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Are Blacks and Hispanics Disproportionately Incarcerated Relative to Their Arrests? Racial and Ethnic Disproportionality Between Arrest and Incarceration

Casey T. Harris, Darrell Steffensmeier, Jeffrey T. Ulmer, and Noah Painter-Davis

Department of Sociology and Crime, Law, and Justice, The Pennsylvania State University, 211 Oswald Tower, University Park, PA 16802, USA

Casey T. Harris: cth131@psu.edu; Darrell Steffensmeier: d4s@psu.edu; Jeffrey T. Ulmer: jtu100@psu.edu; Noah Painter-Davis: nxp190@psu.edu

Abstract

Do large racial and ethnic disparities in prison populations reflect systematic racial and policy discrimination in the criminal justice system, or do they reflect disproportionate involvement of blacks and Hispanics in “serious” or street crime? Our investigation of this question keys off the approach initiated by Alfred Blumstein in his pioneering studies on the topic. While yielding important findings, there are, however, substantial gaps in the empirical literature on the racial disproportionality issue. We attempt to fill those gaps by (1) using both data on prison admission as well as in-stock prison populations, (2) presenting more recent racially and ethnically disaggregated arrest and incarceration data from Pennsylvania for 2003–2007, and (3) including Hispanic offenders in our racial and ethnic disproportionality comparisons. Our results indicate, first, that the representation of blacks, whites, and Hispanics among offenders admitted to state prison and in the prison population corresponds closely to their representation in arrest statistics. Second, using arrests as a marker of violent offending, the overrepresentation of blacks among offenders admitted to state prisons occurs because they commit a disproportionate number of frequently imprisoned (i.e., violent) crimes. Third, for those offenses where there is a within-race difference between arrest and incarceration representation, Hispanics experience the greatest disadvantage. Fourth, failing to account for Hispanics in white and black estimates tends to inflate white proportions and deflate black proportions of arrests, admissions, and prison population estimates, masking the “true” black and white racial disproportionality. We conclude that while there is a need for continued concern with possible racial discrimination in justice system processing, this concern should not distract attention from what arguably is the more important matter—ameliorating the social environmental conditions that foster disproportionate minority (especially black) involvement in violent crime.

Keywords

Race; Arrest; Incarceration; Disproportionality

That race and ethnicity affect one's chances of going to prison is a well-established fact in criminology. Relative to their representation in the US population, African Americans and Hispanics are far more likely than whites to be in prison. At year-end 2005, African American inmates represented an estimated 40% of all state and federal prisoners, and Hispanics represented about 20% (Bureau of Justice Statistics 2006). These figures far exceed the African American proportion, 12.6%, and the Hispanic proportion, 14.4%, of the entire US population (National Center for Health Statistics 2005). In fact, African Americans (577,200) outnumbered whites (465,500) in American prisons. Race differences in the chances of going to prison in one's lifetime are even more startling, especially in the case of black men: Almost 29% of black males are expected to go to prison, compared to less than 5% of white males (Bureau of Justice Statistics 1997).

Do these large racial and ethnic disparities reflect systematic racial and policy discrimination in the criminal justice system, or do they simply reflect disproportionate involvement of blacks and Hispanics in "serious" or street crime? The former possibility, that the criminal justice system is biased along racial or ethnic lines, raises an issue that adjoins larger political concerns of American society as well as broad-based substantive interests within law, criminology, and the social sciences. Politically, the symbolism of equality before the law is at the heart of our legal system. Racial-ethnic or gender bias in the enforcement of law threatens the value, we place on equity in this system. Substantively, because race and ethnicity stratify and differentiate US society, research on the effects of race and ethnicity on criminal justice processing encompasses larger concerns with inequality and social stratification. It is hardly surprising, therefore, that a longstanding and contemporary concern for criminologists and policymakers has been the racial imbalance in US prisons.

Of particular applicability for analyzing whether "differential involvement" or "racial bias" explains the high levels of African Americans (and Hispanics) incarcerated in US prisons is the research approach initiated by Alfred Blumstein in his pioneering studies on the topic (Blumstein 1982, 1993). His approach involves comparing the racial proportion of arrests, a measure of race differences in criminal offending, to racial proportions in prisoners. The more closely the two proportions correspond/converge, the greater the evidence that blacks have higher rates of being incarcerated because they commit more crime; divergence in these proportions is cited as evidence of racial bias.

Focusing on arrest-incarceration comparisons involving blacks and whites, Blumstein's (1982) key observation was that the principal reason why so many more blacks than whites were in prison was that they were much more often arrested for the kinds of crimes that typically resulted in prison sentences. The more serious the crime (e.g., the index violent crimes), the more fully offending patterns explained racial disparities in imprisonment. Comparing black-white arrest ratios with black-white prisoner ratios, Blumstein concluded that the primary reason for racial disparities in imprisonment for serious violent crimes was racial differences in offending, not racial bias; blacks committed homicides, rapes, robberies, and serious assaults at much higher rates than whites did.

The handful of studies conducted since have largely confirmed Blumstein's (1982) conclusions. Covering over two decades and a wide-range of offenses, extant research indicates the majority of racial disproportionality in imprisonment is due to differential involvement, particularly for the violent index offenses (Blumstein 1993; Hawkins 1986; Sorenson et al. 2003). That is, the high rate of black arrest for violent crimes consistently explains the high rate of black imprisonment for these offenses. Though some evidence suggests that differential involvement explains less of the black–white gap for more trivial offenses (e.g., public order) and drug crimes (Blumstein 1993; Langan 1985), the majority of research confirms that differences across race-groups in rates of arrest remain the driving force behind racial disproportionality in incarceration. Likewise, differential involvement in violent crime generally explains racial differences in imprisonment over time and across regions and holds across sources of data (e.g., arrests vs. victimization data) (Blumstein 1993; Hawkins 1986; Langan 1985; Sorenson et al. 2003).

While yielding important findings, there are, however, substantial gaps in the empirical literature on the racial disproportionality issue. First, the extant research often uses the in-stock prison population as its measure of incarceration when annual prison admissions is arguably more appropriate—because prison populations and the incarceration rate based on it reflect arrests over a long period of years that depend on sentence lengths (Austin and Allen 2000). Second, the extant studies are based on data prior to the mid-1990s and thus do not cover the most recent period. It may be that the small or trivial racial disproportionality observed in Blumstein's research of 2–3 decades ago is no longer the case, as some analysts have suggested (Tonry and Melewski 2008). Racial disproportionality, it is argued, is increasing and apparently is much more manifest today than in previous decades (Austin and Allen 2000; Tonry and Melewski 2008). Third, the available research is essentially confined to an assessment of black–white differences (or white–nonwhite). Very little is known about the effects of *ethnicity*—i.e., the inclusion of Hispanic defendants—on the arrest-incarceration outcome.

Due largely to the widespread practice of classifying Hispanics for crime-reporting purposes into the “white” racial category (Steffensmeier and Demuth 2001), the lack of research on *Hispanic* effects is perhaps the most glaring omission in the disproportionality literature. This omission is unfortunate—first, because Hispanic-Americans are now the largest “minority” group in the United States, making up about 15% of the population. These changes in population structure have generated intense interest among social scientists and policymakers representing varied areas of interest (e.g., urban sociology, demography, gender studies, law), particularly with regard to whether these immigrants are subjected to discrimination—the unequal treatment of a person or persons based on group membership including, perhaps, in American courts (Massey and Denton 1993; Melendez et al. 1996; Portes and Rumbaut 1996; Sandefur and Tienda 1988).

Second, because drawing from the focal concerns perspective on criminal punishment (Steffensmeier et al. 1998) and the extant research on case-process decision making of court officials (Kramer and Ulmer 2009), to the extent racial disproportionality exists the arrest-incarceration disproportions (in discriminatory direction) may be manifest for Hispanics more so than whites or blacks. Notably, there has been an increasing interest in recent years

in the sentencing of Hispanic defendants in US state and federal courts, with the more sophisticated studies (e.g., Spohn and Holleran 2000; Steffensmeier and Demuth 2000, 2001; Kramer and Ulmer 2009) providing evidence that Hispanic defendants are sentenced more harshly than white (and sometimes black) defendants. This Hispanic finding is consistent with the focal concerns model of punishment, which argues that sentencing decisions are driven by consideration of blameworthiness, community protection, and practical constraints or consequences (see Steffensmeier 1980; Steffensmeier et al. 1998; Steffensmeier and Demuth 2006). To the extent that cultural stereotypes are prevalent that link racial or ethnic status with blameworthiness or perceived dangerousness, or to the extent that particular racial/ethnic-groups are disadvantaged in terms of practical constraints connected to the criminal justice system, one would expect racial or ethnic disparities in punishment, especially incarceration (Steffensmeier and Demuth 2006).

Apparently, relative to their white counterparts, Hispanic defendants are at least as likely as black defendants to be viewed by court officials as dangerous and likely to recidivate (Bridges and Steen 1998; Mann and Zatz 1998; Russell 1998; Swigert and Farrell 1976). They are more likely to lack the resources to thwart the imposition of sanctions (Bridges et al. 1987; Steffensmeier and Demuth 2000, 2001), and some Hispanic defendants, especially those who have recently immigrated, may face additional problems, including difficulty with the English language, general ignorance about or distrust of the criminal justice system, and an unwillingness to cooperate with authorities out of fear of deportation of family and friends (Steffensmeier and Demuth 2000). Defendants with limited English-speaking ability are probably less capable of mounting a strong criminal defense that could reduce criminal sanctions. Furthermore, unfamiliarity with or distrust of the criminal justice system, combined with a fear of retaliation by immigration officials, could make Hispanics less forthcoming to court employees and, as a result, more “deserving” of punishment.

Third, the failure to consider defendants’ Hispanic ethnicity (i.e., by combining Hispanics and whites together into a single “white” group) in disproportionality studies may result in findings that (a) significantly underestimate both black–white disparities in arrest and incarceration outcomes (Steffensmeier and Demuth 2001) and (b) un-derrepresent black and white disproportionality. That is, failing to consider Hispanics separately from whites and blacks may artificially inflate white rates of arrest and incarceration, deflate black rates, and produce more disproportionality for whites and less for blacks than would be observed using “true” white, black, and Hispanic estimates. In effect, because they are confounded by the inclusion of Hispanics, it is plausible that the findings of prior research regarding black and white disproportionality are misleading.

Thus, the present study is timely and contributes to broad-based interests in law and the social sciences. Using race/ethnic-disaggregated arrest and incarceration data from Pennsylvania across the 2003–2007 years, we examine how race and ethnicity affect the racial imbalance issue by going beyond black to white comparisons in the disproportion between arrest and incarceration to also compare Hispanic to white and Hispanic to black disproportions. As we describe next, the Pennsylvania data are well-suited for such an analysis because (1) the state is large and ethnically diverse (roughly 83% is considered white, 11% black, 4% Hispanic, and 3% of other race/ethnic classification), (2) the data

cover the post-2000 period, (3) information is provided for measures of incarceration, prison admissions, and in-stock prisoners, and (4) Hispanic identifiers are included in both the arrest and the incarceration databases.

Data

Consistent with what has been the main focus of prior disproportionality research, our analysis targets the violent index crimes (homicide, forcible rape, robbery, and aggravated assault) and the violent index (sum of these four offenses). We use data for these crimes from three sources. First, information on at-risk adult (ages 18–64) arrests disaggregated by race–ethnicity (white, black, Hispanic) and crime-type (homicide, rape, robbery, aggravated assault, and the violent index) is drawn from Pennsylvania’s crime-reporting program for the years 2003–2006.¹ Because the race-disaggregated arrest statistics cover most but not all of the counties or localities in the state, we apply estimation procedures to generate white, black, and Hispanic arrest counts (also rates) for the state as a whole.² Second, prisoner admission data disaggregated by race–ethnicity (white, black, Hispanic) and crime-type are drawn from court commitment statistics provided by the Pennsylvania Commission on Sentencing for the years 2004–2007.³ Third, in-stock prison population counts disaggregated by race–ethnicity and crime-type are drawn from racial composition statistics provided by the Pennsylvania Department of Corrections for the years 2004–2007. In order to provide stability to our estimates, we average our arrest, admissions, and in-stock estimates over their respective 4 years periods.

Our analysis is similar to that of Blumstein (with modifications to accommodate our data), whose work we extend and complement in several important ways. First, we use both court commitments to state prison (admissions) and prison population (in-stock) counts as measures of the racial composition of the prison population, while Blumstein used only the in-stock population. Second, we compare race/ethnic disparities using rates, which take into account the underlying population structure and are less subject to the swamping effect of whites. Third, while Blumstein relied on black and white arrest counts that were at least somewhat confounded by the inclusion of Hispanic arrests with white and black arrest counts, our comparisons are based upon arrest figures that represent “true” black and white tabulations. Finally, by pulling Hispanics from the white and black counts, our data allow

¹Our arrest data are lagged 1 year prior to the admissions and in-stock estimates to allow for processing time after arrest. This is the generally accepted practice in studies of racial disproportionality (Austin and Allen 2000; Blumstein 1982, 1993; Sorenson et al. 2003).

²The Pennsylvania arrest data include total counts for each of the index offenses by (1) racial group (white, black, Asian/Pacific Islander, Native American) and (2) ethnicity (Hispanic, non-Hispanic). This separate, twofold enumeration allows us to calculate race/ethnic-disaggregated arrest counts (mutually exclusive white, black, and Hispanic) using a simple two-stage procedure. First, we calculate the number of Hispanic arrests, which are white-Hispanics and black-Hispanics. For this, we multiply the *total Hispanic arrests* (HA_{ij}) provided in the PA data by the year-specific *proportions of the state Hispanic population that are white- and black-Hispanic*, respectively (PH_{jr}). Roughly 87% of Hispanics in Pennsylvania are classified as white-Hispanics, 11% as black-Hispanics, and the remaining 2% as other-Hispanics. Second, we subtract the white-Hispanic and black-Hispanic arrest counts from the original (“confounded”) white and black arrest counts (U_{ijr}) to yield “true” white, black, and Hispanic arrest counts (A_{ijr}), which are mutually exclusive of one another. This is summarized in the following formula:

$$A_{ijr} = U_{ijr} - (HA_{ij} \times PH_{jr}), \text{ where } i \text{ is the offense, } j \text{ is the year, and } r \text{ is the race-group (white or black).}$$

³Our admissions estimates include race/ethnic counts of admissions into state prisons with a sentence of at least 2 years. We also replicated the analysis using 1 year as the cutoff (see Blumstein 1982; Langan 1985), with the results closely paralleling those reported using the 2-year cutoff. In Pennsylvania, a sentence of two or more years is viewed as a “state prison” sentence, whereas a sentence of less than 2 years is a “county jail” sentence.

for black, white, and *Hispanic* comparisons, extending Blumstein and others' work on disproportionality to an overlooked but important race/ethnic-group.⁴

Analytic Procedures

The procedures, we use to calculate and compare race–ethnic disparities in arrest-to-incarceration outcomes are straightforward and involve the following steps. First, we calculated rates per 100,000 of white, black, and Hispanic arrests, admissions, and prisoners (in-stock) that take into account the racial/ethnic composition of the underlying population. The rates provide a straightforward assessment of the magnitude of race–ethnic differences in arrests and in incarceration levels. These rates are offense-specific, calculated for each violent crime (homicide, rape, robbery, and aggravated assault) and the violent index.

Second, these rates are used to calculate the *racial proportions* (RPs) as indicators of race-specific contributions to overall offending, incarceration (prison admissions), and prison population (in-stock) for each violent index crime and the violent index. Each measure delineates, respectively, the *specific racial/ethnic contribution to all arrests, admissions, and in-stock prisoners net of population composition*. RP is expressed as the percentage or share of all arrests (or all prison admissions or all incarcerated inmates) for each offense category, which involves a specific race/ethnic-group, adjusting for the distribution of each comparison group in the population at large. The formula for RP is as follows:

$$RP_{ir} = R_{ir} / \sum_g R_i \times 100$$

where R is the rate (for arrests, admissions, or all incarcerated inmates), i is a specific offense, r is a specific race/ethnic-group, and g is the comparison group(s) (either one other race/ethnic-group or a combination of race/ethnic-groups). Thus, to calculate the offense-specific racial proportion for a race/ethnic-group (RP_{ir}) that group's offense-specific rate (R_{ir}) is divided by the sum of comparison group rates ($\sum_g R_i$).

RP can be thought of as the percent of total arrests that would be accounted for by a given racial group if every group were equal in population. Thus, the “gap” between one race/ethnic-group and another race/ethnic-group can be ascertained (e.g., white-to-black percentage for robbery where the “total” represents the combined number of white and black arrests for robbery), as well as the share contributed by one race/ethnic-group relative to all the other race/ethnic-groups (e.g., the Hispanic share of total admissions for violence where “total” represents the sum of white, black, and Hispanic admissions for violence). The greater the RP, the more that group accounts for arrests, admissions, or the in-stock population, controlling for the overall size of that group's population. The lower the RP, the less that group contributes to arrests, admissions, or the in-stock population, controlling for the overall size of the group in the population.

⁴Blumstein's (1982) arrest counts/rates combine whites and white-Hispanics, and it is unclear whether his incarceration data also confound Hispanics with white and black counts.

Findings

Table 1 displays the (a) offense-specific white, black, and Hispanic arrest, admission, and in-stock rates (in parentheses) and (b) racial proportions for Pennsylvania. The rates and racial proportions are offense-specific (homicide, rape, robbery, aggravated assault, violent index) and are averaged across the 2003–2007 period. Recall here that the racial proportion represents the share of total arrests/admissions/in-stock population involving that race/ethnic-group (white, black, Hispanic), adjusting for the racial composition of the Pennsylvania population. Key observations are as follows.

First, there are distinct disparities across race/ethnic-groups in the racial proportions of arrests (columns 1–3). White racial proportions (column 1) are typically small and never surpass 10%, while black (column 2) and Hispanic proportions (column 3) are significantly greater, ranging from as little as 23.32% (Hispanic racial proportion for robbery) to as much as 71.75% (black racial proportion for robbery). Overall, the pattern is one of a relatively small white contribution to arrests when compared to Hispanics and especially when compared to blacks.

Second, we turn to what is the major issue in our analysis: whether the overrepresentation of blacks and Hispanics in arrest statistics is proportional (or disproportional) to their representation in prisoner statistics (admissions and in-stock). Columns 4–6 display the rates and racial proportions for admissions, and columns 7–9 display those for the in-stock population. Across incarceration outcomes, the distribution of white, black, and Hispanic racial proportions closely parallels those observed for arrests. That is, black (ranging from 48.62% for rape to 68.58% for homicide) and Hispanic admission racial proportions (ranging from 28.26% for homicide to 38.97% for robbery) greatly exceed those of whites (ranging from 3.16% for homicide to 12.39% for rape). Likewise, black (between 61.47 and 71.02%) and Hispanic (between 25.55 and 33.29%) in-stock racial proportions are substantially greater than those of whites. Thus, the overall pattern is one of *considerable consistency across stages of the criminal justice system of disparities observed in racial proportions of arrests*. Notably, the pattern of a relatively small white contribution to arrests when compared to Hispanics and blacks remains largely unchanged in admissions and in-stock racial proportions.

To more fully explore this finding, we calculated the actual arrest-incarceration deviations (change) within each racial group across stages of the criminal justice system.⁵ Table 2 displays (a) the offenses for which whites, blacks, and Hispanics are disproportionately admitted to prison (columns 1–3) given their racial proportion of arrests, (b) the offenses for which each racial group are disproportionately represented in the prison population (columns 4–6) given their racial proportion of arrests, and (c) the offense-specific deviations between arrest RPs and incarceration RPs (admissions and in-stock) for each. We display

⁵One possible alternative to using absolute deviations in racial proportions (RP's) is to calculate the percentage change. If a group's arrest and incarceration RP's are small, the same absolute within-race deviation would represent a greater proportional difference than if that group's RP's were large. However, estimates of the percentage change in RP's are substantively difficult to interpret since they are essentially proportions of proportions (i.e., the *proportion* change in the racial *proportion* of arrest rates). Thus, we rely upon the absolute value of within-race deviations, though supplementary analysis using the percentage change in arrest and incarceration RP's with a cutoff value of 10% (available from authors) do not change our substantive results.

the actual deviations only for those offenses for which there is a meaningful 2.0 point difference between the arrest RPs and incarceration RPs. Using these deviations, we indicate where each racial group has advantages or disadvantages in their admissions or in-stock proportions relative to what would be expected given their contribution to arrests. A racial group experiences an advantage for a specific offense if their racial proportion for admissions/in-stock is lower than what would be expected given their arrest proportion. A racial group experiences a disadvantage (disproportionality) for a specific offense if their proportion for admissions/in-stock exceeds their racial proportion of arrests (i.e., they experience disproportionately greater incarceration beyond arrest).

Two findings are notable in Table 2. First, for many offenses, white, black, and Hispanic racial proportions for admissions and in-stock populations closely parallel their racial proportions observed for arrests. In 14 out of 30 total comparisons, there was no meaningful difference between the admission/in-stock racial proportions and the baseline arrest racial proportions. Thus, for many offenses, whites, blacks, and Hispanics experience no disproportionality given their racial proportions of arrests.

Second, for a little more than half of the comparisons, there are small, but noteworthy deviations between arrest and incarceration outcomes, indicating that some racial groups experience advantages (when their admission RP is lower than their arrest RP) and others experience disadvantages (when their admission RP exceeds their arrest RP) for particular offenses. When comparing arrest RPs to admission RPs (columns 1–3), it appears that whites disproportionately contribute to admissions for rape by almost 5% points, but are underrepresented in admission for aggravated assault by roughly 3% points. Interestingly, blacks appear to enjoy small advantages. For rape, robbery, and the violent index, the black racial proportion of admissions is lower than the black racial proportion of arrests. Similar patterns for whites and blacks emerge when comparing arrest RPs to in-stock RPs (see columns 4–6). Perhaps, the most notable finding in Table 2, however, is the disadvantage experienced by Hispanics. For rape, robbery, aggravated assault, and the violent index, *Hispanics appear to be disproportionately represented in admissions above and beyond what would be expected given their racial proportion of arrests for these offenses.*

Overall, we draw three important conclusions from Tables 1 and 2. First, there are distinct disparities in arrests, admissions, and the in-stock population across each racial group. The picture is one of a low white proportion, a high black proportion, and a somewhat moderate Hispanic proportion at each stage of the criminal justice system. Second, within each racial group, racial proportions are relatively stable. For many offenses, there is little or no difference between a racial group's arrest proportion and that group's admission or in-stock proportion, indicating that they are represented in incarceration in roughly the proportion that would be expected given their involvement in that type of crime. Third, for those offenses where there is meaningful change between arrests and incarceration, Hispanics experience the greatest disadvantage. That is, for a number of offenses, the Hispanic racial proportions of incarceration (admission and in-stock) are greater than the corresponding arrest proportions.

White–Black, White–Hispanic, and Black–Hispanic Comparisons

This paper marks a significant advance beyond extant research by examining racial disproportionality for whites, blacks, and Hispanics together. Yet traditionally, research has focused almost exclusively on white–black comparisons, exploring the gap between arrests and incarceration only for these two groups (Blumstein 1982, 1993; Sorenson et al. 2003; Tonry and Melewski 2008). Ignoring the impact of other race/ethnic-groups (Hispanics, Asians, Native Americans, etc.), prior research has utilized a two-group method to compare white and black estimates only to each other.

In order to further parse out race/ethnic disparities across stages of the criminal justice system, we replicated the approach of prior research and examined the racial proportions of arrests, admissions, and in-stock estimates comparing two groups at a time as follows: (a) whites to blacks, (b) whites to Hispanics, and (c) blacks to Hispanics. These two-group comparisons are informative for two reasons. First, this two-group method of comparison allows for a direct assessment of each racial group's impact *relative to every other group*, rather than that group's impact relative to all groups simultaneously (as in Tables 1 and 2). While our previous analysis demonstrates the unique contribution of whites, blacks, and Hispanics to crime for all three groups together, the following analysis will explore the white–black gap in crime and incarceration, as well as the white–Hispanic and black–Hispanic gaps.

Second, our two-group comparison of whites to blacks is comparable to prior research. However, our analysis represents a significant improvement over prior research by purging white and black arrests, admissions, and in-stock estimates of the confounding effect of Hispanics. Where findings of prior research regarding black–white differences may be misleading by overlooking the impact of Hispanics on white and black estimates, the following analyses assess the “true” white–black as well as white–Hispanic and black–Hispanic gaps in arrest and incarceration outcomes.⁶

Table 3 displays (a) the offense-specific white, black, and Hispanic arrest, admission, and in-stock rates (in parentheses) and (b) racial proportions for Pennsylvania calculated as each group's contribution to the sum of that group and one other group (e.g., white plus black, white plus Hispanic, and black plus Hispanic). The rates and racial proportions are offense-specific (homicide, rape, robbery, aggravated assault, violent index) and are averaged across the 2003–2007 period. Again, recall here that the racial proportion represents the share of total arrests/admissions/in-stock population involving that race/ethnic-group (white, black, Hispanic), adjusting for the racial composition of the Pennsylvania population. Panel A displays the rates and racial proportions for whites and blacks together, Panel B displays those for whites and Hispanics together, and Panel C displays rates and racial proportions for blacks and Hispanics together.

⁶Our argument here is that findings from prior research comparing the white-black gap in arrests to the white-black gap in incarcerations (either admissions or in-stock) may be misleading because Hispanics are combined with whites and blacks (mostly whites). Given that Hispanic offending and incarceration rates are somewhere between whites and blacks, this has the effect of significantly inflating the white arrest and incarceration rates while simultaneously lowering the black arrest and incarceration rates (though the decline is small). As a result, the white-black gap in both arrests and incarceration will appear narrower than if Hispanics are excluded from white and black estimates (see the supplementary analysis).

Key findings are as follows. First, consistent with prior research, the gap between whites and blacks in arrests and incarceration is substantial. Blacks account for the largest proportions of arrests, admissions, and in-stock population for every offense. In fact, the smallest racial proportion for blacks in Panel A is that for rape admissions at 79.69% (see column 4). In contrast, net of population composition, whites rarely account for more than 10% of arrests, admissions, or in-stock populations.

Second, the white–Hispanic gap is similarly large (see Panel B). Hispanics racial proportions range between 72.72% (for the rape in-stock population in column 6) and 90.23% (for the homicide arrests in column 2), while white racial proportions never exceed 28%. Thus, the white–Hispanic gaps in arrest and incarceration are large, with whites constituting a small and Hispanics a large proportion for all offenses.

Third, the black–Hispanic gaps are smaller than the white–black and white–Hispanic gaps. Across all stages of the criminal justice system and for each offense, black racial proportions exceed those of Hispanics; yet the gap narrows to roughly 10% points in some cases (see Panel C, columns 3 and 4 for rape). Thus, the black–Hispanic gaps in arrest and incarceration demonstrate that blacks and Hispanics parallel each other more closely in their contributions to arrests, admissions, and in-stock populations than do whites and Hispanics or whites and blacks.

We turn next to the actual arrest-incarceration deviations (change) within each racial group across stages of the criminal justice system. As with our prior analysis, Table 4 displays (a) the offenses for which whites, blacks, and Hispanics are disproportionately admitted to prison (columns 1–2) given their racial proportion of arrests, (b) the offenses for which each racial group are disproportionately represented in the prison population (columns 3–4) given their racial proportion of arrests, and (c) the offense-specific deviations between arrest RPs and incarceration RPs (admissions and in-stock) for each. As before, we use these deviations to indicate where each racial group enjoys advantages or disadvantages in their admissions or in-stock proportions relative to what would be expected given their contribution to arrests. A racial group experiences an advantage for a specific offense if their racial proportion for admissions/in-stock is lower than what would be expected given their arrest proportion. A racial group experiences a disadvantage (disproportionality) for a specific offense if their proportion for admissions/in-stock exceeds their racial proportion of arrests (i.e., they experience disproportionately greater incarceration beyond arrest).

Panel A shows the deviations for whites and blacks, Panel B for whites and Hispanics, and Panel C for blacks and Hispanics. Recall here that each racial group is compared only with one other as in Table 3. Key findings are as follows. First, white–black gaps in arrests and incarcerations remain relatively stable/consistent (see Panel A), with only half of the comparisons showing noteworthy deviations from arrest to incarceration. Consistent with prior research, in those instances where the incarceration proportion exceeds the arrest proportion blacks experience a disadvantage (i.e., disproportionately greater incarceration given their arrest contribution) relative to whites.

Second, white–Hispanic gaps in arrest and incarceration show significantly more deviation than the black–white gaps and largely to the disadvantage of Hispanics (see Panel B). That is, the white–Hispanic gap in racial proportions appears to grow larger in admission and in-stock estimates, with Hispanics constituting a greater proportion to incarceration outcomes than expected from their arrest racial proportions. Seven out of the 10 comparisons show substantial deviations in racial proportions within each race-group, and 5 of these produce an overrepresentation of Hispanics beyond what would be expected given their arrest racial proportions.

Third, black–Hispanic gaps in arrest and incarceration show significant deviations in the direction of disadvantage for Hispanics. Seven out of 10 comparisons show deviations greater than 2.0 in racial proportions from arrest to incarceration, with 6 of these resulting in an overrepresentation of Hispanics relative to their racial proportions of arrests. That is, the gap between blacks and Hispanics in arrests *narrows* in incarceration outcomes (admission and in-stock population) so that Hispanics are overrepresented in admission and in-stock populations given their representation in arrests.

Overall then, Tables 3 and 4 confirm our earlier findings—first, there are distinct disparities in arrests, admissions, and the in-stock population across each racial group. Second, for those offenses where there is meaningful change between arrests and incarceration, *Hispanics experience the greatest disadvantage*.⁷ Also, these tables demonstrate that the white–Hispanic and black–Hispanic gaps are more substantial than indicated when the contributions of whites, blacks, and Hispanics are compared simultaneously.

Supplementary Analysis

We briefly noted earlier that a failure to consider defendants' Hispanic ethnicity in disproportionality studies may result in findings that significantly mask black–white disparities in arrest-incarceration outcomes (Steffensmeier and Demuth 2001). In effect, because they are confounded by the inclusion of Hispanics, it is plausible that the findings of prior research regarding (a) black–white differences and (b) black and white disproportionality are misleading. To further test the impact of Hispanics, we conducted a supplementary analysis comparing arrest, admission, and in-stock racial proportions for whites and blacks using both “true” (i.e., Hispanics are not included) and “confounded” (i.e., Hispanics are included in white and black) estimates.⁸ These results (available from authors) indicate that when Hispanics are eliminated from white and black counts (a) the white–black gap in arrests, admissions, and in-stock population increases and, more importantly for this paper, (b) the amount of disproportionality (in a discriminatory direction) for whites and

⁷It is interesting to note that there is no meaningful change for homicide between arrest and incarceration RPs for any race-group. Given the seriousness of homicide, it is reasonable to assume that the criminal justice system has little room for the use of discretion resulting in little or no disproportionality.

⁸As already discussed, our arrest data are adjusted using a two-stage procedure in order to produce white and black counts/rates, which are not confounded by Hispanics. On the other hand, our admissions and in-stock data are disaggregated by (1) offense and (2) race/ethnicity. As such, they are already purged of the confounding effect of Hispanics. In order to calculate “confounded” estimates for admissions and in-stock populations to compare to “confounded” arrest estimates, we reversed the procedure used to produce “true” arrest estimates. This entailed (1) calculating the Hispanic admissions/prisoners that were white-Hispanic and black-Hispanic and (2) adding them to the non-Hispanic white and non-Hispanic black counts, respectively (detailed description available from authors).

blacks increases as well. That is, not accounting for Hispanics produces a narrower black–white gap across all stages of the criminal justice system and *yields smaller amounts of discriminatory disproportionality*, masking to some degree the true white and black disproportionality that would be observed without the confounding effect of Hispanics.

Discussion

Our main goal in this paper has been to examine racial disproportionality in arrest and incarceration among blacks, whites, and Hispanics. Our results indicate, first, that the representation of blacks, whites, and Hispanics among offenders admitted to state prison and in the prison population corresponds closely to their representation in arrest statistics. The overall picture is one of a low white representation, a high black representation, and a somewhat moderate Hispanic representation at each stage of the criminal justice system. Second, using arrests as a marker of violent offending, the overrepresentation of blacks among (violent) offenders admitted to state prisons occurs because blacks commit a disproportionate number of imprisonable (violent) crimes. Third, for those offenses where there is a within-race difference between arrest and incarceration representation, Hispanics experience the greatest disadvantage. Given what would be expected based upon their contribution to arrests, Hispanics are overrepresented in state prison admissions and the prison population for more offenses than are whites and blacks. Fourth, failing to account for Hispanics in white and black estimates tends to inflate white proportions and deflate black proportions of arrests, admissions, and prison population estimates, masking the “true” black and white racial disproportionality.

These findings highlight, first, the need for more studies of racial disproportionality that, in particular, include Hispanics and allow for Hispanic–white and Hispanic–black comparisons rather than only black–white comparisons. Ignoring Hispanics not only overlooks their unique contributions to arrests and incarceration outcomes relative to whites and blacks, but also may confound traditional black–white comparisons, especially as Hispanic population growth continues to mushroom. Future research would do well to explore whether the harsher treatment of Hispanics is because (a) the poor (which most minority defendants are) are perceived as being threatening to social order by criminal justice officials (e.g., seem as more likely to recidivate); (b) they lack the resources to resist the imposition of harsh legal sanctions; or (c) some Hispanic defendants (especially recently immigrated Hispanic defendants) are disadvantaged by their difficulty with the English language, general ignorance about or distrust of the criminal justice system, and unwillingness to cooperate with authorities out of fear of deportation of family and friends. Some prior research suggests that any or all of these factors are at play (see Demuth 2002; Spohn 2002; Steffensmeier and Demuth 2000) but very little is known definitively.

Second, the current study uses arrest, admission, and in-stock data from only one state. Though data disaggregated by race and ethnicity (i.e., with Hispanic identifiers) are limited, future research should aim to explore issues of racial disproportionality for more states (and the nation as a whole), as well as across different Hispanic groups. Pennsylvania’s Hispanic population is largely Puerto Rican, whereas the Hispanic populations of states like Texas and California are primarily Mexican. Coupled with evidence suggesting substantial

regional variation in racial disproportionality (Blumstein 1993; Sorenson et al. 2003), future research should look to explore potential regional and Hispanic sub-group differences for white, black, and Hispanic offending and incarceration.

Third, subsequent work should include a larger array of offenses, most notably drug crimes. As with data identifying Hispanics; however, there is a relative absence of arrest data that take into account the seriousness of drug offending because crime-reporting programs typically lump into the broad “drug offense” category arrests across several types of drugs (e.g., marijuana, cocaine, heroin) and type of involvement (e.g., possession, distribution).

Fourth, racial disproportionality research should take into account criminal history and within-offense variation in offense seriousness. Persistent disparities in incarceration that remain unexplained by arrests may be attributable to race/ethnic-differences in their prior criminal history and/or criminal offending involving aggravating circumstances. That is, relative to whites, blacks, and Hispanics may contribute more to incarceration because they have longer prior records and/or are more likely to commit a crime with a weapon or under other aggravating circumstances, both of which increase their likelihood of receiving a prison sentence.

Fifth, arrest data themselves are the products of police decisions and behavior. Arrest data may reflect discrimination, especially for rape and aggravated assault. Our analysis does not inform us about possible “arrest errors” or racial bias in arrests (i.e., an arrest bias against minorities). Some have argued that arrest is a reasonably reliable indicator of serious violent offending (Blumstein 1982, 1993; Hindelang 1978). If arrest bias against minorities exists, the inflation of minority arrest rates will contribute to an underestimation of black (or Hispanic) disproportions/disparities at later processing stages.⁹ Future research should look to explore racial disproportionality using supplementary data sources (e.g., victimizations) to triangulate patterns of offending and incarceration across race/ethnic-groups. In this way, we can better adjudicate the degree to which racial and ethnic disparities in incarceration reflect differential treatment by the criminal justice system or differential involvement in serious crime.

Overall, the current study contributes significantly to the racial disproportionality literature and to broad-based interests in law and the social sciences. Examining how race and ethnicity affect the racial imbalance issue is an important substantive and policy issue because the symbolism of equality before the law is at the heart of our legal system and bias in the enforcement of law threatens the value, we place on equity in this system. Assuming that arrests adequately measure race–ethnic differences in violent offending, our results showing an overall (near) absence of black–white differences and moderate Hispanic disproportionality in arrest-incarceration outcomes in Pennsylvania have important implications for research, theory, and policy development as regards the connection between race/ethnicity and involvement in violent offending.

⁹Some have speculated that the issue of intra- versus inter-racial offending and “victim discounting” may affect disproportionality by masking post-arrest bias when the victim is of the same race as the offender. We are unaware of any data that would allow us (or anyone else) to directly examine this as it relates to race-specific discrepancies from arrest to incarceration.

Our findings here coincide somewhat with research on criminal sentencing and are consistent with the focal concerns model of punishment (Steffensmeier et al. 1998). Research has consistently found that sentencing decisions are primarily driven by offense related variables and criminal history, suggesting that retribution for perceived blameworthiness and community protection is at the forefront of punishment goals. Notably, however, when racial and ethnic differences in sentence severity net of legal variables are found, white–Hispanic differences typically exceed black–white differences (e.g., Spohn and Holleran 2000; Steffensmeier and Demuth 2000, 2001; Kramer and Ulmer 2009) providing evidence that Hispanic defendants are sentenced more harshly than white (and sometimes black) defendants. To the extent that Hispanics are at a disadvantage in incarceration outcomes, it may be due to cultural stereotypes that link Hispanic status with heightened dangerousness or culpability, or to the extent that particular racial/ethnic-groups are disadvantaged in terms of practical constraints connected to the criminal justice system (Steffensmeier and Demuth 2000, 2001). In particular, a recent study of Pennsylvania sentencing outcomes found that Hispanic–white disparities in the odds of receiving a state prison sentence (net of legally prescribed factors) exceeded black–white state prison disparities (Kramer and Ulmer 2009).

The problem of racial and ethnic disproportionality in imprisonment appears to be less about criminal justice practitioner racism but rather societal inequities that foster higher rates of serious, especially violent, crime among blacks and to a lesser extent, Hispanics. These inequities include racial segregation and isolation and the resulting concentration of disadvantage in black and Hispanic communities. Such structural disadvantage, in turn, has long been linked to higher rates of violent crime (Peterson and Krivo 2005). Thus, it is arguable that valuable research and policy resources would be better allocated toward addressing the complex of criminogenic social and environmental factors that push minorities toward violent or criminal conduct (see Tracy 2005). In short, the sources of black and (to a lesser extent) Hispanic disproportionality in imprisonment appear to reside mostly outside the purview of the criminal justice system, and have more to do with societal disadvantages that place minority peoples, especially African Americans, at much greater risk of being both offenders and victims of violent crime. So, while there is a need for continued concern with possible racial discrimination in justice system processing, this concern should not distract scholarly or policy attention from what arguably is the more important matter—explaining and ameliorating disproportionate minority (especially black) involvement in violent crime.

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Table 1
 White, black, and Hispanic racial proportions [RPs] and rates (in parentheses) for Pennsylvania

	Arrest RPs ^d			Admissions RPs ^d			In-Stock RPs ^d		
	White (1)	Black (2)	Hispanic (3)	White (4)	Black (5)	Hispanic (6)	White (7)	Black (8)	Hispanic (9)
Homicide	3.22 (1.94)	67.09 (40.47)	29.69 (17.91)	3.16 (1.05)	68.58 (22.79)	28.26 (9.39)	3.67 (29.58)	68.23 (549.51)	28.10 (226.34)
Rape	7.42 (7.51)	55.79 (56.43)	36.79 (37.21)	12.39 (3.04)	48.63 (11.93)	38.97 (9.56)	10.51 (26.14)	61.47 (152.87)	28.02 (69.68)
Robbery	5.03 (27.59)	71.75 (393.59)	23.22 (127.38)	6.10 (4.35)	65.38 (46.61)	28.52 (20.33)	3.43 (18.13)	71.02 (375.39)	25.55 (135.05)
Aggravated Assault	8.57 (99.06)	63.00 (728.48)	28.43 (328.74)	5.67 (2.10)	61.58 (22.82)	32.76 (12.14)	4.19 (15.42)	62.53 (230.23)	33.29 (122.56)
Violent Index	7.29 (136.10)	65.31 (1218.96)	27.39 (511.25)	6.34 (10.53)	62.70 (104.14)	30.96 (51.42)	4.58 (89.27)	67.05 (1307.99)	28.38 (553.62)

^dRacial proportions [RPs] are the contributions of the white, black, and Hispanic rates to the sum of all three rates

Table 2

Within-race deviations (in parentheses) between arrest, admission, and in-stock RPs for Pennsylvania

	Arrests → Admissions			Arrests → In-stock		
	White (1)	Black (2)	Hispanic (3)	White (4)	Black (5)	Hispanic (6)
	Within-race deviations in RPs^a					
Homicide	-	-	-	-	-	-
Rape	Disadvantage (4.97)	Advantage (7.15)	Disadvantage (2.19)	Disadvantage (3.09)	Disadvantage (5.68)	Advantage (8.77)
Robbery	-	Advantage (6.37)	Disadvantage (5.30)	-	-	Disadvantage (2.33)
Agg. assault	Advantage (2.90)	-	Disadvantage (4.33)	Advantage (4.38)	-	Disadvantage (4.85)
Violent index	-	Advantage (2.61)	Disadvantage (3.57)	Advantage (2.72)	-	-

Within-race deviations are shown only for those offenses for which the amount of change (deviation) is greater than 2.0

^aRacial proportions [RPs] are the contributions of the white, black, and Hispanic rates to the sum of all three rates; "advantage" refers to situation in which a racial group's arrest racial proportion exceeds its admission racial proportion; "disadvantage" refers to situation in which a racial group's admission racial proportion exceeds its arrest racial proportion

Table 3

Racial proportions [RPs] and rates (in parentheses) comparing whites to blacks, whites to Hispanics, and blacks to Hispanics for Pennsylvania

	Arrests			Admissions			In-stock		
	White (1)	Black (2)	Hispanic (3)	White (3)	Black (4)	Hispanic (5)	White (5)	Black (6)	Hispanic (6)
(a) White and black rates and RPs^a									
Homicide	4.57 (1.94)	95.43 (40.47)	4.40 (1.05)	95.60 (22.79)	5.11 (29.58)	94.89 (549.51)	5.11 (29.58)	94.89 (549.51)	94.89 (549.51)
Rape	11.75 (7.51)	88.25 (56.43)	20.31 (3.04)	79.69 (11.93)	14.60 (26.14)	85.40 (152.87)	14.60 (26.14)	85.40 (152.87)	85.40 (152.87)
Robbery	6.55 (27.59)	93.45 (393.59)	8.54 (4.35)	91.46 (46.61)	4.61 (18.13)	95.39 (375.39)	4.61 (18.13)	95.39 (375.39)	95.39 (375.39)
Aggravated assault	11.97 (99.06)	88.03 (728.48)	8.43 (2.10)	91.57 (22.82)	6.28 (15.42)	93.72 (230.23)	6.28 (15.42)	93.72 (230.23)	93.72 (230.23)
Violent index	10.04 (136.10)	89.96 (1218.96)	9.18 (10.53)	90.82 (104.14)	6.39 (89.27)	93.61 (1307.99)	6.39 (89.27)	93.61 (1307.99)	93.61 (1307.99)
(b) White and Hispanic rates and RPs^b									
Homicide	9.77 (1.94)	90.23 (17.91)	10.06 (1.05)	89.94 (9.39)	11.56 (29.58)	88.44 (226.34)	11.56 (29.58)	88.44 (226.34)	88.44 (226.34)
Rape	16.79 (7.51)	83.21 (37.21)	24.13 (3.04)	75.87 (9.56)	27.28 (26.14)	72.72 (69.68)	27.28 (26.14)	72.72 (69.68)	72.72 (69.68)
Robbery	17.80 (27.59)	82.20 (127.38)	17.63 (4.35)	82.37 (20.33)	11.84 (18.13)	88.16 (135.05)	11.84 (18.13)	88.16 (135.05)	88.16 (135.05)
Aggravated assault	23.16 (99.06)	76.84 (328.74)	14.75 (2.10)	85.25 (12.14)	11.18 (15.42)	88.82 (122.56)	11.18 (15.42)	88.82 (122.56)	88.82 (122.56)
Violent index	21.02 (136.10)	78.98 (511.25)	17.00 (10.53)	83.00 (51.42)	13.89 (89.27)	86.11 (553.62)	13.89 (89.27)	86.11 (553.62)	86.11 (553.62)
(c) Black and Hispanic rates and RPs^c									
Homicide	69.32 (40.47)	30.68 (17.91)	70.82 (22.79)	29.18 (9.39)	70.83 (549.51)	29.17 (226.34)	70.83 (549.51)	29.17 (226.34)	29.17 (226.34)
Rape	60.26 (56.43)	39.74 (37.21)	55.51 (11.93)	44.49 (9.56)	68.69 (152.87)	31.31 (69.68)	68.69 (152.87)	31.31 (69.68)	31.31 (69.68)
Robbery	75.55 (393.59)	24.45 (127.38)	69.63 (46.61)	30.37 (20.33)	73.54 (375.39)	26.46 (135.05)	73.54 (375.39)	26.46 (135.05)	26.46 (135.05)
Aggravated assault	68.91 (728.48)	31.09 (328.74)	65.27 (22.82)	34.73 (12.14)	65.26 (230.23)	34.74 (122.56)	65.26 (230.23)	34.74 (122.56)	34.74 (122.56)
Violent index	70.45 (1218.96)	29.55 (511.25)	66.95 (104.14)	33.05 (51.42)	70.26 (1307.99)	29.74 (553.62)	70.26 (1307.99)	29.74 (553.62)	29.74 (553.62)

^aRacial proportions [RPs] are the contributions of the white and black rates to the sum of both rates

^bRacial proportions [RPs] are the contributions of the white and Hispanic rates to the sum of both rates

^cRacial proportions [RPs] are the contributions of the black and Hispanic rates to the sum of both rates

Table 4

Within-race deviations (in parentheses) between arrest, admission, and in-stock RPs for two-group comparisons (whites to blacks, whites to Hispanics, and blacks to Hispanics) for Pennsylvania^a

	<u>Arrests → Admissions</u>		<u>Arrests → In-stock</u>	
	White (1)	Black (2)	White (3)	Black (4)
(a) Within-race deviations in white and black RPs ^a				
Homicide	–	–	–	–
Rape	Disadvantage (8.56)	Advantage (8.56)	Disadvantage (2.86)	Advantage (2.86)
Robbery	–	–	–	–
Agg. assault	Advantage (3.54)	Disadvantage (3.54)	Advantage (5.69)	Disadvantage (5.69)
Violent index	–	–	Advantage (3.65)	Disadvantage (3.65)
	<u>Arrests → Admissions</u>		<u>Arrests → In-stock</u>	
	White (1)	Hispanic (2)	White (3)	Hispanic (4)
(b) Within-race deviations in white and Hispanic RPs ^b				
Homicide	–	–	–	–
Rape	Disadvantage (7.33)	Advantage (7.33)	Disadvantage (10.49)	Advantage (10.49)
Robbery	–	–	Advantage (5.97)	Disadvantage (5.97)
Agg. assault	Advantage (8.41)	Disadvantage (8.41)	Advantage (11.98)	Disadvantage (11.98)
Violent index	Advantage (4.03)	Disadvantage (4.03)	Advantage (7.14)	Disadvantage (7.14)
	<u>Arrests → Admissions</u>		<u>Arrests → In-stock</u>	
	Black (1)	Hispanic (2)	Black (3)	Hispanic (4)
(c) Within-race deviations in black and Hispanic RPs ^c				
Homicide	–	–	–	–
Rape	Advantage (4.75)	Disadvantage (4.75)	Disadvantage (8.43)	Advantage (8.43)
Robbery	Advantage (5.92)	Disadvantage (5.92)	Advantage (2.01)	Disadvantage (2.01)
Agg. assault	Advantage (3.63)	Disadvantage (3.63)	Advantage (3.65)	Disadvantage (3.65)
Violent index	Advantage (3.51)	Disadvantage (3.51)	–	–

Within-race deviations are shown only for those offenses for which the amount of change (deviation) is greater than 2.0

^aRacial proportions [RPs] are the contributions of the white and black rates to the sum of both rates

^b Racial proportions [RPs] are the contributions of the white and Hispanic rates to the sum of both rates

^c Racial proportions (RPs) are the contributions of the black and Hispanic rates to the sum of both rates