



# The Effect of Incarceration on Residential Mobility between Poor and Nonpoor Neighborhoods

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> This study examines the impact of incarceration on residential mobility between poor and nonpoor neighborhoods. Formerly incarcerated individuals move at high rates, but little is known about if or how incarceration impacts movement between neighborhoods of varying quality. I ground my approach in traditional accounts of locational attainment that emphasize pathways and barriers between poor and nonpoor neighborhoods. Results show that incarceration leads to downward neighborhood mobility from nonpoor into poor neighborhoods. Incarceration does not appear to trap formerly incarcerated individuals in poor neighborhoods. Additional analyses show that the effect of incarceration is initially strongest among formerly incarcerated whites, but that there is significant racial variation in neighborhood mobility across time. My results provide evidence that incarceration should be placed alongside human capital characteristics and structural barriers as an important predictor of mobility between poor and nonpoor neighborhoods.

The 1970s saw the beginning of two prominent American social trends. First, areas of concentrated poverty started to grow and take on an increasingly distinct character (Wilson 1987). Currently, about 9 million Americans live in poor neighborhoods, and these neighborhoods contain disproportionate numbers of minority citizens (Ludwig et al. 2012). Second, starting in the late 1970s, the U.S. incarceration rate started to grow by about 6 percent per year, more than quadrupling in size (Wakefield and Uggen 2010). Currently, prisons hold over 1.5 million convicted offenders, and yearly cohorts of released prisoners exceed 600,000 (Carson 2014). Much like concentrated poverty, incarceration has become especially common in the lives of African American families and communities (Western and Wildeman 2009). The incredible growth of America's felon class has spurred extensive research on the diverse ways that incarceration both reflects and creates social inequalities (Wakefield and Uggen 2010).

These two literatures—one on the growth of poor neighborhoods, and the other on the social consequences of incarceration—have only rarely intersected (Hipp et al. 2010b; Massoglia et al. 2013). This is unfortunate because formerly incarcerated citizens are highly mobile (Warner 2015), while also operating within a restricted housing market.

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This may make it difficult for them to avoid poor neighborhoods. The current study utilizes nationally representative longitudinal data to examine the impact of incarceration on residential mobility into and out of poor neighborhoods. I first discuss theoretical explanations of mobility pathways between neighborhoods of varying quality. I then discuss how incarceration may impact this process via housing market barriers faced by released prisoners. I call special attention here to the potential dual-stigma encountered by formerly incarcerated minority citizens. After discussing the data and analytic strategy, I present results for both *downward neighborhood mobility* into poor neighborhoods and *upward neighborhood mobility* out of poor neighborhoods. I close by noting the implications of these findings for research on both concentrated poverty and the collateral consequences of incarceration.

## CONCENTRATED POVERTY AND LOCATIONAL ATTAINMENT

Residential inequality in America has been explained in three ways. The first, stemming from Wilson's *The Truly Disadvantaged*, maintains that class-selective outmigration took middle-class blacks with the financial means out of innercity areas and into the suburbs. This left behind neighborhoods composed largely of poor minority families (Wilson 1987). Quillian (1999) showed that migration of the nonpoor away from the poor played a key role in the creation of poor neighborhoods in the 1970s and 1980s. Additionally, more recent racial convergence in upward mobility aligns with Wilson's arguments regarding race, class, and neighborhood mobility (see Crowder and South 2005: 1757).

A second explanation of concentrated poverty highlights the downward economic mobility of people living in poor neighborhoods (Hughes 1990; Jargowsky and Bane 1991). This explanation has received some support (see Quillian 1999), and in particular was extended by the work of Massey and others with an emphasis on racial residential segregation (Gramlich et al. 1992; Massey et al. 1994; South and Crowder 1997). Simply put, and because of high levels of racial residential segregation in the U.S., increases in black poverty drive increases in concentrated poverty (Massey et al. 1994). A combination of black exclusion from white neighborhoods and white avoidance of black neighborhoods isolates blacks both economically and socially (Massey and Denton 1993). Minority families that left poor areas in the 1990s tended to deconcentrate primarily to other lowerincome minority neighborhoods (Dwyer 2012). To date, blacks remain less likely than comparable whites to leave poor areas, and more likely to leave nonpoor areas (Briggs and Keys 2009; Gramlich et al. 1992; South and Crowder 1997; South et al. 2011).

Finally, it is important to note that racial variation in neighborhood preferences and perceptions can shape residential inequality. When considering a move, whites mostly consider white communities, and rarely expand searches into communities that are more diverse (Bader and Krysan 2015). In fact, compared to comparable minority households, white households tend to be less aware of the existence of integrated neighborhoods in their communities (Krysan and Bader 2009). When presented with hypothetical options, whites generally rate all-white communities as more desirable than diverse communities (Krysan et al. 2009). Neighborhood racial composition least affects the residential preferences and perceptions of African Americans.

Behind these larger patterns of concentrated poverty are individual and household patterns of residential mobility between neighborhoods of varying quality (South et al.

2005). Although both stayers and movers contribute to residential inequality, residential mobility is key to social mobility (Rossi 1980; Sampson and Sharkey 2008), and exposure to poverty is often the result of repeated moves into poor neighborhoods (as opposed to fewer prolonged spells) (Briggs and Keys 2009). The process of locational attainment unfolds as individuals and households try to match their human capital and financial resources to that of their neighborhoods. A long line of research on residential mobility has shown that mobility decisions are shaped by life events and life-course transitions that change housing needs (Clark and Withers 2008; Coulter and van Ham 2013; Landale and Guest 1985; Rossi 1980; Speare et al. 1975). Individuals and households that become dissatisfied with their current dwelling, and who have found a suitable alternative, are more likely to move (Speare 1974).

Researchers draw on two perspectives to explain variation in the landing spots of mobile households. First, the spatial assimilation model maintains that individuals use their human capital resources to "purchase" residence in desirable neighborhoods (Massey 1985; South and Crowder 1997). Existing research provides general support for this perspective, as human capital and socioeconomic (SES) characteristics predict residence in better neighborhoods for all racial and ethnic groups (Alba and Logan 1993; South and Crowder 1997). However, access to the most desirable neighborhoods is not uniformly available. African American households at all income levels live in less desirable neighborhoods than do comparable whites, and they tend to receive smaller returns than whites for human capital investments (Logan 1978; Logan and Alba 1993). Indeed, blacks in the highest SES strata often reside in less desirable neighborhoods than whites in lower SES strata (Rosenbaum and Friedman 2007). Such discrepancies extend to Hispanic groups as well, who are less likely than whites (but more likely than blacks) to leave high-poverty neighborhoods (South et al. 2005). These patterns are articulated in the place stratification model, which complements the spatial assimilation model by drawing attention to housing market barriers encountered by some groups and not others (Charles 2003; Logan and Molotch 1987).

Studies drawing on these perspectives have created a large literature on neighborhood sorting and locational attainment. But this research literature has largely neglected the role that incarceration may play on mobility between neighborhoods of varying quality, even though almost 8 percent of the adult population has experienced a felony conviction. In the following section I discuss why we should consider adding incarceration to the list of characteristics known to shape mobility into and out of poor neighborhoods.

## INCARCERATION AND LOCATIONAL ATTAINMENT

Incarceration is concentrated in certain geographic areas. In Chicago, for example, the incarceration removal rate in the highest-rate predominantly black community is 40 times larger than the removal rate in the highest-rate predominantly white community (Sampson 2012). Lynch and Sabol (2001, 2004) documented similar trends in Baltimore, where male incarceration rates in some neighborhoods are over 20 percent, and just 5 percent of Baltimore neighborhoods account for 25 percent of yearly prison admissions. This pattern continues after release. More than half of a sample of parolees followed after prison settled in less than 10 percent of Chicago neighborhoods (Visher and Farrell 2005). Similarly, in Maryland, almost 40 percent of all men and women released from prison in 2001

returned to 6 of the 55 total Baltimore community areas (Visher et al. 2004). In both cities, the areas that received the highest numbers of returning citizens were typified by high rates of poverty, crime, and other indicators of disadvantage.

What these trends cannot tell us, however, is if the confinement experience impacts residential mobility between different types of neighborhoods. The locational attainment perspectives outlined above provide some insights on how to conceptualize a potential incarceration effect. For instance, the spatial assimilation perspective would emphasize the SES deficiencies of individuals with a history of incarceration. Prisoners average less than a high school education, and unemployment at the time of incarceration is common (Western 2006). Spending time in prison creates further difficulties in the labor market, and released citizens often struggle to find employment after prison (Pager 2003, 2008). For many, this results in postprison declines in earnings that last well after release (Pettit and Lyons 2009; Western 2002). As such, those returning citizens who did not already reside in poor neighborhoods might be expected to move there because of postprison labor market struggles. I refer to this as *downward neighborhood mobility*, and expect that individuals with a history of incarceration will be more likely than those without to exit nonpoor neighborhoods and enter poor neighborhoods.

Alternatively, the place stratification perspective might conceptualize the incarceration experience as a housing market barrier that funnels or traps formerly incarcerated citizens in poor neighborhoods. The information that is recorded as individuals move through the criminal justice system can be used as a tool of social exclusion (Pager 2008). The stigma of a criminal record has been implicated in a number of the social consequences of mass incarceration (Massoglia 2008; Pager 2003; Western 2002). In this case, the stigma could create barriers in the housing market that restrict the types of neighborhoods available to returning citizens. Landlords in the private housing market often require references and background checks, presenting obvious difficulties for recently incarcerated citizens (Petersilia 2003). Furthermore, a criminal conviction may directly eliminate certain types of housing. Convicted sex offenders often cannot reside in areas where children are known to congregate (Zgoba et al. 2009). Furthermore, some convicted drug offenders are restricted from accessing public housing (Geller and Curtis 2011). Finally, many communities also actively restrict any sort of housing that might assist returning citizens (Beckett and Herbert 2010). For individuals living in poor neighborhoods, then, the expectation is that the incarceration experience will serve as a barrier to exiting these neighborhoods. That is, incarceration will inhibit upward neighborhood mobility.

Two additional issues warrant consideration. First, there is extensive racial variation in both exposure to incarceration and locational attainment outcomes. Mobility and locational attainment are strongly shaped by race and ethnicity, and these struggles may be compounded for formerly incarcerated minorities. Black incarceration rates are generally six to seven times larger than white incarceration rates (Glaze 2011). For uneducated black men especially, incarceration is increasingly being treated as a normative (albeit disruptive) phase in the life course (Pettit and Western 2004). Formerly incarcerated blacks may encounter compounded housing market barriers that work to trap them in poor neighborhoods, and I expect that incarceration will serve as a larger barrier to upward neighborhood mobility for minorities than for whites. Of course, it could also be the case that black offenders already reside in poor neighborhoods before prison, meaning that postprison residence in poor neighborhoods would reflect a continuation of existing

residential inequalities. It is formerly incarcerated whites that see the biggest declines in postprison neighborhood quality (Massoglia et al. 2013), and it is plausible that mobility out of nonpoor neighborhoods is driving this trend. As such, I expect that the incarceration experience will be most consequential for whites living in nonpoor neighborhoods.

The second issue is whether we should expect a consistent effect of incarceration on locational attainment outcomes across time. The mark of a criminal label is a relatively permanent new social status that can create long-term issues. Earnings and wage growth, for example, are affected by exposure to incarceration well after release (Western 2002). In addition, formerly incarcerated whites have been found to live in increasingly worse neighborhoods across time (Massoglia et al. 2013). However, residential mobility appears to be most pronounced early in the reentry period (Warner and Sharp 2016). While many parolees are known to move to new neighborhoods after prison, much smaller percentages make subsequent moves while under parole supervision (Cahill and Landale 2008; La Vigne et al. 2004; La Vigne et al. 2005). As such, my final expectation is that any upward or downward neighborhood mobility will be concentrated early in the reentry period.

While incarceration is typically not considered in assessments of mobility and locational attainment, there are a few recent exceptions. In a study of postprison neighborhood outcomes among Californian parolees, Hipp and colleagues (2010b) found significant variation in neighborhood environment by conviction offense and parolee race. Sex offenders made postprison moves into more disadvantaged neighborhoods than individuals convicted of other crimes, and black parolees also entered into and subsequently moved to more disadvantaged neighborhoods than did white or Hispanic parolees. A second study extended these findings by examining differences between pre- and postprison neighborhood quality. Massoglia et al. (2013) found that formerly incarcerated blacks were not residing in more disadvantaged neighborhoods after prison than they lived in before prison. Only formerly incarcerated whites, who were argued to have "more to lose" in regard to neighborhood quality, experienced significant downward mobility into more disadvantaged neighborhoods following release from prison.

The current study extends these findings in important ways. Like Hipp and collaborators, I stress residential mobility as the impetus to residence in poor or nonpoor neighborhoods. However, I build on their work in two respects. First, like Massoglia and collaborators, I utilize data that contain important demographic and residential information leading up to confinement. For individuals with a history of incarceration, this means that I can compare pre- and postprison neighborhoods. Neighborhood of origin was only available in the California data for moves made following release from prison. Second, because my data track the same set of respondents for almost 30 years, I am able to extend the period of analysis past the 2-year follow-up used in the California data.

Furthermore, by focusing more directly on residential mobility patterns, I also make important extensions to the work of Massoglia et al. Their analysis focused on withinperson change in neighborhood quality across time, but this approach neglects the strong role that residential mobility plays in social mobility (Sampson and Sharkey 2008). I focus explicitly on mobility, providing a clearer picture of the types of neighborhoods returning citizens reside in versus the types of neighborhoods they move to. Additionally, my analytic approach helps to clarify the "more to lose" conclusion offered by the authors. By explicitly examining upward and downward residential mobility, all respondents start in similar neighborhoods. The analyses thus compare formerly incarcerated whites and minorities that have the same amount to lose through incarceration. This eliminates the extensive racial variation in neighborhood of origin.

# DATA AND METHODS

Examining mobility between poor and nonpoor neighborhoods requires data on both individuals and the neighborhoods in which they reside. Individual data for this study are drawn from the 1979 National Longitudinal Survey of Youth (NLSY79), a longitudinal data collection overseen by the Bureau of Labor Statistics that started following a cohort of 12,686 respondents in 1979. The original sample included nationally representative samples of white, African American, and Hispanic males and females, as well as supplementary samples of black and Hispanic males and females, and poor white males and females. After 1991, the supplementary poor white sample was no longer interviewed. During the period 1979–1994 interviews took place on a yearly basis, and interviews have been conducted in even numbered years since 1994. The present study utilizes interviews between the period 1979 and 2008.

Access to restricted data identifies the state, county, and census tract of residence for each respondent at each interview. This allows the individual data to be appended with data from the U.S. Census. Census tract data are drawn from the Neighborhood Change Database (NCDB), which provides standardized census tract data (standardized to the 2000 tract boundaries) for the 1980, 1990, and 2000 census collections. Because tract boundaries are occasionally redrawn, standardized boundaries are useful to ensure that tracts maintain the same geographic area across time. Individual tract identifiers are also standardized to the 2000 tract boundaries, meaning that observed mobility represents an actual move as opposed to a shifting boundary. I use linear interpolation to estimate tract characteristics in noncensus years.

## DEPENDENT VARIABLES

I use tract poverty rates provided by the NCDB to create two measures of intertract mobility between poor and nonpoor neighborhoods (see South et al. 2005: 800). At each wave of data collection I identify respondents who live in poor neighborhoods (poverty rate above 20 percent) and nonpoor neighborhoods (poverty rate below 20 percent). I use this information to stratify the sample so that only those eligible to move in either direction have a value on the respective dependent variable. For instance, a respondent who starts an observation in a poor tract is not eligible to move to a poor tract by the end of the observation. For respondents who live in nonpoor tracts, the dependent variable is coded 1 if they moved to a poor tract by the next interview and 0 otherwise (did not move or moved to a nonpoor tract). Conversely, for respondents who live in poor tracts, the dependent variable is coded 1 if they moved to a nonpoor tract by the next interview and 0 if they did not move or moved to a poor tract. Taken together, these two measures capture downward neighborhood mobility (into poor tracts) and upward neighborhood mobility (out of poor tracts). Although poverty classifications are to some extent arbitrary, the 20 percent poverty cut-off is consistent with previous treatments of neighborhood poverty (Jargowsky 1997; Wilson 1987).<sup>1</sup>

## INDEPENDENT VARIABLES

Imprisoned NLSY79 respondents are identified through a residence indicator, and are interviewed at the correctional facility in which they are housed. This survey protocol captures longer spells of imprisonment with certainty, but shorter spells in local jails are more likely to be missed (see Western 2002). I use the residence indicators to create three variables associated with incarceration and life after release. The first is a time-varying dichotomous indicator capturing incarceration history. This measure is coded 1 in all waves following the last in-prison interview and 0 otherwise (i.e., before prison or for all observations among the never-incarcerated respondents). Respondents with a history of incarceration provide 3,172 observations before incarceration and 3,322 observations after incarceration. The second incarceration indicator is a time-varying count of the number of observations since a respondent was last interviewed in prison. This measure is coded 0 leading up to confinement (and in all waves for those respondents with no history of incarceration), and then increases by 1 in each observation a respondent is interviewed following release from prison. Finally, while not an explicit focus of the present study, I also account for exposure to incarceration with a measure that captures the total number of observations a respondent was interviewed in prison.

## CONTROL VARIABLES

The current study adds incarceration to the list of characteristics known to impact movement between poor and nonpoor neighborhoods. In the empirical models that follow, I examine the total effect of incarceration as well as the effect net of other key correlates of locational attainment. I control for race using dummy variables for white (the reference category), African American, and Hispanic respondents. I include three time-varying SES indicators. The first is a measure of the number of years of completed school. The second is a measure of employment, coded 1 if the respondent reports having a job at the time of the interview. The third is a dichotomous indicator of family poverty, coded 1 if the respondent's household income falls below the federal poverty line. I also account for total exposure to neighborhood poverty with a time-varying count of the total number of observations a respondent resided in a poor neighborhood. I include two time-varying housing measures: a dichotomous indicator of homeownership (coded 1 if a respondent reports owning or making payments on a home), and a dichotomous indicator of public housing residence (coded 1 if a respondent reports receiving public housing assistance). Furthermore, because mobility is strongly tied to age, I include measures of respondent age and age-squared. I also control for marriage (with a dichotomous variable coded 1 if respondents report their relationship status as married and 0 otherwise), and family size (with a count of the number of resident children in the household). I control for gender with a dichotomous variable coded 1 for males and 0 for females. Finally, I account for two time-stable family background measures taken from the first interview: parent education (the highest educational attainment of either parent) and in-tact family (dichotomous variable coded 1 if respondents report growing up with both biological parents).

Mobility patterns are also shaped by a combination of neighborhood push and pull factors, and so I include two census tracts characteristics from the tract of origin. First, because poor places may attract residents from other poor places (Tienda 1991), I control

for the neighborhood poverty rate in the tract of origin.<sup>2</sup> Second, given that a greater minority presence in a neighborhood can trigger mobility for some groups, I control for percent non-Hispanic black in the tract of origin. Like the neighborhood poverty rate, these tract characteristics are taken from the 1980, 1990, and 2000 census collections using the NCDB.<sup>3</sup>

# ANALYTIC STRATEGY

To make maximum use of the longitudinal data, I segment each respondent's interview record into a series of mobility intervals, with each interval capturing the period between successive interviews. Initial residence in a poor or nonpoor neighborhood is measured at the beginning of the mobility interval (or time t). Mobility into poor or nonpoor neighborhoods is then measured at the next interview (or time t + 1). I limit my measure of residential mobility to those moves that are between tracts, but within county. This is consistent with the U.S. Census definition of residential mobility, or what others have labeled interneighborhood mobility (Crowder et al. 2006; Lee and Hall 2009; Rossi 1980).<sup>4</sup> Importantly, all independent variables are taken from the beginning of the mobility interval, which helps protect the temporal ordering of the independent and dependent variables.

I use logistic regression to examine the effect of the incarceration and control variables on the odds of moving between poor and nonpoor census tracts. The 12,686 NLSY79 respondents provide a total of 103,539 mobility intervals that start in nonpoor tracts, and 42,206 mobility intervals that start in poor tracts. Because the same respondent can contribute multiple mobility intervals to the analysis, error terms within individuals are likely correlated. I correct for the nonindependence of observations by computing robust standard errors that are clustered within individuals. All models were estimated using Stata v.14.

# RESULTS

While not displayed, it is useful to start the results with some descriptive information about total mobility for the NLSY79 sample. Respondents with no history of incarceration move across census tracts (but within counties), in approximately 16 percent of all mobility intervals. Respondents with a history of incarceration are more mobile both before prison (moves in 22 percent of all preprison intervals) and after prison (moves in 28 percent of all postprison intervals). Table 1 displays the distribution of these moves between poor and nonpoor neighborhoods. In each panel of results, the row percentages (which reflect the origin tract) sum to 100, and the diagonals provide a breakdown of observed upward and downward mobility. Moves that start in a nonpoor tract and end in a poor tract are least common among respondents with no history of incarceration (less than 2 percent of all eligible moves). Respondents who eventually go to prison make downward neighborhood moves in about 5 percent of all mobility intervals that start in a nonpoor tract. Providing initial support for the expectation outlined above, the frequency of downward neighborhood mobility increases to almost 8 percent after prison.

A more complicated picture emerges in Table 1 for upward neighborhood mobility. Never-incarcerated respondents make upward moves in almost 10 percent of all intervals

#### INCARCERATION AND RESIDENTIAL MOBILITY DESTINATIONS

|              |         | Never Incarcerated |                   |         |
|--------------|---------|--------------------|-------------------|---------|
|              |         |                    | Destination Tract |         |
|              |         | Poor               | Nonpoor           | Ν       |
| Origin tract | Poor    | 90.14              | 9.86              | 38,977  |
|              | Nonpoor | 1.81               | 98.19             | 100,274 |
|              |         | Before prison      |                   |         |
|              |         |                    | Destination Tract |         |
|              |         | Poor               | Nonpoor           | Ν       |
| Origin tract | Poor    | 91.64              | 8.36              | 1,585   |
|              | Nonpoor | 5.16               | 94.84             | 1,587   |
|              |         | After prison       |                   |         |
|              |         |                    | Destination Tract |         |
|              |         | Poor               | Non-poor          | N       |
| Origin tract | Poor    | 88.18              | 11.82             | 1,644   |
| -            | Nonpoor | 7.84               | 92.16             | 1,678   |

| <b>TABLE 1.</b> Upward and Downward Residential Mobility Distributions by Incarceration S | tatus |
|---|-------|
|---|-------|

*Notes:* Row percentages sum to 100 percent, diagonals represent upward and downward mobility. Sample sizes (*N*) correspond to characteristics of origin tracts. Statistics adjusted for survey weights and design effects. *Source.* NLSY79.

that start in a poor tract. Those respondents who experience incarceration make upward neighborhood moves in approximately 7.5 percent of all preprison mobility intervals. After incarceration, however, the frequency of upward neighborhood moves (about 12 percent) exceeds the rates for both the never-incarcerated sample and the preincarceration observations. These descriptive results do not support the expectation that formerly incarcerated respondents will be trapped in poor neighborhoods. The reentry period, at least initially, is often characterized by residential instability, and this descriptive information provides some evidence that returning citizens move fairly regularly between neighborhoods of varying quality. After first briefly reviewing additional descriptive information, I examine these patterns while also controlling for key correlates of mobility and locational attainment.

Table 2 presents descriptive statistics for all of the predictors of upward and downward mobility, again disaggregated by incarceration history (never, pre-, and postprison). Incarceration history, a key independent variable, is omitted from the table because it is necessarily coded 0 for the never-incarcerated sample, 0 before prison, and 1 after prison. Respondents with a history of incarceration spend, on average, just over two observations incarcerated, and are observed after prison for an average of approximately four mobility intervals. After adjusting the descriptive statistics for survey weights and design effects, African Americans constitute 13 percent of the never-incarcerated observations, but over one-third of the pre- and postprison observations. Males also make up the vast majority of pre- and postprison observations. Individuals who go to prison are also less likely than never-incarcerated respondents to come from an in-tact family, be married, own homes, have a high-school education, or report having a job. They are more likely to live

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|                                       | Never-Inc | carcerated | Before | Prison | After | Prison |
|---------------------------------------|-----------|------------|--------|--------|-------|--------|
|                                       | Mean      | SD         | Mean   | SD     | Mean  | SD     |
| Time since release                    | -         | -          | -      | -      | 4.02  | 5.46   |
| Incarcerated observations             | _         | _          | _      | _      | 2.28  | 2.90   |
| African American                      | 0.13      | 0.34       | 0.37   | 0.59   | 0.39  | 0.60   |
| Hispanic                              | 0.06      | 0.24       | 0.12   | 0.39   | 0.10  | 0.37   |
| White                                 | 0.81      | 0.39       | 0.51   | 0.61   | 0.51  | 0.61   |
| Age                                   | 29.34     | 8.44       | 22.76  | 6.79   | 33.84 | 9.13   |
| Male $(1 = yes)$                      | 0.47      | 0.50       | 0.84   | 0.44   | 0.88  | 0.40   |
| Parental education                    | 12.58     | 3.02       | 11.16  | 3.64   | 11.12 | 3.35   |
| In-tact family                        | 0.77      | 0.42       | 0.58   | 0.60   | 0.55  | 0.61   |
| Married $(1 = yes)$                   | 0.48      | 0.50       | 0.16   | 0.45   | 0.27  | 0.54   |
| Number of children                    | 0.84      | 1.11       | 0.37   | 0.99   | 0.54  | 1.20   |
| Homeowner $(1 = yes)$                 | 0.41      | 0.49       | 0.06   | 0.29   | 0.16  | 0.45   |
| Education                             | 12.85     | 2.38       | 10.70  | 2.10   | 11.31 | 2.18   |
| Employed $(1 = yes)$                  | 0.76      | 0.43       | 0.54   | 0.61   | 0.62  | 0.60   |
| Family poverty $(1 = yes)$            | 0.10      | 0.30       | 0.31   | 0.56   | 0.31  | 0.57   |
| Public housing assistance $(1 = yes)$ | 0.03      | 0.16       | 0.08   | 0.34   | 0.07  | 0.32   |
| Poverty exposure                      | 1.27      | 2.94       | 1.53   | 3.16   | 2.73  | 5.14   |
| Tract % poor                          | 12.13     | 10.43      | 18.80  | 16.88  | 19.22 | 16.28  |
| Tract % African American              | 12.09     | 22.77      | 26.93  | 41.35  | 28.12 | 40.89  |
| N of mobility intervals               | 139       | ,251       | 3,1    | 72     | 3,3   | 22     |

TABLE 2. Descriptive Statistics for Independent Variables Predicting Upward and Downward Mobility; by Incarceration Status

Note: Means and standard deviations adjusted for survey weights and design effects.

in poverty, reside in public housing, and reside in neighborhoods with higher levels of poverty and greater concentrations of African Americans.

Table 3 presents the results from a series of logistic regression models predicting downward neighborhood mobility. I estimate a total effect of incarceration on downward mobility by starting with only the measure of incarceration history in model 1. In model 2, I add the other incarceration measures: time since release and total observations incarcerated. Preliminary analyses suggested that allowing for a nonlinear trend in time since release from prison resulted in a better model fit. As such, all models include both time since release and the squared term for time since release. In model 3, I build up the locational attainment model by adding individual and tract controls discussed above. Finally, in model 4 I examine if incarceration history and time since release vary by respondent race and ethnicity through a series of interaction terms. I then present a parallel set of models predicting upward mobility in Table 4.

The results in model 1 of Table 3 suggest that incarceration is a strong predictor of downward residential mobility into poor neighborhoods. The likelihood that a respondent will leave a nonpoor area for a poor area is nearly quadrupled if that respondent has a history of incarceration ( $e^{1.368} = 3.9$ ). Adding the additional incarceration measures in model 2 suggests initial stability in the effect of incarceration history, followed by declines as a respondent spends more time out of prison (as indicated by the significant coefficient of the squared term for time since release). Across all the models, there is no indication that greater exposure to incarceration is related to downward neighborhood mobility.

| 0   | þ                 |                 |                   |               |                      |              |                    |             |
|---|-------------------|-----------------|-------------------|---------------|----------------------|--------------|--------------------|-------------|
|   | Mode              | 11              | Mode              | 12            | Model                | 3            | Model              | 4           |
|   | q                 | se              | q                 | se            | q                    | se           | q                  | se          |
| Incarceration history   | 1.368 * * *       | (0.094)         | 1.511 * * *       | (0.169)       | 0.475*               | (0.211)      | 1.059 * * *        | (0.278)     |
| Time since release  |                   | r               | 0.045             | (0.063)       | 0.063                | (0.070)      | -0.110             | (0.096)     |
| Time since release <sup>2</sup>                                       |                   |                 | -0.010*           | (0.005)       | -0.009               | (0.005)      | 0.002              | (0.007)     |
| Incarcerated observations   |                   |                 | 0.000             | (0.043)       | -0.048               | (0.050)      | -0.034             | (0.051)     |
| African American <sup>a</sup>   |                   |                 |                   |               | $0.843^{***}$        | (0.062)      | 0.860 * * *        | (0.063)     |
| Hispanic <sup>a</sup>   |                   |                 |                   |               | 0.768 * * *          | (0.058)      | 0.783 * * *        | (0.059)     |
| Age   |                   |                 |                   |               | 0.138 * * *          | (0.022)      | 0.140 * * *        | (0.022)     |
| $Age^2$   |                   |                 |                   |               | $-0.002^{***}$       | (0.00)       | $-0.002^{***}$     | (0.00)      |
| Male  |                   |                 |                   |               | -0.030               | (0.045)      | -0.030             | (0.045)     |
| Parental education  |                   |                 |                   |               | -0.011               | (0.007)      | -0.011*            | (0.007)     |
| In-tact family  |                   |                 |                   |               | -0.317 * * *         | (0.044)      | $-0.315^{***}$     | (0.044)     |
| Married   |                   |                 |                   |               | $-0.146^{**}$        | (0.053)      | -0.147 **          | (0.053)     |
| Number of children  |                   |                 |                   |               | 0.013                | (0.023)      | 0.013              | (0.023)     |
| Homeowner   |                   |                 |                   |               | -1.495 ***           | (0.072)      | $-1.494^{***}$     | (0.072)     |
| Education   |                   |                 |                   |               | -0.027*              | (0.011)      | -0.027 ***         | (0.011)     |
| Employed  |                   |                 |                   |               | -0.193 * * *         | (0.046)      | $-0.193^{***}$     | (0.046)     |
| Family poverty status   |                   |                 |                   |               | 0.287 * * *          | (0.052)      | 0.285 * * *        | (0.052)     |
| Public housing assistance   |                   |                 |                   |               | 0.012                | (0.083)      | 0.009              | (0.083)     |
| Poverty exposure  |                   |                 |                   |               | $0.094^{***}$        | (0.006)      | $0.094^{***}$      | (0.006)     |
| Tract poverty rate  |                   |                 |                   |               | 0.053 * * *          | (0.004)      | 0.053 * * *        | (0.004)     |
| Tract % non-Hispanic black  |                   |                 |                   |               | 0.001                | (0.001)      | 0.001              | (0.001)     |
| Interactions:   |                   |                 |                   |               |                      |              |                    |             |
| $Ex-inmate \times African American$                                   |                   |                 |                   |               |                      |              | $-0.912^{**}$      | (0.356)     |
| $Ex-inmate \times Hispanic$   |                   |                 |                   |               |                      |              | -0.795             | (0.476)     |
| Time since release $\times$ African American                          |                   |                 |                   |               |                      |              | 0.268*             | (0.136)     |
| Time since release <sup>2</sup> $\times$ African American             |                   |                 |                   |               |                      |              | -0.017             | (0.010)     |
| Time since release $\times$ Hispanic                                  |                   |                 |                   |               |                      |              | 0.222              | (0.188)     |
| Time since release <sup>2</sup> $\times$ Hispanic                     |                   |                 |                   |               |                      |              | -0.015             | (0.014)     |
| Constant  | -3.518***         | (0.022)         | -3.518***         | (0.022)       | $-5.124^{***}$       | (0.308)      | -5.149***          | (0.308)     |
| Model chi-square  | 212.48            |                 | 268.19            |               | 2800.53              |              | 2811.29            |             |
| -2 log likelihood   | 27720.16          |                 | 27699.83          |               | 24474.13             |              | 24466.77           |             |
| Person-observations   | 103,539           |                 | 103,539           |               | 103,539              |              | 103,539            |             |
| Persons   | 10,707            |                 | 10,707            |               | 10,707               |              | 10,707             |             |
| $Motos * h > 0.05^{**} h > 0.01^{***} h > 0.01^{***} h > 0.001$ Robus | t standard arrors | a - compared to | white respondents | Not shown dur | umy variable for int | andus conduc | ted after 1004 dum | aldeirev vm |

TABLE 3. Downward Mobility: Logistic Regression Predicting Residential Mobility from a Nonpoor to a Poor Census Tract; 1979–2008

mily val Ξ 5 È 3 3 2 roundation . ਚ Notes: "p < 0.03, p < 0.01, p < 0.01, p < 0.01, p < 0.01 for never-incarcerated respondents.

## INCARCERATION AND RESIDENTIAL MOBILITY DESTINATIONS

|  | Model 1               |                 | Model 2               |                 | Model 3                 |                | Model 4                 |            |
|--|-----------------------|-----------------|-----------------------|-----------------|-------------------------|----------------|-------------------------|------------|
|  | р                     | se              | р                     | se              | q                       | se             | р                       | se         |
| Incarceration history                                | .251**                | (.093)          | .298                  | (.157)          | .309                    | (.182)         | .612                    | (.339)     |
| Time since release                                   |                       |                 | 043                   | (.062)          | 081                     | (.063)         | 123                     | (.145)     |
| Time since release <sup>2</sup>                      |                       |                 | 001                   | (.005)          | .000                    | (.006)         | 001                     | (.013)     |
| Incarcerated observations                            |                       |                 | .043                  | (.041)          | .017                    | (.042)         | .013                    | (.043)     |
| African American <sup>a</sup>                        |                       |                 |                       |                 | 610***                  | (.063)         | 607***                  | (.064)     |
| Hispanic <sup>a</sup>                                |                       |                 |                       |                 | $-0.216^{***}$          | (0.059)        | -0.207 * * *            | (0.059)    |
| Age  |                       |                 |                       |                 | 0.191 * * *             | (0.021)        | $0.192^{***}$           | (0.021)    |
| $Age^2$  |                       |                 |                       |                 | -0.003 * * *            | (0.00)         | -0.003 ***              | (0.000)    |
| Male   |                       |                 |                       |                 | -0.126 **               | (0.042)        | -0.126 **               | (0.042)    |
| Parental education                                   |                       |                 |                       |                 | 0.035 * * *             | (0.007)        | $0.035^{***}$           | (0.007)    |
| In-tact family                                       |                       |                 |                       |                 | $-0.174^{***}$          | (0.041)        | $-0.174^{***}$          | (0.041)    |
| Married  |                       |                 |                       |                 | 0.150 **                | (0.049)        | 0.150 **                | (0.049)    |
| Number of children                                   |                       |                 |                       |                 | 0.016                   | (0.020)        | 0.017                   | (0.020)    |
| Homeowner  |                       |                 |                       |                 | $-1.147^{***}$          | (0.065)        | $-1.146^{***}$          | (0.065)    |
| Education  |                       |                 |                       |                 | 0.041 * * *             | (0.010)        | $0.041^{***}$           | (0.010)    |
| Employed   |                       |                 |                       |                 | 0.353 * * *             | (0.043)        | 0.353 * * *             | (0.043)    |
| Family poverty status                                |                       |                 |                       |                 | -0.019                  | (0.045)        | -0.019                  | (0.045)    |
| Public housing assistance                            |                       |                 |                       |                 | $-0.252^{***}$          | (0.072)        | $-0.254^{***}$          | (0.072)    |
| Exposure to poverty                                  |                       |                 |                       |                 | -0.078 * * *            | (0.006)        | $-0.078^{***}$          | (0.006)    |
| Tract poverty rate                                   |                       |                 |                       |                 | -0.012 * * *            | (0.002)        | $-0.012^{***}$          | (0.002)    |
| Tract % non-Hispanic black                           |                       |                 |                       |                 | 0.001                   | (0.001)        | 0.001                   | (0.001)    |
| Interactions:  |                       |                 |                       |                 |                         |                |                         |            |
| Ex-inmate $\times$ African American                  |                       |                 |                       |                 |                         |                | -0.310                  | (0.346)    |
| $Ex-inmate \times Hispanic$                          |                       |                 |                       |                 |                         |                | -0.443                  | (0.409)    |
| Time since release × African Amer                    | rican                 |                 |                       |                 |                         |                | -0.005                  | (0.168)    |
| Time since release <sup>2</sup> $\times$ African Ame | erican                |                 |                       |                 |                         |                | 0.010                   | (0.015)    |
| Time since release $\times$ Hispanic                 |                       |                 |                       |                 |                         |                | 0.236                   | (0.216)    |
| Time since release <sup>2</sup> $\times$ Hispanic    |                       |                 |                       |                 |                         |                | -0.030                  | (0.022)    |
| Constant   | $-2.366^{***}$        | (0.021)         | $-2.366^{**}$         | (0.021)         | $-5.014^{***}$          | (0.297)        | $-5.032^{***}$          | (0.297)    |
| Model chi-square                                     | 7.29                  |                 | 14.49                 |                 | 1194.33                 |                | 1205.34                 |            |
| -2 log likelihood                                    | 24872.80              |                 | 24864.77              |                 | 23487.04                |                | 23478.57                |            |
| Person-observations                                  | 42,206                |                 | 42,206                |                 | 42,206                  |                | 42,206                  |            |
| Persons  | 6,230                 |                 | 6,230                 |                 | 6,230                   |                | 6,230                   |            |
| Notes: $*p < 0.05$ , $**p < 0.01$ , $**p < 0.01$     | .001. Robust standard | errors. a, comp | ared to white respond | ents. Not show: | n: dummy variable for i | nterviews cond | lucted after 1994, dumm | / variable |

TABLE 4. Upward Mobility: Logistic Regression Predicting Residential Mobility from a Poor to a Nonpoor Census Tract; 1979–2008

for never-incarcerated respondents.

# CITY & COMMUNITY

The addition of time-stable and time-varying controls in model 3 reflects well-known predictors of locational attainment. Both black and Hispanic respondents are more likely than white respondents to leave nonpoor neighborhoods for poor neighborhoods. More educated respondents and employed respondents are less likely to leave nonpoor neighborhoods, while individuals who live in poor households-but nonpoor neighborhoods-are more likely to leave these areas. Because homeownership promotes stability, respondents who own homes in nonpoor neighborhoods are unlikely to leave. Married respondents are less likely than unmarried respondents to leave nonpoor areas. Greater exposure to poverty increases the likelihood of downward neighborhood mobility, even for those living in nonpoor neighborhoods at the start of a mobility interval. The effect of incarceration history is reduced by nearly 70 percent from model 2 to model 3. This implies that returning citizens are more likely to move into poor neighborhoods, in part, because of preexisting disadvantages and SES disadvantages that emerge following incarceration. That said, the odds of downward mobility are still increased by approximately 60 percent in any given postprison observation ( $e^{0.475} = 1.61$ ). The time trend from model 2 is also observed, although the coefficient for the squared term of time since release is reduced just under conventional levels of statistical significance (p = 0.08).

In model 4, I examine if incarceration history and time since release interact with respondent race/ethnicity. The results from the interaction models show significant differences between African American and white respondents with a history of incarceration. The main effect of incarceration history is positive and significant, which represents the effect of incarceration history on downward neighborhood mobility for white respondents. The odds of downward mobility for whites who experience incarceration are nearly three times greater than the odds of downward mobility for whites who never go to prison  $(e^{1.059} = 2.88)$ . The black\*incarceration history interaction term is negative and significant. The interaction between incarceration history and Hispanic respondents is also negative, but not statistically significant (p = 0.09). In supplementary analyses, I shifted the race/ethnicity reference category to examine if downward neighborhood mobility was more common among formerly incarcerated blacks and Hispanics compared to their respective never-incarcerated counterparts. These results showed that, while postprison downward mobility is more common among all racial subsamples, the difference is only statistically significant for formerly incarcerated whites (as displayed by the main effect of incarceration history in model 4).

In addition to the significant interaction with incarceration history, model 4 also shows that time since release shapes downward neighborhood mobility differently for white and black respondents. The main effects (in this case, the effect for formerly incarcerated whites) are not significant, although the negative coefficient for time since release suggests a gradual decay of the incarceration effect for whites over time. For blacks, on the other hand, the likelihood of downward neighborhood mobility increases in the observations following prison, and then starts to level off. The coefficient for the squared measure of time since release nears, but does not reach, conventional levels of statistical significance (p = 0.08). The same trend is observed for Hispanic respondents with a history of incarceration, although none of the interaction terms reach statistical significance. As a whole, the results in model 4 suggest that the effect of incarceration history on downward neighborhood mobility is initially stronger for whites than it is for African





*Notes*: All covariates from model 4 of Table 3 (except race, incarceration history, time since release, and age) at their mean value. Prison release set to age 25 so probability of downward mobility can be estimated for respondents with no history of incarceration.

Source: NLSY79; 1979-2008.

Americans, but that the trends diverge as formerly incarcerated blacks and whites spend more time released from prison.

To provide greater context to these interactions, I plot in Figure 1 the predicted probabilities of downward neighborhood mobility for white, African American, and Hispanic respondents with and without a history of incarceration. So that probabilities can be estimated regardless of incarceration history, I set the age of release from prison to 25. The lines for respondents with a history of incarceration mark the first six observations following release, while the lines for respondents without a history of incarceration mark the probability of downward mobility from age 25 to 30. All other model covariates from model 4 of Table 3 are held at their mean values.

It should be noted that mobility from nonpoor to poor tracts is rare, and the predicted probabilities here do not exceed 0.10 for any group. That said, the figure illustrates both the main effects and interactions from model 4. Whites who go to prison are significantly more likely to make a downward move than whites who do not go to prison. This difference, however, starts to narrow across time. Both formerly incarcerated blacks and Hispanics are also more likely to make a downward neighborhood move than their never-incarcerated counterparts, but sensitivity analyses discussed above indicated that the difference between respondents who do and do not go to prison is only statistically significant among whites. Indeed, at least early in the reentry process, all formerly incarcerated

respondents are expected to make downward moves at about the same rate. But while the postprison trend for whites is a declining probability of downward mobility, there is an upward trend for Hispanics and (especially) African Americans. And even with the more pronounced incarceration effect among formerly incarcerated whites, eventually whites *with* a history of incarceration are less likely than African Americans or Hispanics *without* a history of incarceration to move into poor neighborhoods.

In Table 4 I turn my attention to upward neighborhood mobility; or to moves that begin in poor neighborhoods and end in nonpoor neighborhoods. I present a parallel series of models in Table 4 as I did in Table 3.

If the general theme from Table 3 was that incarceration increases the likelihood of downward neighborhood mobility, the results from Table 4 show few significant relationships between incarceration and upward mobility. The baseline coefficient for incarceration history is significant in model 1, reflecting the descriptive association displayed in Table 1. Across the rest of the model specifications, however, none of the incarceration measures reach conventional levels of statistical significance. Model 4 of Table 4 does suggest that formerly incarcerated whites might be better equipped than formerly incarcerated minorities to exit poor neighborhoods, but again these effects fail to reach statistical significance. The effects of many of the control variables are consistent with existing research on locational attainment. Moves to nonpoor neighborhoods are more common among whites than among African Americans or Hispanics. Respondents who are employed and respondents with higher educations are more likely to be upwardly mobile. Married respondents are more likely to escape poor neighborhoods, but homeownersas with downward mobility-are unlikely to move out of poor neighborhoods. Respondents receiving housing assistance and respondents with greater exposure to poverty are less likely to leave poor neighborhoods. The tract poverty rate is also negatively related to mobility out of poor neighborhoods, reflecting the difficulties in escaping very poor neighborhoods.

Overall, the results presented here provide mixed support for the research expectations outlined above. I did find that incarceration history is a robust predictor of downward neighborhood mobility, but I did not find that incarceration works to trap formerly individuals in poor neighborhoods.<sup>5</sup> Given that residential mobility is most pronounced early in the reentry period, I expected that any upward or downward mobility would be most likely during this period. In support of this expectation, I found that the combination of the incarceration history and time since release measures suggest a consistent effect early that then starts to decline. Finally, there is evidence of racial/ethnic heterogeneity in especially downward neighborhood mobility. As expected, I found that formerly incarcerated whites living in nonpoor neighborhoods are most affected by the experience of incarceration. But I did not find that incarceration is more consequential for upward mobility among minorities. However, as shown in Figure 1, the trends over time vary for formerly incarcerated whites and formerly incarcerated minorities.

# DISCUSSION

Individuals who become incarcerated are concentrated in poor and disadvantaged neighborhoods before prison, and emerging evidence is shedding light on the role incarceration plays in further channeling these individuals into such neighborhoods. The current study extends this line of research by examining the impact of incarceration on residential mobility between poor and nonpoor neighborhoods. In doing so, I merge research on the consequences of incarceration with an extensive line of research on mobility, attainment, and concentrated poverty. I advance here two main conclusions.

First, going to prison increases the likelihood that an individual will experience downward neighborhood mobility from a nonpoor to a poor neighborhood. This effect is robust to a host of individual and neighborhood characteristics known to be associated with residential mobility and locational attainment. Furthermore, additional analyses showed that the relationship between incarceration and mobility is initially stable, then starts to slowly decline as individuals spend longer periods of time released from confinement. Incarceration appears to work as a barrier that prohibits continued residence in nonpoor neighborhoods following prison. I did not find evidence of the opposite pathway. That is, the incarceration experience does not trap individuals in poor neighborhoods. Indeed, the residential instability tied to incarceration and reentry seems to result in movement between neighborhoods of varying quality, but the downward trend is stronger than the upward trend.

Second, there is significant racial variation in the effect of incarceration on downward neighborhood mobility, both initially and across time. Previous research has established that minority households encounter barriers limiting their locational attainment. My results show, however, that formerly incarcerated whites lose their housing market advantage over minority households. Indeed, only whites with a history of incarceration are significantly more likely than their never-incarcerated counterparts to experience downward neighborhood mobility. In addition to racial variation in the average effect of incarceration, the results also show that patterns of downward neighborhood mobility play out differently for formerly incarcerated whites, blacks, and Hispanics across time. For African Americans with a history of incarceration, the likelihood of downward mobility increases as they spend longer periods of time released from incarceration. Thus, while blacks with a history of incarceration are not significantly more likely than blacks without a history of incarceration to initially move to poor neighborhoods, their locational attainment patterns start to diverge across time.

This pattern of racial variation provides additional evidence that *average* effects of incarceration documented in the literature mask important nuances in the ways that incarceration reinforces and creates inequality. Because of exiting racial residential inequality, whites are said to have the most to lose through incarceration (Massoglia et al. 2013). That is, the residential trajectories of nonwhites are less affected following incarceration because of preincarceration neighborhood stratification across racial groups. Indeed, and consistent with recent research, my results show that formerly incarcerated whites are, at least initially, most affected by a spell of incarceration. But over the long-term, however, the mark of incarceration remains a sticky barrier for nonwhites, making it difficult for formerly incarcerated minorities to avoid poor neighborhoods. Ultimately, the racial residential inequality observed before prison is reinforced in the years following prison as formerly incarcerated whites become less likely and formerly incarcerated nonwhites more likely to leave nonpoor neighborhoods.

What are we to make of these trends? Research on incarceration and families has shown that incarceration is most consequential for those families with the lowest propensity of experiencing the event in the first place (Turney 2014; Turney and Wildeman 2013). Perhaps a similar dynamic plays out in terms of neighborhoods. Incarceration rates vary

widely by race, and minority neighborhoods experience much more criminal justice contact than white neighborhoods (Sampson 2012). A criminal conviction, and the resulting stigma, may make it harder for white residents to avoid neighborhoods that fall outside of their typical preferences (Bader and Krysan 2015; Krysan and Bader 2009). It is still the case, however, that formerly incarcerated whites are not especially disadvantaged compared to minority respondents with or without a history of incarceration (see Figure 1). Initial similarities in downward mobility quickly diverge as formerly incarcerated whites, African Americans, and Hispanics spend more time out of prison. Thus, the compounded disadvantage of incarceration and race grows across time, as opposed to the gradual downward trend for whites. Others have noted how incarceration damages attachments to stabilizing institutions, ultimately helping to perpetuate residential inequality (Alexander 2012; Goffman 2014). Formerly incarcerated blacks are the least likely to see initial increases in residential mobility decline across time (see Warner 2015), and this appears to increasingly lead them into poor neighborhoods.

These results add to a growing body of research documenting the link between incarceration and residential outcomes. There are, however, some limitations that should be addressed by additional research. The NLSY79 is commonly used to examine deleterious outcomes associated with incarceration, but the data provide only limited criminal justice information. The data lack criminal history or conviction information; an important shortcoming because some offenses (sex offenses especially) trigger residential restrictions. Furthermore, because the incarceration measures are derived from residential indicators taken at each survey, start dates, end dates, and method of release are unknown. Individuals released on parole supervision often face housing restrictions that include where and with whom they may live (Petersilia 2003). Some offenders are also released to transitional housing, such as a halfway house. Postrelease restrictions and stipulations could create upward or downward mobility by default. To have confidence in the results found here, additional research should examine locational attainment with more detailed criminal justice data.

Even with these limitations, results from this study have important implications for existing knowledge on mobility, attainment, and life after release from prison. Neighborhoods are a core organizing feature of American life, and neighborhood quality is tied to a number of important indicators of well-being (Sampson et al. 2002). This extends to the reentry process, as returning citizens who reside in poor and disadvantaged neighborhoods after prison have elevated recidivism rates (Hipp et al. 2010a; Kubrin and Stewart 2006). This association should be further examined given the apparent contribution of incarceration to downward mobility. Researchers should also ask if the postprison residential context contributes to the later life consequences of incarceration. For example, incarceration damages both mental and physical health functioning (Massoglia 2008; Schnittker and John 2007). Residents of disadvantaged neighborhoods (in which ex-inmates are disproportionately located) also suffer from poor health outcomes (Ross 2000; Ross and Mirowsky 2001). Additional research is needed to determine what role neighborhood quality plays in the well-being of citizens with a history of incarceration. Finally, given the impact of incarceration on families (Massoglia et al. 2011; Turney and Wildeman 2013), and to the extent that mobility is a household decision (Rossi 1980; Speare 1974), future research should examine if postprison mobility patterns are a function of shifting family dynamics (such as divorce) during or following incarceration.

These results also speak to the potential impact of incarceration on larger patterns of racial residential inequality. In some cases, such as the labor market, incarceration works to mask inequality by removing a disproportionate number of low-skill black males from official data sources (Pettit 2012; Western and Pettit 2005). In this case, however, incarceration might work to reduce residential inequality by channeling formerly incarcerated whites into poor and minority neighborhoods. The next logical question, then, is what (if any) impact this pattern has on aggregate residential inequality? The answer to this question depends on a combination of where released prisoners go and in what concentration. Approximately 600,000 individuals are released from prison each year, where they join about 6 million former prisoners already living in neighborhoods and communities (Uggen et al. 2006). Thus, as a share of the total U.S. population, these correctional flows might not have a large average effect on residential inequality, but may profoundly impact those neighborhoods and communities where incarceration and reentry are geographically clustered (Burch 2013).

Finally, to the extent that postprison mobility and neighborhood quality are tied to recidivism, these findings could help direct housing-based reentry interventions. Addressing individual needs for employment or substance abuse treatment can be complicated without a stable residential situation (Bradley et al. 2001). Furthermore, while a residential move after prison can help facilitate successful reentry (Kirk 2009), too much mobility is a risk factor for recidivism (Steiner et al. 2015). This is especially the case for parolees living in disadvantaged neighborhoods (Kubrin and Stewart 2006), and my findings provide further evidence that incarceration makes it difficult to avoid these types of environments. Thus, policymakers and practitioners must navigate a fine line in terms of postprison housing. It is important to help returning citizens find stable housing in neighborhoods that will help them address their distinct and diverse needs.

## Notes

<sup>1</sup>In supplementary models I replicated my results using alternative definitions of poor and nonpoor neighborhoods (including 30 and 40 percent cut-off points). The results were largely consistent with those presented in Tables 3 and 4, but it should be noted that the interactions between incarceration history and race-ethnicity are only observed using the 20-percent poverty definition (results available upon request).

<sup>2</sup>Neighborhood of origin poverty rates are restricted by the outcome. It is necessarily less than 20 percent when examining downward mobility and greater than 20 percent in examining upward mobility.

<sup>3</sup>Two additional controls are included but not presented. First, because the timing of the interviews shifts after 1994, I include a dummy variable coded 1 for all observations after 1994. Second, because never-incarcerated respondents remain in the models and contribute to the parameter estimates, I include a dummy variable coded 1 if the respondent was *never* interviewed in prison.

<sup>4</sup>Respondents who make moves cross county or state boundaries are omitted from the analyses. This is done to maintain the focus on local moves, as opposed to internal migration. The treatment of extra-local moves does not impact the pattern of results, as the effect of incarceration is consistent for both within-county and between-county moves.

<sup>5</sup>It is important to note that individuals who go to prison may disproportionately select themselves (or are selected) into poor neighborhoods. However, supplementary analyses suggest that any selection effects are not biasing the results. I replicated all models using only the "at-risk" sample, or those who experience incarceration at some point across the nearly 30 years of data collection. While there is some loss of significance with

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the reduced number of observations, the main effects and interactions are consistent with those plotted in Figure 1.

### REFERENCES

- Alba, Richard D., and John R. Logan. 1993. "Minority Proximity to Whites in Suburbs: An Individual-Level Analysis of Segregation." *American Journal of Sociology* 98(6):1388–427.
- Alexander, Michelle. 2012. The New Jim Crow: Mass Incarceration in the Age of Colorblindness. New York, NY: The New Press.
- Bader, Michael, and Maria Krysan. 2015. "Community Attraction and Avoidance in Chicago: What's Race Got to Do with It?" *The Annals of the American Academy of Political and Social Science* 660(1):261–81.
- Beckett, Katherine, and Steve Herbert. 2010. Banished: The New Social Control in Urban America. New York: Oxford University Press.
- Bradley, Katharine H., R.B. Michael Oliver, Noel C. Richardson, and Elspeth M. Slayter. 2001. No Place Like Home: Housing and the Ex-Prisoner. Boston, MA: Community Resources for Justice.
- Briggs, Xavier de Souza, and Benjamin J. Keys. 2009. "Has Exposure to Poor Neighborhoods Changed in America? Race, Risk and Housing Locations in Two Decades." Urban Studies 46:429–58.
- Burch, Traci. 2013. Trading Democracy for Justice: Criminal Convictions and the Decline of Neighborhood Political Participation. Chicago: University of Chicago Press.
- Cahill, Meagan, and Nancy S. Landale. 2008. "Residential Mobility and Drug Use Among Parolees in San Diego, California and Implications for Policy." Pp. 85–115 in *Geography and Drug Addiction*, edited by Yonette F. Thomas, Douglas Richardson, and Ivan Cheung. Amsterdam, the Netherlands: Springer.

Carson, Ann E. 2014. Prisoners in 2013. Washington, DC: Bureau of Justice Statistics.

Charles, Camille. 2003. "The Dynamics of Racial Residential Segregation." Annual Review of Sociology 29:167-207.

- Clark, William A.V., and Suzanne Davies Withers. 2008. "Family migration and mobility sequences in the United States: Spatial mobility in the context of the life course." *Demographic Research* 17:591–622.
- Coulter, Rory, and Maarten van Ham. 2013. "Following People Through Time: An Analysis of Individual Residential Mobility Biographies." *Housing Studies* 28(7):1037–55.
- Crowder, Kyle D., and Scott J. South. 2005. "Race, Class, and Changing Patterns of Migration Between Poor and Nonpoor Neighborhoods." American Journal of Sociology 110(6):1715–63.

—, —, and Eric Chavez. 2006. "Wealth, Race, and Inter-neighborhood Migration." American Sociological Review 71(1):72–94.

- Dwyer, Rachel E. 2012. "Contained Dispersal: The Deconcentration of Poverty in US Metropolitan Areas in the 1990s." *City & Community* 11(3):309–31.
- Geller, Amanda, and Marah A. Curtis. 2011. "A Sort of Homecoming: Incarceration and the Housing Security of Urban Men." *Social Science Research* 40(4):1196–213.
- Glaze, Lauren E. 2011. "Correctional Population in the United States, 2010." Bureau of Justice Statistics.

Goffman, Alice. 2014. On the Run: Fugitive Life in an American City. Chicago: University of Chicago Press.

- Gramlich, Edward, Deborah Laren, and Naomi Sealand. 1992. "Moving Into and Out of Poor Urban Areas." Journal of Policy Analysis and Management 11(2):273–87.
- Hipp, John R., Joan Petersilia, and Susan Turner. 2010a. "Parolee Recidivism in California: The Effect of Neighborhood Context and Social Service Agency Characteristics." Criminology 48(4):948–79.

—, Susan Turner, and Jesse Jannetta. 2010b. "Are Sex Offenders Moving into Social Disorganization? Analyzing the Residential Mobility of California Parolees." *Journal of Research in Crime and Delinquency* 47(4): 558–90.

- Hughes, Mark A. 1990. "Formation of the Impacted Ghetto: Evidence From Large Metropolitan Areas: 1970-1980." Urban Geography 11:265–84.
- Jargowsky, Paul A. 1997. Poverty and Place: Ghettos, Barrios, and the American City. New York: Russell Sage Foundation.

——, and Mary Jo Bane. 1991. "Ghetto Poverty in the United States, 1970-1980." In Christopher Jencks and Paul E. Peterson (eds.), *The Urban Underclass*, pp. 235–73. Washington, DC: Brookings Institution.

- Kirk, David S. 2009. "A Natural Experiment of Residential Change and Recidivism: Lessons from Hurricane Katrina." American Sociological Review 74(3):484–505.
- Krysan, Maria, and Michael D.M. Bader. 2009. "Racial Blind Spots: Black-White-Latino Differences in Community Knowledge." Social Problems 56(4):677–701.

——, Mick P. Couper, Reynolds Farley, and Tyrone A. Forman. 2009. "Does Race Matter in Neighborhood Preferences? Results from a Video Experiment." *American Journal of Sociology* 115(2):527–59.

Kubrin, Charis E., and Eric A. Stewart. 2006. "Predicting Who Reoffends: The Neglected Role of Neighborhood Context in Recidivism Studies." *Criminology* 44(1):165–97.

- La Vigne, Nancy G., and Barbara Parthasarathy. 2005. Returning Home Illinois Policy Brief: Prisoner Reentry and Residential Mobility. Washington, DC: Urban Institute.
- La Vigne, Nancy G., Christy Visher, and Jennifer Castro. 2004. *Chicago Prisoners' Experiences Returning Home*. Washington, DC: Urban Institute.
- Landale, Nancy S., and Avery M. Guest. 1985. "Constraints, Satisfaction and Residential Mobility: Speare's Model Reconsidered." *Demography* 22(2):199–222.
- Lee, Barrett A., and Matthew S. Hall. 2009. "Residential Mobility, Adulthood." In Deborah Carr (ed.), *Ency*clopedia of the Life Course and Human Development, Volume 2: Adulthood, pp. 371–77. Detroit, MI: Macmillan Reference USA.
- Logan, John R. 1978. "Growth, Politics, and the Stratification of Places." American Journal of Sociology 84(2): 404–16.

——, and Richard D. Alba. 1993. "Locational Returns to Human Capital: Minority Access to Suburban Community Resources." *Demography* 30(2):243.

——, and Harvey L. Molotch. 1987. Urban Fortunes: The Political Economy of Place. Berkeley, CA: University of California Press.

Ludwig, Jens, Greg J. Duncan, Lisa A. Gennetian, Lawrence F. Katz, Ronald C. Kessler, Jeffrey R. Kling, and Lisa Sanbonmatsu. 2012. "Neighborhood Effects on the Long-Term Well-Being of Low-Income Adults." *Science* 337(6101):1505–10.

Lynch, James P., and William J. Sabol. 2001. *Prisoner Reentry in Perspective*. Washington, DC: Urban Institute. \_\_\_\_\_\_, and \_\_\_\_\_\_. 2004. "Assessing the Effects of Mass Incarceration on Informal Social Control in Commu-

nities." Criminology & Public Policy 3:267–94.

Massey, Douglas S. 1985. "Ethnic Residential Segregation: A Theoretical Synthesis and Empirical Review." Sociology and Social Research 69(3):315–50.

——, and Nancy A. Denton. 1993. American Apartheid: Segregation and the Making of the Underclass. Cambridge, MA: Harvard University Press.

——, Andrew B. Gross, and Kumiko Shibuya. 1994. "Migration, Segregation, and the Geographic Concentration of Poverty." *American Sociological Review* 59(3):425–45.

Massoglia, Michael. 2008. "Incarceration, Health, and Racial Disparities in Health." Law & Society Review 42(2):275–306.

——, Glenn Firebaugh, and Cody Warner. 2013. "Racial Variation in the Effect of Incarceration on Neighborhood Attainment." *American Sociological Review* 78(1):142–65.

——, Brianna Remster, and Ryan D. King. 2011. "Stigma or Separation? Understanding the Incarceration-Divorce Relationship." *Social Forces* 90(1):133–55.

Pager, Devah. 2003. "The Mark of a Criminal Record." American Journal of Sociology 108(5):937-75.

———. 2008. Marked: Race, Crime, and Finding Work in an Era of Mass Incarceration. Chicago: University of Chicago Press.

Petersilia, Joan. 2003. When Prisoners Come Home: Parole and Prisoner Reentry. New York: Oxford University Press US.

Pettit, Becky. 2012. Invisible Men: Mass Incarceration and the Myth of Black Progress. New York: Russell Sage Foundation.

——, and Christopher J. Lyons. 2009. "Incarceration and the Legitimate Labor Market: Examining Age-Graded Effects on Employment and Wages." *Law & Society Review* 43(4):725–56.

—, and Bruce Western. 2004. "Mass Imprisonment and the Life Course: Race and Class Inequality in U.S. Incarceration." *American Sociological Review* 69:151–69.

Quillian, Lincoln. 1999. "Migration Patterns and the Growth of High-Poverty Neighborhoods, 1970-1990." American Journal of Sociology 105(1):1–37.

Rosenbaum, Emily, and Samantha Friedman. 2007. The Housing Divide: How Generations of Immigrants Fare in New York's Housing Market. New York: NYU Press.

Ross, Catherine E. 2000. "Neighborhood Disadvantage and Adult Depression." Journal of Health and Social Behavior 41(2):177–87.

——, and John Mirowsky. 2001. "Neighborhood Disadvantage, Disorder, and Health." *Journal of Health and Social Behavior* 42(3):258–76.

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Rossi, Peter H. 1980. Why Families Move. Beverly Hills, CA: Sage Publications.

Sampson, Robert J. 2012. Great American City: Chicago and the Enduring Neighborhood Effect. Chicago: University of Chicago Press.

\_\_\_\_\_, Jeffrey D. Morenoff, and Thomas Gannon-Rowley. 2002. "Assessing 'Neighborhood Effects': Social Processes and New Directions in Research." *Annual Review of Sociology* 28:443–78.

——, and Patrick Sharkey. 2008. "Neighborhood Selection and the Social Reproduction of Concentrated Racial Inequality." *Demography* 45(1):1–29.

Schnittker, Jason, and Andrea John. 2007. "Enduring Stigma: The Long-Term Effects of Incarceration on Health." *Journal of Health and Social Behavior* 48(2):115–30.

South, Scott J., and Kyle D. Crowder. 1997. "Escaping Distressed Neighborhoods: Individual, Community, and Metropolitan Influences." *American Journal of Sociology* 102(4):1040–84.

——, Kyle D. Crowder, and Eric Chavez. 2005. "Exiting and Entering High-Poverty Neighborhoods: Latinos, Blacks and Anglos Compared." *Social Forces* 84(2):873–900. doi:10.1353/sof.2006.0037.

—, Jeremy Pais, and Kyle Crowder. 2011. "Metropolitan Influences on Migration into Poor and Nonpoor Neighborhoods." Social Science Research 40(3):950–64.

Speare, Alden. 1974. "Residential Satisfaction as an Intervening Variable in Residential Mobility." *Demography* 11(2):173–88.

——, Sidney Goldstein, and William H. Frey. 1975. *Residential Mobility, Migration, and Metropolitan Change*. Cambridge, MA: Ballinger Pub. Co.

Steiner, Benjamin, Matthew D. Makarios, and Lawrence F. Travis III. 2015. "Examining the Effects of Residential Situations and Residential Mobility on Offender Recidivism." Crime & Delinquency 61(3):375–401.

Tienda, Marta. 1991. "Poor People and Poor Places: Deciphering Neighborhood Effects on Poverty Outcomes." Pp. 244–262 in *Macro-Micro Linkages in Sociology*, edited by Joan Huber. Newbury Park, CA: Sage.

Turney, Kristin. 2014. "The Consequences of Paternal Incarceration for Maternal Neglect and Harsh Parenting." *Social Forces* 92(4):1607–36.

——, and Christopher Wildeman. 2013. "Redefining Relationships Explaining the Countervailing Consequences of Paternal Incarceration for Parenting." *American Sociological Review* 78(6):949–79.

Uggen, Christopher, Jeff Manza, and Melissa Thompson. 2006. "Citizenship, Democracy, and the Civic Reintegration of Criminal Offenders." *The ANNALS of the American Academy of Political and Social Science* 605(1):281– 310.

Visher, Christy, and Jill Farrell. 2005. Chicago Communities and Prisoner Reentry. Washington, DC: Urban Institute.
——, Vera Kachnowski, Nancy G. La Vigne, and Jeremy Travis. 2004. Baltimore Prisoners' Experiences Returning Home. Washington, DC: Urban Institute.

Wakefield, Sara, and Christopher Uggen. 2010. "Incarceration and Stratification." Annual Review of Sociology 36:387–406.

Walmsley, Roy. 2007. World Prison Population List. 7th ed. London: UK Home Off. Res.

Warner, Cody. 2015. "On the Move: Incarceration, Race, and Residential Mobility." Social Science Research 52: 451–64.

——, and Gregory Sharp. 2016. "The Short- and Long-Term Effects of Life Events on Residential Mobility." Advances in Life Course Research 27:1–15.

Western, Bruce. 2002. "The Impact of Incarceration on Wage Mobility and Inequality." American Sociological Review 67(4):526–46.

. 2006. Punishment and Inequality in America. New York: Russell Sage Foundation.

——, and Becky Pettit. 2005. "Black-White Wage Inequality, Employment Rates, and Incarceration." *American Journal of Sociology* 111(2):553–78.

——, and Christopher Wildeman. 2009. "The Black Family and Mass Incarceration." The ANNALS of the American Academy of Political and Social Science 621(1):221–42.

Wilson, William Julius. 1987. The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy, Second Edition. Chicago, IL: University of Chicago Press.

Zgoba, Kristen M., Jill Levenson, and Tracy McKee. 2009. "Examining the Impact of Sex Offender Residence Restrictions on Housing Availability." *Criminal Justice Policy Review* 20(1):91–110.