darrah and DeLuca 2014). These orientations can be passed onto children, affecting where children strive to live as young adults, creating cumulative neighborhood disadvantage over generations.

Growing concerns over the enduring effects of neighborhood poverty on families' and children's well-being motivated policymakers to develop interventions to provide opportunities for families to move out of high-poverty neighborhoods. In the mid-1990s, the Moving to Opportunity (MTO) experiment was launched, providing randomly selected families with vouchers to move from public housing to low-poverty neighborhoods. The MTO study was evaluated over 15 years, with the focus on adults' employment outcomes, children's educational outcomes, and health outcomes. Researchers found mixed evidence of its effects on adults' economic outcomes and children's educational outcomes and generally positive impacts on children's and adults' health, particularly their mental health (Sanbonmatsu et al. 2011). This program and other mobility programs tend to be evaluated over a time frame that does not span generations, so little is known about whether MTO, or housing assistance more broadly, has been successful in breaking the intergenerational cycle of neighborhood poverty.

This article brings these two lines of research together to investigate factors that contribute to the intergenerational transmission of neighborhood poverty, including whether and under what conditions housing assistance helps young adults live in less disadvantaged neighborhoods than where they grew up. We use longitudinal qualitative and quantitative

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analyses to explore how parents' economic and social characteristics and exposure to neighborhood disadvantage contributes to the types of neighborhoods their children live in as young adults. Then, we explore whether the effect of parent characteristics and experiences interacts with the receipt of a housing voucher through MTO. Does providing families with additional resources to exit neighborhoods of concentrated poverty alter the intergenerational transmission of neighborhood poverty? Rather than looking at how neighborhoods affect individual outcomes, this article explores how family characteristics, including the receipt of housing assistance, predict neighborhood conditions across generations.

Intergenerational Transmission of Neighborhood Poverty

Past research examines the degree to which families remain in poor neighborhoods over time and concludes that there are stark racial inequalities in enduring neighborhood poverty. Several studies show that over the course of several years, blacks are less likely than whites to exit poor neighborhoods and more likely to enter them (Gramlich, Laren, and Sealand 1992; Massey, Gross, and Shibuya 1994; South and Crowder 1997). Scholars taking a longer view over a decade or more (Quillian 2003; Briggs and Keys 2009) confirm these racial disparities and show that exiting poor neighborhoods more often occurs due to housing mobility than neighborhood change. Sharkey (2008) provides the first multigenerational study examining the durability of neighborhood poverty. He shows that neighborhood poverty endures quite strongly over generations, and that there are important racial differences: 72% of black children, compared to only 40% of white children, who grew up in the poorest quarter of neighborhoods remain in these types of neighborhoods as adults. Where children grow up has a striking effect on where they live as adults, particularly for black children, who comprise our sample.

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Sharkey (2008) offers several mechanisms for how neighborhood contexts are passed down across generations. Parents' economic resources affect both neighborhood attainment and children's future economic outcomes, which in turn affect where children live as adults. However, neighborhoods are a unique dimension of stratification aside from individual resources, and several mechanisms account for why neighborhood contexts persist over generations. First, individuals' social and family ties are often linked to places, so children who grew up in poor neighborhoods may continue to reside in these places even if their economic circumstances would allow them to move elsewhere. Second, racial discrimination may limit the neighborhood opportunities of blacks, and given that black neighborhoods tend to be poorer than white neighborhoods, black families may remain in poor neighborhoods over time. Families' economic, social, and demographic features, then, shape where children currently live and will live in the future. This article examines how family characteristics like parent resources, ties to the neighborhood, and neighborhood experiences shape children's neighborhood outcomes as young adults and whether the additional resource of housing assistance can break the cycle of neighborhood poverty.

Housing Assistance and Neighborhood Selection

Studies of families receiving housing assistance provide mixed evidence on its effectiveness in helping families move out of disadvantaged neighborhoods. One study prominently featured is the MTO demonstration, designed by the Department of Housing and Urban Development (HUD) to measure the consequences of a housing mobility initiative with an experimental design. In the mid-1990s, tenants in public housing located in extremely poor neighborhoods in Baltimore, Boston, Chicago, Los Angeles, and New York were eligible to

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apply to the MTO program and were then randomly assigned into one of three groups. One group received a traditional Section 8 voucher to rent an apartment with no geographic restrictions. The experimental group received the same voucher but was required to move to a neighborhood with a poverty rate below 10 percent (the “MTO voucher”). They also received housing and budget counseling. The control group received no new housing assistance beyond remaining in public housing.

A little less than half of those in the experimental group actually used their voucher to move to a low-poverty neighborhood, and those who did so only had to stay in the new neighborhood for one year.ⁱ Over time, some moved back to poorer neighborhoods. Neighborhoods also changed, and many neighborhoods where families with MTO vouchers moved experienced increasing poverty rates. Families in the control group did not stay in one place either. During the late 1990s, local housing authorities, especially in Baltimore and Chicago, demolished several public housing developments, which pushed control families out into other public housing developments or into private housing with a Section 8 voucher. At the beginning of MTO, families lived in predominantly African-American or Latino neighborhoods that were 40-50% poor; over a decade later those in the control group were living in neighborhoods where, on average, 33% of their neighbors were poor, compared to 28% for the experimental group and 29% for the Section 8 comparison group (Ludwig 2012). Furthermore, there was little difference among the treatment and control groups in terms of the neighborhoods’ average racial composition: control group families lived in tracts that were 84% minority, compared to 80% for the experimental group and 84% for the Section 8 group (Sanbonmatsu et al. 2011).ⁱⁱ

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From the onset of the MTO demonstration, individual characteristics shaped whether someone would use their MTO voucher to move to a low-poverty neighborhood and affected what type of low-poverty neighborhood they moved to (Clampet-Lundquist and Massey 2008). Though there was random assignment of families into treatment and control groups, the choice to actually use the voucher was not random. Individuals who were younger, who were in school, who had smaller families, who were living in integrated neighborhoods, and who were dissatisfied with their neighborhood were more likely to use the voucher (Clampet-Lundquist and Massey 2008; Shroder 2001). Those individuals who moved to neighborhoods that were low-poverty and predominantly white were older, more likely to be a high school graduate, and less likely to have friends in the baseline neighborhood than those who moved to low-poverty, predominantly minority neighborhoods (Clampet-Lundquist and Massey 2008).

Many families who signed up for MTO wanted to exit their often dangerous, overcrowded, and isolated neighborhoods (Turney, Kissane, and Edin 2013). Furthermore, qualitative interview studies of MTO find that families were open to living alongside middle-class or white neighbors (Briggs, Popkin, and Goering 2010; Rosenblatt and DeLuca 2012), and research on other mobility programs confirms that poor African-American families often seek race and class diversity (Boyd et al. 2010). Yet even when families have additional resources in the form of housing vouchers and the desire to move to low-poverty neighborhoods, poor families face more constraints in making residential choices than higher-income families, preventing them from maximizing their preferences. They face barriers to mobility to lower-poverty neighborhoods, including limited mobility counseling, tight rental markets, an insufficient supply of affordable units that pass HUD inspection, and limited time to search for a unit, all against the backdrop of persistent racial and class segregation in U.S. cities (Edin, DeLuca, and Owens 2012; DeLuca,

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Garboden, and Rosenblatt 2013). While often seen as a critical tool in breaking the cycle of poverty, past research shows mixed evidence as to housing vouchers' effectiveness in helping poor families leave poor neighborhoods (DeLuca, Garboden, and Rosenblatt 2013). Families' preferences can also lead them to maximize other considerations, as recent studies suggest poor families sometimes privilege the quality, size, and characteristics of the housing unit over neighborhood characteristics (Wood 2011; Rosenblatt and DeLuca 2012).

When families did move to low-poverty neighborhoods through MTO, they were not always high-resource areas. Institutional racism has not only resulted in the durability of racially segregated neighborhoods but has also apportioned fewer resources to predominantly black neighborhoods relative to majority-white neighborhoods even when holding income constant. Middle-class black neighborhoods are more likely to be proximate to economically-disadvantaged neighborhoods and to have lower-quality schools and lower property values than middle-class white neighborhoods (Massey and Denton 1993; Massey, Condran, and Denton 1987; Massey and Fong 1990; Pattillo-McCoy 1999; Sampson 2012; Sharkey 2014). Therefore, when most of the MTO families used their vouchers to move to a low-poverty predominantly-black neighborhood, they were typically moving into communities that were on the decline and had fewer resources than similarly low-poverty predominantly-white neighborhoods. This initial move laid the groundwork for subsequent mobility. Those who moved to a low-poverty predominantly-white neighborhood initially were more likely to be in a low-poverty neighborhood four years later than those who moved to a low-poverty minority neighborhood (Clampet-Lundquist and Massey 2008).

Parent Characteristics, Housing Assistance, and Intergenerational Neighborhood Poverty

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Families need resources to exit disadvantaged neighborhoods. Families' economic characteristics, ties to neighborhoods, and the housing market all play a role, as do families' desires to live in lower-poverty and more integrated neighborhoods. The introduction of a housing voucher provides additional assistance to families to move to lower-poverty neighborhoods. How might these factors contribute to neighborhood outcomes in the subsequent generation? In this article, we test several hypotheses.

Like past research, we hypothesize that parents' economic status may shape where children live as young adults, as economic resources shape children's educational and occupational opportunities that influence where they can afford to live. We also hypothesize that family ties to friends and family members in poor neighborhoods may lead them to live in similarly high-poverty neighborhoods as young adults. Dawkins' (2006) research suggests that not only are local social ties a deterrent to inter-neighborhood mobility for families with children, but they are particularly so for low-income families. Moreover, the lower mobility found among African-Americans relative to whites may be explained by ties to nuclear and extended families (Spilimbergo and Ubeda 2004). Young adults may not live in the same neighborhood as they grew up in, but given the geographic clustering of high-poverty neighborhoods, if they want to stay close to social ties, they may remain in high-poverty neighborhoods.

Moving beyond past research, we hypothesize that parents' experiences with neighborhoods will be passed onto their children. If parents ever lived in more advantaged neighborhoods, they may pass this information or orientation onto their children, who may be more knowledgeable or open about living in these types of neighborhoods when it is time to choose their own residence in young adulthood. Britton and Goldsmith (2013) find that African-

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Americans and Latinos typically replicate the racial/ethnic composition of the neighborhood they grew up in when they are young adults, unless they move to a different metropolitan area, so alternative information from parents may be necessary to break this pattern. Darrah and DeLuca (2014) report that mothers who moved to low-poverty, racially-mixed neighborhoods through a mobility program in Baltimore changed their neighborhood preferences and reported a greater desire to live in diverse, low-poverty neighborhoods. This preference, shaped by past experience, could be passed onto their children. Finally, we hypothesize that a family's entrenchment in concentrated poverty neighborhoods may shape the next generation's outcomes. If households live in extremely poor neighborhoods or have lived in poor neighborhoods for many years, this may reduce the odds that they exit these types of neighborhoods during a child's formative years, so the child as a young adult will not have experience or information about other types of neighborhoods and will have been subject to neighborhood influences on education and employment that may constrain his/her choices.

We then test whether housing assistance plays a different role in breaking the cycle of neighborhood poverty across generations depending on parent and household characteristics. On the one hand, we could see *enhancement* effects: that housing vouchers are particularly effective for families with more economic resources, experiences living in more advantaged neighborhoods, and less entrenchment in poor neighborhoods. Families with resources may be more able to act to move out of poverty, and the housing voucher might give them the opportunity to do this. When children reach young adulthood and choose where to live, the resources of their family plus the stability or experiences in lower-poverty neighborhoods that housing vouchers provide might work together to ensure residence in lower-poverty neighborhoods.

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On the other hand, housing vouchers might be particularly useful for children in low-resource families. If parents have few economic resources, do not have experience and knowledge about living in advantaged neighborhoods, and if the family has been living in low-income neighborhoods for many years, the housing voucher might be a critical resource to break the cycle of neighborhood poverty, providing an opportunity that otherwise would not be available. This could be a *replacement* effect—vouchers can replace other family resources that might aid children in moving to lower-poverty neighborhoods as young adults.

This article expands on past research in several ways. We move beyond the focus on racial differences in the intergenerational transmission of poverty by considering other characteristics of parents associated with the neighborhood contexts of their children in young adulthood. We extend the past work on the effect of parents' neighborhoods on children's outcomes from cognitive ability (Sharkey and Elwert 2011) to neighborhood residence in young adulthood. More broadly, this article contributes to the literature on neighborhood selection by analyzing both longitudinal quantitative survey data and qualitative interview data to understand the family characteristics that facilitate or hinder children's residence in low-poverty neighborhoods as young adults and how housing assistance interacts with these family characteristics to shape the intergenerational transmission of neighborhood poverty.

Data and Methods

We use mixed methods to analyze data from families who participated in the MTO demonstration in Baltimore in the mid-1990s. We focus on families in Baltimore because we have the most comprehensive longitudinal data for this site. Moreover, by focusing on just one metropolitan area, we reduce the heterogeneity implicit in including multiple cities with different

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housing markets (Rosenbaum 2005). Since random assignment, families have been followed through surveys and in-depth interviews. We use data from the baseline survey, the 2008 final impacts survey, the 2003-2004 qualitative study, and the 2010 qualitative study. The quantitative analysis examines the baseline family characteristics associated with neighborhood outcomes for the young adult children of MTO families and the interaction of housing assistance with family characteristics. The qualitative analysis explores the processes through which young adults end up in their neighborhoods, by unpacking the quantitative findings and providing insights on family features not measured in the survey. We considered both qualitative and quantitative data when designing all analyses.

Quantitative Analysis

We limit analyses to children of MTO families in the experimental or control groups who are young adults at the time of the final survey (N=496 children who are 18 or older in 2008).ⁱⁱⁱ We used multiple imputation to impute missing data, combining results over five imputed datasets (see Methodological Appendix for more information; no analysis variable was missing more than 12% of observations). All families in our study resided in high-poverty neighborhoods at baseline (average poverty rate was 52%). To measure the intergenerational transmission of neighborhood poverty, we examine the neighborhood mobility trajectories of young adult children of MTO families, based on the poverty rates of their neighborhoods from baseline through 2008 (the time of the final survey). We also examined young adults' 2008 neighborhood poverty rate, and results (available upon request) are substantively similar. We focus on the mobility trajectories because they provide more temporal detail about subjects' complex residential histories rather than relying on neighborhood conditions at one point in time.

We used mixed methods, drawing on both survey and interview data, to inductively identify three neighborhood mobility trajectories. The qualitative analysis also compares young adults across these trajectories. Conceptually, we sought to identify young adults who remained in high-poverty neighborhoods from baseline through 2008 (Stayers), who resided in low-poverty neighborhoods in 2008 (Exiters), and who spent some time in low-poverty neighborhoods but resided in a high-poverty neighborhood in 2008 (Boomerangs). Note that nearly all Stayers moved, often many times, from their baseline address but they stayed in high-poverty neighborhoods. The survey data provides address history from 1995 to 2008. We linked address data to linearly interpolated tract poverty rates based on the 1990 and 2000 Census and 2005-09 American Community Survey to estimate how long young adults spent in various neighborhood contexts. We iteratively moved between quantitative and qualitative data, comparing categorizations based on various poverty rate cutoffs with “ideal type” Stayers, Exiters, and Boomerangs identified in the interview data. Our final classification is as follows: (1) Stayers: those who lived in a neighborhood with a poverty rate over 15% in 2008; (2) Exiters: those who lived in a neighborhood with a poverty rate below 15% in 2008; and (3) Boomerangs: those who lived in a neighborhood with a poverty rate over 15% in 2008 but who spent at least one year between 1995 and 2008 in a neighborhood with a poverty rate below 15%. The Methodological Appendix provides more detail about the development of these trajectories.

While our classification identifies three distinct mobility trajectories, there is heterogeneity within the Stayer, Exiter, and Boomerang categories. Though we defined “exiting” as living in a neighborhood less than 15% poor, the range of neighborhood types that fall in this category is vast. And, just as importantly, very often these neighborhoods are contiguous to more disadvantaged neighborhoods. By 2008, nearly half of the Exiters in the qualitative sample lived

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in Baltimore neighborhoods with considerably low resources, such as low-quality public schools, deteriorating housing, and regular exposure to drugs and violence. The qualitative analyses are critical in understanding these complexities within the categories.

Our independent variables of interest are measured at baseline from parent responses to survey questions: parent resources (whether the parent was working; whether the parent had a high school degree), ties to the neighborhood (whether the parent reports that s/he had friends or family in the neighborhood), and baseline and parent's former neighborhood conditions (neighborhood poverty rate at baseline, how long the parent reported living in the neighborhood, and whether the parent had ever lived in a predominantly white neighborhood). Standard errors are clustered by family, as more than one child from some families was followed into young adulthood.

We also explore the role of housing vouchers in breaking the multi-generational cycle of residence in high-poverty neighborhoods. At baseline, MTO families received an MTO voucher, a "traditional" Section 8 housing voucher; or no change to their situation of living in public housing. We compare those who received MTO vouchers to be used in neighborhoods less than 10% poor (the experimental group) to those that received no voucher (the control group).^{iv} We explore how receiving housing assistance shapes young adults' later outcomes and how the baseline characteristics described above interact with receiving an MTO voucher. We estimate interaction terms between baseline family characteristics and MTO voucher receipt, allowing us to explore whether, for example, the MTO voucher was more effective in assisting children to live in lower-poverty neighborhoods as young adults if their parent worked at baseline. We describe the outcomes as being replacement effects—the voucher is more beneficial for young

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adults from lower-resource families—or enhancement effects—the voucher is more beneficial for young adults from already higher-resource families.

We use linear regression models to predict mobility trajectories from the equation:

$$Y = \alpha + \beta_1 MTO\ Voucher + \beta_2 X_k + \beta_3 MTO\ Voucher * X_k + \varepsilon$$

where Y is either a dichotomous variable identifying Boomerangs versus Stayers or a dichotomous variable identifying Exiters versus Stayers. We use linear regression to predict the dichotomous outcome variables so that results can be interpreted in terms of the proportion of young adults that are Boomerangs or Exiters rather than Stayers.^v *MTO Voucher* is a binary variable for MTO voucher receipt versus control group, X_k is one of the baseline family characteristics described above, and the coefficient β_3 reveals whether the effect of the MTO voucher interacts with a baseline family characteristic. These are Intent to Treat (ITT) estimates, estimating the impact of receiving a voucher regardless of whether a family moved. We present ITT rather than Treatment on the Treated (TOT) effects for families that initially used the voucher to move to a low-poverty neighborhood because our qualitative sample includes both compliers and non-compliers.^{vi}

Over half of the young adults still live in their parent’s household in 2008. We include young adults who both have and have not established independent residence because many young adults move back and forth between their own residence and their parents’ household, as the qualitative data reveal, so limiting the sample to young adults living on their own at the time of the final survey is an unreliable measure of independence. Further, we aim to explore a full picture of where children end up as young adults, and remaining with family and “launching” from there is an outcome of interest. Our definition of young adults includes those 18 or over; if

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we instead look at those 22 or older (the median age in our sample), results generally hold (see the Methodological Appendix).

Table 1 provides descriptive statistics for young adults' neighborhood mobility trajectories in 2008, split by MTO treatment group. A larger proportion of children whose parents received MTO vouchers either exited high-poverty neighborhoods or spent some time outside them as Boomerangs compared to the control group. We also present mean neighborhood poverty rate in 2008, and young adults who grew up in families that received the MTO voucher lived in neighborhoods with slightly lower poverty rates in 2008 compared to the control group. Table 1 also provides descriptive statistics for the independent variables of interest. We do not control for race because over 98% of the sample is African-American. There are few significant differences between treatment groups, as expected given random assignment. The few significant differences are likely due to sample selection—these statistics are based only on survey children in the Baltimore sample who are young adults in 2008.

[Table 1 about here]

Qualitative Analysis

For the qualitative analysis, we concentrated on the longitudinal sample of 51 youth for whom we had in-depth interview data from studies conducted in 2003-2004 and 2010. In some cases, our data extended to 2012-2013 for a smaller ethnographic sample. In 2010, a team of researchers interviewed 150 individuals in the Baltimore final survey sample who were 15 to 24 years old. This qualitative study only included families in the experimental and control groups. Out of this sample of 150 youth, 51 of their caregivers and 13 of the youth were interviewed in the 2003-2004 qualitative study. In most cases, the caregiver is the youth's mother, but one father is represented, and several grandmothers were interviewed. The in-depth interviews in

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2003-2004 and in 2010 covered a range of topics including employment, past and present neighborhood conditions, and health.

The longitudinal in-depth interview data allows us to examine the processes that contribute to young adults exiting, staying, or boomeranging across high-poverty neighborhoods to better understand how neighborhood disadvantage is passed down across generations. We looked at similar variables as in the quantitative data: parent resources, family ties, and neighborhood experiences and expectations. The 2003-2004 interview data were coded by hand by a set of trained coders and entered into a database we created in Microsoft Access. The secondary coding analysis of these data was conducted by one of the authors, who focused on the codes of residential history, desire to move, experience with MTO, and descriptions of the housing and neighborhoods. The 2010 interview data were coded by a set of trained coders who conducted the analysis through Atlas.ti. Data from the “housing” code from these interviews was explored for secondary coding for this article by one of the authors. A note on age—when we list ages in the findings, we are using the age of the young adults when we interviewed them in 2010.

[Table 2 about here]

Table 2 shows the distribution of the 51 respondents according to their mobility trajectory and treatment group. Consistent with the quantitative analysis, use of the MTO voucher was associated with being more likely to be an Exiter or a Boomerang. Here, we divided the experimental treatment group into categories based on whether the household used the MTO voucher to make a move (compliers), which we discuss in the qualitative results.

Results

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We organize our presentation of results by describing both quantitative and qualitative results related to each family characteristic that may facilitate or hinder the intergenerational transmission of poverty.

Parental Barriers and Resources

First, we explore what family characteristics predict the neighborhood poverty trajectories for young adults. Table 3 presents results from linear regressions predicting the proportion of young adults who are a Boomerang or Exiter versus a Stayer.

[Table 3 about here]

All models include a dummy variable for experimental versus control group, so results can be interpreted as identifying additional characteristics associated with young adults' neighborhood poverty rates within each group. The coefficient for MTO voucher indicates that a greater proportion of children, an additional 20-30%, whose families received an MTO voucher exited high-poverty neighborhoods (at least temporarily, in the case of Boomerangs) compared to the control group. This suggests that housing assistance may be a critical resource that has lasting effects past a generation. Model 1 explores parent SES. While all families in the MTO experiment were disadvantaged, there were differences among the families, and a greater proportion of young adults with working parents at baseline exited high-poverty neighborhoods compared to those whose parents did not work, confirming that family resources have intergenerational impacts on neighborhood attainment.

Next, we explore how housing assistance enhances or replaces (or is enhanced or replaced by) parental economic resources. Table 4 presents the results of two separate regression models with interaction terms between baseline characteristics and the receipt of an MTO voucher. The first model predicts being a Boomerang rather than a Stayer (Column 1), and the

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second model predicts being an Exiter rather than a Stayer (Column 2). The first two rows show the control mean and experimental effect for those whose parents worked; the second two rows show the control mean and experimental effect for those whose parents did not work, and the fifth row tests whether the experimental effects are significantly different between those whose parents did and did not work.

[Table 4 about here]

Column 1 shows that 39% of young adults in the control group whose parents worked were Boomerangs rather than Stayers. The MTO voucher effect is non-significant—among those whose parents worked at baseline, receiving a voucher did not affect neighborhood trajectory through young adulthood. For young adults whose parents did *not* work, 26% of the control group and an additional 34% of the experimental group were Boomerangs. This suggests a replacement effect: receiving a voucher helped those whose parents did not work spend some time outside of high-poverty neighborhoods. The difference in the voucher effect is significantly different (bottom row).

Results are similar for Exiters. Notably, the control mean among those whose parents worked is quite high—65% of those whose parents worked exited high-poverty neighborhoods, and there is not a significant effect of receiving a voucher. Among those whose parents did not work, 26% of the control group were Exiters, and an additional 30% of the experimental group were Exiters. This again demonstrates a replacement effect of vouchers—for young adults without family economic resources at baseline, receiving a voucher brings the proportion of those who are Exiters closer to the proportion among those whose parents worked at baseline (26+30=56%, close to 65% of those whose parents worked). Children need resources to exit disadvantaged neighborhoods, and the resource of housing assistance can replace the resource of

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adult employment and help break the cycle of neighborhood poverty. Housing assistance appears to be less important for children whose families have access to employment.

The qualitative analyses, however, suggest that parental work does not always lead to residence in low-poverty neighborhoods. Many of the parents in our sample are working low-wage jobs that do not cover housing costs in low-poverty neighborhoods. Moreover, jobs were often located nearer to poorer neighborhoods in Baltimore, making far-flung communities without convenient public transportation less easy for commuting back in (Turney et al. 2006). Two parents of Exiters found jobs accessible via public transportation from the suburb they moved to with the MTO voucher, allowing them to stay in the area for the long term. But the work-family balance pushed others to ultimately seek residence in Baltimore to be closer to family-based child care and public transportation.

When Ron's mother, Joyce, got the MTO voucher, she moved with him to a nearby western suburb of Baltimore. He was in kindergarten at the time, so to coordinate her 9 to 5 work schedule and his supervision needs, Joyce kept him in school in the high-crime neighborhood where her mother and sister lived. For two years, she managed her schedule of picking him up from her mother's house at night on her way back to the suburbs, but she knew this was not sustainable. She saved \$4,000 for a down payment through a HUD program aimed at promoting home-ownership and bought a house in a West Baltimore neighborhood. Living close to her mother was a key factor in her housing search, as this geographic proximity with her mother was incredibly helpful in terms of child care. Ron's school was three blocks away from his grandmother's house, so he walked to her house after school every day. The grandmother also took care of Ron's two year-old brother when he was finished with Head Start for the day, and Joyce would pick both of them up on her way home from work. While Joyce described her

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neighborhood as “majority homeowners,” and mainly seniors, it was a neighborhood in decline, with 1 in 4 people below the poverty line and ample opportunity for Ron to get into trouble. The local schools he attended were so chaotic and low-quality that two of them closed down soon after he attended them, and he eventually dropped out. He was 19 years old when we last interviewed him and still living with his mother in the same neighborhood. Although his infant daughter had given him inspiration to go back to high school and obtain his diploma, he was still selling drugs, as this was the only employment with which he had experience. The voucher had given Joyce a path out of a high-poverty neighborhood, but with her work-family scheduling needs, it was too difficult to remain in the low-poverty suburb, so they boomeranged back into an environment near extended family but full of risk.

In addition to providing more information on the complexities underlying the quantitative results, the qualitative data shed light on parental characteristics that are not measured in the same way in the survey data. Here, we focus on the interaction between substance use and residential mobility, with special attention to maternal substance use since most youth lived with their mothers during childhood. The majority (about 2/3) of parents in both the Stayer and Exiter groups had a parent or caregiver who ever had issues with drugs or alcohol, relative to 30% of those in the Boomerang group. However, when we drill down past the “ever used” categorization, we find that parents of those in the Exiter group either stopped using at least a decade prior—in three cases, right around the time they left public housing—or the young adult exited from poverty with a caregiver who was not the addict. In only one case was a young adult in the Exiter group living with a caregiver who was still an active alcoholic.

Emily, 22 years old, lives in the same townhome in the low-poverty Baltimore suburb that she moved to with her mother and two siblings sixteen years prior. Her mother, Ramiah,

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used drugs and drank heavily for years, and her public housing apartment became the place where people came to use drugs. She managed to get a handle on her addictions in a drug rehabilitation program. A year after stopping her drug use, Ramiah used the MTO voucher to move to the suburbs because she wanted to get “clean away.” Once she was settled in, she started working at a local child care center, where she stayed for several years. Emily graduated from high school and went away to Job Corps but was not able to complete it due to illness and pregnancy. She and her sister (along with their children) are able to stay in the townhome in this safe environment with the housing voucher (their mother moved back to Baltimore when she got married). Had her mother not stopped her drug use, it is doubtful she would have made the move with her MTO voucher, gained steady employment, and remained in this area, which culminated into later opportunities for Emily.

In contrast to the Exiters, over half of the Stayers with parental drug use history had mothers or caregivers who were actively using drugs in the last decade, which may have inhibited their ability to move out of a poorer environment and may have shaped their neighborhood expectations. For families such as these, parental drug and alcohol abuse may be a significant factor in perpetuating neighborhood poverty over generations. Matthew, now 21 years old, has spent a lifetime churning through neighborhoods with high amounts of drug-trafficking. His mother, Maria, was raised in East Baltimore, eventually moving to public housing where her addiction to cocaine and heroin deepened. Though she remembered signing up for MTO, she did not use the MTO voucher. After not paying rent, she was evicted from public housing and the family subsequently moved through several subsidized places and her mother’s house, with homelessness episodes in between. By 2010, Maria was living on a block in West Baltimore where most of the rowhomes were vacant or had been demolished.

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Hampered by learning disabilities, Matthew never went beyond the 9th grade and has never been able to hold a stable formal job. He lived with his mother as she moved from place to place throughout his childhood and adolescence, and at 21 years old, he is now straddling households between his mother's place and his girlfriend's place. His girlfriend and his son live across town in East Baltimore, in a neighborhood that sounds as equally full of risk as his mother's neighborhood. Matthew gave a mixed assessment of neighborhood safety between his two residences. Around his girlfriend's place, he said "they got more killers than we got over here [West Baltimore]. I feel safer over here than over there though. But I just know more people over there though. Anything could happen anywhere."

The Family Magnet

Individuals often seek to live near family or friends and they seek information from them in the relocation process (Boyd et al. 2010; DeLuca, Wood, and Rosenblatt 2013), which may explain why adults frequently live in the same types of neighborhoods as where they grew up. In our MTO sample, we found no significant relationship between having family or friends in the baseline neighborhood and children's neighborhood trajectories through young adulthood (Table 3, Model 2). The models testing interactions with housing assistance in Table 4 show that a greater proportion of young adults in the experimental group (compared to the control group) were either Boomerangs or Exiters among both those with and without family or friends in the neighborhood at baseline. For Exiters, we see a borderline significant interaction: a greater proportion of those in the experimental group *without* friends or family in the neighborhood exited compared to those with friends or family. Thus, there is some evidence that kinship ties may have reduced the prospects of exiting, even with a voucher in hand. Social ties to high-poverty neighborhoods are often seen as detrimental to neighborhood mobility, so this result

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suggests that MTO vouchers enhance outcomes for those without ties, enabling young adults who may be more interested or able to leave high-poverty neighborhoods due to their lack of ties.

The qualitative data demonstrate that extended families play a complex role in housing as children grow up, providing stability while also drawing young adults to high-poverty neighborhoods. In our sample, families—particularly grandmothers—provided a crucial safety net for young adults between stable housing arrangements. Several of the respondents in our sample were raised by their grandmothers. As we saw in Joyce’s case, family also was a vital resource for single mothers who were juggling work, child care, and school, sometimes in conjunction with mental illness or drug addiction. However, having a grandmother or aunt whom one uses as “base camp” can ensure that one will not move far away geographically. Since the extended family of many of the youth in our sample live in moderate to high-poverty neighborhoods, using family as base camp and for housing information ensures that youth will stay bound to a certain set of neighborhoods.

Being tied to extended family for housing was particularly true for those in the Boomerang category. Over two-thirds of those in the Boomerang category lived with or near their extended family members throughout the period of our study. In two of the cases, the youth were currently living away from their parents with their grandmothers. Ella, a 19 year-old in the Boomerang category, moved in with her grandmother and aunt in 2008 to get away from the conflict she was having with her mother. Ella considered her grandmother’s neighborhood the worst she had ever lived in, noting the constant hovering of police helicopters and the violence in which some of her friends had been caught up.

A smaller proportion—about one-third—of Exiters stayed with or near extended family in the past decade. After living in public housing in East Baltimore for one year, Dana’s mother Lisa used the MTO voucher to move to the West Baltimore neighborhood where her parents lived. She was intentional about using the MTO voucher to move near family and a known neighborhood, in addition to finding a lower-poverty environment. Lisa explained her thinking at the time of the MTO move: “They wanted me to move out in [the suburbs] really far out and I was like, I wanted something that was accessible to my family, to my church, you know my support system, so this is like right in the heart of all that.” Dana stayed near this neighborhood when she moved out on her own with her young daughter, her boyfriend, and his two children. Her mother stays with them from time to time, as she doesn’t have a stable place to live. Dana is not pleased with the neighborhood, but it is all she could afford: “where we live now isn’t really the way I want them to grow up.”

Neighborhood Experiences and Expectations

Neighborhood experiences and expectations may also influence neighborhood outcomes for adults and, in turn, their children, who may learn how to think about and assess neighborhoods from their parents. The quantitative analyses test how the family’s baseline entrenchment in a concentrated poverty neighborhood or adults’ past exposure to more advantaged neighborhoods shape their children’s future neighborhood outcomes (Table 3, Model 3). A smaller proportion of those who grew up in extreme poverty boomeranged away from the neighborhood, indicating that growing up in extreme poverty may draw young adults back to these types of places.

[Table 5 about here]

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Table 5 tests interactions between voucher receipt and baseline neighborhood poverty rate and length of time in the baseline neighborhood. The top panel tests whether receiving a voucher has differential effects depending on baseline neighborhood poverty. There are no significant interactions in predicting either Boomerang or Exiter status. The bottom panel shows a negative interaction effect between the voucher effect and the length of time the family has lived at their baseline address. This indicates that the positive effect of receiving an MTO voucher on being a Boomerang or Exiter is hampered by long-term residence, suggesting that ties to place are a barrier to exiting high-poverty neighborhoods, even with the help of a voucher. Prolonged exposure to disadvantaged neighborhoods may be detrimental to children's early development and their neighborhood aspirations, as the qualitative data reveal.

The third panel of Table 4 reveals interactions between parents' past neighborhood experiences and children's outcomes in young adulthood. The MTO voucher's effect on being a Boomerang or Exiter is higher among those whose parents ever lived in a majority-white neighborhood, and the interaction is significant for predicting Boomeranging and borderline significant for Exiting. More voucher holders whose parents ever lived in majority-white neighborhoods left high-poverty neighborhoods, compared to voucher holders whose parents did not have this experience. If parents felt comfortable living in a more integrated neighborhood, they may pass this experience and information about these types of neighborhoods along to their children, and the experimental housing voucher produces an enhancement effect in helping children exit high-poverty neighborhoods.

The qualitative analyses illustrate how neighborhood expectations matter and how they are shaped by parents' experiences. The limited research on how individual characteristics influence neighborhood perceptions indicates that women living in the same low-income

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neighborhood can have vastly different assessments (Dahl, Ceballo, and Huerta 2010; Delisi and Regoli 2000). How one perceives a neighborhood, or assesses the surroundings, closely relates to the expectations one has for a neighborhood and it can relate to the shared perception that others have of one's neighborhood as "good" or "bad" (Sampson 2012). More importantly here, if one assumes that "every neighborhood" has drugs and violence, then this "leveled expectation" may not inspire one to look for a neighborhood that is qualitatively different than one's current community. In general, parents of young adult Exiters were more likely to express distaste and negative feelings about living in public housing than those in the Boomerang or Stayer category.

Moreover, parents and young adult Exiters were less likely than those in the Boomerang or Stayer categories to make statements about neighborhoods which suggested leveled expectations. William's mother, Keona, firmly believed that the neighborhood environment could influence someone, as her mother often told her, "*Don't forget you are your environment.*" When Keona moved with her voucher, she settled near the suburb where she had spent weekends with her aunt, so she was familiar with the area. We interviewed 18 year-old William in 2010, and he was living with his mother in the same suburb, had just graduated from high school, and was about to start at Towson University. In contrast, 22 year old Morgan, a Stayer, has moved about 12 times through some of Baltimore's poorest neighborhoods since she and her family were displaced from a public housing high-rise before it was demolished. When we interviewed her mother and older brother in 2003, a friend had just been shot and killed at the corner store across from their rowhome. Morgan dealt with the violence in her neighborhoods with a matter-of-fact attitude: "There's violence everywhere." Dropping out of high school in 9th grade to have her son, she eventually obtained a public housing unit in one of the most dangerous neighborhoods in Baltimore.

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Parents' experiences in disadvantaged neighborhoods can shape their preferences and those of their children. James' mom, Reds, is an example of someone who spent most of her years in predominantly black and low-income neighborhoods. She grew up in East Baltimore and lived in two public housing developments before receiving an MTO voucher which she used to move to the suburbs. After two years, the landlord stopped taking vouchers and by this time Reds was ready to move back to East Baltimore because she was "used to being in the city." Reds, James, and his siblings moved back to a rowhouse in a 30% poor neighborhood down the street from family where drugs, violence, and abandoned houses were the norm. Nevertheless, Reds considered the area a good place to raise her children, given her own assessment which reflected leveled expectations: "Round the corner they be shooting and stuff like that. But that's every neighborhood." James, now 20 years old, explained that he felt safe there because "that's the people I knew all my life."

While past neighborhood experiences can lead to leveled expectations, some Exiters had parents who sought something different than what they had experienced. Nafees' father, Earl, grew up in what he termed a "rough neighborhood" of Baltimore. He described how he was able to broaden his frame of neighborhood expectations:

I was always focused. I mean, coming out of that particular neighborhood and that area, I had access, well I was lucky because I'd seen the other side of life while I was there.

And, and, and that's the side that I liked...I used to go uh, on the bus, doing the bus rides and so forth. And I used to look at the different neighborhoods and the different areas...And um, I just stayed focused on I wanted something better than where I was.

Ultimately, he was successful in doing so not only for himself but also Nafees. Growing up in public housing, Nafees witnessed a man getting shot and killed in front of his doorstep. He

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also experienced eviction and bouts of homelessness with his mother, who was struggling with drug addiction. Tired of moving between shelters and the couches of his mother's friends, Nafees moved in with his father. Eventually, they moved out to the suburbs so that Nafees could attend a higher-quality high school. Though they moved back into the city three years later when his father purchased a house, it was in a middle-class neighborhood.

Given his experiences in the city and the county, Nafees felt as if he was straddling “two different worlds,” as he reflected when he was 23 years old and still living with his father in their quiet community. An acutely aware social observer, Nafees contrasted a neighborhood he regularly visited in West Baltimore with his own: “You hear gunshots sometimes [in the West Baltimore neighborhood], you know, but when I go over there I just chill for a little bit, I don't try to stay too long...because like from there to here it's like a different world.” Visiting West Baltimore and parts of East Baltimore served another purpose for him: “When I go back...it kind of reminds me where I come from and reminds me I don't wanna come back here.”

Nafees's story serves as an example of how parents assess whether neighborhoods matter or not. Those who think that neighborhoods do make a difference, especially in their children's lives, may be more likely to leave poor neighborhoods if they have the means to do so and not Boomerang back. These choices and orientations in turn affect their children's choices in young adulthood.

Boomeranging Back into Poor Neighborhoods

If a policy goal is helping low-income families move to and remain in low-poverty neighborhoods with better resources, than understanding the processes through which people return to higher-poverty neighborhoods is crucial. The quantitative analyses largely suggest that similar factors account for being a Boomerang as account for being an Exiter, so these analyses

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may explain the exit part of boomeranging. But boomeranging indicates only temporary success at exiting. Boyd et al. (2010) explored what motivated families in the Gautreaux Two Housing Mobility Program to move back to poorer neighborhoods in Chicago, and they found that it was largely a story of unit failure. Apartments were of poor quality and later failed HUD inspection, and landlords declined to make necessary repairs or discontinued accepting housing vouchers. Moving back to be nearer friends and family was another key motivating factor.

We turned to our qualitative sample of MTO young adults to look for systematic differences between those who had exited poor neighborhoods as of 2008 and those who had moved back into poorer neighborhoods. Sometimes the difference between Boomerangs and Exiters is simply when we measured them. Mobility is a fluid concept and one's neighborhood environment can change from year to year, sometimes even within the same neighborhood. We narrowed down our sample and compared young adults who were living in low-poverty neighborhoods with low disorder and higher-quality schools as reported by the families—the most “successful” at exiting disadvantaged neighborhoods—and compared them to the Boomerangs. Boomerangs were much more likely to have made what DeLuca, Wood, and Rosenblatt (2013) refer to as “reactive” moves in the years following MTO than those who remained in low-poverty neighborhoods. Some who boomeranged back to poorer neighborhoods had to leave their apartment or rowhome because the landlord wanted to raise the rent, decided to sell the place or move back in, or was not responsive, similar to Boyd et al's (2010) findings. Domestic violence also played a role in reactive moves for Boomerangs.

For young adults, they may also have an additional dynamic which leads them back into a poorer neighborhood, as they are at a stage where they may be transitioning out of their parents' house. In two of the Boomerang cases, young adults boomeranged back after they left their

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parents' houses. Twenty year-old Tiara moved with her family out of public housing to a low-poverty neighborhood in Northeast Baltimore. After domestic violence issues, Tiara left home and was stayed with friends in a higher-poverty neighborhood. Like Tiara, Anthony and his mother moved out of public housing in 1999 when the development was demolished. After moving through a couple of apartments, he and his mother ended up in a rowhome in a low-poverty neighborhood. However, Anthony chose to move back with his grandmother in a higher-poverty HOPE VI development in East Baltimore. He planned on staying there with her until she cannot live independently anymore, wanting to make sure she is safe.

Discussion

In this article, we have flipped the regular script of examining neighborhood effects on individuals by looking inside the black box of neighborhood selection and investigating how the combination of parent characteristics and housing assistance influences whether the next generation lives in high-poverty neighborhoods. Previous research documents the continuity between poverty and racial segregation in parents' neighborhoods and their young adult children's neighborhoods. While our sample is on the early side of young adulthood, our findings point out complex explanations for why young adults remain in or exit disadvantaged neighborhoods, enhancing our understanding of the process of neighborhood selection and offering implications for policymakers about how housing assistance might be more effective for breaking the cycle of intergenerational poverty.

First, we found that having a parent who was working when MTO began was associated with young adults' residence in lower-poverty neighborhoods over a decade later. However, receiving an MTO voucher was more beneficial, compared to the control group, for young adults

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whose parents were not working, suggesting that the MTO voucher acted as a replacement for family economic resources. The qualitative evidence shows that many parents were working low-wage jobs which did not provide them the means to afford market-rate housing, and some moved back to poorer neighborhoods to be close to their jobs and family-based child care. While working can make it more likely that one's child will later live in a low-poverty neighborhood, working involves complications related to child care and transportation that can limit family's mobility options, sometimes resulting in only a temporary exit into a lower-poverty neighborhood. Thus, the relationship between working and neighborhood mobility is not so clear-cut.

Second, we investigated the hypothesis that spatially clustered social ties keep children in disadvantaged neighborhoods across generations. We find quantitative and qualitative evidence that social ties matter, but in complex ways. Previous research indicates that local social ties can tether families to neighborhoods (Dawkins 2006; Spilimbergo & Ubeda 2004), and our findings also suggest that families with strong local social networks may be less likely to move away from disadvantaged neighborhoods even when given a housing voucher. Low-income young adults can be "stuck" in disadvantaged neighborhoods due to their ties to family, but these ties can be supportive, serving as a vital safety net for them, albeit in neighborhoods that expose them to poor-quality education and violence. Moreover, the substantial portion of our respondents who are living with their parent or guardian as they begin young adulthood is consistent with research that finds that co-residence among young adults is higher for African-Americans than whites, partly due to differences in socioeconomic factors (Britton 2013). Future research should continue to take a multi-generational view, following samples from childhood to the transition to adulthood and beyond.

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Third, we explored whether parents' past experience with neighborhoods matter in the intergenerational transmission of neighborhood poverty. We find that the MTO voucher appears to have had an enhancement effect for households with experience living in a predominantly-white neighborhood. This suggests that parents who spent time in higher-resource neighborhoods may develop preferences for this type of neighborhood (Darrah and DeLuca 2014) and pass these preferences on to their children. The voucher may have been instrumental for people with a wider range of expectations about neighborhoods. From the qualitative interviews, we find that Boomerangs and Stayers were more likely to hold limited expectations of neighborhoods—for example, assuming that drug trafficking and violence was common to all neighborhoods. How people interpreted their experiences in public housing also differed across the three mobility trajectories: Exiters are more likely to describe their time in public housing in negative terms relative to the other two groups.

Substance use is a factor rarely considered in past research on neighborhood mobility. Living in neighborhoods which are characterized by high drug use may make it easier for individuals to fall into this habit, adding to the constraints of moving out of high-poverty neighborhoods. Some people succumbed to the rampant drug use happening around them in their communities. But others, even if they spent a similar length of time in high-poverty neighborhoods, resisted the pull of drugs, and thus the disadvantage of the neighborhood was filtered down to their children in a different way. It is notable that only one of the Exiters was living with a caregiver who was still actively using since moving out of public housing – and in her case, as it was alcohol, it was not an illegal drug. Yet even for those who had sunk deep into drug addiction (by their own accounts), it was possible to move into neighborhoods offering more opportunities for their children. We saw several examples of how this mobility was made

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possible through a housing voucher, suggesting a replacement effect of housing assistance for families struggling with drug addiction. Further, we saw several cases where mothers got clean upon receiving the voucher. These findings suggest programs like Housing First, which provides independent housing to homeless individuals, many of whom struggle with drug addiction, may be critical in creating stable environments for recovery and family well-being. Some states also run housing voucher programs for special populations including those in drug recovery programs, and further research should evaluate these programs to determine the most effective use of the vouchers for those in recovery.

Sampson (2012:308) argues that neighborhood selection is affected by prior neighborhood experience, and that “[p]references and constraints thus work together to sustain the self-reinforcing cycle of inequality...[a]s a result, poverty traps are difficult to escape and likely to continue, absent state-led interventions.” Our research documents how one such intervention, MTO, operated in conjunction with family resources and barriers, family ties, and previous neighborhood experience to shape the neighborhood outcomes of young adults from Baltimore’s poorest neighborhoods. Housing vouchers, especially those with geographic constraints and that came with counseling, provided an instrument for low-income families to exit out of poor neighborhoods, even for a limited time. Our findings show that receiving an MTO voucher was associated with reduced neighborhood poverty rates for young adults who were children at the time of random assignment relative to those from the control group, suggesting that housing assistance can have intergenerational effects. Moreover, our research reveals that housing assistance is more effective for children from certain types of families, suggesting some ways in which housing vouchers can be made most effective. Knowledge about neighborhoods matters, so mobility counseling in the voucher program may help facilitate moves

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to low-poverty neighborhoods by widening people's perceptions of what neighborhoods can offer. Several young people and parents in our sample knew that neighborhoods could offer more, and they dreamed of living in a place which offered more opportunities and less violence, but they often lacked the means to achieve these aspirations. Of course, many factors impede the use of vouchers, like drug abuse and other family resources and constraints. Families need support in a variety of arenas, not just housing, and broader mobility programs should take a holistic approach. Finally, success stories of moving to low-poverty neighborhoods often hide that the neighborhoods are low resource. Mobility programs should assess neighborhoods in terms of characteristics other than just poverty to ensure that younger generations have access to quality public education and safe streets, critical in breaking the intergenerational cycle of poverty.

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Table 1. Descriptive Statistics for Neighborhood Poverty Outcomes and Predictors

	MTO Voucher	Control
Dependent Variables	<i>Proportion</i>	
Stayers	28.03*	51.72
Exiters	37.5*	26.72
Boomerangs	33.71*	19.40
Mean Neighborhood Poverty Rate, 2008	22.62*	27.56
Independent Variables at Baseline		
Adult Working	20.91	21.47
Adult has HS degree	39.77*	30.60
Family or Friends in the Neighborhood	64.62	65.09
Adult has Ever Lived in Mostly White Neighborhood	18.56*	11.29
	<i>Mean</i>	
Baseline Neighborhood Poverty Rate	52.89	51.97
Length of Time at Baseline Residence	7.69	7.63
N Young Adults, 2008	264	232

* significantly different from Control Group; * $p \leq 0.05$

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Table 2. Mobility Trajectories and Treatment Group for the Longitudinal Qualitative Sample

	MTO Voucher Complier	MTO Voucher Non-Complier	Control
Stayer	2	9	13
Boomerang	6	0	4
Exiter	11	1	5

Table 3. Regression Analysis Predicting Young Adults' Neighborhood Mobility Trajectories (Reference Group: Stayer)

	Model 1		Model 2		Model 3	
	Boomerang	Exiter	Boomerang	Exiter	Boomerang	Exiter
MTO Voucher	0.277*** (0.072)	0.208 ** (0.068)	0.280 *** (0.071)	0.218*** (0.068)	0.274*** (0.069)	0.215*** (0.068)
Adult Working	-0.105 (0.105)	0.178* (0.081)	-0.107 (0.105)	0.193* (0.080)	-0.079 (0.105)	0.201* (0.082)
Adult has HS degree	-0.005 (0.077)	0.098 (0.070)				
Family or Friends in Baseline Neighborhood			-0.065 (0.073)	-0.018 (0.069)		
Baseline Neighborhood Poverty Rate					-0.627*** (0.203)	-0.193 (0.241)
Length of Time at Baseline Residence					-0.001 (0.005)	0.002 (0.005)
Adult Ever Lived in Mostly White Neighborhood					0.082 (0.091)	0.027 (0.096)
Constant	0.288	0.274	0.327	0.314	0.609	0.390

N for Boomerang v. Stayer Model = 328 (194 stayers; 134 boomerangs)

N for Exiter v. Stayer Model = 355 (194 stayers; 168 exiters)

***p ≤ 0.001; **p ≤ 0.01; *p ≤ 0.05; ^ p ≤ 0.1

Table 4. Regression predicting Boomerang or Exiter Status (Compared to Stayer) from MTO Voucher Receipt and Baseline Characteristics (Dichotomous Variables)

	Boomerang	Exiter
<i>Parents Working</i>		
Control Mean	0.387	0.645
MTO Voucher ITT	-0.090 (0.136)	-0.047 (0.105)
<i>Parents Not Working</i>		
Control Mean	0.256	0.264
MTO voucher ITT	0.340*** (0.056)	0.299*** (0.058)
ITT Diff	-0.430** (0.148)	-0.346** (0.120)
<i>Family/Friends in Neighborhood</i>		
Control Mean	0.262	0.361
MTO voucher ITT	0.250*** (0.065)	0.170** (0.064)
<i>No Family/Friends in Neighborhood</i>		
Control Mean	0.290	0.302
MTO voucher ITT	0.324*** (0.088)	0.348*** (0.087)
ITT Diff	-0.074 (0.110)	-0.179^ (0.108)
<i>Parent Ever Lived in White Neighborhood</i>		
Control Mean	0.062	0.239
MTO voucher ITT	0.700*** (0.142)	0.488** (0.152)
<i>Parent Never Lived in White Neighborhood</i>		
Control Mean	0.301	0.356
MTO voucher ITT	0.198*** (0.056)	0.190*** (0.056)
ITT Diff	0.502*** (0.154)	0.298^ (0.165)

N for Boomerang v. Stayer Model = 328 (194 stayers; 134 boomerangs)

N for Exiter v. Stayer Model = 355 (194 stayers; 168 exiters)

***p≤ 0.001; **p≤ 0.01; *p≤ 0.05; ^ p≤ 0.1

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Table 5. Regression predicting Boomerang or Exiter Status (Compared to Stayer) from MTO Voucher Receipt and Baseline Characteristics (Continuous Variables)

	Boomerang	Exiter
Baseline Poverty Rate	-0.651** (0.214)	-0.003 (0.273)
MTO voucher ITT	0.246 (0.172)	0.335 (0.208)
MTO voucher ITT x Baseline Poverty Rate	0.057 (0.316)	-0.188 (0.370)
Constant (Control mean when Baseline Pov = 0)	0.610	0.342
Years at Baseline Address	0.012* (0.005)	0.011* (0.005)
MTO voucher ITT	0.451*** (0.072)	0.361*** (0.073)
MTO voucher ITT x Years at Address	-0.024*** (0.007)	-0.017* (0.007)
Constant (Control mean when Years at Address = 0)	0.186	0.262

N for Boomerang v. Stayer Model = 328 (194 stayers; 134 boomerangs)

N for Exiter v. Stayer Model = 355 (194 stayers; 168 exiters)

***p ≤ 0.001; **p ≤ 0.01; *p ≤ 0.05; ^ p ≤ 0.1

Methodological Appendix

Multiple Imputation

We used Stata's multiple imputation package (mi) to account for missing data. Missing values were relatively infrequent (see Appendix Table 1), with no variable missing more than 12% of values. Chained imputation models were used to estimate missing values for each variable according to its type (continuous, categorical, binary) to create 5 multiple imputation datasets across which analyses are estimated. Imputation models were run by experimental or control group status to facilitate interaction models. Results are substantively identical to models run on non-imputed data.

Using Mixed Methods to Create Mobility Trajectories

Past research has used various thresholds to identify high-poverty and low-poverty neighborhoods. Although the MTO voucher was only to be used in a neighborhood less than 10% poor by 1990 Census standards, because families moved in the mid-1990s, only half who moved in the five sites actually ended up in a tract that was less than 10% poor, since many moved to a neighborhood that increased in poverty between 1990 and their move date. Another third moved to tracts that were less than 15% poor measured by interpolated standards (Orr et al. 2003). As such, we decided to use 15% poor to capture a wider range of families who complied with the intervention while still trying stay consistent with the "meaning" of low-poverty by staying at or below the national average of poverty. We only require Exiters to be living in low-poverty neighborhoods as of 2008, but over 75% of the Exiters spent at least 3 years in low-poverty neighborhoods between 1995 and 2008, showing durability in low-poverty neighborhood residence. These categories may not accurately categorize some respondents on the margins between categories. We also considered typologies that took both poverty rate and

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racial composition into account, but just considering poverty rate overlaps with racial composition quite well, given the confluence of racial segregation and concentrated poverty—about 74% of Stayers and 64% of Boomerangs lived in neighborhoods with over 90% black residents in 2008, compared to 34% of Exiters.

The neighborhood quality in each of the categories varied quite a bit. As mentioned, a substantial portion of Exiters were living in neighborhoods that were low-poverty but low in institutional resources and had moderate levels of disorder. For Exiter families who were still using a voucher, their options were frequently limited to units in neighborhoods that are poor or in decline, since landlords in neighborhoods with a tight rental market do not have an incentive to accept renters using vouchers. For Exiter families who owned their homes, these were typically in declining neighborhoods as well, since they were limited in what they could afford. Chase's case serves as an example for a family renting with a voucher in the Exiter category. After growing up in West Baltimore and living in public housing for over a decade, Chase's grandmother moved into a neighborhood of increasing poverty with her MTO voucher, where many houses transitioned from home-ownership to Section 8 rental in the 1990s. With an alcoholic grandmother who had significant health problems and an absent mother, Chase grew up in this lower-poverty neighborhood where older boys sold drugs, eventually initiating him into the practice. Unfortunately, Chase's story is not unique in our sample, and it demonstrates that many young adults who have "exited" high-poverty neighborhoods face other disadvantages.

Vouchers did give some people the means to move out of the typical low-poverty, low-resource set of neighborhoods available to low-income families in Baltimore. Though using the voucher did not guarantee a permanent "exit," of those who were Exiters, especially to the suburbs, nearly two-thirds used an MTO voucher to move out of public housing, and one-third

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used other means to do so (sometimes a Section 8 voucher). The story of 22 year-old Keala's family illustrates how the voucher was used as a first step on a path out to the suburbs. Her mother, Peaches, grew up in public housing and was desperate to move out of her public housing high rise development. Peaches recalled how she dreamed of getting out in the mid-1990s: "I would sit out on the balcony [from the fourteenth floor] and just look over the whole city, and I used to say, 'God, my house is out there, somewhere. My future is out there somewhere, you know.'" While her initial move was to a community on the decline in Northeast Baltimore, the MTO voucher—combined with her own perseverance—was the instrument to get her out and set her on her way to her end goal. Years later, she saved up and bought a house in the suburbs on the eastern side of the city.

Older Sample

As a robustness check, we replicated the quantitative analyses on a sample including only those older than 22 in 2008. Appendix Tables 2 and 3 replicate Tables 4 and 5 for this subsample. Results in Appendix Table 2 are largely similar to Table 4—one difference is that the interaction term between parents' work status and MTO voucher receipt is non-significant. The ITT is only significant for those whose parents are not working, as for the full sample, but the ITT difference term is non-significant. Appendix Table 3 and Table 5 have some differences—baseline poverty rate is not a significant predictor of boomeranging for the older sample, and the interaction term between MTO voucher ITT and years at address is non-significant for boomeranging versus staying. Non-significance may be due to small sample size or it may suggest differences by young adult age that should be investigated in future research.

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Appendix Table 1. Descriptive Statistics, Multiple Imputation

Variable	N Missing Values	Imputed Mean	Non-Imputed Mean
2008 Poverty Rate	7	0.249	0.250
Adult Working	9	0.211	0.209
Adult has HS degree	0	0.355	0.355
Family or Friends in the Neighborhood	1	0.648	0.648
Adult has Ever Lived in Mostly White Neighborhood	57	0.152	0.152
Baseline Neighborhood Poverty Rate	6	0.525	0.524
Length of Time at Baseline Residence	14	7.666	7.614

Appendix Table 2. Regression predicting Boomerang or Exiter Status (Compared to Stayer) from MTO Voucher Receipt and Baseline Characteristics (Dichotomous Variables) for Young Adults over age 22.

	Boomerang	Exiter
<i>Parents Working</i>		
Control Mean	0.250	0.516
MTO voucher ITT	0.139 (0.161)	0.157 (0.126)
<i>Parents Not Working</i>		
Control Mean	0.250	0.261
MTO voucher ITT	0.345*** (0.072)	0.327*** (0.074)
ITT Diff	-0.206 (0.176)	-0.170 (0.147)
<i>Family/Friends in Neighborhood</i>		
Control Mean	0.179	0.352
MTO voucher ITT	0.332*** (0.084)	0.214** (0.079)
<i>No Family/Friends in Neighborhood</i>		
Control Mean	0.341	0.256
MTO voucher ITT	0.310** (0.106)	0.444*** (0.108)
ITT Diff	0.023 (0.136)	-0.230^ (0.133)
<i>Parent Ever Lived in White Neighborhood</i>		
Control Mean	0.083	0.200
MTO voucher ITT	0.743*** (0.142)	0.604*** (0.183)
<i>Parent Never Lived in White Neighborhood</i>		
Control Mean	0.273	0.335
MTO voucher ITT	0.212** (0.071)	0.238*** (0.069)
ITT Diff	0.530** (0.181)	0.366^ (0.199)

N for Boomerang v. Stayer Model = 202 (120 stayers; 82 boomerangs)

N for Exiter v. Stayer Model = 226 (120 stayers; 106 exitters)

***p ≤ 0.001; **p ≤ 0.01; *p ≤ 0.05; ^ p ≤ 0.1

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Appendix Table 3. Regression predicting Boomerang or Exiter Status (Compared to Stayer) from MTO Voucher Receipt and Baseline Characteristics (Continuous Variables) for Young Adults over age 22.

	Boomerang	Exiter
Baseline Poverty Rate	-0.474 (0.322)	0.098 (0.342)
MTO voucher ITT	0.256 (0.261)	0.371 (0.255)
MTO voucher ITT x Baseline Poverty Rate	0.101 (0.476)	-0.141 (0.453)
Constant (Control mean when Baseline Pov = 0)	0.501	0.265
Years at Baseline Address	0.005 (0.008)	0.014* (0.007)
MTO voucher ITT	0.378*** (0.092)	0.422*** (0.089)
MTO voucher ITT x Years at Address	-0.011 (0.010)	-0.018* (0.009)
Constant (Control mean when Years at Address = 0)	0.221	0.221

N for Boomerang v. Stayer Model = 202 (120 stayers; 82 boomerangs)

N for Exiter v. Stayer Model = 226 (120 stayers; 106 exiters)

*** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$; ^ $p \leq 0.1$

Notes

ⁱ In Baltimore, 54% of the experimental group used their voucher to move (Sanbonmatsu et al. 2011).

ⁱⁱ Looking only at compliers (families that used the vouchers to move), by 2008, MTO voucher holders lived in neighborhoods that were, on average, 23% poor and 77% minority, and Section 8 voucher holders lived in neighborhoods that were 27% poor and 84% minority.

ⁱⁱⁱ We analyze the neighborhood poverty outcomes for young adults designated as the “survey selected” focal child from each family (there could be more than one). These children were part of the universe from which interview respondents were selected.

^{iv} Results for Section 8 families are available upon request; they are generally more similar to experimental than control families.

^v We use linear regression rather than multinomial or logistic regression because log-odds or odds-ratios have a less intuitive interpretation and interaction terms are difficult to interpret (interaction terms provide a ratio of odds ratios). Our approach is similar to Kling and Liebman (2004), who use linear regression to examine the impact of MTO voucher receipt on many dichotomous outcomes, comparing the impact for boys and girls.

^{vi} TOT results can be obtained by scaling the coefficients by the proportion of the sample that complied, following (Ludwig et al. 2013)—in our analysis sample, the compliance rate is 34.7.