The Complexities of Race and Place: Childhood Neighborhood Disadvantage and Adult Incarceration for Whites, Blacks, and Latinos

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Abstract
The author uses restricted geocoded tract-level panel data (1986–2014) that span the prison boom and the acceleration of residential segregation in the United States from two cohorts of the National Longitudinal Survey of Youth (1979 and Children and Young Adults) to study whether the association between childhood neighborhood disadvantage and adult incarceration varies by race and ethnicity. Sibling fixed-effects models suggest that exposure to childhood neighborhood disadvantage increases the likelihood of incarceration in adulthood, net of observed and unobserved adjustments. However, the association appears weakest for blacks, especially black boys, compared with whites and Latinos. This suggests a more consistent likelihood of incarceration for blacks across all neighborhood origins. The author discusses potential theoretical explanations, including discrimination in profiling, policing, surveillance, and other prejudicial policies in the criminal justice system that are likely to uniquely affect blacks from all neighborhoods.

Keywords
neighborhoods, incarceration, race and ethnicity, fixed effects

The disproportionate rate of incarceration among blacks and Latinos in the United States is driven partly by the dearth of social and economic resources and opportunities located in their communities (Clear 2007). In concert with widespread socioeconomic disadvantage and social marginalization, the concentration of mass incarceration in minority (i.e., black and Latino) neighborhoods has likely had a large impact on racial and ethnic inequality. The present study contributes to the growing body of research that considers the interplay among neighborhood socioeconomic conditions, incarceration, and race and ethnicity (Clear 2007; Sampson and Groves 1989; Sampson and Loeffler 2010; Sampson, Raudenbush, and Earls 1997; Sampson and Wilson 2005) by introducing new national-level longitudinal data that span the prison boom and the expansion of economic residential segregation and by using new methods to account for unobserved confounding. Building on previous research, I examine the question of whether race and ethnicity and neighborhoods interact to explain incarceration in the United States. In so doing, this research amplifies the role of structural racism in the criminal justice system, relative to neighborhood attainment, in explaining mass incarceration.

I use restricted geocoded panel data from the National Longitudinal Survey of Youth (NLSY) 1979 and the NLSY Child and Young Adult (CYA) cohort. These data follow more than 10,500 children throughout childhood and into their early 40s. The NLSY 1979 and NLSY CYA data are exemplary given that they are relatively new to the neighborhood and incarceration literatures, include multiple measurements of neighborhood disadvantage throughout childhood and multiple measurements of incarceration throughout adulthood, and span the period (1986–2014) when mass incarceration and residential income segregation experienced unprecedented expansion in the United States (Bischoff and Reardon 2014; Phelps and Pager 2016). Furthermore, the present analysis overcomes some of the methodological shortcomings in this literature by controlling for unobserved time-invariant confounders at the level of the nuclear family that may bias estimates of neighborhood associations through
using sibling fixed effects (FE). For example, the types of unobserved confounders that the sibling FE models control for may include racialized policing, lead exposure, and parental mental and emotional instability.

The main findings are twofold: (1) childhood neighborhood disadvantage increases the likelihood of adult incarceration for whites, blacks, and Latinos, and (2) childhood neighborhood associations with adult incarceration are weakest for blacks. In other words, blacks growing up in disadvantaged neighborhoods and blacks growing up in more advantaged neighborhoods face much more similar likelihoods of experiencing incarceration in adulthood compared with either whites or Latinos. The second finding offers a new theoretical perspective for neighborhoods and their associations with incarceration. I argue that macro level discrimination, racial profiling, and other racialized elements of the criminal justice system (Brunson and Miller 2006; Brunson and Weitzer 2009; Goffman 2009; Legewie 2016; Legewie and Fagan 2019; Rios 2011; Shedd 2015) may make blacks’ likelihoods of incarceration similar, irrespective of the socioeconomic conditions of the neighborhoods where they grow up.

Extending previous scholarship on neighborhoods and incarceration (Chetty et al. 2018; Clear 2007; Sampson and Loeffler 2010), this research demonstrates that although neighborhood disadvantage matters for incarceration, it matters less for blacks than for other racial and ethnic subgroups. Given that incarceration is particularly racialized in the United States, the results of this study extend theory by emphasizing the strength of the racialized criminal justice system in the United States in explaining the mass incarceration of blacks. Moreover, a reframing of neighborhoods that more heavily weighs the racialized criminal justice system can potentially help explain why previous scholars have found that moving to better neighborhoods did not result in drastic reductions in arrest and incarceration rates for blacks (Kling, Ludwig, and Katz 2005; Sciandra et al. 2013). Neighborhoods may matter. But they may matter less than structural discrimination and institutional control embedded within the criminal justice system that sustain race as a significant predictor of incarceration in the United States, reaffirming the salience of race in contemporary U.S. society (Feagin 1991; Wilson 1978, 2011; Yancy 2016)

The Structural Antecedents of Incarceration

Policies such as 24-hour surveillance, aggressive policing, gang injunctions, and racial profiling are representative of the structural elements of social control that contribute to mass incarceration in minority neighborhoods across the United States. Other factors include the desertion of many of these communities by businesses and middle-class residents and the dearth of effective institutions (Sampson and Wilson 2005; Wilson 1987, 1996). These factors have collectively resulted in the depletion of many minority neighborhoods that, from a young age, often normalize criminal justice contact for residents who grow up in these environments and lead to incarceration. What is often left in the wake of this decades-old erosion of local economic and social resources is the concentration of incarceration in many minority communities across the country (Anderson 1990; Sampson and Wilson 2005; Wacquant 1993; Wilson 1987).

The milieu of concentrated neighborhood disadvantage and various forms of social control has resulted in the development of an unequal distribution of incarceration across the residential landscape (Morenoff, Sampson, and Raudenbush 2001; Sampson and Wilson 1995; Shaw and McKay 1942). Some scholars argue that concentrated incarceration and other social ills stem from lacking social cohesion and self-regulation in disadvantaged neighborhoods, ideas encapsulated in social disorganization theory (Sampson and Groves 1989; Sampson, Moreno, and Gannon-Rowley 2002; Shaw and McKay 1942). That is, high rates of incarceration are likely intrinsically tied to the low pattern of social ties, social cohesion, and informal social control in disadvantaged neighborhoods (Sampson et al. 2002). Where social organization is weak because of the breakdown of economic and cultural ties to mainstream routines and expectations (Small, Harding, and Lamont 2010; Wilson 1987, 2009) and where local social capital resources that provide positive role models are lacking (Anderson 1990), a negative feedback loop may manifest by combining with intense police surveillance, resulting in an increase in incarceration (Clear et al. 2003; Rose and Clear 1998). Ongoing negative interactions with police, probation officers, and other institutional agents within disadvantaged communities may also contribute to anxieties, fears, and diminished social life that can further lead to incarceration (Goffman 2009; Rios 2011; Sharkey and Faber 2014). Simply, where economic opportunity and social cohesion are lacking, incarceration often follows (Sampson et al. 1997).

Incarceration “hot spots” often manifest across the residential landscape to entrap residents in ecologically vulnerable circumstances (Miethe and Meier 1994). Given the disappearance of steady jobs and social actors that facilitate the transfer of mainstream expectations, routines, norms, and values (Wilson 1996), entire communities often become entrenched in an increased risk for incarceration (Sampson and Groves 1989; Sampson and Woolard 1987). Macro structural forces of socioeconomic inequality may cause residents to become firmly enveloped by mass incarceration. The theoretical case for neighborhood disadvantage associations with incarceration leads me to my first hypothesis:

However, see Small (2004), Harding (2010), and Vargas (2016) for accounts of the constellation of intersecting cultural and social forces driving relationships and directing resources in urban minority communities.
Hypothesis 1: Exposure to childhood neighborhood disadvantage will increase the odds of adult incarceration for whites, blacks, and Latinos.

Linking Neighborhoods and Incarceration

Rather than explaining incarceration through the lens of individuals’ attributes and culture, focusing on neighborhood-level antecedents may expand our understanding of mass incarceration and lead to more effective policy intervention (Sampson and Wilson 2005). Increasingly, scholars have brought empirical evidence to bear on whether neighborhood conditions predict future incarceration. Research in this area focuses on the link between neighborhood disadvantage and criminal victimization (Hipp 2007; Morenoff et al. 2001; Sampson et al. 1997, 2002; Vélez 2001; Villarreal and Silva 2006), recidivism (Kubrin and Stewart 2006; Mears et al. 2008; Stahler et al. 2013), and arrests (Kling et al. 2005; Sciandra et al. 2013). I focus on incarceration because incarceration has important consequences across the life course. For instance, incarceration affects children’s cognitive and noncognitive development (Haskins 2014), infant mortality and child homelessness (Wakefield and Wildeman 2013), early grade retention (Turney and Haskins 2014), and earnings and employment in adulthood (Pater 2008; Western 2006). These consequences of incarceration are critical to well-being within and between generations and therefore make incarceration distinct from other outcomes such as crime. I also focus primarily on any carceral event in adulthood given how strongly it affects the aforementioned outcomes.

In their estimates of neighborhoods that combine census and Internal Revenue Service data, Chetty et al. (2018) found that children, especially black boys, were more likely to be incarcerated for every year of childhood exposure to a place with a 1 percentage point higher incarceration rate for same-race residents (see Table 4). Their study defined being incarcerated on April 1, 2010, using data from the 2010 census short form, when their sample members were between the ages of 27 and 32, defined neighborhoods as “commuting zones” (i.e., “aggregations of counties that are commonly used as a definition of local labor markets” [p. 27]), focused on the local incarceration rate as the main commuting zone predictor, and limited the sample to children who made exactly one move to commuting zones at least 100 miles away during childhood. In contrast, in the current study I use 15 waves of panel data, define neighborhoods using census tracts, use a more comprehensive definition of neighborhood disadvantage that is more consistent with the literature, use variation in neighborhoods for both movers (without distance restrictions) and stayers, and examine multiple measurements of incarceration throughout adulthood (ages 19–42).

Undergirding any statistically plausible associations, however, is a conceptual framework for outlining the mechanisms through which neighborhoods may influence incarceration. For example, Sampson and Loeffler (2010) used data from Chicago to examine the correlation between neighborhood poverty and incarceration. These scholars contributed a valuable conceptualization of the negative feedback loop between living in disadvantaged communities and experiencing incarceration. The current study extends Sampson and Loeffler’s work by using national-level data (rather than just focusing on Chicago), using a more multidimensional measure of neighborhood disadvantage (rather than just using neighborhood poverty), and examining heterogeneity by race and ethnicity. Clear (2007) also described how disadvantaged neighborhoods and incarceration are intertwined while further describing the multitude of negative externalities that incarceration has on communities in which it is concentrated. I do not explore these mechanisms in detail here, and I mention them only to provide a framework for my empirical exercise.

Selection bias continues to pose a threat to analyses of neighborhoods on incarceration using observational data because unobserved factors that are not present in the model may explain away zero-order associations. As with most social science research, scholars have attempted to address the issue of unobserved selection bias by introducing an array of statistical controls. For example, using data from Ohio, Wooldredge (2007) found that judges take the neighborhood in which defendants reside into account when making decisions about sentences and penalize those who live in worse neighborhoods, further exacerbating the negative consequences of living in disadvantaged neighborhood (Karp and Clear 2000). These sentencing decisions may also interact with pretrial decisions (e.g., racialized policing) to affect criminal justice contact. Nevertheless, controlling for these sentencing decisions may represent overcontrolling, effectively biasing the estimates of childhood neighborhoods toward zero (Sharkey and Faber 2014). Controlling for background characteristics, scholars have also found that residence in a disadvantaged neighborhood positively predicts recidivism, likely because of the continued exposure to weak economic and social resources as well as the heavy enforcement of policing activities (Kubrin and Stewart 2006; Mears et al. 2008; Stahler et al. 2013). Yet these studies fall short of explicitly examining the association between childhood neighborhood disadvantage and incarceration in adulthood, examining racial and ethnic heterogeneity in neighborhood...
associations, using national data, or addressing unobserved confounding.

Alternatively, scholars have also used experimental data to examine the link between neighborhoods and criminal justice contact. Notably, however, these studies did not examine incarceration as an outcome. For example, female youth respondents in the Moving to Opportunity (MTO) study whose families were offered vouchers to move to less poor neighborhoods experienced reduced odds of being arrested for violent and property crimes four to seven years after random assignment (Kling et al. 2005). Male youth who were treated, however, experienced increased odds of property crime arrests but lower odds of arrests for violent crimes. Sciandra et al. (2013) also found that among treated male youth, the odds of arrests for violent crimes decreased between the ages of 15 and 25. However, these subjects experienced increased odds of arrests for property crimes. These assessments of the MTO treatment concluded that long-term associations of neighborhood context are unlikely, allowing for short- rather than long-term neighborhood associations with criminal justice contact. Still, neighborhood associations may be felt across the life course as respondents come into greater contact with the various economic and social mechanisms (e.g., lack of good, steady jobs and social pressures to commit crimes as well as discriminatory policing and prosecution) present in these neighborhoods (Sampson 2001; Sampson et al. 2002).

Others have examined this topic by focusing on the impact of incarceration has on neighborhoods. For instance, scholars have examined the link between being incarcerated and the reproduction of neighborhood inequality (Hipp, Petersilia, and Turner 2010; Hipp, Turner, and Jannetta 2010; Massoglia, Firebaugh, and Warner 2013; Warner 2016) and how incarceration affects the social and economic vitality of already struggling neighborhoods (Clear 2007). Previous research has examined how neighborhood context in adolescence affects adolescent criminal justice contact (Wikström and Butterworth 2006; Wikström and Loebber 2000). The present study contributes to the growing literature on the association between (1) childhood neighborhood disadvantage and adult incarceration and (2) heterogeneity by race and ethnicity. It is especially important to study this heterogeneity because black and Latino children are disproportionately likely to endure years of police surveillance, stop-and-frisk policies, and discrimination that is likely to lead to their enhanced criminal justice contact in adulthood (Rios 2011).

**Race and Ethnicity**

Previous research has found that black Americans are likely to live in neighborhoods that are uniquely disadvantaged (Massey and Denton 1993; Sampson 2012; Sampson and Loeffler 2010; Sampson, Sharkey, and Raudenbush 2008), complicating comparisons of neighborhood effects between blacks and other racial and ethnic groups. The relative lack of substantial overlap in the levels of neighborhood disadvantage experienced by blacks and whites makes it difficult to make a direct “apples to apples” comparison between the two. From a substantive point of view, this may lead one to expect that neighborhood associations are strongest for blacks because they experience acutely violent and socio-economically disadvantaged neighborhoods. On the other hand, from a methodological point of view, this also suggests that it is difficult to study heterogeneity in the effect of highly disadvantaged neighborhoods by race and ethnicity because blacks are much more likely to live in these acutely disadvantaged neighborhoods than either Latinos or whites (Manduca and Sampson 2019; Sampson and Loeffler 2010; Sampson et al. 2008; Sharkey 2008, 2013). Given this uneven gradient of exposure to neighborhood disadvantage by race and ethnicity, models that stratify by race and ethnicity may be more meaningful given that they compare neighborhood conditions only within racial and ethnic subgroups. That is, by stratifying the models separately for whites, blacks, and Latinos, I compare, for example, blacks in more disadvantaged neighborhoods with blacks in less disadvantaged neighborhoods and whites in more disadvantaged neighborhoods with whites in less disadvantaged neighborhoods, making for a more apples-to-apples comparison in terms of the degree of exposure to neighborhood disadvantage.

Experimental evidence from the MTO suggests that blacks are indeed likely to experience amplified neighborhood associations with reading scores (Sanbonmatsu et al. 2006). This would suggest that moving black children to more socioeconomically advantaged neighborhoods should result in better outcomes. However, there are two things to note here. First, most of the studies that found extreme differences in the degree of neighborhood stratification focused only on acutely segregated Chicago using data from the Project for Human Development in Chicago Neighborhoods, which some have argued could explain the disparate results for black MTO respondents who originated in extremely disadvantaged and violent neighborhoods (Burdick-Will et al. 2011). Exposure to such extreme neighborhood disadvantage may not be the same for blacks on a national level. Second, examining incarceration as an outcome may yield weaker, not stronger, neighborhood associations for blacks given that blacks from all socioeconomic backgrounds experience similar discrimination in policing (Anderson 2016, 2019).

The reason for this counterintuitive expectation is that structural discrimination embedded within this criminal justice system may attenuate the differences in the likelihood of incarceration across the neighborhoods where blacks live. That is, surveillance, stop-and-frisk, harassment, racial profiling, and other racialized policing and prosecuting procedures may have more even associations for blacks across neighborhood types compared with whites and Latinos. Indeed, research shows that black boys are particularly likely to experience aggressive policing (Goel, Rao, and Shroff...
2016) and more threatening and forceful interactions with police conditional on being stopped (Brunson and Weitzer 2009; Legewie 2016). Such negative encounters with the criminal justice system that often falls on racial lines, especially in youth, can have enormous consequences for well-being throughout the life course (Anderson 1990; Bourgois 1995; Goffman 2009; Haskins 2014, 2015, 2016; Haskins and Jacobsen 2017; Legewie and Fagan 2019; Rios 2011; Shedd 2015; Stuart 2016; Sugie and Turney 2017; Venkatesh 2002). Given that discrimination against blacks increases with higher socioeconomic status (Anderson 2016, 2019), one may expect that neighborhood disadvantage has weaker associations for blacks compared with whites and Latinos. Simply, blacks may not be able to as effectively use less disadvantaged neighborhoods as buffers against discrimination, racial profiling, and incarceration as whites and Latinos.

It is the context of the racialized criminal justice system that represents the macro level conditions under which racial and ethnic heterogeneity in neighborhood associations with incarceration may manifest. Perhaps blacks in the United States may be unique in that their spatial socioeconomic mobility may not procure the same benefits, in terms of protection from incarceration, as it does for whites and Latinos. This idea coheres to similar findings regarding income and educational attainment. For example, Reardon, Fox, and Townsend (2015) found that blacks and Latinos need to earn 5 and 3.7 times the household income, respectively, as whites to live in neighborhoods with comparable median incomes. Furthermore, Chetty et al. (2018) suggested that black boys born into high-income families and low-poverty neighborhoods are more likely than whites who grew up under the same conditions to experience downward economic mobility later in life. These authors also found that black men raised in the top 1 percent of household income earners were equally as likely to be incarcerated as whites who were raised in households making approximately $36,000. Finally, Pfeffer and Kiliewald (2019) found that this also extends to wealth, such that black children are far more likely to be downwardly mobile in household wealth than other racial and ethnic groups. All of these findings suggest unequal returns to socioeconomic status by race and ethnicity, with blacks often benefiting the least from gains in family income, neighborhoods, and wealth.

If structural discrimination undergirds racial and ethnic heterogeneity in neighborhood associations with incarceration, then it stands to reason that black Americans may be subject to similar levels of discriminatory policing, no matter where they live, because of racial discrimination in the criminal justice system (Steffensmeier, Ulmer, and Kramer 1998; Steffensmeier, Painter-Davis, and Ulmer 2017). Here, I advance the idea that black Americans, no matter where they live, are likely to experience much more similar levels of discriminatory policing and racial profiling, leading to similar levels of incarceration regardless of neighborhood origins, compared with whites and Latinos. One may then expect that blacks experience a similar likelihood of incarceration, regardless of the socioeconomic standing of their neighborhood. This leads to the second hypothesis of the present study:

Hypothesis 2: The association between childhood neighborhood disadvantage and incarceration in adulthood will be weaker among blacks than among whites or Latinos.

Indeed, using nationally representative data, Turley (2003) found that increases in the socioeconomic profile of neighborhoods have no associations with black children’s test scores or behavior, but do so for white children. Other studies by Brooks-Gunn et al. (1993), Clark (1992), Halpern-Felsher et al. (1997), and Crowder and South (2003) provide further evidence that whites often experience larger neighborhood associations than blacks.

Scholars have previously examined the link between community-level factors and criminal justice contact through a racial and ethnic lens (Jones and Lynam 2008; Lynam et al. 2000; Sampson et al. 2002; Vazsonyi, Cleveland, and Wiebe 2006; Vogel and South 2016; Zimmerman 2010; Zimmerman and Messner 2010, 2011). This literature has emphasized the inextricable links among race, place, and crime. For example, Krivo and Peterson (1996, 2000; Peterson and Krivo 2010) examined the link between neighborhood disadvantage and urban crime from a racial and ethnic lens. These scholars (like those studying the MTO) do not examine incarceration per se but focus on the associated outcome of crime. Using data from Columbus, Ohio, and ordinary least squares models that control for observed characteristics, Krivo and Peterson (1996) found no difference in the effect of neighborhood disadvantage on crime in black and white neighborhoods. Moreover, Krivo and Peterson (2000) also found similar associations for neighborhood disadvantage with homicide for whites and blacks. These findings support Sampson and Wilson’s (1995) postulation of equality in the impact of neighborhood disadvantage on crime for whites and blacks. Rather than cultural deficits driving higher rates of crime for blacks, these authors argue, the increased sources of crime can be traced back to the deficiencies in the structure of opportunity and in the eroded social capital in many disadvantaged black neighborhoods. Taken together, there is suggestive evidence from prior research that childhood exposure to neighborhood disadvantage is positively associated with incarceration in adulthood and that there are heterogeneous associations by race and ethnicity.

Data
I use 15 waves of restricted tract-level data on two cohorts of respondents from the NLSY: the 1979 cohort of mothers (NLSY 1979) and the CYA cohort. Beyond an array of sociodemographic information, these data contain
information on mothers’ households, (restricted) data on mother’s tract locations, and data on children’s adult incarceration history. These data span the period (1986–2014) when the United States experienced enormous spikes in incarceration and in socioeconomic residential segregation. The Bureau of Labor Statistics (BLS) maintains these data and requires federal clearance for researchers to access the tract location data on site at BLS headquarters in Washington, D.C.

When linked to the NLSY 1979, the NLSY CYA represents children born to a nationally representative sample of women aged 21 to 28 years on January 1, 1986. The BLS started collecting information biennially for all of the children who were born (or would be born) to female respondents of the NLSY cohort beginning in 1986. These data are unique in that they provide information on NLSY CYA sibling pairs. Over time, the sample of mothers becomes increasingly representative of mothers across the full range of childbearing years (e.g., by 2014, more than 95 percent of childbearing years have been covered by NLSY mothers). That is, the overrepresentation of young low–socioeconomic status mothers decreases with each successive wave. By 2014, the BLS had interviewed 10,503 children at least once, the oldest being 42 years old. Restrictions prevent the reporting of exact sample sizes, resulting in rounded reports of sample sizes in all tables. The BLS reduced left truncation for any children born before 1986 by collecting retroactive data for all youth who had been born prior to 1986. Beginning in 1986, the BLS collected data for all children alive in each wave so that data are available for every youth ever born to a female NLSY 1979 respondent from their birth through 2014. Administrators for the NLSY have improved precision and minimized measurement error over the years by cross-referencing survey responses using the longitudinal framework of the data. However, some eligible respondent data are not available across the 15 waves, because some children were not living with their mothers, were deceased, or simply did not answer the survey. Missing data ranged from 0 percent to 17.05 percent (for household income of NLSY respondents) when the United States experienced enormous spikes in incarceration and in socioeconomic residential segregation. These data span the period (1986–2014) when the United States experienced enormous spikes in incarceration and in socioeconomic residential segregation. The Bureau of Labor Statistics (BLS) maintains these data and requires federal clearance for researchers to access the tract location data on site at BLS headquarters in Washington, D.C.

I followed previous neighborhood researchers by operationalizing neighborhoods using census tracts (Brooks-Gunn et al. 1993; Vartanian and Buck 2005; Wodtke, Harding, and Elwert 2016). I also followed previous research (Sharkey and Elwert 2011) by using tract-level neighborhood data from the Geolytics Neighborhood Change database to measure neighborhood disadvantage and I linked these data with NLSY data using the restricted NLSY 1979 geocode associated with mothers’ residence locations. That is, the geocodes are linked to mothers only. I therefore assume that the geocode for the mother defines the neighborhood where the children are living at a given wave, because the BLS contacts mothers first using their addresses and then interviews them and their children. After age 18, the assumption that children’s neighborhoods are defined by mother’s tract geocode becomes much more tenuous as children leave their mothers’ homes. Therefore, I limit my main predictor, NLSY CYA respondents’ childhood neighborhood disadvantage, to ages 0 to 18.

**Neighborhood Disadvantage**

I followed previous research (Harding 2010) and operationalized my main explanatory variable, neighborhood disadvantage, by first creating a scale so as to more accurately capture a multidimensional underlying contextual disadvantage. I created a continuous composite scale of the following seven standardized neighborhood characteristics at each of the 15 waves of the NLSY (1986–2014): percentage of residents at or below 100 percent of the poverty threshold as defined by the U.S. Census Bureau, percentage of residents who are unemployed, percentage of residents out of the labor force, percentage who have at least a bachelor’s degree (reverse coded), percentage of managers and professionals in the neighborhood (reverse coded), median income (reverse coded), and median housing value (reverse coded). That is,

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\(^3\)Cronbach’s \(\alpha\) was .88 for the neighborhood disadvantage scale.
I first created separate scales, one for each wave when the child was between 0 and 18 years of age (and was presumably living with the mother).

Next, I followed previous research (Wodtke et al. 2011) and created neighborhood quintiles at each wave (least disadvantaged neighborhood quintile = 1, most disadvantaged neighborhood quintile = 5). Each respondent then had a single quintile value at each wave between ages 0 and 18. Finally, I calculated the mean quintile score for each respondent across ages 0 to 18. This mean neighborhood disadvantage quintile across childhood is my main predictor. One reason why I use an ordinal quintile-based approach is that the ordinal approach allows flexibility in making comparisons between different neighborhood exposures that align with standards in the literature regarding neighborhood typologies. Still, I supplement this approach with a continuous measure of neighborhood disadvantage later on.

**Incarceration in Adulthood**

I focus primarily on any carceral event in adulthood because of the unique impact such an event has on intragenerational well-being. The adulthood (ages 19 to 42) incarceration outcome derives from a per-wave question asking, “Ever/since date of last interview [respondent] has been sentenced to a corrections institution such as a jail, prison, training/reform school?” The BLS likely included training and reform schools here only because they started asking this question when respondents turned 15, and minors are more likely to go to training or reform school than to prison, for example. Therefore, adults are likely to answer yes or no on the basis of whether they have been to jail or prison, rather than to training and reform school. I create a dichotomous outcome indicating whether the respondent was ever sentenced to any type of corrections institution after the age of 18 to serve as my dependent variable.

**Observed Adjustments**

Table 1 provides a full summary of means and standard deviations for all of the observed variable adjustments in this analysis. I use data from each of the 15 waves when children were alive and were younger than 19 years to measure each of these variables. Control variables that vary across siblings (i.e., within families) include mother’s poverty status, the number of weeks the mother has been unemployed, the number of children in the home, household income (logged 2014 dollars), single parenthood, and mother’s education. That is, because children are spaced on average 3.5 years apart, the mean values of these variables vary between children.

**Table 1.** Descriptive Statistics for the Analytical Sample of National Longitudinal Survey of Youth 1979 Mothers and National Longitudinal Survey of Youth Child and Young Adult Youth.

|                      | Whites |          | Blacks |          | Latinos |          |
|----------------------|--------|----------|--------|----------|---------|----------|
|                      | Mean   | SD       | Mean   | SD       | Mean    | SD       |
| **Mother and household characteristics** |        |          |        |          |         |          |
| In poverty           | 0.42   | 0.49     | 0.69   | 0.46     | 0.62    | 0.49     |
| Weeks unemployed     | 7.61   | 20.98    | 14.48  | 28.77    | 10.65   | 26.84    |
| Number of children in household | .98    | .99      | 1.20   | 1.11     | 1.29    | 1.18     |
| Household income (logged 2014 dollars) | 10.18  | .99      | 9.66   | .98      | 9.92    | 1.02     |
| Single parent        | .47    | .50      | .75    | .44      | .57     | .49      |
| Parental education: less than high school degree | .14    | .35      | .22    | .42      | .38     | .49      |
| Parental education: high school degree | .53    | .50      | .51    | .50      | .43     | .49      |
| Parental education: some college | .14    | .35      | .19    | .39      | .13     | .33      |
| Parental education: bachelor’s or higher | .18    | .38      | .08    | .27      | .07     | .25      |
| Foreign born         | .03    | .17      | .02    | .15      | .09     | .45      |
| Armed forces qualifying test | 50,671.84 | 29,002.94 | 22,866.73 | 20,441.60 | 24,071.57 | 23,259.74 |
| **Child characteristics** |        |          |        |          |         |          |
| Female               | .49    | .50      | .49    | .50      | .48     | .50      |
| Ever moved during childhood | .90    | .30      | .95    | .21      | .94     | .23      |
| **Childhood neighborhood** |        |          |        |          |         |          |
| Neighborhood disadvantage quintile (1 = most advantaged, 5 = most disadvantaged) |        |          |        |          |         |          |
| Ages 0–18            | 2.65   | 1.15     | 3.52   | 1.10     | 3.21    | 1.13     |

Sources: National Longitudinal Survey of Youth 1979–2014; National Longitudinal Survey of Youth Child and Young Adult 1986–2014.
I also include sibling-invariant controls such as foreign-born status of the mother, children’s sex, and whether children ever moved neighborhoods during childhood. Because parent’s cognitive ability may affect child development and adult outcomes, I include a control for mother’s score on the Armed Forces Qualifying Test. All of the observed adjustment variables are limited to when the child was between 0 and 18 years of age.

It is the years between when children were born that allow for variation in the control variables in the sibling FE models. For instance, household poverty can vary between children if an older sibling experienced household poverty before a younger sibling was born. Similarly, household income can vary between siblings given the years in between when siblings were born. Although the NLSY CYA provides data on adult neighborhood conditions and adult criminal convictions, I do not control for these variables, because they likely represent mechanisms through which childhood neighborhoods influence adult incarceration. That is, I follow previous research (Sharkey and Elwert 2011; Sharkey and Faber 2014) and exclude controls that may bias the estimates of neighborhood conditions toward zero.

Analytic Strategy

Although no panacea for the issue of selection bias, sibling FE models improve upon non-FE models by addressing unobserved “hidden” confounding. FE models adjust for anything that may be unobserved and invariant between siblings that could influence neighborhood selection and incarceration, thereby minimizing any bias in estimates of neighborhood associations (Allison 2009; Gangl 2010; Greene 2008; Halaby 2004; Johnston and DiNardo 1997; Oakes 2004; Wooldridge 2002). Potential unobserved variables include parental ability, parental ambition, and parental expectations (Aaronson 1998). The major weakness of the FE approach is that unobserved characteristics that differ between siblings could affect siblings differently and therefore bias results. To be clear, the results in this article do not reflect purely causal estimates.

By 2014, 79 percent of NLSY CYA respondents had at least one sibling. Further, 28 percent of NLSY 1979 mothers with children have three or more, and 11 percent have four or more. Not only are there many family units with multiple births, but also there are many family units in which two or more children are widely spaced in age (children are spaced 3.5 years apart on average), thus expanding the possibility for variation in neighborhood conditions between siblings. The FE model capitalizes on variation in neighborhood conditions that result from (1) older and younger siblings’ experiencing different neighborhood conditions because of moving and/or (2) neighborhood conditions changing around separate siblings over time. In these data, 57 percent of the sample never moved and experienced neighborhood change only exogenously, because their neighborhoods changed around them over time. It is the spacing of siblings, however, that facilitates the estimation of sibling FE models from the NLSY CYA data.

I run stratified logistic sibling FE models separately for whites, blacks, and Latinos in which the outcome is a dichotomous variable for adult incarceration. Throughout the models, I test for statistically significant differences between coefficients for exposure to neighborhood disadvantage in early childhood and in adolescence between the stratified models for the different racial and ethnic groups using Wald $\chi^2$ tests ($p < .05$). That is, the Wald tests reveal whether there are differences in the within-race/ethnicity associations between exposure to neighborhood disadvantage and adult incarceration for whites, blacks, and Latinos. This strategy avoids the problem of comparing incongruent exposure levels of neighborhood disadvantage between different racial and ethnic groups by, first, running stratified models so that coefficients are estimated that capitalize on the fact that only whites are compared with other whites, blacks with other blacks, and Latinos with other Latinos and, second, comparing these racial and ethnic group specific coefficients across whites, blacks, and Latinos. Essentially, I am examining differences in the differences between racial and ethnic groups in the likelihood of being incarcerated as an adult as a function of exposure to childhood neighborhood disadvantage. Following Allison (2009), the adjusted logistic sibling FE model where the outcome is a dichotomous variable for adult incarceration for child $i$ in family $f$ takes the following form:

$$\log \left( \frac{p_{i,f}}{1-p_{i,f}} \right) = \mu_f + \beta x_f + \gamma z_f + \alpha_f, f = 1, 2, ..., F,$$

$^5$Within-group regression, such as sibling FE, has been an important empirical estimation strategy in studies of neighborhood effects in economics (see Aaronson 1998; Plotnick and Hoffman 1999; Vartanian and Buck 2005; Vartanian and Houser 2010) but have rarely been used in sociology (Alvarado 2018). FE models are useful because they control for anything that may be unobserved and invariant between siblings (e.g., genes and salient family events) by using siblings as their own controls (Allison 2009; Gangl 2010; Greene 2008; Halaby 2004; Johnston and DiNardo 1997; Oakes 2004; Wooldridge 2002). A shortcoming of the FE approach is that it cannot account for any unobserved characteristics that differ between siblings. These include ambition and ability. Furthermore, FE models do not control for varying parental characteristics such as parents’ psychological and emotional states, which could vary over time and affect siblings differently, thereby potentially influencing neighborhood choice and children’s outcomes. Nevertheless, the FE technique has proved to be a useful tool in neighborhood effects studies because variation is confined to within siblings while unobserved within-family characteristics are held constant.
where \( p_{ij} \) is the probability that the child experiences any form of incarceration at any point in adulthood and is equal to 1, \( x_{ij} \) represents a vector of within-family varying predictors and \( z \), a vector of within-family invariant predictors, and \( a_i \) represents the combined associations of all unobserved variables that are constant within families. Unobserved constant variables may include the degree of love and warmth in the home, genes, parents’ emotional and mental stability, and other salient characteristics of the home environment that are not measured. In the logistic FE approach, \( a_i \) is assumed to be random and is able to freely associate with \( x_{ij} \) in any way. The logistic sibling FE model uses conditional maximum likelihood, which causes the constant, \( \mu_f \), to go unreported because the constant is conditioned out of the likelihood function. The logistic model, however, may produce inaccurate estimates because it places greater weight on large families when the model includes family FE, for example (Miller, Shenhave, and Grosz 2018). Therefore, I supplement the logistic model with a linear probability model.

Results

Descriptive Findings

Figure 1 renders the distribution of neighborhood disadvantage by race and ethnicity. These histograms demonstrate that at a national level, whites are more concentrated in the lower quintiles of neighborhood disadvantage (i.e., more advantaged neighborhoods) than in the higher quintiles (i.e., more disadvantaged neighborhoods), blacks are more likely to live in more disadvantaged neighborhood quintiles, and Latinos are more evenly spread than either whites or blacks across quintiles of neighborhood disadvantage. The pattern of uneven exposure to neighborhood disadvantage by race and ethnicity in Figure 1 reflects the pattern from Chicago using data from the Project for Human Development in Chicago Neighborhoods (Manduca and Sampson 2019; Sampson and Loeffler 2010; Sampson et al. 2008; Sharkey 2008, 2013). These findings from the NLSY underscore the difficulty in comparing neighborhood associations across racial and ethnic groups given that blacks are more likely to be exposed to acute levels of neighborhood disadvantage compared with whites and Latinos, suggesting that models that stratify by race and ethnicity may be most appropriate, especially when comparing whites with blacks, because neighborhood disadvantage (and advantage) fall on distinct areas of the distribution of neighborhoods for each group.

Figure 2 renders mean incarceration rates by neighborhood disadvantage quintiles and by race and ethnicity. These findings demonstrate that, as expected, the likelihood of adult incarceration increases as childhood neighborhood disadvantage increases for whites, blacks, and Latinos. However, although successive quintiles of neighborhood disadvantage yield higher average likelihoods of incarceration for whites and, to a certain extent Latinos, the likelihood of being incarcerated is much more consistent across neighborhood disadvantage quintiles for blacks. Whites and Latinos experience substantial increases in the likelihood of adult incarceration between the first quintile (i.e., most advantaged neighborhood) and the second. However, blacks growing up in the most advantaged neighborhoods experience much higher adult incarceration rates compared with whites or Latinos in these advantaged neighborhoods. One explanation
for the drop-off in mean incarceration for whites in the most disadvantaged quintile is the lack of sample size, which may bias these estimates. That is, there may not be enough whites living in the fifth-quintile neighborhoods to gain accurate estimates. Although BLS prohibits reporting precise sample sizes, the histogram for whites in Figure 2 demonstrates that there are not many whites in the most disadvantaged neighborhoods. In general, whites follow the pattern we would expect: as childhood neighborhood disadvantage increases, so does the incarceration rate. However, the pattern for blacks and, to an extent, Latinos is somewhat counterintuitive because incarceration is much more consistent across neighborhood quintiles for these two minority groups. The results from Figure 2 suggest that spatial socioeconomic mobility across the residential landscape may not result in equitable protection from incarceration across racial and ethnic subgroups; specifically, blacks are less likely to gain equal protection from incarceration as they attain higher socioeconomic neighborhood status compared with whites and Latinos.

**Logistic Regression Models**

I invoke two types of models that are stratified by race and ethnicity to estimate the impact of exposure to childhood neighborhood disadvantage on incarceration in adulthood separately for whites, blacks, and Latinos in the logistic framework: (1) unadjusted sibling FE models to estimate the association between childhood neighborhood disadvantage and adult incarceration, net of unobserved confounders and (2) adjusted sibling FE logistic models that add controls for all observed confounders. I limit the models to sibling FE models because non-FE models do not account for the clustered nature of the data within families in the panel. However, I must note that limiting the results only to the FE models reduces the sample size to siblings whose neighborhood experiences and incarceration outcomes vary. The fact that some children have yet to reach age 19 (6 percent of the sample) may also reduce the sample size because I exclude these children, as the model only accounts for incarceration in adulthood. Moreover, I stratify the models by race and ethnicity because logistic models that include interactions are problematic for reasons associated with differences in residual variation among groups and several other issues that scholars have previously discussed in detail (Allison 1999; Breen and Karlson 2013; Long and Mustillo 2018; Mood 2010; Williams 2009). Following previous neighborhoods research (Sharkey and Elwert 2011; Wodtke and Parbst 2017), I report only results for the main predictor of interest: neighborhood disadvantage.

I expect childhood neighborhood disadvantage to be positively associated with incarceration in adulthood. I also expect neighborhood disadvantage to have heterogeneous associations across race and ethnicity. Table 2 summarizes the results from the sibling FE logistic regression models stratified by race and ethnicity. In addition to the aforementioned limitations of logistic interaction models, stratifying by race and ethnicity is important given the findings from Figure 2 that demonstrate that whites, blacks, and Latinos tend to experience qualitatively distinct degrees of exposure to disadvantaged neighborhoods. The regression models in this study, therefore, only compare blacks who do live in disadvantaged neighborhoods with blacks who do not, for instance. The models do not compare blacks who live in

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**Figure 2.** Mean incarceration rates by neighborhood disadvantage quintiles and by race and ethnicity.

![](source: U.S. Bureau of Labor Statistics, NLSY 1979 and Children & Young Adults (1986-2014))
disadvantaged neighborhoods with nonblacks who live in disadvantaged neighborhoods, which Figure 2 suggests could be problematic given the qualitative difference in the severity of neighborhoods disadvantage between blacks and nonblacks.

Column 1 demonstrates that there is a statistically significant positive association between childhood neighborhood disadvantage and adult incarceration for whites, blacks, and Latinos when excluding observed confounders. Specifically, the unadjusted sibling FE point estimates suggest that exposure to neighborhoods in quintile q, rather than neighborhoods in the less disadvantaged neighborhood q – 1, is associated with a more than 700 percent increase in the odds of adult incarceration for whites \( \left(e^{1.97} = 7.17\right) \), a more than 300 percent increase for blacks \( \left(e^{1.14} = 3.12\right) \), and a more than 500 percent increase for Latinos \( \left(e^{1.70} = 5.47\right) \). Although suggestive, these results from column 1 may be spurious because they do not account for nonrandom selection into different neighborhoods due to, for example, family structure, household economic stability, and other observed confounders.

Column 2 demonstrates that after adjusting for childhood sociodemographic background characteristics, childhood neighborhood disadvantage continues to have a statistically significant positive association with adult incarceration for whites, blacks, and Latinos. However, the addition of childhood observed confounders in column 2 attenuates the associations for most racial and ethnic subgroups. That is, the adjusted sibling FE point estimates from column 2 suggest that exposure to neighborhoods in quintile q, rather than neighborhoods in the less disadvantaged neighborhood q – 1, is associated with a more than 500 percent increase in the odds of adult incarceration for whites \( \left(e^{1.97} = 7.17\right) \), a more than 200 percent increase for blacks \( \left(e^{1.14} = 3.12\right) \), and a more than 500 percent increase for Latinos \( \left(e^{1.70} = 5.47\right) \). Although suggestive, these results from column 1 may be spurious because they do not account for nonrandom selection into different neighborhoods due to, for example, family structure, household economic stability, and other observed confounders.

The results from column 2 summarize the main findings of this study. The Wald postestimation test results for column 2 suggest that although whites and Latinos experience statistically equivalent positive associations between growing up in a disadvantaged neighborhood and adult incarceration, blacks are statistically distinct from whites and Latinos \( \left(p < .05\right) \). That is, the association between childhood neighborhood disadvantage and adult incarceration is statistically weaker for blacks than the association for either whites or Latinos. It appears from these findings in column 2 of Table 2 that blacks who grow up in disadvantaged neighborhoods in the United States are more likely to experience adult incarceration compared with blacks who grow up in advantaged neighborhoods, but this gap is not as large as it is for whites or Latinos. In other words, whites and Latinos who grow up in advantaged neighborhoods are much more protected from adult incarceration compared with blacks who grow up in advantaged neighborhoods.

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This is the central finding of this study and suggests an imbalance in the benefit that neighborhood mobility affords members of different racial and ethnic subgroups. The evidence from the most robust models that control for observed and unobserved confounders suggests that whereas whites and Latinos who came of age during the prison boom in the United States benefited from growing up in advantaged neighborhoods in terms of a decreased likelihood of being incarcerated in adulthood, blacks did not enjoy equivalent protections from neighborhood advantage compared with whites. This evidence further suggests that discrimination, racial profiling, and other racialized policing policies may produce more consistent likelihoods of incarceration for blacks from all neighborhood types compared with whites and even Latinos.

An alternative specification could include interactions between race and ethnicity and neighborhood disadvantage. Appendix A summarizes results from full factorial logistic sibling FE interaction models. Consistent with the results from the stratified models in Table 2, the results in Appendix A suggest that neighborhood disadvantage has a weaker association with adult incarceration for blacks compared with whites. Moreover, the association between neighborhood disadvantage and adult incarceration for Latinos and whites appears statistically equivalent. Furthermore, these
interaction results for blacks reflect the relative consistency in the likelihood of adult incarceration across neighborhood quintiles for blacks that is rendered in Figure 2. Although the models in Appendix A provide further support for the conclusions gleaned from Figure 2 and Table 2, the stratified models in Table 2 may be most important given that researchers have argued that there may be problems with running interaction models in a logistic framework (Long and Mustillo 2018; Mize 2019). I also run supplementary models that use the raw scale score for neighborhood disadvantage instead of quintiles and a continuous measure of incarceration in adulthood instead of a binary measure. These results, summarized in Appendix B, further support the findings from the main analyses: blacks are less likely to benefit from upward neighborhood mobility than whites or Latinos. Analyses using a linear probability model to address concerns regarding the incidental parameters problem that arises when identifying a model with a dichotomous outcome and including family FE found similar results (see Appendix C).

**Gender**

Building on previous studies that have revealed variation in neighborhood associations on arrest rates and incarceration by gender (Chetty et al. 2018; Kling et al. 2005; Sciarda et al. 2013), I run analyses on adult incarceration using the national-level NLSY data. Table 3 summarizes logistic sibling FE results that are stratified by gender in addition to race and ethnicity. Two findings stand out from Table 3: (1) exposure to childhood neighborhood disadvantage has a positive association with adult incarceration for males and females of white, black, and Latino racial and ethnic subgroups, and (2) black males appear to have the weakest association between childhood neighborhood disadvantage and adult incarceration. Postestimation Wald tests suggest that overall, there is no statistically significant difference between males (coefficient = 1.52) and females (coefficient = 1.40) in the association between childhood neighborhood disadvantage exposure and adult incarceration. However, there is a statistically significant difference for black boys (p < 0.05). This is consistent with findings that black boys are most likely to have negative experiences with agents of the criminal justice system (Brunson and Miller 2006; Goel et al. 2016; Legewie 2016) and that high-socioeconomic status blacks are most likely to experience discrimination by the police (Anderson 2016, 2019). These findings suggest that black boys are most likely to have similar likelihoods of being incarcerated as adults, regardless of the neighborhoods where they grew up.

**Conclusion**

The prison boom in the United States resulted in the widespread incarceration of millions of Americans, particularly blacks and Latinos, who were already experiencing the deleterious consequences of household and residential disadvantage (Phelps and Pager 2016). Using novel and restricted panel data from the NLSY that spans the period which saw unprecedented expansion in incarceration and socioeconomic residential segregation, I find that although growing up in a disadvantaged neighborhood is positively associated with adult incarceration, childhood neighborhood disadvantage has unequal associations across race and ethnicity. Blacks, the findings suggest, experience the weakest neighborhood associations with incarceration, suggesting that residential mobility for blacks does not protect against incarceration as much as it does for whites and Latinos. Although not purely causal, these findings from sibling FE models account for some unobserved confounding. The findings advance a theoretical model that enhances the role of structural discrimination within the criminal justice system, relative to neighborhoods, when explaining mass incarceration.

These findings support both of my hypotheses and clarify the research question of whether neighborhoods and race and ethnicity work in tandem to affect mass

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**Table 3. Stratified Sibling FE Logistic Regression Results for the Association between Childhood Exposure to Neighborhood Disadvantage and Adult Incarceration by Race and Ethnicity and by Gender.**

|                | Sibling FE with Observed Confounders |
|----------------|-------------------------------------|
|                | Males      | Females     |
| Overall        |            |             |
| Childhood neighborhood disadvantage | 1.52***   | 1.40***    |
| Observations   | 1,430      | 1,100       |
| Whites         |            |             |
| Childhood neighborhood disadvantage | 1.79***   | 1.83**     |
| Observations   | 560        | 360         |
| Blacks         |            |             |
| Childhood neighborhood disadvantage | 1.02**    | 1.21**     |
| Observations   | 460        | 410         |
| Latinos        |            |             |
| Childhood neighborhood disadvantage | 2.50***   | 1.73**     |
| Observations   | 320        | 250         |

Sources: National Longitudinal Survey of Youth 1979–2014; National Longitudinal Survey of Youth Child and Young Adult 1986–2014.

Note: Coefficients are shown. Adjustments include mother’s poverty, mother’s weeks unemployed, number of children in the household, mother’s logged household income, single parent, mother’s education, mother’s foreign-born status, mother’s Armed Forces Qualifying Test score, whether the mother’s household ever moved, and child’s sex. Robust bootstrapped standard errors (in parentheses) are corrected for clustering. FE = fixed effects.

***p < .001. **p < .01. *p < .05.
incarceration, net of a host of observed sociodemographic characteristics and of unobserved fixed characteristics within the nuclear family. The implication, and the central finding of this study, is that place may not completely trump race when predicting incarceration. For blacks in the United States, structural discrimination in the criminal justice system may weaken the protective effects of upward residential mobility. More than other racial and ethnic groups, the odds of experiencing incarceration for blacks may be tied to racial profiling, surveillance, stop-and-frisk policies, gang injunctions, and other forms of social control that affect all black Americans, regardless of their family and neighborhood origins. This implication is buoyed by research that finds that discrimination by police is a part of blacks’ daily lives, regardless of socioeconomic background (Anderson 2016, 2019).

The findings of the current study adhere to those of Chetty et al. (2018), who used tax records and found that childhood neighborhoods had an association with adult incarceration. However, the current study deviates from theirs by demonstrating that the neighborhood association with incarceration is weakest for blacks. Notably, the present study differs from Chetty et al.’s by using a composite scale to operationalize childhood neighborhood disadvantage (rather than same race neighborhood incarceration rates alone; see Table 4 in Chetty et al.), using multiple measurements of incarceration across adulthood (instead of a single measure on April 1, 2010), examining both movers (without distance restrictions) and stayers, and addressing unobserved confounding at the level of the nuclear family. Furthermore, in the present study I do not investigate neighborhood associations across different age periods of childhood and adolescence and do not solely examine variation in neighborhood conditions on the basis of moving more than 100 miles alone.

The present findings speak to how deeply race and ethnicity affect the lives of blacks in the United States. Social mobility and life chances, as far as they are affected by incarceration, may be less stratified by place than they are of race, thereby complicating theoretical notions of race, place, and incarceration. Here, the models that examine heterogeneity by gender further add nuance to the theoretical model of incarceration by demonstrating the black boys, in particular, face similar odds of adult incarceration across the socioeconomic spectrum of neighborhoods. Racialized factors within the criminal justice system and discrimination in U.S. society writ large that disproportionally affect blacks, no matter where they grew up, are likely to heavily contribute to their high rates of incarceration. These factors may have an even greater impact on black boys, making their likelihood of adult incarceration more similar across neighborhood types compared with whites and Latinos.

Theoretically, this research contributes a new conceptualization regarding the interplay among neighborhoods, race and ethnicity, and incarceration. Here, I advance theory on mass incarceration by demonstrating that neighborhood socioeconomic conditions and race and ethnicity interact to predict incarceration. The findings here introduce a revised theoretical model of incarceration that emphasizes the role of structural discrimination in the criminal justice system that somewhat mutes the protective benefits of living in more socioeconomically advantaged neighborhoods for blacks. One of the goals here is to find deeper structural processes nested in childhood that might later lead to incarceration. Policy that identifies areas of reform within the criminal justice system, from policing to prosecuting, may have more of an impact than neighborhood-based policies for addressing inequality in incarceration for blacks.

Still, the results may have differed if I were able to use a more restricted definition of incarceration (e.g., by just using prison confinement). The association between neighborhood disadvantage and incarceration may have been as strong for blacks as it is for whites and Latinos if I were able to limit my dependent variable to prison. Similarly, different definitions of neighborhoods and neighborhood disadvantage may alter the findings. That is, using census tracts may not be the most accurate way to define contexts of influence.

Whereas differences in the severity of disadvantage in white, black, and Latino neighborhoods (as depicted in Figure 1) challenges research into racial and ethnic heterogeneity in exposure to neighborhood disadvantage (Sharkey and Faber 2014), this study’s focus on incarceration as an outcome may provide insight into racial and ethnic heterogeneity in “neighborhood effects” vis-à-vis a unique feature of U.S. society that disproportionately affects blacks independent of the residential environments in which blacks Americans live: the unique policing of black bodies. Still, the heterogeneous findings for neighborhoods here should be interpreted with caution, given the severe racial and ethnic stratification of urban neighborhoods (Sampson 2012; Sampson et al. 2008; Sharkey and Faber 2014). That is, studying the differential associations of exposure to neighborhood disadvantage by race and ethnicity may be beset by the reality that there is little overlap between the level of concentrated neighborhood disadvantage for blacks and nonblacks. Heterogeneous neighborhood associations by race and ethnicity may simply reflect a nonlinear neighborhood effect rather than an interaction effect by race and ethnicity (see Crosnoe 2009; Crowder and South 2003; Sharkey and Faber 2014; Turley 2003). However, the present findings suggest that the experience of blacks in the U.S. criminal justice system, from policing to incarceration, may undergird racial and ethnic differences in neighborhood associations with incarceration. Furthermore, this study’s focus on stratified models that confines comparisons of neighborhood exposure within racial and ethnic groups somewhat addresses the problems associated with comparisons between racial/
ethnic groups. Nevertheless, to affirm that these findings reflect actual racial and ethnic differences in the association between neighborhood disadvantage and adult incarceration rather than simply reflecting any imbalance in the severity of disadvantage between blacks and nonblacks, future scholars should continue to investigate this topic with alternative samples and methods.

This study is among the first to provide evidence of heterogeneity in the association between childhood neighborhood disadvantage and adult incarceration. Neighborhood mobility, in and of itself, may not provide sufficient recourse and protection from the racialized policing and prosecutorial system that has produced inequality in incarceration between blacks and all others in the United States. The substantive results of this study suggest that policy makers would do well to address discrimination in policing and other aspects of the criminal justice system to reduce the association between being black and being incarcerated. Theoretically, this research advances a conceptualization that integrates structural discrimination in the criminal justice system in explaining the interaction between race and ethnicity and neighborhoods in predicting mass incarceration. Moreover, the present study adds evidence to the notion that race and ethnicity continue to play significant roles in well-being across the life course (Feagin 1991; Hughes and Thomas 1998; Thomas and Hughes 1986; Yancy 2016), rather than diminishing in importance in contemporary U.S. society (Wilson 1978, 2011).

**Appendix A.** Logistic Regression Interaction Model Results for the Association between Childhood Exposure to Neighborhood Disadvantage and Adult Incarceration by Race and Ethnicity.

| (1) | (2) |
|-----|-----|
| Sibling FE | Sibling FE with Observed Confounders |

**Main effects**

- Neighborhood disadvantage: 1.97*** (0.25) 1.70*** (0.27)
- Black: — —
- Latino: — —

**Interaction effects**

- Black × neighborhood disadvantage: −0.84** (0.36) −0.71* (0.39)
- Latino × neighborhood disadvantage: −0.27 0.05

| Observations | 4,540 | 4,300 |

**Appendix B.** Stratified Ordinary Least Squares Regression Results for the Association between Childhood Exposure to Neighborhood Disadvantage and Adult Incarceration by Race and Ethnicity.

| Whites | | | | |
|--------|--------|------------------|--------|---|
| Childhood neighborhood disadvantage | .17** | .11* | .19** | .30*** |
| Observations | 3,930 | 2,740 | 1,630 | 3,930 |
| Constant | .82* | .80* | .93 | .42 |

| Blacks | | | | |
|--------|--------|------------------|--------|---|
| Childhood neighborhood disadvantage | .11* | .05 | .11* | .42 |
| Observations | 2,740 | 1,630 | 1,630 | 3,930 |
| Constant | (.51) | .05 | .93 | (.78) |

| Latinos | | | | |
|--------|--------|------------------|--------|---|
| Childhood neighborhood disadvantage | .19** | .07 | .19** | .70*** |
| Observations | 1,630 | 1,630 | 1,630 | 3,930 |
| Constant | .93 | .42 | .93 | (.78) |

**Appendix C.** Stratified Linear Probability Model Regression Results for the Association between Childhood Exposure to Neighborhood Disadvantage and Adult Incarceration by Race and Ethnicity.

| Whites | | | | |
|--------|--------|------------------|--------|---|
| Childhood neighborhood disadvantage | .30*** | .20*** | .20*** | .30*** |
| Observations | 3,930 | 2,740 | 2,740 | 3,930 |
| Constant | .42 | .42 | .42 | (.78) |

| Blacks | | | | |
|--------|--------|------------------|--------|---|
| Childhood neighborhood disadvantage | .20*** | .12** | .20*** | .42 |
| Observations | 2,740 | 2,740 | 2,740 | 3,930 |
| Constant | (.04) | (.01) | (.04) | (.67) |

**Sources:** National Longitudinal Survey of Youth 1979–2014; National Longitudinal Survey of Youth Child and Young Adult 1986–2014.

**Note:** Coefficients are shown. Adjustments include mother’s poverty, mother’s weeks unemployed, number of children in the household, mother’s logged household income, single parent, mother’s education, mother’s foreign-born status, mother’s Armed Forces Qualifying Test score, whether the mother’s household ever moved, and child’s sex. FE = fixed effects.

*p < .05. **p < .01. ***p < .001.
Appendix C. (continued)

| Source                          | Coefficient | Standard Error | t-Value | p-Value |
|--------------------------------|-------------|----------------|---------|---------|
| Mother's poverty               | .31***      | .04            | 8.13    | <.001   |
| Mother's weeks unemployed      | .30***      | .04            | 7.75    | <.001   |
| Number of children in the house| .09         | .02            | 4.47    | <.001   |
| Mother's logged household income| .07         | .02            | 3.34    | <.01    |
| Single parent                   | .06         | .01            | 3.77    | <.001   |
| Mother’s education              | .05         | .01            | 3.77    | <.001   |
| Mother’s foreign-born status    | .04         | .01            | 3.42    | <.001   |
| Mother’s Armed Forces Qualifying Test score | .04 | .01 | 3.42 | <.001 |
| Whether the mother's household ever moved | .03 | .01 | 3.13 | <.01 |
| Child's sex                     | .02         | .01            | 2.13    | .033    |
| FE corrected for clustering     |             |                |         |         |

Notes: Coefficients are shown. Adjustments include mother’s poverty, mother’s weeks unemployed, number of children in the household, mother’s logged household income, single parent, mother’s education, mother’s foreign-born status, mother’s Armed Forces Qualifying Test score, whether the mother’s household ever moved, and child’s sex. FE = fixed effects. Robust bootstrapped standard errors (in parentheses) are corrected for clustering.

*p < .01, **p < .001.

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