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The Growth, Scope, and Spatial Distribution of People With Felony Records in the United States, 1948–2010

Sarah K. S. Shannon[1] · Christopher Uggen[2] ·
Jason Schnittker[3] · Melissa Thompson[4] ·
Sara Wakefield[5] · Michael Massoglia[6]

Abstract The steep rise in U.S. criminal punishment in recent decades has spurred scholarship on the collateral consequences of imprisonment for individuals, families, and communities. Several excellent studies have estimated the number of people who have been incarcerated and the collateral consequences they face, but far less is known about the size and scope of the total U.S. population with felony convictions beyond prison walls, including those who serve their sentences on probation or in jail. This article develops state-level estimates based on demographic life tables and extends previous national estimates of the number of people with felony convictions to 2010. We estimate that 3 % of the total U.S. adult population and 15 % of the African American adult male population has ever been to prison; people with felony convictions account for 8 % of all adults and 33 % of the African American adult male population. We discuss the far-reaching consequences of the spatial concentration and immense growth of these groups since 1980.

Keywords Incarceration · Felony conviction · Punishment · Inequality

✉ Sarah K. S. Shannon
sshannon@uga.edu

[1]   Department of Sociology, University of Georgia, 113 Baldwin Hall, Athens, GA 30602, USA

[2]   Department of Sociology, University of Minnesota, Minneapolis, MN, USA

[3]   Department of Sociology, University of Pennsylvania, Philadelphia, PA, USA

[4]   Department of Sociology, Portland State University, Portland, OR, USA

[5]   School of Criminal Justice, Rutgers University, New Brunswick, NJ, USA

[6]   Department of Sociology, University of Wisconsin, Madison, WI, USA

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Introduction

Social scientists have a better understanding of the geography and demography of incarceration than of felony conviction more broadly. We are only beginning to compile basic information about the population of formerly incarcerated people now living and working in their home communities (Pettit 2012; Western 2006). Most of the growth in U.S. correctional supervision has been among nonincarcerated probationers and parolees who are supervised in their communities (see Fig. S1, Online Resource 1) (Phelps 2017). Both populations are increasingly important as states enact criminal justice reforms that shift from incarceration to community supervision for at least some offenses (Phelps 2013).

This article builds on previous national estimates of people formerly incarcerated and people formerly under felony correctional supervision by extending these estimates to 2010 and compiling the first state-level estimates of these populations from 1980 to 2010[1] (Uggen et al. 2006). Although the U.S. Department of Justice has long provided detailed information on people *currently* under criminal justice supervision, no data are available for state-level *former* prison or felony supervision populations.

Given the historic increase in criminal punishment, these numbers have broad implications for both science and public policy. Contact with the criminal justice system incurs substantial social and demographic consequences, including restrictions on employment, housing, voting, and welfare receipt, as well as long-term effects on physical and mental health (Ewald and Uggen 2012; Massoglia 2008; Schnittker and John 2007). Because these effects are concentrated racially and geographically (Clear 2007; Pettit 2012; Western 2006), we present estimates by race (African American) and use geographic information system (GIS) visualization techniques to illustrate the variation across space and time in these populations.

This article thus contributes to understanding the demographic and geographic distribution of populations with past prison and felony supervision experience in the United States. These estimates offer a more comprehensive view of the reach of the criminal justice system across space, time, and race than those focused on only one stage (e.g., arrest) or experience (e.g., incarceration) in the U.S. criminal justice system. The estimates presented here complement prior estimates of people with prison experience (e.g., Pettit 2012) but also include the large number of people who have not served time yet suffer many of the same consequences of a felony conviction. Our estimates provide essential data for social scientists and policy-makers interested in the broader social and institutional impacts of these populations.

The Demography and Geography of Punishment

Recent studies have detailed the size and scope of particular populations with substantial contact with the criminal justice system. Becky Pettit's work (Pettit 2012; see also

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[1] The terms *felon* and *prisoner* refer to conviction and incarceration status rather than criminal behavior. These estimates are thus a reflection of a rising punishment rate, even as crime rates have declined (see, e.g., Uggen and McElrath 2013). Our estimates by race should not be interpreted as measures of differential rates of criminal behavior by race but rather as differential rates of punishment by race. Racial disparities in punishment rates result not merely from criminal behavior but also from discriminatory treatment within the criminal justice system, as others have shown (see, e.g., Western 2006).

Pettit and Western 2004) showed large racial disparities in the likelihood of entering prison and documented the implications for black-white disparities in labor market, economic, and educational outcomes. Wildeman (2009) did the same for racial disparities among children in the likelihood of experiencing parental incarceration (see also Sykes and Pettit 2014). Brame et al. (2012, 2014) estimated the likelihood of experiencing arrest, noting that almost one-half of all black men will be arrested prior to the age of 23.

People with any kind of criminal history experience wide-ranging penalties and disruptions in their lives, especially given the widespread availability of criminal background information (Lageson 2016; Uggen et al. 2014). Nevertheless, people convicted of felonies face more substantial and frequently permanent consequences (Ewald and Uggen 2012; Travis 2005; Uggen and Stewart 2015). A felony is a broad categorization, encompassing everything from marijuana possession to homicide. Historically, the term "felony" has been used to distinguish certain "high crimes" or "grave offenses" from less-serious, misdemeanor offenses. In the United States, felonies are typically punishable by more than 1 year in prison; misdemeanors garner less severe sanctions, such as shorter jail sentences, fines, or both. Not everyone with a felony conviction goes to prison, however, and many more will serve time in jail or on probation. Indeed, changes in sentencing constitute one reason for the recent decline in the size of the prison population.

As Garland (2001a:2) has noted, mass incarceration in the United States is not simply defined by the imprisonment of large numbers of people but by the "systematic imprisonment of whole groups of the population." Moreover, such concentration applies both to people in prison and to millions of nonincarcerated people with felony convictions (Phelps 2013). People with felony records are set apart not only by the stigma and collateral consequences that come with a criminal conviction but also by the extreme concentration by sex, race, and socioeconomic status. Current prison and community corrections populations are overwhelmingly male: 93 % of prisoners, 89 % of parolees, and 76 % of probationers (Carson and Golinelli 2013; Maruschak and Bonczar 2013). Recent estimates have shown that 30 % of black males have been arrested by age 18 (vs. 22 % for white males) (Brame et al. 2014). This figure grows to 49 % by age 23, meaning that virtually one-half of all black men have been arrested at least once by the time they reach young adulthood (vs. approximately 38 % of white males) (Brame et al. 2014).

Western and Pettit have shown that incarceration has become a routine life event for low-skilled black men—more common than serving in the military or earning a college degree (Pettit and Western 2004; Western 2006). The cumulative risk of imprisonment for black men ages 20–34 without a high school diploma stands at 68 % compared with 21 % of black men *with* a high school diploma and 28 % for white men *without* a high school diploma (Pettit 2012).

Scholars have also chronicled the spatial concentration of incarceration and correctional supervision (Clear 2007; Justice Mapping Center 2010; Muller and Wildeman 2016; Travis 2005). Exposure to the criminal justice system varies both within and across states. Each state operates its own separate systems of incarceration and supervision, a fact that can be obscured by national level analyses. National correctional populations have declined in recent years (Kaeble et al. 2015), and the correctional populations of individual states vary, with some experiencing increases and others

experiencing decreases in either incarceration or community supervision. For example, between 2013 and 2014, Missouri's community supervision population fell by 7 %, while Washington's grew by 5 % (Kaeble et al. 2015). Likewise, California's Public Safety Realignment (PSR) significantly affected the decline not only in California's prison population in 2012 but also in the entire nation because of the size of its correctional system (Carson and Golinelli 2013). These geographic differences have significant consequences for both current correctional populations and former populations, as we will show in this analysis.

Variation in punishment rates by state is attributable to differences in economics, crime rates, demographics, politics, and sentencing laws (Barker 2006; Beckett and Western 2001; Greenberg and West 2001; Jacobs and Helms 2001; Lynch 2010; Stucky et al. 2005). State incarceration rates vary partly because of differences in criminal justice processing, including exposure to police surveillance (Beckett et al. 2006; Tonry 1996), rates of conviction (Bridges and Steen 1998), and sentencing patterns (Steffensmeier et al. 1998). States vary widely in the use of imprisonment versus community supervision (Phelps 2017). Some states incarcerate at lower rates but sentence a substantial number of people to probation (e.g., Minnesota), and others incarcerate at high rates and have high rates of community supervision (e.g., Louisiana) (Phelps 2017). Criminologists are increasingly calling for a broad shift of resources away from incarceration (National Research Council 2014) and toward law enforcement (Durlauf and Nagin 2011) and communities (Clear and Frost 2014); however, states have continued to implement widely varying criminal justice policies, particularly in the extent to which they emphasize law enforcement, incarceration, and community supervision (Barker 2006; Phelps 2017).

To explain these preferences, punishment scholars point to the neoconservative politics of late modernity (Garland 2001b), a "new penology" to manage high-risk populations (Feeley and Simon 1992), public sentiment (Tonry 2004), the use of criminal justice and welfare institutions to tie postindustrial workers to precarious wage labor (Wacquant 2012), and elite desires to maintain dominance in the face of racial threat (Behrens et al. 2003). The empirical literature increasingly points to public sentiment to explain state differences in punishment. Barker (2006) showed how citizen participation in politics affects incarceration patterns in three states (California, New York, and Washington). Contrary to expectations, greater public participation in government decreased incarceration rates in Washington State. Similarly, Lynch (2010) found that cultural values in Arizona, such as distrust of government and traditional punitiveness, helped facilitate prison expansion as a means of promoting economic development in rural locales. Most recently, Enns (2016) developed state-specific public opinion measures and showed how punitiveness helps explain variation in state incarceration rates since 1950.

To illustrate the great geographic variation in rates of punishment, the maps in Fig. 1 show the percentage of adults currently in prison and under supervision for felony convictions in 2010 by state and race. By applying the same shading and scale, these maps reveal startling race differences in correctional supervision. As of 2010, most states had less than 1 % of all adults in prison, with the exception of Louisiana and Alaska, as shown in panel a. The picture changes dramatically when examining the same map for African American adults (panel b). In numerous states, 2.5 % to 5 % of the adult African American population was incarcerated in 2010. A few states with low

baseline African American populations in the Midwest and Northeast had more than 4 % of adult African Americans incarcerated.[2]

Sizable racial differences are also apparent in total felony supervision. Panel c of Fig. 1 shows that only six states had less than 1 % of their adult population under felony supervision in 2010, and seven states had more than 2.5 % under such supervision. As with incarceration, a dramatically higher percentage of African American adults in most states were under felony correctional supervision. Panel d of Fig. 1 shows that by 2010, the rate exceeded 5 % of African American adults in 24 states, and no state had less than 2.5 % of its adult African American population under supervision for felony convictions. States such as Oregon, Rhode Island, and Wisconsin had rates exceeding 8 %.

These percentages are also shaped by state differences in total and race-specific baseline populations. Both the numerator (correctional population) and denominator (state population) affect these rates. For example, Minnesota's low incarceration numerator is driven by policies favoring probation over prison (Phelps 2017), which result in relatively high rates of total correctional supervision. The denominator is simultaneously affected by shifts in population composition. In Minnesota's case, the population designated African American has grown over time because of immigration from Africa, particularly Somalia. Neither the numerator nor the denominator in these rates is static, and each is responsive to distinct state-level processes and population changes.

These maps illustrate the geographic variation in *current* correctional populations by state. This is an important consideration, given that much research addresses the likelihood of incarceration and its personal and collateral consequences (Wakefield and Uggen 2010). But what about the millions of people who have passed through the criminal justice system and completed their sentences? Although often viewed as social isolates, people formerly under felony supervision are embedded in every facet of social life, as neighbors, partners, parents, employees, and citizens; yet, little is known about their whereabouts or fortunes. Although social scientists have done much to reveal the hidden damage of incarceration, available data often obscure the much broader population of people with felony records—and what happens to them when they are no longer under supervision.

There is good reason to believe that the aggregate presence and relative size of populations with felony records have spillover effects on social institutions and processes, especially in communities of color (Schnittker et al. 2011; Wakefield and Uggen 2010). A population of this size—16 million nationwide as of 2004 (Uggen et al. 2006)—can be expected to affect labor markets, politics, health care, education, and institutional functioning more generally. But despite intensive surveillance while under correctional control (e.g., head counts in prison, electronic monitoring in the community), this population tends to be forgotten postsentence (Pettit 2012). People convicted of felonies are living, working, paying taxes, or otherwise getting by throughout U.S. society, but the overall extent and geographic distribution of this population remains unknown. Our estimates provide a significant first step in filling this gap by providing

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[2] We do not present estimates for changes in Hispanic ethnicity because less historical demographic information is available on the ethnicity of people in prison or under felony supervision (for 2010 rates, see Shannon and Uggen 2013).
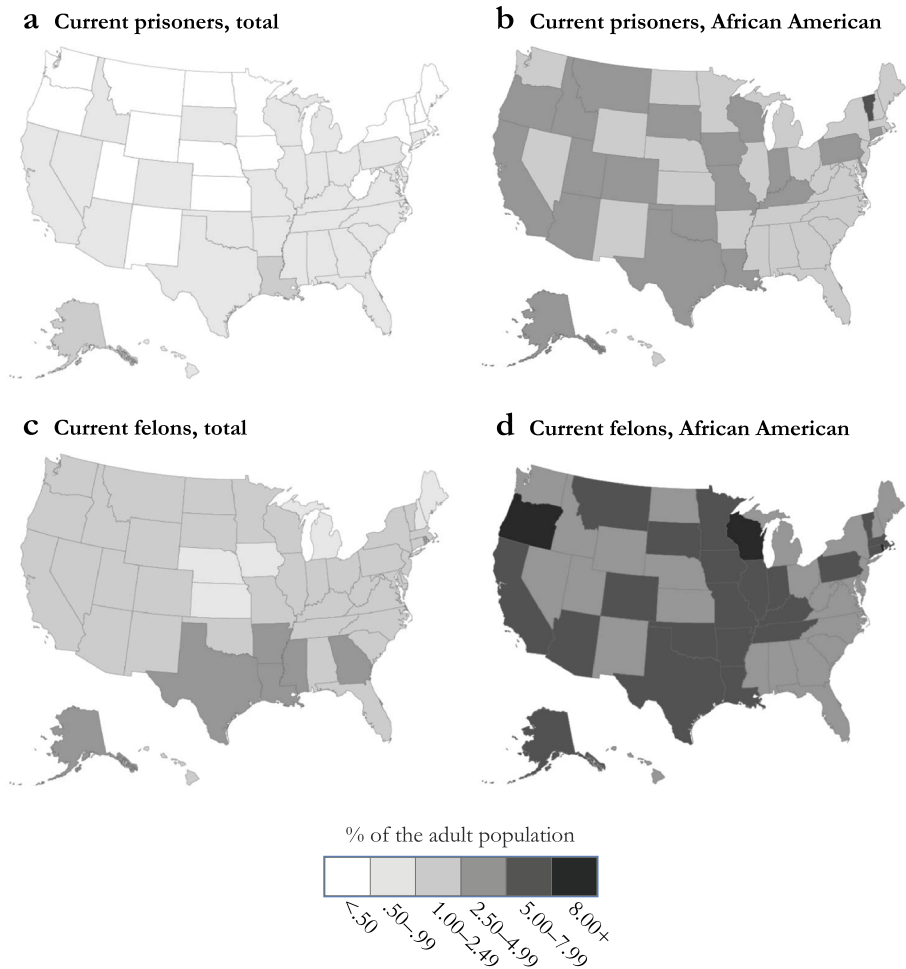
a Current prisoners, total

b Current prisoners, African American

c Current felons, total

d Current felons, African American

% of the adult population

<.50 .50–.99 1.00–2.49 2.50–4.99 5.00–7.99 8.00+

Fig. 1 U.S. current correctional populations as a percentage of adult population by state and race, 2010

scholars with an important social indicator to consider in analyses of phenomena ranging from political participation to family functioning, economic conditions, and public health.

Data and Methods

There are many complications and challenges in producing these estimates. The underlying data are often incomplete; racial categorizations and reporting have changed significantly in recent decades; and states vary in recidivism, mortality, mobility, and other factors that can affect the estimates we compile. We seek to overcome these challenges using the best available data and reasonable assumptions by social scientific standards. It is important to make clear, however, that the figures we present are estimates based on models rather than a census-like enumeration of these populations.

To address sources of potential error and uncertainty, we present state-specific ranges rather than point estimates in the tables in Online Resource 1. Online Resources 2 and 3 provide national- and state-level point estimates in downloadable data files.

To estimate the size of these populations nationally and at the state level, we draw data from annual series gathered by the United States Department of Justice (DOJ) that provide year-end headcounts of the number of individuals exiting and entering correctional control. Specifically, we use each year's reported number of prison releases (conditional and unconditional) and reported number of people entering felony probation and jail to compute annual cohorts of people with felony supervision experience. States vary in consistency of reporting over the period. Where data are missing for particular states or years, we assume stability and apply a linear interpolation between years. See Online Resource 4 for more details on data sources and procedures.

We begin following these groups in 1948 because this is the earliest year for which detailed data are available on releases from supervision. As a result, our estimates are actually for people released in 1948 or later. Historical data on race and sex are typically reported for prison populations but are difficult to obtain for other correctional populations. This data limitation necessitates some interpolation in our estimation procedures. For data prior to the mid-1970s, we use race and sex data for prison to estimate the race and sex distributions in the jail, probation, and parole populations, as detailed in Online Resource 4.

With these data, we compile multiple-decrement demographic life tables for the period 1948–2010 to determine the number of people released from felony supervision lost to recidivism (and therefore already included in annual head counts), mortality, mobility, and deportation each year.[3] Each release cohort is thus reduced each successive year and added to each new cohort of releases. This allows us to compute the number of people with felony convictions who are no longer under criminal justice supervision each year. As detailed herein and in Online Resource 4, we take several steps to avoid overestimating the number of people with past felony supervision in the population.

Recidivism

Because our estimates are most sensitive to our assumptions about recidivism, we take several approaches to produce upper and lower bounds for these numbers. Given the poor quality or absence of state- and race-specific recidivism rates, especially for nonincarcerated correctional populations, we make a number of simplifying assumptions in obtaining these estimates. To reflect the uncertainty around these estimation procedures, we present ranges for our state-level estimates in light of alternative assumptions regarding state-specific recidivism rates.

Based on large-scale national recidivism studies of prison releasees and probationers, our models assume that most people released from prison will be reincarcerated and that a smaller percentage of people released from probation and jail will cycle back through the criminal justice system (Beck and Shipley 1989; Langan and Cunniff 1992). For prisoners

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[3] Because we use de-identified aggregate data, factors such as aliases are unlikely to significantly affect our estimates. State releasee information is based on a simple count of the number of people leaving supervision, without regard to individual releasees' names or identities. Our estimates thus model death and recidivism for the total release cohort rather than tracking individuals who may have multiple names or records within the system.

and parolees, we use a reincarceration rate of 18.6 % at 1 year, 32.8 % at 2 years, and 41.4 % at 3 years (Beck and Shipley 1989; Langan and Cunniff 1992). Although re-arrest rates have increased over time, the overall reconviction and reincarceration rates used for this study are much more stable (Langan and Levin 2002:11).[4] For probationers and jail inmates, the corresponding three-year failure rate is 36 %.

To extend the analysis to subsequent years, we calculate a trend line using the ratio of increases provided by Hoffman and Stone-Meierhoefer (1980) on federal prisoners. By year 10, we estimate a 59.4 % recidivism rate among released prisoners and parolees, which increases to 65.9 % by year 62 (the longest observation period in this analysis). Because these estimates are higher than most long-term recidivism studies, they are likely to yield conservative estimates of the population with past felony supervision. We apply the same trend line to the three-year probation and jail recidivism rate of 36 %; by year 62, the recidivism rate is 57.3 %.

We begin by applying these recidivism rates to all populations under felony supervision at the national and state levels. Because these initial estimates may slightly overestimate "surviving" groups in states with high recidivism rates while underestimating those with lower recidivism rates, we relax this assumption in subanalyses that assume variation by race and state, as detailed in Online Resource 4.

Mortality

We calculate mortality based on the expected number of deaths for African American males at the median age of release for each year obtained from the National Corrections Reporting Program (U.S. Bureau of Prisons 1948–2004), multiplied by a factor of 1.46 to reflect the higher death rates observed among releasees in prior research (Beck and Shipley 1989). Using the African American death rate ensures that our estimates are conservative given that this group experiences higher mortality than the total population.

Mobility

After adjusting the estimates for recidivism and mortality, we further calculate the effect of interstate mobility on our state-level numbers. We obtained annual average net migration rates (expressed as an annual percentage lost or gained) by state from U.S. Census sources (Franklin 2003; Perry 2006; U.S. Bureau of the Census 1953; 1963; 1973; 1984; U.S. Census Bureau 2010) and apply them to the estimate for each state in each year.[5] If the state experienced a net mobility loss, we simply subtract the number

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[4] A recent report from the Bureau of Justice Statistics using data on prisoners released in 2005 in 30 states found a 17.5 % reincarceration rate at 1 year, 28.8 % at 2 years, and 36.2 % at 3 years (Durose et al. 2014). We apply the slightly higher rate from previous studies so that our estimates are more conservative.

[5] Little is known about how mobility patterns of this population might differ from the population as a whole. Available evidence suggests that at least 95 % of former prison inmates remain in the same state postrelease (LaVigne and Kachnowski 2003; LaVigne and Mamalian 2003; LaVigne and Thomson 2003; Watson et al. 2004). Given that this population faces significant socioeconomic challenges as a result of criminal conviction (see, e.g., Wakefield and Uggen 2010), there is little reason to believe that people with felony records are *more* mobile than the general population. If they are *less* mobile than the population as a whole, our estimates will remain conservative.

lost to mobility from the total estimate for that year. If a state experienced a net mobility gain in a given year, we further reduce the number gained for recidivism and death and add the remainder to the total estimate for that state and year.[6]

Deportation

One particular form of mobility that is relevant to our estimates, especially in more recent years, is deportation for felony conviction. To adjust for losses due to deportation, we again make several simplifying assumptions given the lack of state- and race-specific data over the full period of study. We gather annual data on the total number of deportations for criminal behavior nationally and deduct them from our annual estimates using a moving 50-year window. As detailed in Online Resource 4, we take several steps to ensure that we count only felony-level offenses and only those deported for the first time. Nationally, we assume that the majority of deportees are male (Golash-Boza 2015), multiplying the total number of deportees in each year by 0.9 to obtain male rates.

To estimate the number of people deported for felonies in each state and year, we calculate the percentage of all noncitizens incarcerated in each state in 2010 as reported by the Bureau of Justice Statistics (Guerino et al. 2012). We then apply these state-specific percentages to the national number of felony deportations in each year in order to distribute them across the states. Because data on noncitizens in prison are not available annually, we assume stability in these state-level percentages over time. For African American estimates, we adjust the national and state-specific numbers by applying the percentage of the black foreign-born population in each jurisdiction as obtained from the decennial U.S. Census.

As is evident, producing reliable age-, race-, or sex-specific estimates is challenging given existing data limitations and the complexity of modeling interstate mobility. Our estimates are especially sensitive to changes in the recidivism rate (although they are less sensitive to changes in mortality or mobility rates). As a result, we present ranges for our state-level estimates and urge caution in interpreting these model-based estimates, despite the great care we have taken in producing them.

Spatial Analysis

With the fully adjusted state-level estimates in hand, we use GIS techniques to map changes in these populations as a percentage of each state's adult population over time. We also perform spatial clustering analyses to detect areas of the country with significantly higher concentrations of people with past prison and felony supervision

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[6] After calculating mobility-adjusted estimates for each state and year, we found that the resulting national totals for both populations were inflated by 2 % over national totals without mobility adjustments because we add in mobility gains each year and reduce those gains for recidivism and mortality but not subsequent mobility losses. To compensate for this inflation, we adjust each state's estimate by a factor of 0.98 in each year. This is a reasonable assumption because 2 % to 3 % of the U.S. population moved from one state to another annually from 1980 to 2010, with the percentage declining just below 2 % in more recent years (U.S. Census Bureau 2013).

experience. Moran's I is the most commonly used statistic for detecting spatial clustering (Cliff and Ord 1973; Cressie 1993; Haining 1990), providing a summary global measure of whether the null hypothesis of spatial randomness can be rejected. A significant coefficient indicates the presence of spatial dependence. Moran's I can be compared with a Pearson product-moment correlation with a feasible range of –1 to +1. Put simply, rather than calculating the correlation between two variables, as with the Pearson's r, the Moran's I statistic estimates the correlation between the same variable in two geographic areas.[7]

Moran's I can be expressed as follows:

$$I_x = \left(\frac{n}{\sum_{i=1}^{n} \sum_{j=1}^{n} \mathbf{w}_{ij}} \right) \frac{\sum_{i=1}^{n} \sum_{j=1}^{n} \mathbf{w}_{ij} \left(x_i - \overline{x} \right) \left(x_j - \overline{x} \right)}{\sum_{i=1}^{n} \sum_{j=1}^{n} \mathbf{w}_{ij} \sqrt{\sum_{i=1}^{n} \left(x_i - \overline{x} \right)^2 \sum_{j=1}^{n} \left(x_j - \overline{x} \right)^2}},$$

where x is the value for state i and neighbor j; and $\mathbf{w}$ denotes a spatial weights matrix, in this analysis determined by first-order queen contiguity.

This global measure, while informative, does not reveal where *hot spots*—local variation in the overall spatial pattern—might be. Local indicators of spatial autocorrelation (LISA) provides a way to examine such hot spots by decomposing Moran's I into the contribution made by each individual observation (Anselin 1995). LISA statistics identify which locations contribute more than their expected share to Moran's I (Anselin 1995) and can be expressed as follows:

$$I_i = z_i \sum_j \mathbf{w}_{ij} z_j,$$

where z_i and z_j are deviations from the mean, and $j \in J_i$.

Results

National-Level Estimates

As shown in Table 1, approximately 2.4 million adults were in prison and on parole in the United States in 2010 (Glaze and Bonczar 2011; Guerino et al. 2012). Based on our life table estimates, an additional 4.9 million adults were formerly incarcerated, for a total of 7.3 million adults who have ever been incarcerated. As shown in panel a of Fig. 2, this number has grown considerably over time, particularly as incarceration rates increased dramatically in the 1970s and 1980s. As people were released in subsequent years, the number of people with prison records also rose steeply.

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[7] Integral to this calculation is the specification of a spatial weights matrix in order to explicitly account for the spatial arrangement of the data. This specification determines the "neighborhood" for each observation. Weights matrices can be determined based on distance (e.g., from one state centroid to another) or by contiguity (shared borders). Contiguity matrices can be established at higher or lower orders (e.g., first, second, third) and vary in the neighbors included (e.g., rook, queen). For example, a first-order queen contiguity matrix takes into account adjacent neighbors in all directions at the first level out from the state in question.

Table 1 Estimated U.S. population with prison records by year and race

Year	Currently in Prison or on Parole		Formerly in Prison or on Parole		Total in Prison or on Parole	
	Total	African American	Total	African American	Total	African American
1980	551,857	225,375	996,290	299,435	1,548,147	524,810
% Adult population	0.34	1.31	0.61	1.73	0.94	3.04
% Adult male population	0.65	2.51	1.14	3.25	1.79	5.76
1990	1,305,326	640,120	1,671,217	581,337	2,976.543	1,221,457
% Adult population	0.70	3.05	0.90	2.77	1.60	5.82
% Adult male population	1.37	5.95	1.73	5.29	3.10	11.24
2000	2,107,419	928,645	3,088,214	1,303,328	5,195,633	2,231,973
% Adult population	1.02	3.77	1.50	5.29	2.52	9.06
% Adult male population	1.95	7.14	2.81	9.84	4.76	16.98
2010	2,392,589	915,864	4,912,321	1,956,864	7,304,910	2,872,728
% Adult population	1.02	3.12	2.09	6.66	3.11	9.64
% Adult male population	1.86	4.88	3.70	10.26	5.55	15.14

Table 1 further delineates these estimates of current, former, and total (current plus former) populations by sex and race. In line with previous research (Pettit 2012; Western 2006), we find that African American men are represented in the population of people with prison records at rates much higher than men overall. In 1980, nearly 6 % of the adult male African American population had been to prison at some point (total prison/parole) compared with just less than 2 % of all adult men. By 2010, 15 % of African American adult males had spent time in prison versus 5.6 % of all adult males.

Panel a of Fig. 3 expresses these changes as a percentage of the U.S. adult population since 1948 and highlights the disparity in incarceration between African American and non–African American populations. Although both groups experienced substantial increases, the absolute rates and the rate of growth were higher for African Americans. People with prison experience grew significantly as a percentage of the non–African American adult population (right axis) since the 1980s, reaching 2.3 % in 2010, compared with approximately 1 % in 1980. However, for African Americans, the percentage of adults who are currently or formerly incarcerated more than tripled from 3 % in 1980 to approximately 10 % in 2010 (left axis).

These estimates are generally comparable with those obtained by other researchers applying different demographic techniques. Bonczar (2003) estimated that in 2001, 3 % of adults, 5 % of adult males, and 17 % of African American adult males had been to prison. Pettit and Western (2004) found that black men born between 1945 and 1949 had an 11 % chance of imprisonment, relative to a 21 % for the cohort of black men born between 1965 and 1969. These figures are generally congruent with our overall estimate that 15 % of black men had experienced imprisonment by 2010. This consistency with earlier research provides an important check on our approach, which we next apply to the much broader class of people with felony convictions.
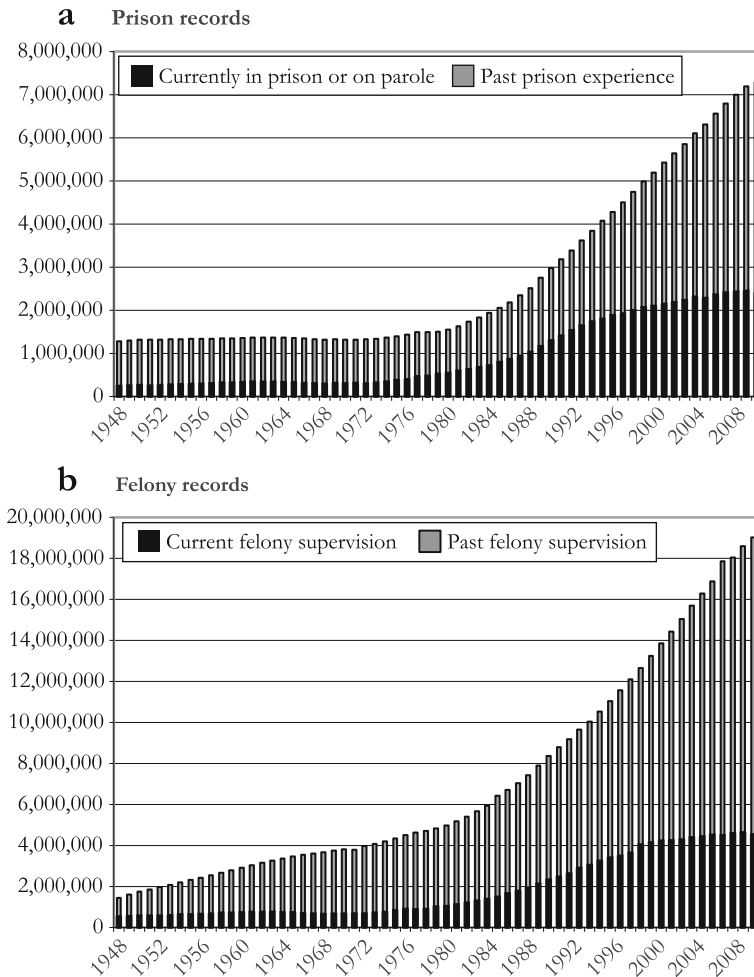
Fig. 2 Growth of U.S. population with prison and felony records, 1948–2010

Although imprisonment is a serious consequence, most people with felony convictions never enter prison but instead serve their sentences in jail or on probation in the community. Many of the collateral consequences of punishment—most notably for the labor market, housing, and access to public supports—flow not from incarceration experiences but from the application of a widely known and publicly disseminated felony label (Uggen and Stewart 2015). We estimate the total number of people with felony convictions by extending the life table analysis to include felony probation and jail supervision each year.

As shown in Table 2, 4.5 million people were serving jail or probation sentences for felony convictions in 2010 (Glaze and Bonczar 2011; Guerino et al. 2012). Our estimates show an additional 14.5 million people with past felony convictions in the population, which sums to a total of 19 million people in 2010. Panel b of Fig. 2 displays the growth in the total number of people who had ever been under felony supervision since 1948. Probationers have lower
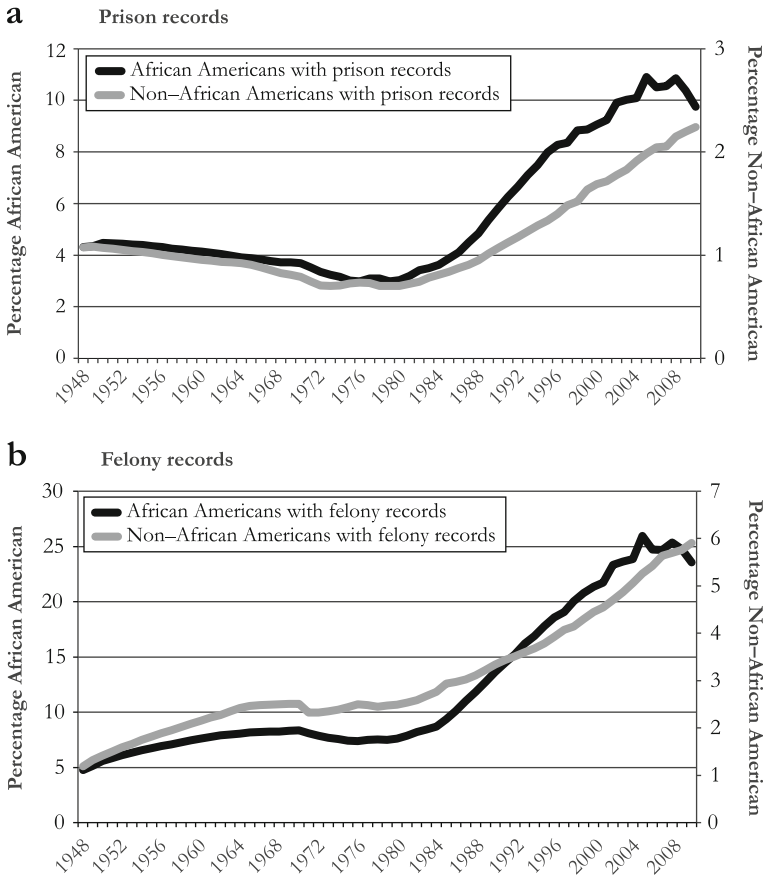
a   Prison records

b   Felony records

Fig. 3 Percentage of U.S. adult population with prison and felony records by race, 1948–2010

recidivism rates than prisoners, such that a smaller percentage of former proba-
tioners are removed from the pool each year. This results in a more rapid
accumulation in the population and a higher ratio of people with felony convic-
tions to people under current felony supervision relative to the ratio of people
formerly incarcerated to current prisoners.

We also represent the population with a felony conviction as a percentage of the
U.S. adult population by race in panel b of Fig. 3. The total number of non–
African Americans with felony convictions grew from 2.5 % of the adult popu-
lation in 1980 to more than 6 % in 2010 (right axis). For African Americans,
people with felony convictions tripled, from 7.6 % of adults in 1980 to approx-
imately 23 % in 2010 (left axis).

Table 2 further shows the breakdown of current, former, and total populations
with felony convictions by race and sex. Once again, differences are stark
between African American and total adult males. Already in 1980, approximately
13 % of adult African American males had a current or past felony conviction
compared with 5 % of the total male population. By 2010, one-third (33 %) of
adult African American males had a felony conviction versus approximately
13 % of all adult males.

Table 2 Estimated U.S. population with felony records by year and race

Year	Current Felons		Former Felons		Total Felons	
	Total	African American	Total	African American	Total	African American
1980	1,058,073	368,042	3,918,100	942,682	4,976,173	1,310,724
% Adult population	0.64	2.13	2.38	5.46	3.03	7.59
% Adult male population	1.17	3.93	4.07	9.36	5.25	13.29
1990	2,335,791	988,524	6,033,157	1,871,726	8,368,948	2,860,250
% Adult population	1.26	4.71	3.25	8.92	4.50	13.63
% Adult male population	2.33	8.82	5.58	15.58	7.91	24.41
2000	4,166,091	1,633,749	9,076,642	3,609,082	13,242,733	5,242,831
% Adult population	2.02	6.63	4.41	14.65	6.43	21.28
% Adult male population	3.58	11.81	7.28	24.90	10.86	36.71
2010	4,548,433	1,552,493	14,474,204	5,329,716	19,022,636	6,882,208
% Adult population	1.94	5.28	6.17	18.14	8.11	23.42
% Adult male population	3.26	7.86	9.55	25.15	12.81	33.01

a   1980, total

b   1980, African American

c   2010, total

d   2010, African American

% of the adult population

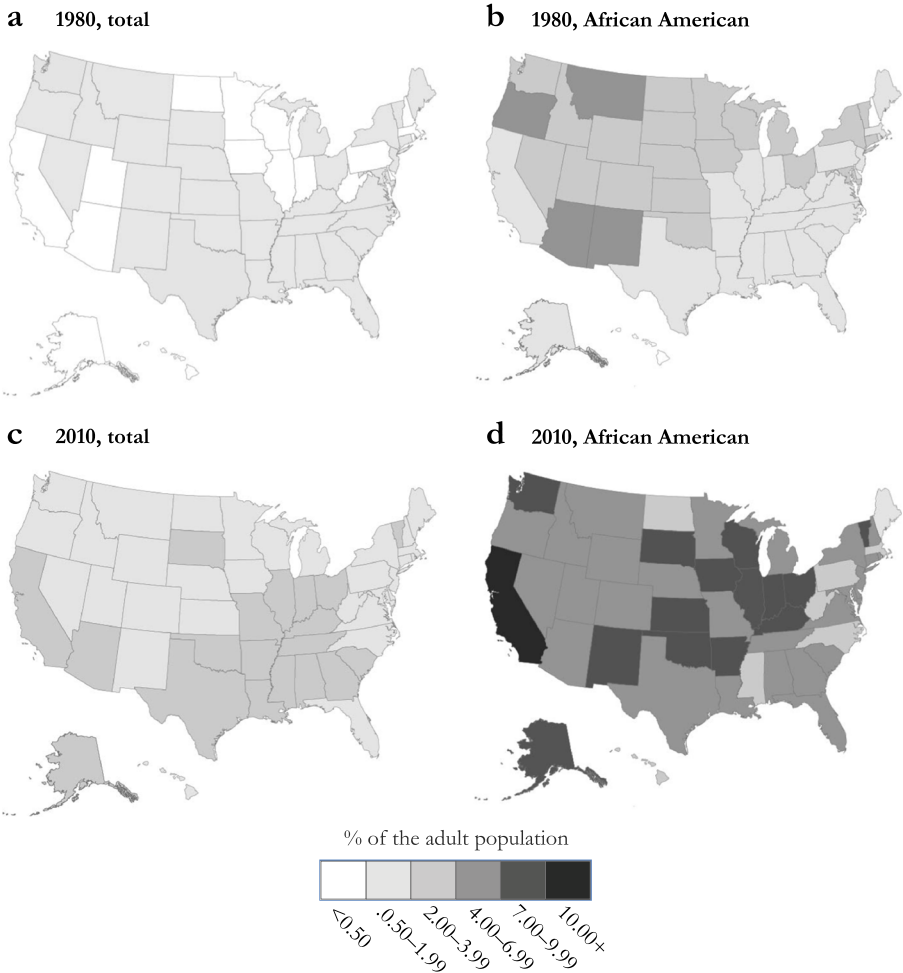<0.50   .0.50–1.99   2.00–3.99   4.00–6.99   7.00–9.99   10.00+

Fig. 4 Percentage of U.S. adult population with prison records by state and race, 1980 and 2010

State-Level Estimates

Although national numbers provide an overall picture, these totals obscure important state-level variation in criminal punishment. To illustrate this variation, the maps in Fig. 4 show the percentage of total and African American adult populations in each of these groups for 1980 and 2010 using our lower-bound estimates. Tables displaying these estimates in detail and for additional years (1990 and 2000) are shown in Online Resource 1. These online tables include upper and lower bounds for these numbers based on our alternative assumptions regarding recidivism described in Online Resource 4. The lower bound assumes a 25 % higher recidivism rate than the national average. The upper bound is the highest number we obtained for each state from applying either state-specific or national recidivism rates. In all cases, the percentages are derived using the relevant estimate as the numerator and the state's population over 18 years of age as the denominator for total and African American populations. The
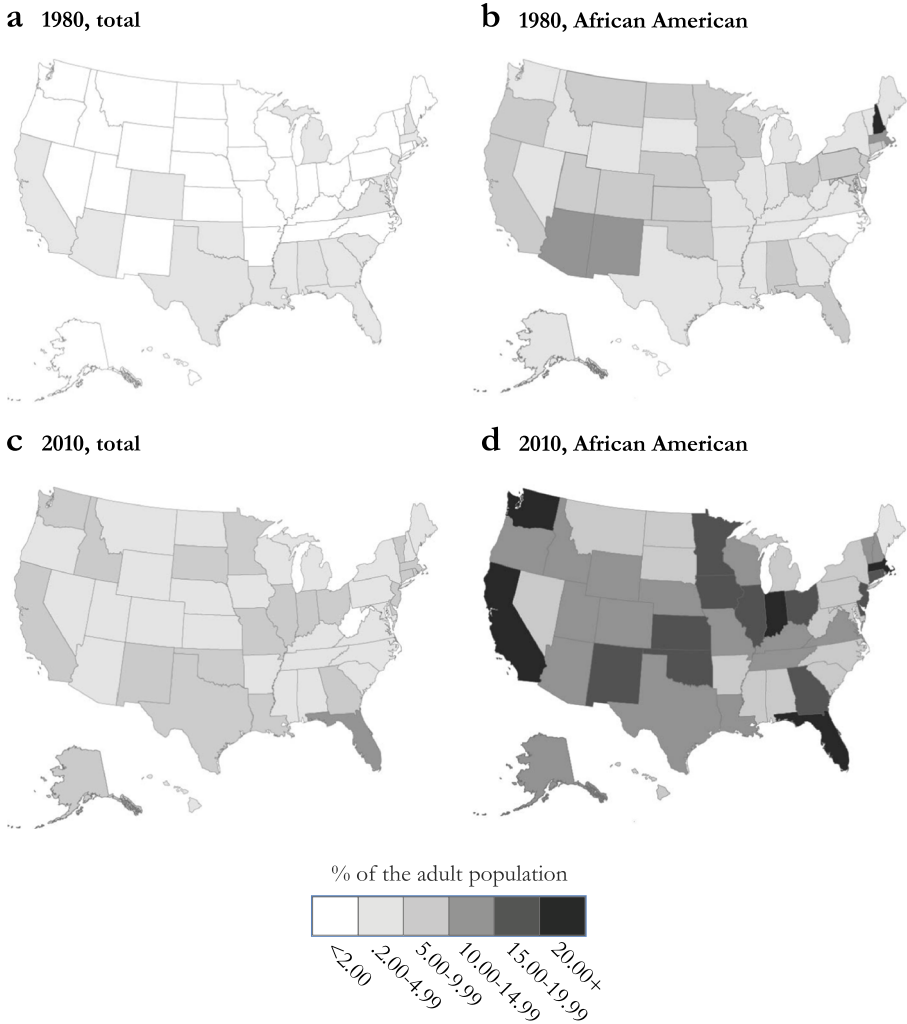
a 1980, total

b 1980, African American

c 2010, total

d 2010, African American

% of the adult population

<2.00 2.00–4.99 5.00–9.99 10.00–14.99 15.00–19.99 20.00+

Fig. 5 Percentage of U.S. adult population with felony records by state and race, 1980 and 2010

maps in Figs. 4 and 5 use the more conservative lower bound to avoid overstating each state's estimate.

Panel a of Fig. 4 shows that less than 2 % of adults in most U.S. states had spent time in prison as of 1980. In fact, most states had less than 1 % of adults with prison experience; only Maryland had rates of people formerly incarcerated between 1 % and 2 %. States with the lowest rates (less than 0.5 %) include several in the upper Midwest (such as North Dakota and Minnesota), a handful in the Northeast (such as Massachusetts and Vermont), and a few in the West (including Arizona and California). The picture changed substantially by 2010, as panel c of Fig. 4 demonstrates. By 2010, no states had rates of formerly incarcerated adults of less than 1 %. Moreover, in 18 states, more than 2 % of the adult population had spent time in state prisons. States with more than 3 % of the adult population with prison records include Alaska, California, and Louisiana.

Panels b and d of Fig. 4, which depict the percentage of formerly incarcerated African Americans, are more startling. Although overall rates in 1980 were relatively uniform and low, this is not the case for African American adults. As panel b shows, 24 states had African American rates of former prisoners in excess of 2 % in 1980. In four states, more than 4 % of adult African Americans had been to prison by 1980. Such states often have low baseline African American populations. For example, according to our life table estimates, New Mexico had approximately 1,000 formerly incarcerated African American adults in 1980 and a state population of 15,300 adult African Americans (6.5 %). When compared with states such as Texas, which had a greater absolute number of African Americans with prison records in 1980 (approximately 20,000 by our estimates) but also a much higher baseline population (1.1 million adult African Americans), states such as New Mexico stand out in terms of racial disparity. By 2010, rates of formerly incarcerated African Americans (panel d) had climbed even higher, with only seven states having rates less than 4 % of the adult population. Thirty states had rates of at least 5 % of the adult population, and 15 had rates greater than 7 %. California leads the nation with about 12 % of African American adults having a prison record (see Table S4, Online Resource 1).

Turning to the broader felony conviction criterion in Fig. 5, panels a and c display the percentage of all adults in each state with felony convictions in 1980 (panel a) and 2010 (panel c). By 1980, less than 2 % of the adult population in most states (33) had a felony record. Thirteen states had adult felony conviction rates between 2 % and 3 %. In Alabama, California, Colorado, and Oklahoma, approximately 3 % of the adult population had spent time under felony supervision. As of 2010, rates had risen such that only one state (West Virginia) had less than 2 % of the adult population with a felony record (see panel c). Twenty-six states had rates between 2 % and 5 %. In 22 states, between 5 % and 10 % of the adult population had experienced prior felony supervision. In Florida, at least 10 % of the total adult population had spent time under felony correctional supervision by 2010.

As with our prison estimates, the magnitude of felony supervision rates is much higher for African American than for all adults, as shown in Fig. 5. Already in 1980 (panel b), more than 10 % of the adult African American population in four states had been under felony supervision at some point in their lives (Arizona, Massachusetts, New Hampshire, and New Mexico). By 2010 (panel d), only 16 states had *less* than 10 % of adult African Americans with past felony supervision. By 2010, *all but one* state (Maine) had a felony conviction rate of at least 5 % of adult African Americans. Rates in 18 states were between 10 % and 14 %, while 11 states boasted rates of 15 % to 19 %. Most strikingly, rates in five states exceeded 20 %, meaning that one in five African American adults in these states had at some point been under felony supervision (California, Florida, Indiana, Massachusetts, and Washington). In California and Indiana, we estimate that at least one in four of all adult African Americans had a felony conviction history. Although it may seem implausible that more than 20 % of the African American adult population has a felony conviction history in such states, recall that at least 5 % of the African American population was *currently* under felony supervision in these states in 2010.

How are we to interpret this differential exposure to criminal justice contact? Where state rates are higher, a greater share of the population will be subject to the formal and informal collateral consequences of felony conviction. As we note earlier, these consequences include denial of public benefits, housing, labor market discrimination,

and social exclusion more generally. In short, as the percentage of people with felony records rises in a state, the justice system and its aftereffects become ever more central in the lives of individual citizens and their communities. These discriminatory effects are amplified for African American communities that experience very high rates of punishment in many states, as our estimates show.

Space-Time Trends

Building on the maps presented earlier, the results of our spatial clustering analyses reveal several significant patterns over space and time. Panel a of Fig. 6 displays Moran's *I* coefficients by decade for rates of people with prison records by race using our more conservative lower-bound estimates.[8] We find significant spatial autocorrelation in our estimates for the total adult population in all years except 2010, indicating that significant clusters of states have similarly higher or lower proportions of adults with prison records. LISA analyses (not shown, available by request) show a significant cluster of states with high rates in the South over the full period, with a significant cluster of low rates in the Northeast in the earlier years. These patterns align with states that typically have the highest and lowest incarceration rates in the nation. For example, Louisiana and Mississippi have the two highest incarceration rates as of 2012 (893 and 717 per 100,000, respectively); Maine (145), Rhode Island (190), and Massachusetts (200) are among the lowest (Carson and Golinelli 2013).

The trend line in spatial clustering for formerly incarcerated African American adults shows a similar pattern to overall rates, although the magnitude of the coefficients are higher and significant in all decades. We find significant clusters of high African American rates in the West at the first three time points, but this clustering shifts toward the Midwest by 2010, as revealed by LISA analysis (not shown) and apparent in Fig. 4. Six of the 12 states with rates higher than 8 % are located in the Midwest in 2010 (Illinois, Indiana, Kansas, Ohio, South Dakota, and Wisconsin). These clusters are likely driven in part by low baseline populations of African Americans in some states. LISA analysis also shows significant clusters of low African American rates in the Southeast and Northeast. Although a direct comparison is confounded by differences in methods,[9] this pattern is in line with Muller and Wildeman's (2016) findings that the cumulative risk of incarceration for African Americans is highest in the Midwest but lower in the South and Northeast.

The drop in magnitude of the Moran's *I* coefficients over time may be due to the fact that the rate of African Americans with prison records exceeded 5 % of the adult population in most states by 2010. This does not imply that the concentration of people who have been to prison has diminished at lower geographic scales (e.g., neighborhoods). Rather, formerly low incarceration states have begun to catch up with

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[8] We also tested these results excluding states with especially high rates (e.g., California and Florida) as well as states with less than 10,000 African Americans in the total population; our findings were similar.

[9] We caution against a direct comparison between our article and Muller and Wildeman's (2016) because of differences in methods and the outcome of interest. Muller and Wildeman (2016) used point-in-time projection, and our analysis uses release cohorts over a much longer period. As Muller and Wildeman (2016:1505) noted, these methodological differences hinder drawing direct comparisons between the two types of analyses. In addition, Muller and Wildeman estimated risk of incarceration only, whereas we estimate felony convictions with or without a sentence of incarceration.
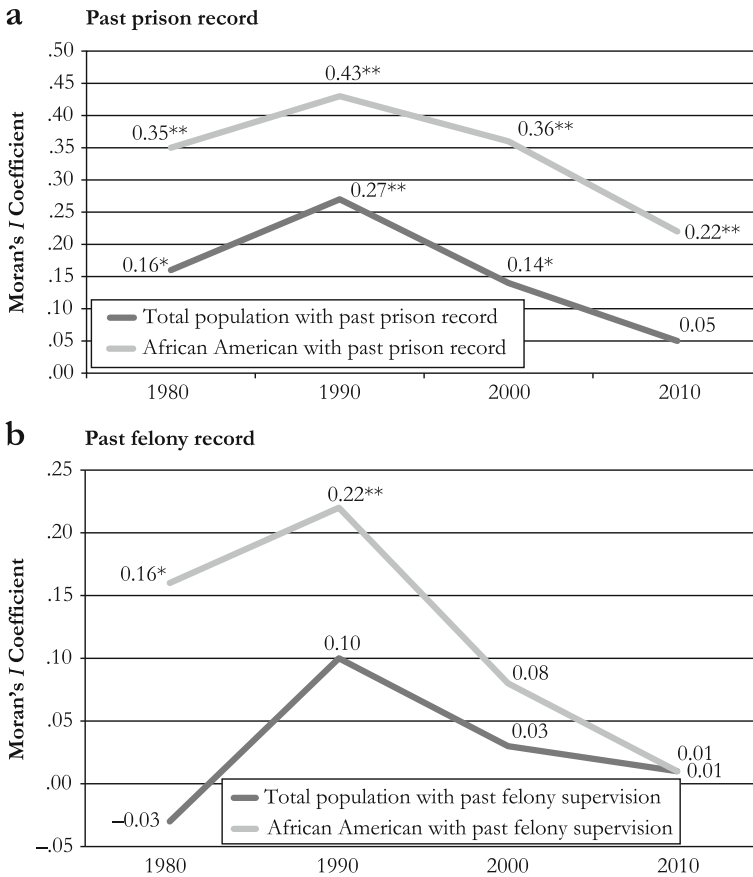
Fig. 6 Moran's *I* for rates of prison and felony records by race. *p* < .05; **p* < .01

historically high incarceration states in the concentration of formerly incarcerated African Americans.

Unlike the rate for people with prison records, the decennial Moran's *I* for total rates of people with felony records are low in magnitude and never significant, as shown in panel b of Fig. 6. The Moran's *I* trend for African Americans with felony convictions shows a peak in 1990 with a drop in magnitude and significance as of 2000. LISA analysis (not shown) reveals a significant cluster of low rates among African Americans in the Southeast in 1980 and 1990 and a significant cluster of high rates in the West in 1990. As with prison experience, high rates of African Americans with felony records were widespread across the nation by 2010, which is reflected in a nonsignificant Moran's *I* coefficient. This lack of significant spatial clustering in later decades may reflect states' diverse paths in expanding the use of probation over this period that did not necessarily follow the same patterns as the growth in incarceration and are difficult to predict (Phelps 2017). These results also highlight an important difference between our analysis, which includes all felony convictions, and that of Muller and Wildeman (2016), which focused exclusively on incarceration. Some states, such as Minnesota, have low incarceration rates but much higher felony probation rates. Our analysis

suggests that the same patterns of concentration by region and race that are apparent for risk of imprisonment likely do not hold for the risk of felony conviction more broadly. The difference in these patterns underscores the need to better understand the prevalence and patterns in felony supervision beyond incarceration.

Discussion

These estimates are the first attempt to provide state-level demographic information about people with felony convictions in the United States, a population defined by incomplete citizenship and the temporary or permanent suspension of many rights and privileges. Because we currently have so little state-level information on this group, we have emphasized this new descriptive evidence. A logical next step in this line of research will be to develop explanatory models to predict changes in the rate of people with felony records and the differing paths taken by the states during the mass incarceration era. Our estimates are also well suited to estimating the cumulative risk of having a felony conviction. Although criminal justice data series have improved over the 1980–2010 period, some significant gaps remain. The success of subsequent work will depend critically on developing greater consistency and completeness in state reports, particularly regarding race and ethnicity. For example, we currently lack the data needed to develop sound estimates of the rate of felony convictions among Latinos.

Despite these caveats, our life table estimates and spatial analyses show that the development of the population with felony convictions since 1980 has been one of widespread, racialized growth. Although our analysis cannot provide a critical test of competing punishment theories, these results are in many ways consistent with theories based on neoconservatism, conflict, and group threat (Behrens et al. 2003; Garland 2001b; Wacquant 2012). As our estimates demonstrate, African American populations in many states are now heavily burdened by the social consequences of felony conviction. Nationwide, as of 2010, 3 % of all adults and 10 % of African American adults were currently or previously in prison, but rates ranged from 1 % in Maine to 12 % in California. Moreover, 15 % of adult African American men had been to prison. These estimates square with other national studies on imprisonment, although they are somewhat lower than those for cohorts coming of age during the incarceration boom. For example, Pettit (2012) estimated that 28 % of African American men in recent cohorts will have entered prison by age 30–34.

These disparities continue when we turn to the broader felony criterion. Nationwide, approximately 8 % of all adults had a felony conviction as of 2010, but approximately 23 % of African American adults shared the same distinction. A staggering 33 % of African American adult males had a felony conviction by 2010. Depending on the state, between 1 in 10 and 1 in 3 African American adults are confronting the daily reality of limited citizenship rights, diminished job prospects, and stigmatization. Communities and families in which people with prison experience and felony records live are also taxed by the material and social consequences of criminal punishment (National Research Council 2014; Wakefield and Uggen 2010). In Ferguson, Missouri, for example, the U.S. Department of Justice (2015) concluded that police and court officials systematically discriminated against black residents and imposed excessive

fines and forfeitures that deepened distrust of the criminal justice system. Ferguson is no aberration in engaging in such discrimination given that we identify five states in which more than 20 % of adult African Americans had felony convictions as of 2010.

Given this pervasive racialized growth, many phenomena of interest to social scientists are surely affected. Our estimates are critical in this regard because until now, estimates of the presence and variability in this population over time and across space were not available. Regardless of whether one has been incarcerated, a felony conviction clearly affects life chances. Although we focus on state differences, it is important to bear in mind the high rate and growth of the aggregate U.S. population with felony convictions. Even social institutions and processes that would appear far removed from the criminal justice system may be affected, including health care, politics, and the labor market (Johnson and Raphael 2009; Uggen and Manza 2002; Western and Beckett 1999).

These effects undoubtedly vary by state depending on the relative presence of this population. For example, using similar estimates in states where people with felony convictions are barred from voting, Uggen and Manza (2002) demonstrated that disenfranchisement rates can affect elections by diminishing the electoral power of minority groups, the results of which affect a state's—and the nation's—population as a whole. Likewise, U.S. states with higher rates of people with prison records experience lower access to and quality of health care, even for those who have never been incarcerated (Schnittker et al. 2015). Similar spillover effects are likely to affect a great range of social institutions, making these estimates an important tool for social scientists and policy-makers alike.

Although these model-based estimates remain less definitive than would census-based counts, they represent an important step toward providing reliable data for social scientists and policy-makers on people with *past* prison and felony supervision experience. This work thus complements other research with regard to imprisonment (Pettit 2012), arrest (Brame et al. 2014), family concentration (Turney 2014; Wildeman 2009), and neighborhood clustering (Kirk 2008). With significant changes in sentencing laws underway (Clear and Frost 2014), including shifts from incarceration to community corrections, the size as well as the geographic and demographic distribution of this population is all the more important to measure and understand.

The United States' decades-long "grand experiment" with mass incarceration may be at a crossroads (Clear and Frost 2014), but at current rates of decline, some estimate it would take 80 years to return to 1980 levels nationwide (Mauer 2013). Any such declines will unfold differentially across states, just as the rise in criminal punishment was driven by state-specific law and policy preferences. Although current incarceration rates have declined slightly, the number of people *formerly* incarcerated will likely continue to rise for decades as people are released. If, as some predict (Clear and Frost 2014), states significantly reduce prison populations through early-release procedures, the rise in people formerly incarcerated will likely be accelerated, at least in the short term. If legal changes result in fewer people sentenced to prison, this population will gradually decline over the long term. Moreover, although incarceration levels are stabilizing or decreasing, the broader population of those with felony records will likely continue to grow as states turn to community supervision as an alternative to incarceration. We thus expect the variation in the spatial and racial distributions of this population to remain a crucial demographic phenomenon for social scientists and policy-makers to understand.

References

Anselin, L. (1995). Local indicators of spatial autocorrelation——LISA. *Geographical Analysis, 27,* 93–115.

Barker, V. (2006). The politics of punishing: Building a state governance theory of American imprisonment variation. *Punishment & Society, 8,* 5–32.

Beck, A. J., & Shipley, B. E. (1989). *Recidivism of prisoners released in 1983* (Bureau of Justice Statistics special report). Washington, DC: U.S. Department of Justice.

Beckett, K., Nyrop, K., & Pfingst, L. (2006). Race, drugs, and policing: Understanding disparities in drug delivery arrests. *Criminology, 44,* 105–137.

Beckett, K., & Western, B. (2001). Governing social marginality: Welfare, incarceration, and the transformation of state policy. *Punishment & Society, 3,* 43–59.

Behrens, A., Uggen, C., & Manza, J. (2003). Ballot manipulation and the "menace of Negro domination": Racial threat and felon disenfranchisement in the United States, 1850–2002. *American Journal of Sociology, 109,* 559–605.

Bonczar, T. P. (2003). *Prevalence of imprisonment in the U.S. population, 1974–2001* (Bureau of Justice Statistics Special Report, No. NCJ 197976). Washington, DC: U.S. Department of Justice.

Brame, R., Bushway, S. D., Paternoster, R., & Turner, M. G. (2014). Demographic patterns of cumulative arrest prevalence by ages 18 and 23. *Crime & Delinquency, 60,* 471–486.

Brame, R., Turner, M. G., Paternoster, R., & Bushway, S. D. (2012). Cumulative prevalence of arrest from ages 8–23 in a national sample. *Pediatrics, 129,* 21–27.

Bridges, G. S., & Steen, S. (1998). Racial disparities in official assessments of juvenile offenders: Attributional stereotypes as mediating mechanisms. *American Sociological Review, 63,* 554–570.

Carson, E. A., & Golinelli, D. (2013). *Prisoners in 2012* (Bureau of Justice Statistics Bulletin, No. NCJ 243920). Washington, DC: U.S. Department of Justice.

Clear, T. R. (2007). *Imprisoning communities.* New York, NY: Oxford University Press.

Clear, T. R., & Frost, N. A. (2014). *The punishment imperative.* New York, NY: NYU Press.

Cliff, A. D., & Ord, J. K. (1973). *Spatial autocorrelation.* London, UK: Pion.

Cressie, N. (1993). *Statistics for spatial data.* New York, NY: Wiley.

Durlauf, S. N., & Nagin, D. S. (2011). Overview of "Imprisonment and crime: Can both be reduced?" *Criminology & Public Policy, 10,* 9–12.

Durose, M. R., Cooper, A. D., & Snyder, H. N. (2014). *Recidivism of prisoners released in 30 states in 2005: Patterns from 2005 to 2010* (Bureau of Justice Statistics Special Report, No. NCJ 244205). Washington, DC: U.S. Department of Justice.

Enns, P. K. (2016). *Incarceration nation: How the United States became the most punitive democracy in the world.* Cambridge, UK: Cambridge University Press.

Ewald, A., & Uggen, C. (2012). The collateral effects of imprisonment on prisoners, their families, and communities. In J. Petersilia & K. Reitz (Eds.), *The Oxford handbook on sentencing and corrections* (pp. 83–103). New York, NY: Oxford University Press.

Feeley, M., & Simon, J. (1992). The new penology: Notes on the emerging strategy of corrections and its implications. *Criminology, 30,* 449–474.

Franklin, R. S. (2003). *Domestic migration across regions, divisions, and states: 1995 to 2000* (Census 2000 Special Reports, No. CENSR-7). Washington, DC: U.S. Census Bureau.

Garland, D. (2001a). *Mass imprisonment: Social causes and consequences.* Thousand Oaks, CA: SAGE Publications Ltd..

Garland, D. (2001b). *The culture of control: Crime and social order in contemporary society.* Chicago, IL: University of Chicago Press.

Glaze, L. E., & Bonczar, T. P. (2011). *Probation and parole in the United States, 2010* (Bureau of Justice Statistics Bulletin No. NCJ 236019). Washington, DC: U.S. Department of Justice.

Golash-Boza, T. M. (2015). *Deported: Immigrant policing, disposable labor, and global capitalism.* New York, NY: NYU Press.

Greenberg, D. F., & West, V. (2001). State prison populations and their growth, 1971–1991. *Criminology, 39,* 615–654.

Guerino, P., Harrison, P. M., & Sabol, W. J. (2012). *Prisoners in 2010* (Bureau of Justice Statistics Bulletin, No. NCJ 236096). Washington, DC: U.S. Department of Justice.

Haining, R. (1990). *Spatial data analysis in the social and environmental sciences*. Cambridge, UK: Cambridge University Press.

Hoffman, P. B., & Stone-Meierhoefer, B. (1980). Reporting recidivism rates: The criterion and follow-up issues. *Journal of Criminal Justice, 8,* 53–60.

Jacobs, D., & Helms, R. (2001). Toward a political sociology of punishment: Politics and changes in the incarcerated population. *Social Science Research, 30,* 171–194.

Johnson, R. C., & Raphael, S. (2009). The effects of male incarceration dynamics on AIDS infection rates among African-American women and men. *Journal of Law and Economics, 52,* 251–293.

Justice Mapping Center. (2010). *Justice atlas of sentencing and corrections* [Data]. Retrieved from http://www.justiceatlas.org/

Kaeble, D., Glaze, L., Tsoutis, A., & Minton, T. (2015). *Correctional populations in the United States, 2014* (Bureau of Justice Statistics Bulletin, No. NCJ 249513). Washington, DC: U.S. Department of Justice.

Kaeble, D., Maruschak, L. M., & Bonczar, T. P. (2015). *Probation and parole in the United States, 2014* (Bureau of Justice Statistics Bulletin, No. NCJ 249057). Washington, DC: U.S. Department of Justice.

Kirk, D. S. (2008). The neighborhood context of racial and ethnic disparities in arrest. *Demography, 45,* 55–77.

Lageson, S. E. (2016). Digital punishment's tangled web. *Contexts, 15*(1), 22–27.

Langan, P. A., & Cunniff, M. A. (1992). *Recidivism of felons on probation, 1986–89* (Bureau of Justice Statistics special report). Washington, DC: U.S. Department of Justice.

Langan, P. A., & Levin, D. J. (2002). *Recidivism of prisoners released in 1994* (Bureau of Justice Statistics Special Report, No. NCJ 193427). Washington, DC: U.S. Department of Justice.

LaVigne, N. G., & Kachnowski, V. (2003). *A portrait of prisoner reentry in Maryland* (Research report). Washington, DC: The Urban Institute.

LaVigne, N. G., & Mamalian, C. A. (2003). *A portrait of prisoner reentry in Illinois* (Research report). Washington, DC: The Urban Institute.

LaVigne, N. G., & Thomson, G. L. (2003). *A portrait of prisoner reentry in Ohio* (Research report). Washington, DC: The Urban Institute.

Lynch, M. P. (2010). *Sunbelt justice: Arizona and the transformation of American punishment*. Stanford, CA: Stanford Law Books.

Maruschak, L. M., & Bonczar, T. P. (2013). *Probation and parole in the United States, 2012* (Bureau of Justice Statistics Bulletin, No. NCJ 24842). Washington, DC: U.S. Department of Justice.

Massoglia, M. (2008). Incarceration, health, and racial disparities in health. *Law and Society Review, 42,* 275–306.

Mauer, M. (2013). Can we wait 88 years to end mass incarceration? *Huffington Post*. Retrieved from http://www.huffingtonpost.com/marc-mauer/88-years-mass-incarceration_b_4474132.html

Muller, C., & Wildeman, C. (2016). Geographic variation in the cumulative risk of imprisonment and parental imprisonment in the United States. *Demography, 53,* 1499–1509.

National Research Council. (2014). *The growth of incarceration in the United States: Exploring causes and consequences*. Washington, DC: National Academies Press.

Perry, M. J. (2006). *Domestic net migration in the United States: 2000 to 2004* (Current Population Reports No. P25-1135). Washington, DC: U.S. Census Bureau.

Pettit, B. (2012). *Invisible men*. New York, NY: Russell Sage Foundation.

Pettit, B., & Western, B. (2004). Mass imprisonment and the life course: Race and class inequality in U.S. incarceration. *American Sociological Review, 69,* 151–169.

Pew Center on the States. (2011). *State of recidivism: The revolving door of America's prisons* (Public Safety Performance Project report). Washington, DC: Pew Charitable Trusts.

Phelps, M. S. (2013). The paradox of probation: Community supervision in the age of mass incarceration. *Law & Policy, 35,* 51–80.

Phelps, M. S. (2017). Mass probation: Toward a more robust theory of state variation in punishment. *Punishment & Society, 19,* 53–73.

Schnittker, J., & John, A. (2007). Enduring stigma: The long-term effects of incarceration on health. *Journal of Health and Social Behavior, 48,* 115–130.

Schnittker, J., Massoglia, M., & Uggen, C. (2011). Incarceration and the health of the African American community. *Du Bois Review, 8,* 133–141.

Schnittker, J., Uggen, C., Shannon, S., & McElrath, S. (2015). The institutional effects of incarceration: Spillovers from criminal justice to health care. *Milbank Quarterly, 93,* 516–560.

Shannon, S., & Uggen, C. (2013). Visualizing punishment. In D. Hartmann & C. Uggen (Eds.), *Crime and the punished* (pp. 42–62). New York, NY: W. W. Norton.

Steffensmeier, D., Ulmer, J., & Kramer, J. (1998). The interaction of race, gender, and age in criminal sentencing: The punishment cost of being young, black, and male. *Criminology, 36,* 763–798.

Stucky, T. D., Heimer, K., & Lang, J. B. (2005). Partisan politics, electoral competition and imprisonment: An analysis of states over time. *Criminology, 43,* 211–248.

Sykes, B., & Pettit, B. (2014). Mass incarceration, family complexity, and the reproduction of childhood disadvantage. *Annals of the American Academy of Political and Social Science, 654,* 127–149.

Tonry, M. (1996). *Malign neglect: Race, crime, and punishment in America.* New York, NY: Oxford University Press.

Tonry, M. (2004). *Thinking about crime: Sense and sensibility in American penal culture.* New York, NY: Oxford University Press.

Travis, J. (2005). *But they all come back: Facing the challenges of prisoner reentry.* Washington, DC: Urban Institute Press.

Turney, K. (2014). Stress proliferation across generations? Examining the relationship between parental incarceration and childhood health. *Journal of Health and Social Behavior, 55,* 302–319.

U.S. Bureau of Prisons. (1948–2004). *National prisoner statistics* [Data set]. Washington, DC: U.S. Department of Justice.

U.S. Bureau of the Census. (1953). *U.S. census of population: 1950* (Vol. IV, Special Reports, Part 4, Chapter A, State of Birth). Washington, DC: U.S. Government Printing Office.

U.S. Bureau of the Census. (1963). *U.S. census of population: 1960. Subject Reports: State of Birth* (Final Report PC(2)-2A). Washington, DC: U.S. Government Printing Office.

U.S. Bureau of the Census. (1973). *Census of population: 1970 Subject Reports* (Final Report PC(2)-5A). Washington, DC: U.S. Government Printing Office.

U.S. Bureau of the Census. (1984). *1980 Census of Population* (Vol. 2, Subject Reports). Washington, DC: U.S. Department of Commerce.

U.S. Census Bureau. (2010). State and county level estimates with components of change, 2000 to 2009. Prepared by the University of Missouri Extension, Office of Social & Economic Data Analysis (OSEDA). Retrieved from http://mcdc.missouri.edu/data/popests/Reports/dmig_report_states.html

U.S. Census Bureau. (2013). *Annual geographic mobility rates, by type of movement: 1948–2013* [Data set]. Retrieved from https://www.census.gov/topics/population/migration/data/tables.html

U.S. Department of Justice. (2015). *Investigation of the Ferguson Police Department.* Washington, DC: Government Printing Office.

Uggen, C., & Manza, J. (2002). Democratic contraction? Political consequences of felon disenfranchisement in the United States. *American Sociological Review, 67,* 777–803.

Uggen, C., Manza, J., & Thompson, M. (2006). Citizenship, democracy, and the civic reintegration of criminal offenders. *Annals of the American Academy of Political and Social Science, 605,* 281–310.

Uggen, C., & McElrath, S. (2013). Six social sources of the U.S. crime drop. In D. Hartmann & C. Uggen (Eds.), *Crime and the punished* (pp. 3–20). New York, NY: W. W. Norton.

Uggen, C., & Stewart, R. (2015). Piling on: Collateral consequences and community supervision. *Minnesota Law Review, 99,* 1971–1910.

Uggen, C., Vuolo, M., Lageson, S., Ruhland, E., & Whitham, H. (2014). The edge of stigma: An experimental audit of the effects of low-level criminal records on employment. *Criminology, 52,* 627–654.

Wacquant, L. (2012). The punitive regulation of poverty in the neoliberal era. *Criminal Justice Matters, 89,* 38–40.

Wakefield, S., & Uggen, C. (2010). Incarceration and stratification. *Annual Review of Sociology, 36,* 387–406.

Watson, J., Solomon, A. L., LaVigne, N. G., & Travis, J. (2004). *A portrait of prisoner reentry in Texas.* Washington, DC: Urban Institute.

Western, B. (2006). *Punishment and inequality in America.* New York, NY: Russell Sage Foundation.

Western, B., & Beckett, K. (1999). How unregulated is the U.S. labor market? The penal system as a labor market institution. *American Journal of Sociology, 104,* 1030–1060.

Wildeman, C. (2009). Parental imprisonment, the prison boom, and the concentration of childhood disadvantage. *Demography, 46,* 265–280.