EXAMINING THE NEIGHBORHOOD AND SCHOOL CONTEXT OF RACIAL AND ETHNIC DISPARITIES IN ARREST

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ABSTRACT

This study examines the role of social context in explaining racial and ethnic differences in arrest. In particular, this research examines just what it is about the distinct neighborhood contexts in which different racial and ethnic groups reside that explains differences in criminal outcomes. Further, attention is put upon the importance of school-neighborhood relations as a means of facilitating social control of youth behavior. This study uses a multilevel, longitudinal research design that combines individual-level data on Chicago-area youth with contextual data from the U.S. census and the Project on Human Development in Chicago Neighborhoods. As expected, findings suggest that most of the racial and ethnic differences in arrest are due to differences in the number of crimes committed by the respective groups, but arrest differences are also explained by a number of key family, neighborhood, and school factors. Findings also reveal that the factors explaining arrest vary with age, and that the relative gap in arrest across various racial and ethnic groups is not constant with age.

INTRODUCTION

Two competing explanations are often given for the fact that minorities, and blacks in particular, are drastically overrepresented at all stages of criminal case processing: either there are differences in the prevalence and incidence of criminal offending across racial and ethnic groups (i.e. the differential involvement argument), or the criminal justice system discriminates against certain groups. Representative of the differential involvement argument is research by Hindelang (1978). Hindelang found that the racial distribution of arrestees for common law personal crimes in the FBI's Uniform Crime Reports matches the distribution of offenders reported by victims in the National Crime Panel, and therefore concluded that black differential involvement in crime explains the overrepresentation of blacks in arrests. In contrast, Chambliss and Nagasawa (1969) found that white high-school boys had a slightly higher rate of self-reported delinquency than blacks, but black high-school boys appeared in juvenile court records substantially more often. These authors question (p. 75), "[I]f the actual involvement in delinquency (as measured by self-reported delinquency) does not predict official rates, then what does?" For them, the answer is racial bias in the activities of law enforcement agencies.

The present study refocuses this line of inquiry, with the objective of examining just what it is about the distinct neighborhood contexts in which different racial and ethnic groups live that explains group differences in criminal outcomes. As Sampson (1987, pp.353-354) describes, the worst urban contexts in which whites reside in terms of poverty and family disruption are still better than the average black neighborhoods. Further, research has long found that criminals tend to reside in neighborhoods characterized by poverty, social disorganization, and high levels of minority population (e.g. Shaw and McKay 1942). A core aspect of Shaw and McKay's argument is that socially disorganized areas contain weak social institutions, including families

and schools, which are not able to control the advance of unconventional values and resulting criminal behavior. Thus, it is critical to examine why arrest predominantly occurs in certain neighborhoods, and to examine the extent of influence neighborhood institutions have on the control of crime and criminal outcomes.

Three central questions are examined in this study. First, do youth from different racial and ethnic groups who live in the same neighborhood have differing likelihoods of arrest after controlling for self-reported offending? Further, of particular importance for this study is the role of neighborhood context as a predictor of arrest. This leads to the second research question: do youth of similar race and ethnicity residing in different neighborhood contexts have differing likelihoods of being arrested given similar levels of offending? It might be the case that certain racial and ethnic groups are arrested more often than other groups because they not only commit more crimes, but also because they reside in neighborhoods where the probability of arrest is higher. Third, if neighborhood context does influence arrest, then what role do neighborhood institutions like schools, and the relations between schools and the larger neighborhood community, play in hindering or facilitating crime?

THEORETICAL FRAMEWORK

The theoretical approach to this study emphasizes that arrest is an outcome influenced not only by criminal offending, which has its own set of explanatory factors, but also by a series of factors that ultimately lead the police to take action against a known offender. The discussion to follow reviews the various individual, familial, situational, school, and neighborhood factors that are related to offending and subsequent police action, and how these factors influence racial and ethnic disparities in arrest.

Offending

One of the key ways in which neighborhood context affects the event of arrest is through neighborhood effects on acts of delinquent and criminal offending. Much research has explored the various individual, familial, and contextual explanations for racial and ethnic differences in offending, though few studies have considered all these factors simultaneously. Two recent exceptions include studies by Sampson, Morenoff, and Raudenbush (2005) and McNulty and Bellair (2003) on violent offending. Importantly, these two studies also move beyond a mere focus on black-white differences in offending.

Sampson and colleagues (2005) find that a small number of factors explain the racial and ethnic gap in violent offending, and conclude that neighborhood context is the most important factor in explaining the gap in offending across groups. They also note that they found no evidence of interaction effects between neighborhood and individual-level predictors of violent offending and race or ethnicity. Thus, Sampson and colleagues argue that their results suggest that generic interventions that improve neighborhood conditions and support stable marriages and family structures will reduce the racial and ethnic gap in violence.

McNulty and Bellair (2003) conclude that factors explaining differentials in offending between two racial and ethnic groups depends upon which two groups are being examined, though, like Sampson and colleagues (2005), their findings suggest that a small number of factors explain differences in offending across all groups. They find that community disadvantage explains black-white differences in violence and black-Asian differences, but to a lesser extent other group differences. Differences in family structure and socioeconomic status across racial and ethnic groups also explain large proportions of the black-white gap in offending, and the Hispanic-white gap. Gang membership explains Hispanic-white differences

and Native-American-white differences. Further, gang membership explains the association between concentrated disadvantage and violent offending, which suggests that the reason youth in disadvantaged neighborhoods are more likely to engage in violence is because they are more likely to be in gangs. Similar to Sampson and colleagues (2005), results suggest that interventions focused on neighborhood conditions and family structures will reduce the racial and ethnic gap in violence, particularly between blacks and whites and Hispanics and whites.

In addition to these recent studies on violence, Peeples and Loeber (1994) too examine the role of neighborhood context in explaining racial differences in offending, though they do not focus strictly on violence. Descriptive findings suggest that the black-white difference in offending is substantial in aggregate, when failing to account for the fact that black and white youth live in much different neighborhood contexts, on average. These authors find that the frequency and seriousness of offending is similar for black and white boys when comparing youth who each live in non-underclass neighborhoods. These authors importantly note though that studies of neighborhood-level correlates of crime should move beyond an emphasis on structural explanations and examine neighborhood mechanisms like social control and the cultural transmission of values that explains crime and delinquency.

This discussion serves to briefly highlight the key factors at the neighborhood, family, and individual level associated with offending. Arguably these factors are also associated with arrest, for violent offenses and other crimes. Presumably, controlling for offending will mediate the association between various individual, family, and neighborhood characteristics and arrest. Analyses to follow will explore this hypothesis.

From the Act of Offending to the Event of Arrest

It is widely acknowledged that most criminal offenses do not lead to an arrest. Further, not every offender known to the police is ultimately arrested. Following the commission of a crime, there are numerous factors that influence whether a given offense will ultimately lead to arrest. First and foremost is whether the offense has been witnessed by victims, bystanders, or the police. Neighborhood contextual factors influencing the visibility of a crime include population density, pedestrian traffic, and delinquent group behavior. For example, Sampson (1986) notes that lower-class areas tend to have a more active street life than more affluent areas, with the implication being that residents of lower-class areas face a greater likelihood of detection than those residents of more affluent areas. Another key influence on visibility is whether criminal offenses are committed in groups (Morash 1984).

If a crime is detected and an offender is known, police must decide whether to take action and enforce the law against the offender. Black and Reiss (1970) find that only 15 percent of police contacts with juveniles resulted in an official arrest, thus providing evidence of considerable discretion on the part of police. Societal reaction theory holds that perceptions and stereotypes of criminals influence the enforcement of the law, with one implication being that racial and ethnic minorities and individuals of lower social status are more likely to be arrested for a crime irrespective of their actual behavior (Sampson 1986). Similarly, applying a symbolic interactionist argument, Morash (1984) suggests that police are more likely to arrest an individual if their characteristics and behavior fit the meaning or image of what a criminal looks and behaves like. In addition to race and ethnicity, research suggests that suspect gender, social class, and prior criminal record are also key individual characteristics affecting criminal stereotypes, and arrest (Wilson 1968; Visher 1983; Morash 1984). Further, Morash (1984) finds

that police are more likely to arrest individuals who have delinquent peers and who commit offenses with peers.

Beyond individual characteristics that lead to stereotyping and profiling, residence in a disadvantaged or high-crime neighborhood may also stigmatize individuals. Werthman and Piliavin (1967) describe a process termed ecological contamination, whereby every person encountered in a "bad" neighborhood is perceived by the police to embody the "moral liability" of the given neighborhood (see also Sampson 1986; Sampson and Raudenbush 2004). Thus, characteristics of the neighborhood where police-suspect contact occurs influence the outcome of the contact, independent of the characteristics of the criminal event that led to the contact. In an examination of societal reaction theory, Sampson (1986) finds substantial evidence for this hypothesis. His results reveal that neighborhood socioeconomic status has a negative effect on individuals' contact with the police, independent of criminal behavior.

Research on societal reaction has taken the crucial first step in showing that neighborhood context does have an independent effect on arrest net of offending, but the unanswered question is just what characteristics of low socioeconomic neighborhoods lead to the stigmatization describe in the preceding paragraph. Two specific characteristics of neighborhoods would seem to influence the image of a neighborhood, in the perceptions of police, residents, and citizens. Levels of crime are certainly a factor in producing stereotypes about crime-ridden areas. However, a substantial number of crimes are not observed, even in areas with an active street life. Further, the fear of crime literature has convincingly shown that perceptions about the level of crime and fear of crime are much different than the objective measure of crime (see, e.g., Hunter 1985). Thus, additional neighborhood characteristics besides crime may lead to a stigmatization of place.

As Sampson and Raudenbush (2004) reason, signs of neighborhood disorder (e.g. broken windows, litter) serve as visual cues that reinforce stereotypes about neighborhoods and the residents in those neighborhoods. These authors find that the racial, ethnic, and class composition of a given neighborhood predicts perceptions of disorder in the neighborhood, even after controlling for actual levels of disorder (as recorded by researchers through systematic social observation). The implication for the current study is that the probability of arrest may be higher in disorderly, stigmatized neighborhoods controlling for criminal offending, and this may explain racial and ethnic differentials in arrest.

Arrest may be more likely in some neighborhoods not only because they are stigmatized, but also because there is no other option to control neighborhood crime besides enforcing the law. Park (1925; also Park and Burgess 1928) argues that modern urban life has a disintegrating influence, such that the role of traditional social institutions (e.g. church, family) has been modified. Further, many of the functions previously performed by families, including social control, are now performed by other social institutions, like schools and the justice system.

Many aspects of school and schooling are associated with crime, but for the purposes of the present study, attention will be put upon the role of school-community ties. As noted in the introductory section, Shaw and McKay (1942) argue that crime is more likely in disorganized neighborhoods, where disorganization refers to the breakdown in neighborhood institutions like the family and schools. However, Shaw and McKay focused primarily on the role of the family as a socializing institution, to the neglect of schools. Kornhauser (1978) argues that attention should also be put on the relations between neighborhoods institutions, and notes that social disorganization and crime are more likely in neighborhoods where social institutions are isolated from each other. For instance, if schools are isolated from the larger community and do not

respond to the needs of the community, then communities are lacking a key mechanism of social control (Shaw and McKay 1942; Kornhauser 1978). The implication for the current study is that arrest may be less likely in neighborhoods with strong schools because they not only affect the likelihood of criminal behavior, but also because schools provide an outlet besides families and the criminal justice system for reforming troubled youth. In the absence of strong schools and families, perhaps the only other option for reforming youth is the criminal justice system.

Moving forward, research has also shown the importance of situational factors on whether offending and police contact ultimately lead to arrest, and which also influence racial and ethnic differentials in arrest. Four of the most influential situational factors are the demeanor of the suspect, preferences of victims and citizen complainants for the police to arrest or release suspects (Black and Reiss 1970), the victim-offender relationship (Black 1976; Smith and Visher 1981), and the seriousness of the offense (Black and Reiss 1970; Smith and Visher 1981). Regarding the first factor, Piliavin and Briar (1964) find that uncooperative suspects are arrested substantially more often than cooperative suspects. Police generally deem that those youth who are cooperative are for the most part law-abiding and "salvageable," and that arrest and punishment may do them more harm than good. With uncooperative youth, police typically regard them as serious delinquents instead of good kids run astray. Further, police officers interviewed in the study note that black youth are more likely to be uncooperative than other youth, which ultimately leads to differentials in arrest across race (Piliavin and Briar 1964).

Clearly a large number of factors influence both offending levels and arrest. The present study moves beyond previous research by combining individual, family, situational, school, and neighborhood factors into a single analytic framework in order to examine the influence of each on the probability of arrest, after controlling for individual involvement in crime. At the

neighborhood level, this study examines whether the law is more likely to be invoked in one neighborhood versus another, independent of offending. In sum, I hypothesize that offending is highly predictive of arrest, and is a key factor explaining arrest differentials across race and ethnicity. Of course not all crimes lead to arrest. Thus, I also hypothesize that neighborhood context influences the probability of arrest given offending, such that certain characteristics that stigmatize neighborhoods lead to an ecological bias that makes it more likely for an individual to be arrested in one neighborhood versus another, independent of their actual behavior.

DATA AND RESEARCH DESIGN

The study sample is drawn from the Project on Human Development in Chicago Neighborhoods (PHDCN), a multi-wave study of the factors influencing human development and antisocial behavior of Chicago youth. In this project, longitudinal data was collected on 7 cohorts of subjects, defined by age at baseline (0, 3, 6, 9, 12, 15, and 18), with subjects and their primary caregivers interviewed up to three times between 1995 and 2002. This paper focuses on the 12, 15, and 18 age cohorts. In the data collection, a random sample of 80 neighborhood clusters, stratified by racial/ethnic composition (seven categories) and SES (high, medium, and low), were selected from a total of 343 neighborhood clusters in Chicago (Sampson, Raudenbush, and Earls 1997). Within these 80 clusters, a simple random sample of households yielded a total sample of 2150 youth in the 12, 15, and 18 cohorts. The present analysis uses a subset of the total sample (N = 1775) who consented to have their official records searched. This subsample showed no significant difference in the average number of *self-reported* arrests per wave compared to those youth subjects who did not consent to have their criminal records searched ($F = 0.925$; $df = 1, 2149$).

Official arrest data were provided by the Chicago Police Department (CPD) and the Illinois State Police (ISP), and cover the time span from 1995 to 2001. Both juvenile and adult arrest data were provided. An automated matching algorithm was used to compare the data files from the criminal justice agencies with identifying information on youth subjects from the PHDCN data. This probabilistic method calculates the likelihood that records across different data sources belong to the same person by matching as many pieces of identifying information across sources as possible. Identifying information used in the matching includes social security number, name, birth date, county and zip code, race and ethnicity, and gender (see Appendix A for further description of the matching method). With the use of multiple identifying variables, records can be matched across data sources even if an alias was used in the official arrest data.

Dependent Variable

The dependent variable used in this analysis is the frequency of official arrests per person-year. Official data was obtained in combined yearly extracts covering the time period from 1995 to 2001. Accordingly, person-year observations were constructed by calculating the age of a given subject as of January 1st of a given year, and summing the count of arrests over the subsequent twelve month period. If subjects did not appear in the arrest data for a given year, then they had no arrest record for the year and an arrest count of zero. With seven years of data, there are seven observations per subject.

Independent Variables

Included in the statistical models are a number of individual, family, situational, school, and neighborhood level predictors. Key demographic factors include age, cohort, gender,

immigrant generational status (1st, 2nd, or 3rd and higher), and race and ethnicity. Five dummy indicators of race and ethnicity are employed in the analyses: black, Mexican, Puerto Rican/Other Latino, other race, and white. Black, white, and other race groups are all non-Latino. Information on race and ethnicity was derived from interviews with the subject's primary caregiver (for cohorts 12 and 15) or from the subject themselves (cohort 18). If the subject's parents were of different races or ethnicities, then the mother's race/ethnicity was used for coding purposes. In analyses to follow, the black dummy variable is used as the reference category. Also, the race and ethnicity dummy variables are aggregated to the neighborhood-level to produce indicators of the percent racial and ethnic composition of each given neighborhood.

Given arguments from past research that disparities across racial and ethnic groups in arrest and criminal case processing are largely due to differential involvement in offending, a key individual level explanatory variable to examine is the role of self-reported offending. Analyses include four separate scales of self-reported offending (violent, property, public-order/status, and drug offenses), created from a total of 23 survey items from the wave 1 self-report survey (see Appendix A for a list of offenses used in the construction of these scales). These items are indicators of the frequency of offending over the 12-month period preceding the survey date. Items for all but the drug scale were combined using an ordinal item response model (IRT) with the STATA GLLAMM program (Rabe-Hesketh, Skrondal, and Pickles 2004). With an IRT model, it is posited that individuals' responses to self-report items are a function of their latent delinquent propensity and characteristics of the item like crime severity (for a discussion of the use of IRT models in criminological research see Osgood, McMorris, and Potenza 2002). Given that only three items were used to construct the drug scale, these items were simply summed instead of scaled in an IRT model. The natural log of the sum of the item scores was used to

create the drug scale. To examine the situational influence of whether police are more likely to arrest individuals who commit offenses with peers, a measure of group offending is included in analyses. In the self-report survey, follow-up questions for a subset of the 23 items used to construct the four offending scales asked respondents whether they committed a given offense alone or with others the last time they committed the offense. These items were combined using an ordinal IRT model. Given that the 23 indicators of group offending are highly correlated with the four offending scales, the group offending IRT scale was constructed controlling for the four offending scales. Thus, the situational measure of group offending included in analyses to follow is interpreted as the propensity to offend in groups given the propensity to offend in general.

Two measures of family characteristics are included as explanatory predictors of arrest. Family socioeconomic status is derived from the first principal component of parent's income, education, and occupational status. For the second measure, family structure is described with a dummy variable reflecting the marital status of a youth's biological parents.

Characteristics of neighborhood structure are captured from four indicators: concentrated disadvantage, residential stability, immigrant concentration, and population density. Construction of the first three indicators is informed by previous work (Sampson et al. 1997), and derived from 1990 census data. In order to examine the role of street activity and whether the visibility of criminal offending in neighborhoods influences arrest, a control for population density is added. Population density is also derived from 1990 census data, and is calculated as the number of residents per square kilometer in each neighborhood. Presumably, the greater the population density, the greater the chance that a criminal act will be observed. While population density is not an exact measure of street activity, prior research on Chicago has shown that indicators of

street activity are highly correlated with population density (Sampson and Raudenbush 1999). Thus, population density arguably serves as a sound proxy for street activity.

To test arguments about ecological contamination, an indicator of neighborhood physical disorder is derived from the 1995 PHDCN Community Survey. The Community Survey yielded a probability sample of 8,782 Chicago residents, who responded to a series of questions about the characteristics of their residential neighborhood environments. Further, the Community Survey was collected on a sample independent of the longitudinal cohort data collection described before. The disorder measure is scaled from questions asking neighborhood residents "how much of a problem" the following signs of disorder are in their neighborhood: 1) litter, broken glass or trash on the sidewalks and streets, 2) graffiti on buildings and walls, and 3) vacant or deserted houses or storefronts.

As another means of testing ecological contamination arguments, analyses also include controls for the neighborhood crime rate. Specifically, logged scales of property and violent neighborhood crime rates from 1995 are included.

Indicators of school-community interaction are derived from the 1997 Teacher Survey of the Chicago Public Schools. A total 422 elementary schools (out of 477, for a response rate of 88%) and 55 high schools (out of 67, 82%) participated in the surveys (CCSR 1997). Within these schools, 10,300 elementary school teachers participated in the survey, and 3,200 high school teachers participated. Participating teachers responded to wide variety of questions about topics such as school leadership, school ties to the community, collaboration with other teachers, and parental involvement in school. The analysis to follow focuses on two indicators of school-community relations: teacher use of community resources and teacher involvement in the school's surrounding community. Teacher use of community resources is a measure indicating

the extent to which teachers in a given school use the community as a learning resource (CCSR 1997). More specifically, teachers were asked whether they worked with community members and institutions to better understand students, whether they have acquainted students with information about community agencies that can assist students with their problems, and whether they have taken students on field trips in the school's community. Teacher involvement in the community refers to the extent to which teachers are active in the schools' surrounding community (CCSR 1997). Specifically, teachers are asked whether they have friends in the community, visit students' homes, and attend religious services or recreational events in the community. These two indicators of school-community ties are aggregated to the school-level from teacher responses, to provide summary measures for each given school.

ANALYTIC STRATEGY AND STATISTICAL MODELS

Analyses of the racial and ethnic disparities in arrest follows two paths: 1) growth curve analyses of arrests estimated by population-averaged age-arrest trajectories, and 2) a decomposition of racial and ethnic differences in arrest trajectories into differences in group characteristics and attributes.

Growth Curves

In the first approach, quadratic growth models are specified with arrest as the dependent variable. The baseline model includes age and a squared age term as covariates, as well as demographic indicators of cohort, gender, immigrant generation, race, and ethnicity, where dummy variables are used to compare the arrest trajectories of the various racial and ethnic groups. In the analyses, age is centered at 17. This age was chosen because it provides an overlap

in the observation periods for all cohorts (i.e. age 17 is the end of the observation period for the 12 year-old cohort, and the beginning of the observation period for the 18 year-old cohort). With this centering, model coefficients are used to assess the expected count of arrests at age 17 and the rate of change in arrest at age 17. Note that for comparison purposes, models are also estimated with age centered at both 14 and 20, in order to compare the predictors of arrest at different stages of the adolescent life course. However, description of the statistical models to follow will simply focus on the age 17 centering.

The baseline model is then expanded to include a number of person-level, family-level, situational, school, and neighborhood level covariates. After the inclusion of the relevant explanatory variables, any significant difference between groups, in this case blacks versus whites, Mexicans, and Puerto Ricans/Other Latinos, can potentially be interpreted as a measurement of racial and ethnic bias.

Each model in the analysis assumes that Y_{tjk}, which is the observed number of official police arrests for person *j* in neighborhood *k* at age *t*, follows a Poisson distribution. The data is structured to where each observation represents a person-year, with a total of *t* observations per person *j*. With the Poisson distribution, it is assumed that the conditional variance and conditional mean are equal, though this may not be true with arrest data. Preliminary analyses of models described to follow revealed that there is no overdispersion with the within-person variance, so all models are estimated without a dispersion parameter. There was even slight evidence of underdispersion. This results because individuals have more stability in their arrest trajectories than expected.

Equation (1) specifies the growth curve model:

$$\log \mathrm{E}(Y_{tjk}) = \pi_{0jk} + \pi_{1jk}(AGE - 17)_{tjk} + \pi_{2jk}(AGE - 17)^2_{tjk} \qquad (1)$$

Equation (2) shows that the expected count of arrests at age 17 is modeled as a function of individual, family, situational, school, and neighborhood covariates, where $X_{jk}\beta$ is a vector of individual, family, and situational characteristics and $W_k\gamma$ is a vector of school and neighborhood characteristics:

$$\pi_{0jk} = \mu + X_{jk}\beta + W_k\gamma \quad (2)$$

The linear and quadratic growth terms are also modeled as a function of the various covariates:

$$\pi_{1jk} = \mu + X_{jk}\beta + W_k\gamma$$

$$\pi_{2jk} = \mu + X_{jk}\beta + W_k\gamma \quad (3)$$

All covariates are centered around their grand mean, so that model coefficients can be interpreted as the average effect or association across neighborhoods. Further, by centering the demographic dummy variables (i.e. race, ethnicity, gender, cohort, immigrant generation) around their grand mean, the intercept is interpreted as the expected number of arrests by the *average* youth, not the expected count for the dummy reference categories (i.e. black females in the 12 year-old cohort that are 3rd generation immigrants). With these models, the expected count of arrests at a particular age is given by:

$$\mathrm{E}\left(Y_{tjk}\right) = \exp\left(\boldsymbol{x}'_{\boldsymbol{jk}}\beta + \boldsymbol{w}'_{\boldsymbol{k}}\gamma\right) \quad (4)$$

Decomposition of Racial and Ethnic Differences

After specifying a series of growth models in order to determine which factors account for any racial and ethnic differences in arrest, differences in arrest are then partitioned into differences due to differing attributes of each group. For example, if arrest is inversely related to family SES, as many have concluded (see, e.g., Reiss and Rhodes 1961), analyses are performed to isolate exactly how much of the difference in arrest between racial and ethnic groups is due to

differences in SES across groups. To isolate the effects of certain variables or sets of variables, average predicted trajectories of arrest for each racial and ethnic group are computed from model coefficients and group specific averages on relevant attributes (i.e. the black coefficient for SES multiplied by the average SES for blacks). More specifically, the expected count of arrests at each given age are computed, which is denoted by: $\mathrm{E}\left(Y_t^{\boldsymbol{Black}}\right)$, $\mathrm{E}\left(Y_t^{\boldsymbol{White}}\right)$, $\mathrm{E}\left(Y_t^{\boldsymbol{Mexican}}\right)$, $\mathrm{E}\left(Y_t^{\boldsymbol{PR/Other}}\right)$. In the second step, another set of predicted trajectories are computed by multiplying the model coefficients of one group by the average attributes of another group. For example, to determine what the black arrest trajectory would look like if blacks, on average, had the same SES level as whites, the black coefficient for SES is multiplied by the average level of SES for whites, $\mathrm{E}\left(\mathrm{Y}_t^{Black\ with\ White\ SES}\right)$. Finally, I compare the original trajectory for a given group to the trajectory from step two with other group attributes, and compute how much of the group differences in arrest are due to differences in attributes. In equation form, the comparison between blacks and each group is given by:

$$1-\left(\mathrm{E}\left(\mathrm{Y}_t^{Black}\right)-\mathrm{E}\left(\mathrm{Y}_t^{Black\ with\ White\ Attributes}\right)\right)/\left(\mathrm{E}\left(\mathrm{Y}_t^{Black}\right)-\mathrm{E}\left(\mathrm{Y}_t^{White}\right)\right)$$

$$1-\left(\mathrm{E}\left(\mathrm{Y}_t^{Black}\right)-\mathrm{E}\left(\mathrm{Y}_t^{Black\ with\ Mexican\ Attributes}\right)\right)/\left(\mathrm{E}\left(\mathrm{Y}_t^{Black}\right)-\mathrm{E}\left(\mathrm{Y}_t^{Mexican}\right)\right)$$

$$1-\left(\mathrm{E}\left(\mathrm{Y}_t^{Black}\right)-\mathrm{E}\left(\mathrm{Y}_t^{Black\ with\ PR/Other\ Attributes}\right)\right)/\left(\mathrm{E}\left(\mathrm{Y}_t^{Black}\right)-\mathrm{E}\left(\mathrm{Y}_t^{PR/Other}\right)\right) \quad (5)$$

The goal of this approach is to determine how much of the disparity in arrest trajectories across groups are due to differences across groups on the independent factors in the analysis.

RESULTS

A total of 341 PHDCN youth subjects from cohorts 12, 15, and 18 were officially arrested at least once from 1995 to 2001, equating to 19.2% of the sample. Of this number, 148 were arrested one time (8.3%), and the remainder arrested at least twice during the time frame. A

total of 1,093 arrests of the PHDCN youth were officially recorded in the State of Illinois from 1995 to 2001. Out of these 1,093 arrests, 228 arrests were for violent offenses, 235 for property offenses, 312 for offenses against the public-order, 287 for drug offenses, and 31 for other offenses (including warrants and unclassified arrests)[1].

Table 1 displays a descriptive summary of arrests by race and ethnicity. Here it can be seen that a much greater percentage of blacks in the sample have been arrested than the other racial and ethnic groups (around 30% of blacks, compared to roughly 13 to 14% of the other groups). Because of this, blacks have a mean number of arrests (1.03) that is considerably higher than the other groups. Among active arrestees (those with at least one arrest), however, the difference in the mean number of arrests between blacks (3.47) and the other groups is considerably smaller. One may conclude from this that is it the far greater prevalence in arrest among blacks than accounts for the racial disproportionality of arrest than any greater frequency or incidence of arrest among active offenders.

[TABLE 1 ABOUT HERE]

Table 2 displays summary statistics by racial and ethnic groups for the relevant predictors in the study. Here it can be seen that all Latinos are more likely to be first or second generation immigrants than the third or higher generation. In contrast, almost all black youth and three-quarters of white youth are third generation immigrants or higher. In terms of family characteristics, SES is highest among whites and lowest among Mexicans. However, Mexicans more commonly have married parents than other groups. Blacks have a greater propensity for violent offending than other racial and ethnic groups, and Puerto Ricans and whites have a greater propensity to commit property offenses than blacks or Mexicans. There is little difference in the propensity to offend with other individuals given offending.

[1] Classification based on most serious offense of arrest, for arrests with multiple charges.

Regarding neighborhood characteristics, blacks, on average, live in areas characterized by higher levels of concentrated disadvantage than other groups, while whites live in areas with the lowest levels of disadvantage. Blacks also live in neighborhoods with relatively high levels of residential stability and low levels of immigrant concentration. Puerto Ricans live in neighborhoods with the highest levels of population density. Mexicans live in neighborhoods with the highest levels of physical disorder. Table 2 also reveals that blacks reside in neighborhoods with the highest violent and property crime rates, and whites live in neighborhoods with the lowest crime rates. In terms of school-neighborhood ties, whites reside in neighborhoods where teachers from neighborhood schools are actively involved in the community and use community resources in their teaching. Black youth tend to live in neighborhoods with the least amount of teacher involvement in the neighborhood community.

[TABLE 2 ABOUT HERE]

Growth Curve Analyses of Arrest

Table 3 displays results for Models 1 through 3, where Model 1 is the baseline model. Results from Model 1 reveal that there are substantial differences in the expected number of arrests at age 17 (i.e. the intercept) across race and ethnicity. The expected count of arrests for black males is 0.49; for white males it is 0.17; for Mexican males it is 0.17; and for Puerto Rican and other Latino males it is 0.21[2]. It can also be seen from Model 1 that there is a sizable gender difference in arrest, and that there are significant cohort differences in arrest, both in the level of arrest at age 17, and in the growth (i.e. the slopes) in arrests. Finally, it can be seen that the expected number of arrests is lower for more recent immigrants. Thus, one important reason for

[2] Because the level-2 predictors are grand-mean centered, the expected count for blacks is predicted as follows: $\mathrm{E}\left(Y_t^{Black}\right) = \exp\left(\beta_0 + \beta_{White}(0 - \overline{X}_{White}) + \beta_{Mex}(0 - \overline{X}_{Mex}) + \beta_{P.\,Rican}(0 - \overline{X}_{P.\,Rican}) + \beta_{Oth}(0 - \overline{X}_{Oth}) + \beta_{Male}(1 - \overline{X}_{Male})\right)$. The expected count at age 17 is predicted in a similar fashion for other racial and ethnic groups.

lower levels of white, Mexican, and Puerto Rican arrest is that these subjects are more likely to be recent immigrants.

To demonstrate the differences in arrest across race and ethnicity, Figure 1 displays the expected age-arrest curves for males ages 10 to 25, constructed from model coefficients from Model 1. Here it can be seen that the level or number of arrests in substantially greater for blacks. The white, Mexican, and Puerto Rican/Other Latino curves overlap for the most part until age 17, but there are some differences in the number of arrests around the peak arrest ages.

[TABLE 3 AND FIGURE 1 ABOUT HERE]

Model 2 includes family SES and marital status of parents as covariates. There is a significant difference in arrest, on average, between individuals with married parents and those without. The addition of family variables explains another 25% of the black-white gap in the level of arrest at age 17. This results because 64% of white youth in the sample have married parents, compared to 30% of black youth (see Table 2). The addition of family variables also explains 20% of the black-Mexican gap in arrest.

Model 3 includes neighborhood level indicators of the percentage of each racial and ethnic group in a given neighborhood, constructed from the cohort data. Adding both the percentage of racial and ethnic composition at the neighborhood level and the dummy indicators at the person-level makes it possible to distinguish between person-level and contextual effects. A contextual effect refers to some emergent property of a neighborhood that is associated with arrest, even after controlling for the demographic composition of neighborhoods. When both the individual-level dummy variables and their neighborhood aggregates are grand mean centered, as in equations (2) and (3), the coefficients for the race and ethnicity dummy variables are interpreted as the difference in arrest between black youth and youth of other racial and ethnic

groups who reside in the same neighborhood. The coefficients for the neighborhood-level racial and ethnic composition variables are interpreted as the difference in arrest between two youth of the same given race and ethnicity who reside in different neighborhoods which have a one unit difference in racial and ethnic composition. In the present case, the unit is a 10% difference in composition. For example, the % White coefficient in Table 3 refers to the difference in arrest between two white youth in neighborhoods differing by 10% in white composition.

Focusing on the predictors of the intercept value (i.e. expected count of arrests at age 17), results show that white youth residing in the same neighborhood as black youth have an expected count of arrests that is 52.1% lower than black youth[3]. Similarly, Mexican youth have an expected count of arrests that is 31.7% lower than black youth, and for Puerto Rican/Other Latino youth the difference is 40%. As for the contextual effects, a 10% increase in the white composition of a neighborhood above the sample average equates to a mere 1.3% decrease in the expected count of arrests at age 17 for white youth[4]. A 10% increase in the Mexican composition of a neighborhood above the sample average equates to a 6.5% decrease in the expected count of arrests at age 17 for Mexican youth. Finally, a 10% increase in the Puerto Rican/Other Latino composition of a neighborhood above the sample average equates to an 8.8% increase in the expected count of arrests at age 17 for Puerto Rican/Other Latino youth. Only for Mexican youth is there a significant difference. Overall these results suggest that much of the disparity in arrest is between members of various racial and ethnic groups within respective neighborhoods, and not so much between like individuals in different neighborhoods, particularly for white youth. However, research generally supports the notion that neighborhoods are more internally

[3] The percentage change is computed as follows: $100*[\exp(\beta_{White}) - 1] = 100*[\exp(-0.736) - 1] = -52.1$

[4] The percentage change is computed as follows: $100*[\exp(\gamma_{White}) - 1] = 100*[\exp(-0.013) - 1] = -1.3$

heterogeneous than externally differentiable, such that more within neighborhood variability in arrest should be expected than between neighborhood variability. Even if the proportion of variance between neighborhoods in a given outcome is low, this does mean that between neighborhood variation is trivial. Research suggests that intraclass correlations as low as 0.05 are suitable for hypothesis testing of the significance of neighborhood conditions (Cook, Shagle, and Degirmencioglu 1997).

To compare the predictors of arrest at different stages of the adolescent life course, presented in Table 4 are models comparable to Models 2 and 3 in Table 3, but with age centered at 14 and 20. For ease of presentation, Table 4 contains a condensed set of results, focusing on the intercept term from (2). In the first set of models, results reveal that there are no racial and ethnic differences in the expected count of arrests at age 14 after controlling for neighborhood composition (Model 2). Further, results show that arrest at age 14 is not related to neighborhood composition. Finally, the effect of both family characteristics are highly significant.

[TABLE 4 ABOUT HERE]

In contrast, in the second set of models it can be seen that there are substantial, significant differences in arrest at age 20 across racial and ethnic groups, with black twenty year-olds far more likely to be arrested than twenty year-olds of other race and ethnicity. Results also reveal significant differences in the likelihood of arrest across neighborhoods characterized by different levels of racial and ethnic composition. Interestingly, arrest is positively related to white and Puerto Rican neighborhood composition, but whites and Puerto Ricans are less likely to be arrested than blacks. In other words, the greater the white and Puerto Rican composition of a neighborhood, the greater the likelihood of arrest. Finally, just like with 14 and 17 year-olds, results show that arrest at age 20 is less likely among individuals from a family with married

parents. However, unlike 14 and 17 year-olds, arrest at age 20 is not related to family socioeconomic status.

In sum, comparing arrest at ages 14, 17, and 20 reveals that racial and ethnic differences are more pronounced at later ages, differences across neighborhoods of varying composition are more pronounced at age 20, and the effect of the family is less salient at older ages. Of course, we should expect very little absolute difference in the count of arrests across groups at age 14 since very few subjects have been arrested by that age. For instance, the expected count of arrests at age 14 for the average youth is 0.008 ($e^{-4.876}$), and youth of all races and ethnicities have an expected count very near zero (the expected count of arrests for black males is 0.05; for white males it is 0.01; for Mexican males it is 0.02; and for Puerto Rican and other Latino males it is 0.01). At age 20, the expected count of arrest for the average youth is 0.147 ($e^{-1.914}$), and both the absolute and relative differences in arrest between subjects of different races and ethnicities are greater at age 20 than age 14. For instance, following the same formula as in footnote 3 with results from Model 2 in Table 4, white youth have an expected count of arrests that is 54.1% lower than black youth at age 14 controlling for neighborhood composition, but 70.5% lower at age 20. Fourteen year-old Mexican youth have an expected count of arrests that is 16% greater than black youth, but 20 year-old Mexican youth have an expected count that is 50.1% lower. Finally, Puerto Rican youth have an expected count of arrests that is 61% lower than black youth at age 14, and 65% lower at age 20. The racial and ethnic gap in arrest is not constant with age.

Shifting to a greater focus on neighborhood context, in the next series of models, predictors of neighborhood structure and social processes are added to determine which factors influence the probability of arrest. As with Table 4, Table 5 contains a condensed set of results for Equation (2), which excludes the individual and family level coefficients and standard errors

for the slope terms in (3). The individual and family level coefficients from Models 1 through 4 in Table 5 associated with the age and quadratic age slopes are largely unchanged from those found in Table 3. Model 1 in Table 5 includes measures of concentrated disadvantage and immigrant concentration. The effect of residential stability on arrest was also examined in preliminary analyses, but showed no significant association with arrest after controlling for relevant predictors, and was removed from further analyses. Findings from Model 1 reveal that concentrated disadvantage and concentration of immigration are both positively associated with arrest at age 17.

[TABLE 5 ABOUT HERE]

In Model 2, four scales of self-reported offending are added. These measures are included in model specification after neighborhood factors are added because prior research has shown that these measures are affected by neighborhood-level processes and outcomes (see, e.g., Sampson et al. 2005). In preliminary analyses, the measure of group offending was also included in Model 2, but was removed because it is not significantly associated with arrest when controlling for self-reported offending. In Table 5 it can be seen that all self-reported offending indicators are significantly associated with the level of arrest at age 17. Interestingly, the effect of property offending is negative after controlling for other relevant predictors. This finding may result because blacks have comparably low propensities for property offending (as shown in Table 2), but have been arrested considerably more often for property crimes than the other groups (as seen in Table 1). Further, property offending may be negatively related to arrest in aggregate, but positively associated with arrest for property crimes.

Findings from Model 2 show that the addition of offending does little to mediate the effect of neighborhood context on arrest. This finding suggests that the higher level of criminal

offending in certain neighborhoods (e.g. characterized by concentrated disadvantage) does not explain why the probability of arrest given offending is higher in those neighborhoods.

In terms of racial and ethnic differences in arrest, the addition of offending to the model results in a decline in the size of the white coefficient from -0.686 to -0.628, an 8.5% drop. However, there is still a considerable difference in arrest between blacks and whites. This finding contrasts previous research that concluded that differential involvement in crime explains a substantial portion of race differences in arrest and criminal case processing (e.g., Hindelang 1978). Part of the reason for such a modest reduction in the black-white gap is because analyses already include controls for a number of covariates that are highly associated with arrest, and which have vast differentials across race and ethnicity (e.g. family structure). That said, the decomposition analysis to follow will clarify just how much of the black-white gap in arrest is explained by offending differentials.

Results from Model 2 also reveal that the addition of offending scales actually leads to a slight increase in the black-Mexican arrest gap and the black-Puerto Rican gap. Offending does explain a good portion of the differences in arrest across immigrant generations, and controlling for offending reveals that cohort differences in arrest are more pronounced than in previous models. Further, offending explains some of the gender difference in arrest, but there are still drastic differences in the male-female arrest gap.

To further examine which specific characteristics of neighborhood context explains arrest controlling for offending, a measure of physical disorder is included in Model 3. Results show that physical disorder substantially mediates the association between concentrated disadvantage and arrest, reducing the size of the coefficient by 48%. The association between disadvantage and arrest is no longer significant, while the association between physical disorder and arrest is

marginally significant (p = 0.084). The implication is that the probability of arrest given offending is higher in disadvantaged areas because these areas are disorderly. This finding suggests that visual signs of disorder may stigmatize certain neighborhoods in the eyes of citizens, residents, and law enforcement, and lead to greater likelihoods of arrest independent of actual levels of offending.

In Model 4, measures of school-neighborhood ties are added. Results show that the extent to which teachers from neighborhood schools use community resources in their teaching is unrelated to arrest. However, there is a significant negative relation between teacher involvement in the community and arrest at age 17. Thus, youth are less likely to be arrested in neighborhoods where teachers are active members of the community, even after controlling for offending and neighborhood disorder. Also, it is noteworthy that the coefficients for the race and ethnicity dummy variables change very little when school variables are added. Thus, school social control is associated with arrest to some extent, but does not explain differentials in arrest across groups.

Figure 2 again visually illustrates the difference in arrest trajectories across groups, this time after controlling for the various predictors in Model 4. It can be seen that the number of arrests in substantially greater for blacks than for the other groups. The expected count of arrests at age 17 for black males is 0.38; for white males it is 0.12; for Mexican males it is 0.13; and for Puerto Rican and other Latino males it is 0.15.

[FIGURE 2 ABOUT HERE]

Decomposition of Racial and Ethnic Differences in Arrest

Results to this point suggest that a number of key factors explain racial and ethnic differences in arrest. As the next step, analyses focus on explaining the gap in arrest trajectories

between blacks and other racial and ethnic groups by decomposing the difference in arrest into differences in specific attributes[5]. Figure 3 displays the percent reduction in the gap in arrest *at age 17* between blacks and the other racial and ethnic groups that results when substituting the mean values of attributes from the other groups. For example, findings from Table 5 revealed that there is a gap in the expected number of arrests of 0.26 between blacks and whites at age 17. The second set of columns in Figure 3 illustrates that 35% of this gap would hypothetically be reduced if blacks had the same family SES as whites (0.84 instead of 0.23) and same proportion of married parents (0.64 versus 0.30), both of which are negatively associated with arrest. This procedure, in effect, equalizes family structure across groups, and reveals how much of the arrest difference is due to the fact that blacks and whites live in distinct family contexts, on average.

In Figure 3, the first bar in each set represents the black-white arrest difference at age 17, the second bar represents the black-Mexican difference, and the third bar presents the black-Puerto Rican/Other Latino difference. For the black-white difference, it can be seen that the greatest reduction in the arrest gap comes from equalizing the family structure variables (family SES and married parents). Furthermore, equalizing levels of self-reported offending also reduce the arrest gap by a considerable amount. Equalizing levels of physical disorder reduces the gap by a sizable amount (18%), and equalizing levels of teacher-community involvement reduces the gap in arrest by a modest amount (6%).

For the black-Mexican difference and the black-Puerto Rican/Other Latino difference, it can be seen that the greatest reduction in the arrest gap comes from equalizing offending and family structure. Equalizing levels of disorder has virtually zero effect on the black-Puerto Rican

[5] Immigrant Generation is excluded from the decomposition analysis because it is a demographic attribute that cannot theoretically be altered. For example, it is conceivable through policy intervention, economic development, school improvement, and community building that blacks, on average, could live in less poverty and disorder, attend schools that are more embedded in the community, have higher family SES, have more stable family structures, and commit fewer delinquent offenses. It is not so conceivable that the immigrant status of groups could be equalized.

gap, and increases the black-Mexican gap. This results because Mexicans, on average, live in neighborhoods with higher levels of disorder, and disorder is positively associated with arrest. Equalizing levels of teacher-community involvement has little effect on the black-Mexican gap and the black-Puerto Rican gap. Overall, results suggest that even if blacks were situated in community contexts similar to other racial and ethnic groups, they would still exhibit greater incidence of arrest independent of offending. Of course this finding is similar to conclusions from the comparison of person-level and contextual effects presented in Model 3 in Table 3.

[FIGURE 3 ABOUT HERE]

Given that racial and ethnic differentials in the propensity to offend varies by offense type (as shown in Table 2), presented in Figure 4 is a further examination of the contribution of self-reported offending to explaining the gap in arrest between black male youth and other groups. As expected, most of the contribution of offending to explain the gap in arrest across groups is due to differentials in violent offending.

[FIGURE 4 ABOUT HERE]

To conclude the decomposition analysis, Figure 5 displays age-arrest curves for black and white males, and the hypothetical black curve if all attributes from Model 4 in Table 5 were equalized across these two groups. This Figure illustrates that a substantial proportion of the gap in arrest at age 17 is reduced by equalizing attributes (from 0.26 to 0.09, or 65%). However, the gap between curves is much wider around the peak arrest age of 19, and equalizing attributes results in a lesser 56% reduction (from 0.52 to 0.23). Thus, there is still a sizable unexplained area between the white male curve and the black-as-white male curve, and the gap is more pronounced at the peak ages of arrest.

[FIGURE 5 ABOUT HERE]

DISCUSSION

The primary objective of this study was to refocus the discussion about racial and ethnic disparities in arrest by examining the role that social contexts play towards influencing the likelihood of arrest, even after controlling for criminal or delinquent offending. Given that youth from different racial and ethnic groups grow up, on average, in distinct social contexts, it is critical to move beyond individual-level explanations for racial and ethnic disparities in arrest, and instead broaden the focus to include contextual factors. Findings show support for both the differential involvement argument and the discrimination argument for explaining racial and ethnic disparities in arrest. Offending does play a central role in explaining disparities in arrest, but significant group differences remain even after controlling for differential involvement in crime. Findings also show that family structure and neighborhood characteristics are predictive of arrest and group differences in arrest. It was hypothesized that neighborhood context influences the probability of arrest independent of offending. Results reveal that arrest is not associated with residential stability or population density, but results do suggest that neighborhoods characterized by high levels of disadvantaged, immigration, and disorder have higher probabilities of arrest. Also, in neighborhoods where schools and teachers are isolated from the larger community (as measured by teacher involvement in the community), the likelihood of arrest is greater. Arguably, in neighborhoods with little teacher involvement in the community, the police must handle the social control responsibilities in the absence of schools' capacity for control. With all that said, results from Model 4 in Table 3 show that disparities in arrest at age 17 are, for the most part, found between members of different racial and ethnic groups within the same neighborhood, and not so much between like individuals in different neighborhoods. Further, as seen in Figures 3, 4, and 5, there is still a sizable unexplained gap

between arrest trajectories of blacks and the other racial and ethnic groups. This gap is due to some unmeasured factor, which may include untested situational factors described at the outset of the paper or some unmeasured form of racial or ethnic bias in the criminal justice system.

A number of findings warrant further discussion. First, additional models were estimated with age centered at 14 and 20 for the explicit purpose of determining whether the findings just described generalize across different stages of the adolescent life-course. For instance, family effects may be most important during childhood and early adolescence, while the effect of neighborhood and school conditions may be most salient during middle to late adolescence. Results from Table 4 reveal that group disparities in arrest are more pronounced at later ages. Further, neighborhood context takes on greater importance at later stages of the life-course. Findings show that the greater the white and Puerto Rican composition of a neighborhood, the greater the likelihood of arrest at age 20. One interpretation of this finding is that police are less tolerant of crime in certain neighborhoods. In line with societal reaction arguments, suspected criminals, particularly those from minority groups, may be more likely to be arrested in predominantly white neighborhoods because they do not fit the image of what the typical resident looks like. Because the effect of neighborhood composition is, for the most part, isolated to arrests at age 20, the police may be more lenient towards stereotypical suspects when they are young, but less tolerant when they are adults.

Second, it was hypothesized that controlling for offending would mediate the association between neighborhood characteristics and arrest. However, findings reveal that controlling for offending did little to mediate the association between neighborhood context and arrest. Thus, the reason arrest is more likely in some neighborhoods is not because offending is more likely.

Third, findings also show that, besides race and ethnicity, significant demographic differences in arrest remain after controlling for offending. Most apparent is the sizable gender difference in arrest, which is potentially related to arguments presented in the theoretical review section about criminal stereotypes. In other words, women may receive preferential treatment from the justice system because they are less likely to fit the image of a criminal. Certainly this argument has been made before. For example, Visher (1983) finds that women who more closely resemble appropriate gender roles are less likely to be arrested during a police-suspect encounter. More recent research confirms that women are still shown leniency by the police (Stolzenberg and D'Alessio 2004). While it is out of scope in the present study to focus on gender differences in arrest, and whether changing gender roles in society has influenced differentials in police treatment, results presented in Tables 3, 4, and 5 do agree with findings from past research that there are gender differences in arrest independent of offending.

Moving to the issue of cohort differences in arrest, recall that the 15 year-old and 18 year-old cohorts were less likely to be arrested *at the same ages* than the 12 year-old cohort, and that the difference was even more pronounced after controlling for offending. In fact, in 2001, when most of the 12 year-old cohort was 17 years of age, 73 subjects from the 12 year-old cohort were arrested (10.4% of the cohort) a total of 127 times. In 1998, when the 15 year-old cohort was 17 years of age, 37 subjects (6.4% of the cohort) accounted for 66 arrests. In 1995, 35 members of the 18 year-old cohort (7.1% of the cohort) were arrested a total of 61 times. One potential reason for this pattern is reform of the juvenile justice system in Illinois. The Illinois Juvenile Justice Reform Act of 1998 made a number of changes to the way juvenile arrestees are processed, which may influence the reporting of arrests even if the actual number of crimes and arrests (reported and unreported) remained the same. For example, disposition of juveniles

arrested for a crime in Illinois is often handled by issuing a “station adjustment.” A station adjustment is an informal handling of arrests for youths with a limited prior history of delinquency, where the adjustment most often leads to unconditional release of the youth without any prosecution or supervision. Usually arrests disposed of through a station adjustment are recorded in official data. Reforms in 1998 introduced a distinction between formal and informal station adjustments, and put a limit on the number of station adjustments a juvenile could receive (Illinois Criminal Justice Information Authority 2004). Whether these or other changes altered reporting practices by police is unknown, but it offers one potential reason for why there were significantly more arrests for the 12 year-old cohort at age 17 than the other cohorts.

In summary, results show that the decision by police to arrest an offender is influenced by far more than a criminal act. There is also an ecological component to police discretion, which renders arrest more likely in certain neighborhoods. Further, this ecological bias is one factor that operates to create racial and ethnic disparities in arrest. However, results in this study also reveal that there are large differences in arrest for youth of different race and ethnicity in the same neighborhood, independent of their propensity to offend. Further, after controlling for a host of relevant factors, sizable race and ethnic differences in arrest still remain. Thus, there are likely other sources of racial and ethnic bias not measured in this study, which may include bias from law enforcement personnel or bias from victims and citizen bystanders.

Appendix A. Self-Report Offending Scales

"How many times have you done this in the past 12 months?"

Violent

1) Carried a hidden weapon
2) Purposely set fire to a house, building, care, or vacant lot
3) Snatched someone's purse or wallet or picked someone's pocket
4) Hit someone with whom you did not live
5) Attacked someone with a weapon
6) Used a weapon or force to rob someone
7) Thrown objects, such as rocks or bottles, at people
8) Been involved in a gang fight

Public-Order/Status

1) Run away
2) Absent from school without an excuse
3) Disorderly conduct
4) Prostitution
5) Moving violation
6) Driving without a license

Property

1) Damaged or destroyed property
2) Entered or broke into a building to steal
3) Stolen something from a store
4) Taken something that did not belong to you from any member of your household
5) Taken something that did not belong to you from a car
6) Bought or sold stolen goods

Drug

1) Sold marijuana
2) Sold cocaine or crack
3) Sold heroin

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Table 1. Arrest Summary by Race/Ethnicity: PHDCN Waves 1-3, Cohorts 12-18 (N=1775)

	African-American (Total N = 641)	Mexican (N = 560)	Puerto Rican/Other (N = 227)	White (N = 279)
Number of Arrestees	190	74	32	36
% of Total N	29.6%	13.2%	14.1%	12.9%
Number of Arrests	659	223	89	102
Violent	148	46	15	15
Property	110	55	33	35
Public-Order	209	50	21	26
Drug	171	67	20	24
Other Offense	21	5	0	2
Mean # of Arrests, All Years (Arrestees)	3.47	3.01	2.78	2.83
Mean # of Arrests, All Years (Total N)	1.03	0.40	0.39	0.37

Note: Arrest counts by offense type based on most serious offense classification, for those arrests with multiple charges

Table 2. Descriptive Statistics by Race/Ethnicity: PHDCN Cohorts 12-18 (N=1775)

	African-American (N = 641)		Mexican (N = 560)		Puerto Rican/Other (N = 227)		White (N = 279)	
	Mean	(S.D.)	Mean	(S.D.)	Mean	(S.D.)	Mean	(S.D.)
Individual and Family-Level								
Male	0.47	(0.50)	0.50	(0.50)	0.49	(0.50)	0.51	(0.50)
Age at Wave I	14.80	(2.52)	14.67	(2.40)	14.63	(2.35)	15.03	(2.46)
Cohort Proportions								
Cohort 12	0.40	(0.49)	0.42	(0.49)	0.40	(0.49)	0.36	(0.48)
Cohort 15	0.31	(0.46)	0.33	(0.47)	0.37	(0.48)	0.33	(0.47)
Cohort 18	0.29	(0.45)	0.25	(0.44)	0.24	(0.43)	0.31	(0.46)
Immigrant Generation								
First	0.02	(0.14)	0.31	(0.46)	0.24	(0.43)	0.13	(0.40)
Second	0.02	(0.15)	0.55	(0.50)	0.54	(0.50)	0.11	(0.32)
Third or higher	0.96	(0.20)	0.15	(0.35)	0.22	(0.42)	0.75	(0.43)
Family SES	0.23	(1.26)	-0.66	(1.05)	-0.24	(1.22)	0.84	(1.37)
Married Parents	0.30	(0.46)	0.72	(0.45)	0.43	(0.50)	0.64	(0.48)
Offending								
Violent	0.40	(0.99)	-0.11	(0.77)	0.10	(0.91)	0.04	(0.87)
Property	0.05	(0.57)	0.04	(0.57)	0.09	(0.59)	0.11	(0.62)
Public-Order	0.15	(0.61)	0.07	(0.60)	0.15	(0.61)	0.17	(0.63)
Drug	1.13	(0.19)	1.11	(0.11)	1.13	(0.64)	1.13	(0.16)
Group Offending	0.01	(0.12)	0.00	(0.09)	0.01	(0.11)	0.01	(0.11)
Neighborhood and School-Level								
% African-American	77.99	(26.05)	12.81	(20.40)	11.75	(18.61)	9.15	(18.37)
% Mexican	11.19	(16.39)	57.63	(26.76)	39.97	(19.87)	21.96	(17.35)
% Puerto Rican/Other Latino	4.16	(8.61)	16.20	(14.52)	29.92	(13.98)	12.31	(12.94)
% White	3.98	(9.20)	10.94	(16.63)	15.13	(16.82)	48.75	(24.75)
Concentrated Disadvantage	0.32	(0.73)	-0.08	(0.48)	-0.16	(0.62)	-0.70	(0.52)
Immigrant Concentration	-0.39	(0.87)	1.21	(0.83)	0.89	(0.67)	0.26	(0.52)
Residential Stability	0.35	(1.19)	-0.25	(0.67)	-0.30	(0.61)	0.07	(0.96)
Population Density	6935.01	(4508.29)	7900.99	(4354.19)	8365.16	(3513.91)	5965.30	(4522.56)
Perceived Social Disorder	2.10	(0.31)	2.11	(0.32)	1.99	(0.32)	1.68	(0.34)
Perceived Physical Disorder	1.67	(0.29)	1.76	(0.27)	1.66	(0.26)	1.43	(0.24)
LN(1995 Violent Crime Rate)	9.02	(0.38)	8.59	(0.42)	8.54	(0.39)	8.09	(0.60)
LN(1995 Property Crime Rate)	8.88	(0.24)	8.76	(0.43)	8.72	(0.31)	8.57	(0.52)
Teacher Use of Cmty Resource	4.79	(0.43)	4.77	(0.64)	4.62	(0.65)	4.80	(0.55)
Teacher Involvement in Cmty	4.63	(0.61)	4.71	(0.57)	4.66	(0.58)	4.85	(0.65)

Table 3. Racial/Ethnic Disparities in Arrest, with Individual and Family Characteristics

	Model 1		Model 2		Model 3	
Fixed Effect	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Expected Count of Arrests, Age 17						
Intercept	-2.267	(0.067) ***	-2.324	(0.064) ***	-2.347	(0.062) ***
% White (NBHD)					-0.013	(0.036)
% Mexican (NBHD)					-0.067	(0.032) *
% Puerto Rican/Other (NBHD)					0.084	(0.052)
% Other Race (NBHD)					0.199	(0.106)
White	-0.935	(0.166) ***	-0.700	(0.184) ***	-0.736	(0.259) **
Mexican	-0.633	(0.211) **	-0.505	(0.202) *	-0.381	(0.222)
Puerto Rican/Other Latino	-0.442	(0.178) *	-0.466	(0.166) **	-0.516	(0.201) *
Other Race/Ethnicity	-1.349	(0.294) ***	-1.273	(0.285) ***	-1.399	(0.318) ***
Male	1.685	(0.116) ***	1.708	(0.116) ***	1.709	(0.116) ***
Cohort 15	-0.616	(0.119) ***	-0.641	(0.123) ***	-0.628	(0.126) ***
Cohort 18	-0.763	(0.162) ***	-0.761	(0.165) ***	-0.718	(0.158) ***
1st Generation Immigrant	-0.561	(0.224) *	-0.529	(0.202) **	-0.538	(0.207) **
2nd Generation Immigrant	-0.580	(0.195) **	-0.562	(0.187) **	-0.543	(0.187) **
Family SES			-0.111	(0.047) *	-0.135	(0.048) **
Married Parents			-0.582	(0.116) ***	-0.582	(0.118) ***
Age/Growth (per year)						
Intercept	0.508	(0.037) ***	0.512	(0.036) ***	0.502	(0.034) ***
% White (NBHD)					0.031	(0.020)
% Mexican (NBHD)					-0.010	(0.015)
% Puerto Rican/Other (NBHD)					-0.050	(0.016) **
% Other Race (NBHD)					-0.024	(0.039)
White	0.126	(0.099)	0.062	(0.102)	-0.084	(0.137)
Mexican	-0.071	(0.088)	-0.070	(0.076)	-0.145	(0.116)
Puerto Rican/Other Latino	0.105	(0.072)	0.123	(0.068)	-0.023	(0.090)
Other Race/Ethnicity	0.143	(0.176)	0.107	(0.152)	0.042	(0.153)
Male	0.068	(0.047)	0.073	(0.046)	0.075	(0.044)
Cohort 15	0.058	(0.079)	0.061	(0.076)	0.080	(0.068)
Cohort 18	-0.339	(0.109) **	-0.322	(0.106) **	-0.349	(0.090) ***
1st Generation Immigrant	0.046	(0.109)	0.029	(0.099)	0.058	(0.089)
2nd Generation Immigrant	-0.014	(0.075)	-0.012	(0.063)	0.015	(0.053)
Family SES			0.030	(0.014) *	0.031	(0.016) *
Married Parents			0.027	(0.054)	0.044	(0.053)
Age^2						
Intercept	-0.108	(0.012) ***	-0.116	(0.013) ***	-0.116	(0.011) ***
% White (NBHD)					0.001	(0.003)
% Mexican (NBHD)					0.005	(0.003)
% Puerto Rican/Other (NBHD)					-0.004	(0.004)
% Other Race (NBHD)					-0.005	(0.009)
White	-0.036	(0.020)	-0.023	(0.018)	-0.026	(0.024)
Mexican	0.019	(0.016)	0.251	(0.012) *	0.015	(0.022)
Puerto Rican/Other Latino	-0.055	(0.027) *	-0.056	(0.026) *	-0.051	(0.034)
Other Race/Ethnicity	-0.004	(0.026)	0.021	(0.022)	0.017	(0.024)
Male	0.009	(0.010)	0.008	(0.010)	0.008	(0.011)
Cohort 15	-0.146	(0.031) ***	-0.145	(0.031) ***	-0.139	(0.028) ***
Cohort 18	-0.005	(0.027)	-0.003	(0.026)	0.006	(0.025)
1st Generation Immigrant	-0.031	(0.023)	-0.028	(0.023)	-0.033	(0.020)
2nd Generation Immigrant	-0.015	(0.016)	-0.013	(0.015)	-0.021	(0.012)
Family SES			-0.002	(0.003)	0.000	(0.004)
Married Parents			-0.031	(0.015) *	-0.032	(0.014) *

* p <0.05 ** p<0.01 *** p<0.001

Note: Coefficients and standard errors for the neighborhood composition indicators have been divided by 10.

Table 4. Racial/Ethnic Disparities in Arrest, at Ages 14 and 20

	Centered on Age 14				Centered on Age 20			
	Model 1		Model 2		Model 1		Model 2	
Fixed Effect	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Expected Count of Arrests, Specified Age								
Intercept	-4.880	(0.167) ***	-4.876	(0.159) ***	-1.852	(0.172) ***	-1.914	(0.158) ***
% White (NBHD)			-0.089	(0.103)			0.088	(0.044) *
% Mexican (NBHD)			0.010	(0.074)			-0.047	(0.030)
% Puerto Rican/Other (NBHD)			-0.105	(0.082)			0.196	(0.062) **
% Other Race (NBHD)			0.244	(0.213)			0.099	(0.128)
White	-1.093	(0.505) *	-0.778	(0.643)	-0.689	(0.222) **	-1.221	(0.345) ***
Mexican	-0.089	(0.356)	0.148	(0.575)	-0.494	(0.315)	-0.696	(0.294) *
Puerto Rican/Other Latino	-1.330	(0.392) ***	-0.942	(0.492)	-0.580	(0.251) *	-1.052	(0.306) ***
Other Race/Ethnicity	-1.426	(0.760)	-1.446	(0.771)	-0.749	(0.318) *	-1.142	(0.353) **
Male	1.544	(0.246) ***	1.541	(0.244) ***	2.039	(0.125) ***	2.050	(0.119) ***
Cohort 15	-2.138	(0.302) ***	-2.130	(0.305) ***	-1.740	(0.438) ***	-1.619	(0.392) ***
Cohort 18	0.216	(0.461)	0.424	(0.423)	-1.746	(0.444) ***	-1.704	(0.398) ***
1st Generation Immigrant	-0.868	(0.474)	-1.000	(0.423) *	-0.662	(0.329) *	-0.636	(0.308) *
2nd Generation Immigrant	-0.653	(0.348)	-0.775	(0.299) **	-0.713	(0.272) **	-0.694	(0.237) **
Family SES	-0.219	(0.073) **	-0.229	(0.085) **	-0.048	(0.058)	-0.053	(0.057)
Married Parents	-0.937	(0.290) **	-0.999	(0.283) ***	-0.799	(0.146) ***	-0.760	(0.149) ***
Age/Growth (per year)								
Intercept	1.202	(0.084) ***	1.193	(0.077) ***	-0.193	(0.086) *	-0.207	(0.076) **
Age^2								
Intercept	-0.116	(0.013) ***	-0.117	(0.011) ***	-0.116	(0.013) ***	-0.117	(0.011) ***

* p <0.05 ** p<0.01 *** p<0.001

Note: Coefficients and standard errors for the neighborhood composition indicators have been divided by 10.

Table 5. Racial/Ethnic Disparities in Arrest, with Neighborhood and School Characteristics

	Model 1		Model 2		Model 3		Model 4	
Fixed Effect	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Expected Count of Arrests, Age 17								
Intercept	-2.415	(0.062) ***	-2.586	(0.074) ***	-2.574	(0.073)	-2.552	(0.070) ***
% White (NBHD)	0.007	(0.039)	0.032	(0.041)	0.032	(0.041)	0.030	(0.038)
% Mexican (NBHD)	-0.213	(0.041) ***	-0.211	(0.037) ***	-0.219	(0.037) ***	-0.205	(0.043) ***
% Puerto Rican/Other (NBHD)	-0.026	(0.049)	-0.013	(0.052)	-0.014	(0.051)	-0.022	(0.049)
% Other Race (NBHD)	0.116	(0.104)	0.094	(0.119)	0.078	(0.118)	0.035	(0.104)
Concentrated Disadvantage	0.204	(0.096) *	0.229	(0.103) *	0.120	(0.119)		
Immigrant Concentration	0.521	(0.094) ***	0.521	(0.088) ***	0.498	(0.083) ***	0.414	(0.107) ***
Physical Disorder					0.374	(0.213)	0.531	(0.194) **
Teacher Use of Cmty Resources							-0.178	(0.115)
Teacher Involvement Cmty							-0.210	(0.103) *
White	-0.686	(0.259) **	-0.628	(0.281) *	-0.614	(0.278) *	-0.618	(0.274) *
Mexican	-0.361	(0.225)	-0.408	(0.238)	-0.390	(0.238)	-0.376	(0.224)
Puerto Rican/Other Latino	-0.427	(0.202) *	-0.514	(0.201) *	-0.495	(0.201) *	-0.471	(0.197) *
Other Race/Ethnicity	-1.376	(0.307) ***	-1.617	(0.302) ***	-1.595	(0.298) ***	-1.577	(0.294) ***
Male	1.731	(0.115) ***	1.562	(0.118) ***	1.558	(0.118) ***	1.549	(0.118) ***
Cohort 15	-0.621	(0.130) ***	-1.141	(0.153) ***	-1.133	(0.153) ***	-1.141	(0.151) ***
Cohort 18	-0.713	(0.163) ***	-1.280	(0.204) ***	-1.273	(0.204) ***	-1.281	(0.204) ***
1st Generation Immigrant	-0.419	(0.221)	-0.025	(0.256)	-0.053	(0.259)	-0.081	(0.265)
2nd Generation Immigrant	-0.538	(0.188) **	-0.405	(0.191) *	-0.406	(0.191) *	-0.407	(0.195) *
Family SES	-0.100	(0.051)	-0.107	(0.057)	-0.100	(0.057)	-0.107	(0.056)
Married Parents	-0.599	(0.123) ***	-0.604	(0.134) ***	-0.593	(0.137) ***	-0.577	(0.137) ***
Violence SRO			0.420	(0.077) ***	0.425	(0.077) ***	0.429	(0.077) ***
Property SRO			-0.324	(0.085) ***	-0.312	(0.086) ***	-0.292	(0.086) ***
Public Order/Status SRO			0.421	(0.120) ***	0.417	(0.120) ***	0.409	(0.119) ***
Drug SRO			0.796	(0.296) **	0.798	(0.298) **	0.787	(0.299) **
Age/Growth (per year)								
Intercept	0.507	(0.036) ***	0.545	(0.043) ***	0.546	(0.043) ***	0.547	(0.043) ***
% White (NBHD)	0.027	(0.021)	0.025	(0.019)	0.025	(0.019)	0.032	(0.020)
% Mexican (NBHD)	-0.006	(0.021)	-0.012	(0.017)	-0.014	(0.018)	0.002	(0.016)
% Puerto Rican/Other (NBHD)	0.053	(0.017) **	0.056	(0.018) ***	0.057	(0.017) ***	0.054	(0.018) **
% Other Race (NBHD)	-0.029	(0.046)	-0.034	(0.040)	-0.037	(0.041)	-0.035	(0.039)
Concentrated Disadvantage	-0.022	(0.039)	-0.014	(0.038)	-0.040	(0.052)		
Immigrant Concentration	-0.018	(0.033)	-0.016	(0.032)	-0.020	(0.032)	-0.053	(0.033)
Physical Disorder					0.086	(0.097)	0.008	(0.070)
Teacher Use of Cmty Resources							-0.044	(0.044)
Teacher Involvement Cmty							-0.035	(0.036)
Age^2								
Intercept	-0.116	(0.011) ***	-0.124	(0.012) ***	-0.125	(0.012) ***	-0.126	(0.012) ***
% White (NBHD)	0.004	(0.003)	0.002	(0.003)	0.002	(0.003)	0.000	(0.004)
% Mexican (NBHD)	0.015	(0.004) **	0.018	(0.004) ***	0.018	(0.004) ***	0.015	(0.003) ***
% Puerto Rican/Other (NBHD)	0.003	(0.005)	0.003	(0.005)	0.003	(0.005)	0.010	(0.010)
% Other Race (NBHD)	0.006	(0.010)	0.009	(0.010)	0.010	(0.010)	0.006	(0.003)
Concentrated Disadvantage	0.010	(0.007)	0.001	(0.006)	0.009	(0.010)		
Immigrant Concentration	-0.027	(0.009)	-0.034	(0.009)	-0.032	(0.008) ***	-0.024	(0.007)
Physical Disorder					-0.027	(0.026)	-0.010	(0.015)
Teacher Use of Cmty Resources							0.021	(0.011)
Teacher Involvement Cmty							0.015	(0.008)

* p <0.05 ** p<0.01 *** p<0.001

Note: Coefficients and standard errors for the neighborhood composition indicators have been divided by 10.

Figure 1. Age-Arrest Curves for Males by Race/Ethnicity, PHDCN Cohorts 12-18

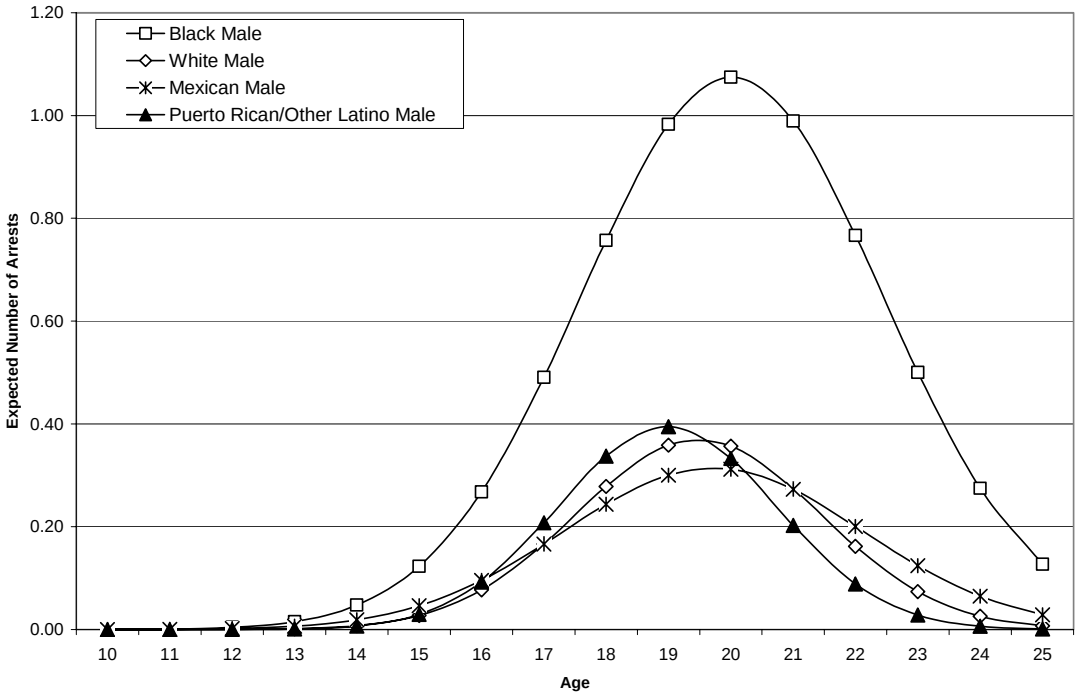

Figure 2. Age-Arrest Curves for Males by Race/Ethnicity, PHDCN Cohorts 12-18

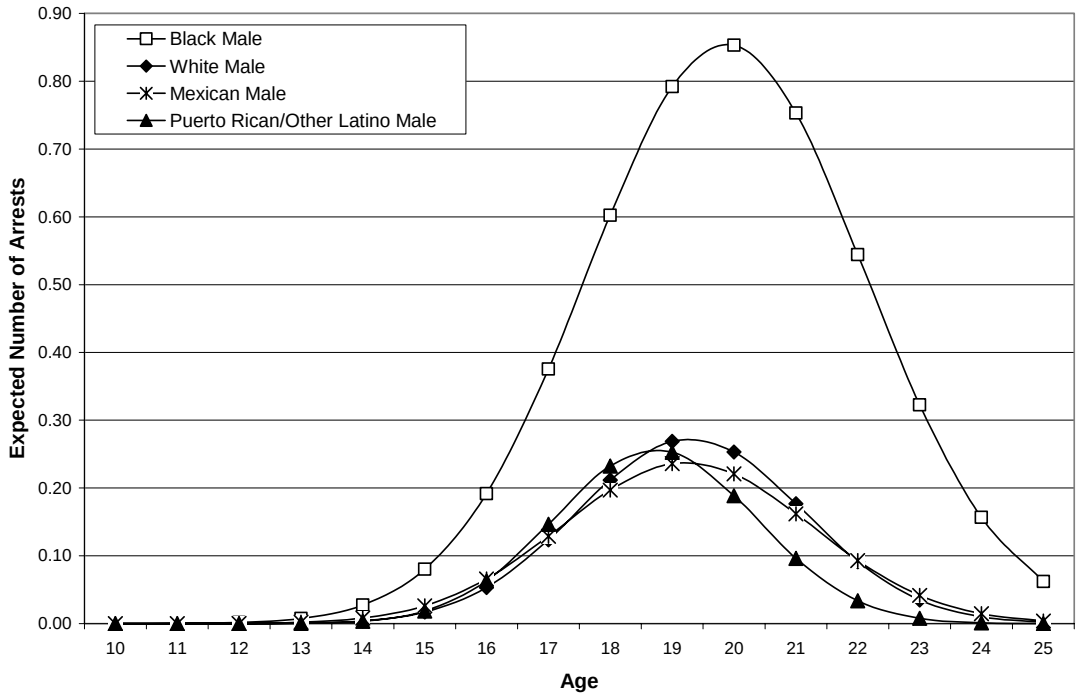

Figure 3. Percent of Racial and Ethnic Arrest Differences at Age 17 Explained by Family, Neighborhood, and Offending Differences

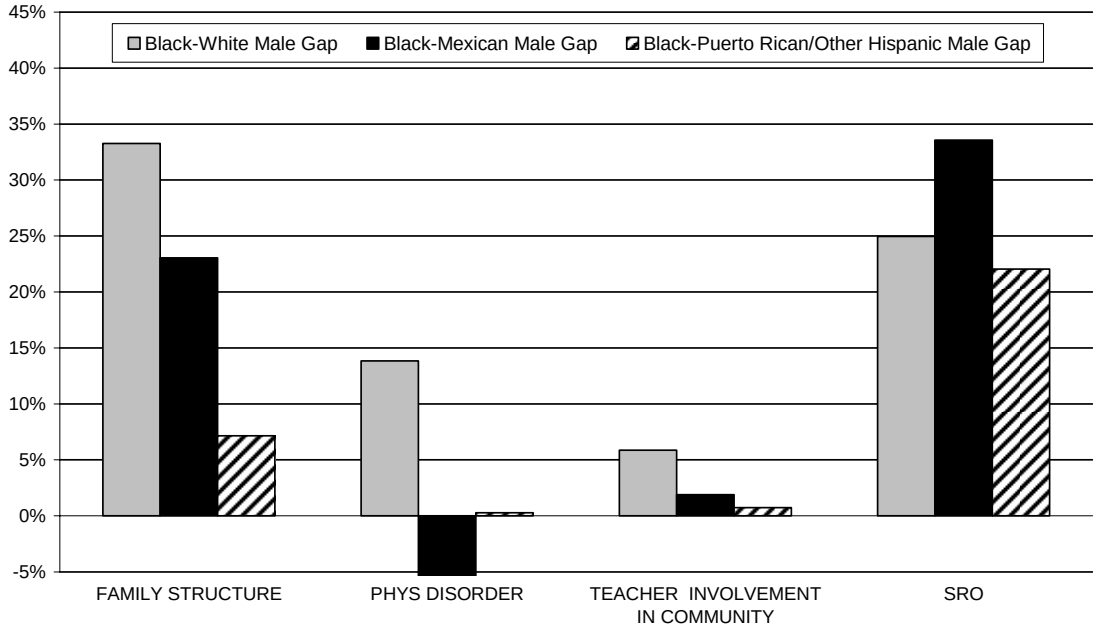

Figure 4. Percent of Racial and Ethnic Arrest Differences at Age 17 Explained by Offending Differences

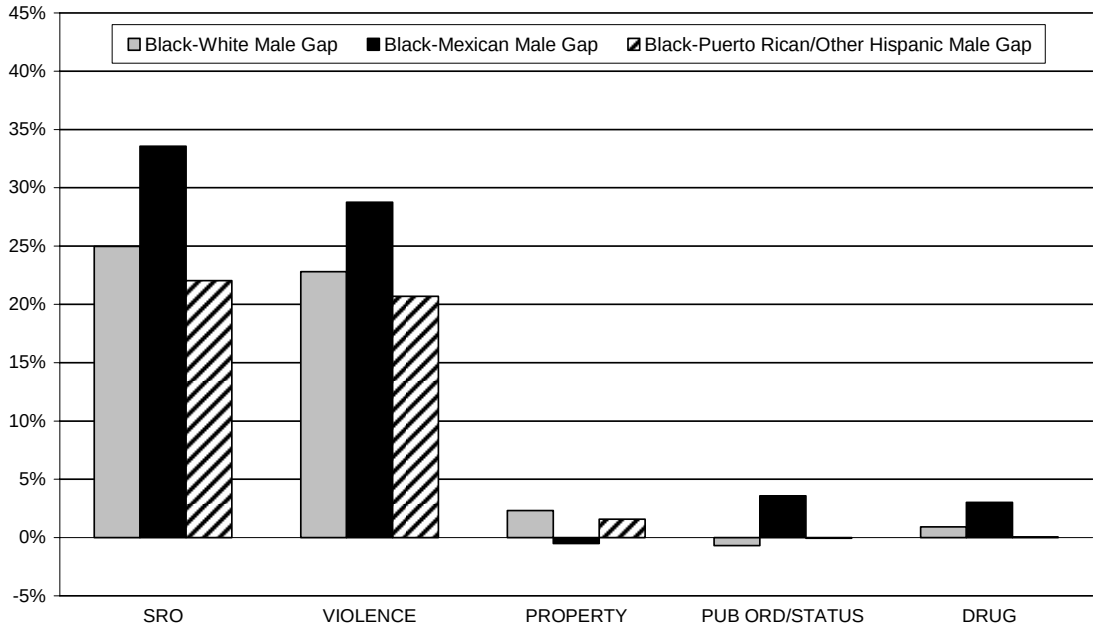

Figure 5. Age-Arrest Curves for Black vs. White Males
Accounting for Race/Ethnicity Differences in Individual, Family, and NBHD Characteristics