Issue Brief

Authors: Ijun Lai, Jillian Stein, Christian Geckeler and Ellie Pasternack

Common Indicators of Recidivism Used in Program and Policy Evaluations

To assess the effectiveness of criminal justice policies, programs, or reforms, researchers frequently examine recidivism, defined as the return to criminal activity after a prior sanction (Council of State Governments Justice Center 2014; Deady 2014; National Institute of Justice 2022; Pratt and Eriksson 2013). Federal agencies, like the U.S. Department of Labor (DOL), have grant initiatives focused on serving people with justice involvement and a critical goal of these investments is to reduce recidivism. DOL asks organizations receiving reentry grants to report recidivism outcomes as grant performance measures and sponsors evaluations that include recidivism measures as primary outcomes (for example, see Pathway Home funding opportunity announcement and evaluation summary). Researchers use a variety of approaches for defining and tracking recidivism (Council of State Governments Justice Center 2014; Hunt and Dumville 2016; Johnson 2017). This brief reviewed literature on recidivism and recidivism indicators from 2000 to 2022 to answer the following questions:

> **Study background**
>
> This issue brief is part of a study funded by the U.S. Department of Labor (DOL), Chief Evaluation Office that explores the implementation and impact of the Reentry Project grants. DOL's Employment and Training Administration awarded a total of 116 grants in 2017, 2018, and 2019 (Department of Labor 2022). These grants aimed to improve employment and public safety outcomes and reduce recidivism for individuals previously involved in the criminal justice system.

1) What are common recidivism indicators used in criminal justice research? What are the strengths and challenges of each of these indicators?

2) What are common recidivism data sources? What are the strengths and challenges of each of these data sources?

Common Recidivism Indicators

Recidivism and criminal involvement are commonly measured along two distinct but interrelated dimensions: individuals' illegal activities and individuals' interactions with the criminal justice system (Auty et al 2015; Babinski et al 2001; Canotr and Lynch 2000; Council of State Governments Justice Center 2014; Farrall 2005; Hunt and Dumville 2016; Rocque 2021). Some programs measure whether their approach reduces individuals' engagement in illegal activities. Other programs also include the second dimension and considers criminal justice system involvement including arrests,

Within academia, there is an ongoing debate about the best way to conceptualize and measure post-release success (see Rosenfeld and Grigg (2022) for a summary). For example, some advocate for measuring successful avoidance of criminal behaviors or criminal justice contact (such as street days or days not incarcerated), while others argue for measuring desistance (such as tracking the frequency or severity of new criminal activity to see if it is declining over time). See Exhibit 1 for more details on these alternative perspectives. ◤

convictions, incarceration, and technical violations. Criminal justice system involvement is costly to both individuals and their families and collateral consequences have been documented in a range of outcomes from education to medical and employment (Arditti 2012; Brayne 2014; Turney and Goodsell 2018)—even in scenarios when individuals are eventually determined not guilty. A recent study by Grau et al (2021) on the effect of pretrial detention on labor market outcomes in Chile using several analytic strategies including difference-in-differences and quasi-random assignment of judges found that pretrial detention had a negative effect on formal employment and average monthly wages even two years after the trail verdict. Additionally, this negative impact was found even for individuals who were found not guilty. Given these social costs to individuals and their families, programs may decide to document all criminal justice involvement, regardless of whether the criminal justice involvement is associated with illegal activity.

Illegal activities

Many programs seek to reduce criminal justice system involvement by reducing individuals' participation in illegal activities, broadly defined as any activity that could be considered a crime under state or federal law. Since not all illegal behavior results in an individual becoming involved in the justice system, the most direct method to examine participants' criminal behavior is to ask those participants about such behavior directly (Rocque 2021). Doing so typically involves surveys or interviews in which an evaluator asks individuals about past or present illegal behavior.

Strengths.

Increased participation in illegal activities can lead to increased criminal justice system involvement. If programs wish to capture the full scope of individuals' participation in illegal activities, they should consider collecting illegal activity data. Directly asking individuals about their actions can provide programs with a sense of whether individuals are changing their behaviors, particularly behaviors that are not being captured in criminal justice involvement (Junger-Tas and Marshall 1999). For example, Babinski et al (2001)'s study of young adults found that participants reported more public disorder crimes than was captured in arrest records.

Challenges.

This indicator's main weakness is that information is only collected through primary data. As described in the data sources section below, primary data collection is resource intensive and can suffer from survey non-response, incomplete responses from individuals who are unwilling to disclose illegal activity, or complete responses that are untrue or biased.

Criminal justice system involvement

Within the broad category of criminal justice system involvement , several indicators, or metrics, are commonly used, each with their own benefits and limitations. The most common indicators are rearrest, reconviction, reincarceration, and technical violations.[1] These indicators are often tracked in a simple binary form—did the individual experience each criminal justice involvement or not. (See **Exhibit 1** below for details on moving beyond a binary indicator for each of these indicators.)

---

[1] Some programs may also consider using incident-level data, which would include all police interaction regardless of whether it involves an arrest, as a possible measure of criminal justice system involvement. This brief does not address incident-level data, because these data may be less standardized across jurisdictions and could be an especially biased measure of engagement in illegal activity.

Exhibit 1. Key considerations when selecting and using recidivism metrics

Selecting recidivism metrics

1. What is the goal or intended use of the data?

   Recidivism metrics are used by different actors (practitioners, technical assistance providers, evaluators, and criminal justice agencies) with different goals or purposes, including tracking outcomes, assessing areas for support, and evaluating impacts. Understanding the goals for collecting information can inform which metric to select. For example, if an evaluator wanted to assess the efficacy of a program and the program's main goal was to reduce criminal activity, then the study would ideally measure individuals' self-reported criminal behavior. If, however, the evaluation also had a cost-benefit analysis, it would make sense to also measure criminal justice involvement, as reductions in arrests, incarceration, and community supervision will generate cost savings that are important to quantify.

2. What time or resources are available to collect and process the data? What data are available? What biases or limitations exist within that data?

   Time and resource constraints may not allow users to collect the data they wish. Instead, evaluators may need to examine what resources are available to them and consider the best way to capitalize on those assets. However, evaluators should also think carefully about how their data sources may be biased and try to either lessen those biases or carefully document the data limitations. For example, the DOL-funded Linking to Employment Activities Pre-Release grantees were required to report recidivism performance measures, but sites varied in terms of what data they were able to access (Bellotti et al 2018). Some sites could only identify whether individuals returned to the same facility, while other sites were able to track if an individual returned to any corrections facility in their state. Sites whose data source was restricted to one specific facility were not able to report on any reincarceration that may have occurred outside of this jurisdiction, while the other sites did not face this same limitation.

Suggested practices when selecting recidivism metrics

- **Multiple metrics and data sources.** Evaluators may want to consider using multiple metrics and data sources, because additional analyses may shed light on if an individual is returning to criminal activity. However, we also caution against selecting all the metrics (and their variations), because this may result in a multiple-comparisons problem (risk that evaluators have a significant finding due to chance) (Simmons, Nelson, and Simonsohn 2011).

- **Desistance.** Many criminologists and practitioners recommend moving beyond binary measures of each recidivism metric to provide a more comprehensive picture of an individual's criminal trajectory (Chen and Meyer 2020; Kazemian 2007; King and Elderbroom 2014; Rosenfeld and Grigg 2022). Specifically, previous studies suggest that evaluators can create metrics such as time to next criminal justice outcome (arrest, conviction, and so on) or number of criminal events within a specified amount of time, or they can look at the severity of criminal events over time to see if individuals are committing less frequent or less severe offenses.

  Measuring positive factors. Rather than focus on criminal activity and criminal justice system involvement, evaluators may want to consider taking a more holistic look and measuring protective factors that protect individuals from known risks and have been linked to successful re-entry. For example, does the individual have strong relationships with their family and others in the community (Kendall et al 2018), are they able to attend to their physical and mental health (Blank Wilson et al 2014), and do they have housing and employment stability (Berg and Huebner 2010; Bhuller et al 2020; Jacobs and Gottlieb 2020; Tripodi et al 2010)?

Using recidivism metrics

There are several factors that evaluators should review to ensure proper interpretation of the selected recidivism metric.

1. **Law and policy changes across time.** Evaluators should think about whether they need to account for policy and law changes across time (Pew Center on the States 2011). The same action may be considered a crime in one year and not in another. Similarly, the severity of a crime may change over time.

2. **Law and policy differences across jurisdictions.** Evaluators comparing across jurisdictions may need to account for different legal, programmatic, and economic contexts (see Kubrin and Weitzer 2003 for further discussion of environmental context). In terms of the legal context, it is important to understand differences in underlying laws and criminal statutes. The same event can be different in terms of whether it constitutes a crime as well as the seriousness of the crime depending on local laws. For example, some jurisdictions may consider marijuana usage illegal while others do not. Evaluators may want to categorize charges when analyzing data across multiple jurisdictions. A related but separate concern is whether differences in local economic and support structures may be driving differences in recidivism rates between jurisdictions (Harris et al 2011). For example, communities filled with high-quality post-release housing services or better employment opportunities may have lower recidivism rates than communities that lack these services and opportunities (Agan and Makowsky 2018; Fontaine et al 2012).

3. **Sample decisions and details**. It is important for evaluators to provide details on how and why data samples were selected. For example, if a program evaluation is comparing recidivism rates across two groups, one of the central concerns would be whether these two groups were composed of similar populations with similar recidivism risk before program intervention. If the two populations are different at the start, evaluators may worry that other factors are driving differences in recidivism rates (Andersen and Skardhamar 2017). Similarly, providing details about the selected sample can help readers understand who may benefit from various interventions and programs, and how generalizable the findings are (see King and Elderbroom 2014 and Rocque 2021 for discussions about understanding and selecting the sample).

4. **Follow-up period.** An additional consideration for evaluators concerns selecting the follow-up period. Across studies, there is variation in when the follow-up period begins. For example, studies may decide to begin the follow-up period upon release or after program activities have ended (Durose and Antenangeli 2021; Harris et al 2011). In general, evaluators should select a time period that is long enough to provide a clear picture of intervention impacts (see Harris et al 2011 for general discussion about follow-up periods). Many studies have a follow-up period of about two years, (Armstrong and McNeill 2012; Harris et al 2011), though resource constraints may make such a follow-up period impractical. Shorter follow-up periods are still informative. Studies have shown that recidivism events happen most intensely (both in terms of if an event occurred as well as the number of events of that type) within the first year after the follow-up period begins (Andersen and Skardhamar 2017; Armstrong and McNeill 2012; Blumstein and Nakamura 2009; Bowles and Florackis 2007). For example, a recent study by Durose and Antenangeli (2021) of over 92,000 prisoners released in 2012 across 34 states used prisoner records from the National Corrections Reporting Program and criminal history data to track participants' criminal histories. The authors found that of the subpopulation that was rearrested within five years, 52 percent occurred within the first year (Durose and Antenangeli 2021). Evaluators should also determine whether it is appropriate to select a follow-up period based on individuals' release dates or use the same date across the whole sample (Farrington and Davies 2007; Harris et al 2011). If the preference is for using the same date, evaluators should analyze whether that decision truncates the follow-up period for certain populations and how that may influence their estimates. ◢

Source: Based on review of previous literature and Mathematica and Social Policy Research Associates' research experience.

Measuring criminal justice involvement can help researchers understand the experiences of people with justice involvement and the prevalence of repeat criminal justice involvement. The brief includes more details about each of these indicators (below and summarized in **Exhibit 2**), but first, it reviews the strengths and challenges of using criminal justice involvement overall as a recidivism metric.

Exhibit 2. Common measures of criminal justice system involvement

Type of involvement	Definition	Strengths	Challenges
Rearrest	Arrest for a new crime after a person's release	• Early indicator of criminal justice system involvement • Offers details about arrest event and charge details	• Arrests may happen for reasons unrelated to criminality • Arrest charges may be dropped • Individuals may be acquitted, suggesting no criminal activity • Racial minorities face higher risk of arrest
Reconviction	An individual is found guilty of a new crime	• Subtracts out cases where charges are dropped or individuals are declared not guilty	• May include false convictions • May undercount crime if an individual was wrongfully deemed not guilty • Potentially long lag time between arrest and adjudication
Reincarceration	An individual is being held in a local jail awaiting trial, recommitment to custody due to new crime, or recommitment to custody due to a technical violation	• Incarceration is an important life event, with disruptive consequences	• May include wrongly incarcerated • Black and Latino people more likely to be detained, receive incarceration sentences, and longer sentences than their White peers
Technical violation	Any incident where an individual did not follow the rules of community supervision and the action was noted by the supervising agency.	• Can potentially give detailed history of post-release life • May serve as an early warning indicator • May provide details about the technical violation	• Data only available for individuals under supervision • Wide variation in supervision rules, how closely individuals are monitored, and how violations should be handled

Source: Based on review of previous literature

Strengths.

Regardless of whether individuals have engaged in criminal activity, research has shown that criminal justice system involvement of any kind can have negative impacts on individuals, their families, and communities (see Patillo et al 2004 for a discussion on how incarceration is associated with negative outcomes for families and communities). For example, Apel and Powell (2019) used data from the National Longitudinal Survey of Youth 1997 (NLSY97) to run quantile regression models with sibling fixed effects and found wage gaps for those who were incarcerated in jail or prison. Brayne (2014) also used NLSY97 data and multiple methods (cross-sectional, propensity score matching, and individual fixed effects) to find that individuals with various criminal justice system involvement (ranging from being stopped by the police to incarceration) are less likely to interact with medical, financial, labor

market, and education institutions compared to their counterparts without any criminal justice involvement. Furthermore, a recent study by White (2019) found that arrests can influence the household's short-term voting behavior. Specifically, White exploited the timing of criminal cases to compare households who had arrests shortly before an election to those who had arrests shortly after an election. This study found a dampening effect for voter turnout in the short-term.

Challenges.

Yet there are several cautions and challenges with using criminal justice system involvement to measure recidivism. Criminal justice system involvement is partly a reflection of a series of structural factors, policy decisions (Lum 2011; MacDonald et al. 2016; Western et al 2000), and human discretion. For one, local structural factors and policy decisions result in a system with large amounts of discretion, which opens the door to individual and systematic biases (including biases based on race, gender, sexual orientation, mental health, and economic status, among others). Research demonstrates that these biases impact all stages of the criminal justice process (Beck and Blumstein 2018; Brame et al 2015; Bronson and Carson 2019). For example, Goel et al (2016) used New York City police stop data from January 1, 2008 through December 21, 2012 to analyze stops where officials suspected an individual of weapons possession. Using ex-ante probabilities of finding a weapon, the authors find that police were more likely to stop Hispanics and blacks than their white counterparts. Similarly, Kakade et al (2012) used the NLSY97 survey to examine the relationship between illegal behaviors and arrest rates, Their analysis suggest that while criminal activity does not vary by race, racial minorities are disproportionately represented in justice data (Kakade et al 2012). This disproportionality may be associated with local decisions such as concentrated policing in certain areas while ignoring other areas (Coviello and Persico 2015; Epp et al 2017; Lum 2011; Shoub et al 2020). Increased policing contact can lead to increased discretionary decisions about whether to officially arrest individuals. For example, Raphael and Rozo (2019) used Monthly Arrest and Citation Register data, maintained by the California Department of Justice Criminal Justice Statics Center, and found that even after controlling for age, current offense, and prior arrest histories, Black and Latino youth are significantly more likely to be officially arrested compared their White counterparts. Furthermore, these disparities are largest in offense categories that allow the most discretion, such as drug offenses (Raphael & Rozo, 2019). Taken altogether, these findings suggest that those who get picked up, prosecuted, and sentenced for crimes are not necessarily indicative of criminal activity and that people of color and other marginalized groups were observed to experience cumulative disadvantage throughout the justice system (Baumer 2013; Kutateladze et al 2014; Spohn 2015; Wooldredge et al 2015).

Second, criminal justice involvement does not capture undetected crime. Offenses occur that do not involve interactions with justice authorities (Auty et al 2015; Hunt and Dumville 2016). For example, when an offense is committed, observers and victims must decide whether they will report the crime to authorities. There are similar discretion points throughout the criminal justice process (see Butts and Schiraldi 2018; Rocque 2021; and Rosenfeld and Grigg 2022 for discussions about discretion throughout the criminal justice process). Consequently, relying on criminal justice involvement may miss individuals' return to illegal activity. At the same time, criminal justice system involvement may not accurately document a return to illegal activity, because individuals may have a wrongful justice outcome—such as wrongful arrest, conviction, and incarceration (Butts and Schiraldi 2018; Morgan and Thompson 2021).

Rearrest

Strengths.

Arrest data is an early indicator of criminal justice system involvement (Ringland 2013). To the extent that early detection of criminal justice involvement or re-involvement is of interest, arrest data indicate an individuals' first formal interactions with the justice system. An evaluation may want to consider examining arrest data because it can help determine whether interventions have a short-term impact on participants' involvement in the justice system (Ringland 2013). An additional benefit is that arrest records offer details about the arrest event and charge details. Evaluators may use these details to consider parsing out non-criminal violations (missing curfew, relapse of alcohol use) from arrests for new crimes (Phelps 2018).

Challenges.

However, arrests have a number of limitations. Research has repeatedly found that arrests can occur for a variety of reasons that are unrelated to an individual's criminality (Fogliato et al 2021; Lum 2011; Roberts 2019). For example, individuals may be mistakenly arrested and have their charges dropped later. Or, individuals may go to court and be acquitted, which can suggest that there was no criminal activity. As a point of reference, Federal Justice Statistics Program data for fiscal year 2019 show that of the approximately 206,000 suspects arrested by federal law enforcement in 2019, only 37 percent were charged and convicted (Motivans 2022). Furthermore, studies have documented that racial minorities often face higher risk of arrest, particularly due to discretionary policing strategies that target low-income neighborhoods for drug, weapon, and traffic crimes. For example, Lum and Isaac (2016) used survey data from the 2011 National Survey on Drug Use and Health to compare self-reported drug use to 2010 drug arrest data from Oakland Police Department. They find that although drug use is evenly dispersed throughout the city, drug arrests were concentrated in two neighborhoods that were largely non-white and low-income. Disparities in police activities can also be found in traffic stops. Pierson et al (2020) created a unique dataset collecting 60 million state patrol stops in 20 states between 2011 and 2015 to analyze police search decisions. The authors find evidence that black and Hispanic drivers are more likely to be searched. Using a difference-in-differences approach, the authors also found that when marijuana was legalized in Colorado and Washington, there was a significant drop in total numbers of searches and misdemeanor charges for all race groups—though the drop was largest for black drivers., Finally, because arrests do not necessarily indicate guilt, arrests are not seen as the most reliable indicator of whether an individual has returned to criminal activity (Council of State Governments 2014).

Reconviction

Reconviction refers to when an individual is found guilty of a new crime (Council of State Governments Justice Center 2014; Hunt and Dumville 2016). This may occur either through judgment in a trial or a plea with the court.

Strengths.

Using conviction data can be preferable to arrest data. As cases are formally judged, the data, in theory, exclude erroneous charges (for example, where the prosecutors eventually dropped the charges or individuals were deemed not guilty of charges) (Rosenfeld and Grigg 2022). Compared to arrest data, the guilty verdict provides more assurance that an individual was involved in criminal activity.

As previously mentioned, there is the possibility that conviction data are capturing false convictions. Conviction data may also undercount crime if an individual was wrongfully deemed not guilty. In these cases, the individual would be seen as avoiding illegal activities, and this information would be hidden from researchers (see Rosenfeld and Grigg 2022 for a discussion). In addition, compared to arrest data, there may be a long lag time between arrest and formal judgment. For example, the 2006 National Judicial Reporting Program survey, based on a nationally representative of state courts in 300 counties, found that the median time from arrest to sentencing for felony convictions was 265 days, though the median time for murder was 505 days and sexual assault was 348 days (Rosenmerkel et al 2009). Thus it takes years to determine whether an individual is guilty and has returned to criminal activity.

Reincarceration

Reincarceration occurs when an individual is (1) held pre-trial, meaning they are being held in a local jail and are awaiting trial; (2) recommitted to custody due to a new crime; or (3) recommitted to custody due to a technical violation (Council of State Governments Justice Center 2014; Hunt and Dumville 2016). Measuring pre-trial incarceration is not an appropriate measure of criminal activity, because many individuals may have their charges dropped or may eventually be found not guilty (Lyman and LoBuglio 2007).

Strengths.

Incarceration is an important indicator to track because it is an important life event, which studies have repeatedly found to have a disruptive effect on individuals' life trajectories (Kirk and Sampson 2013; Western et al 2000). Incarceration has been linked to varied outcomes such as reduced education, reduced earnings and employment, and worse health (Barnert et al 2016; Huebner 2005; Sweeten 2006; Western and Petit 2010). Time spent in jail increases individuals' risk of losing their job, housing, and support system even if the individual is not ultimately convicted.

Challenges.

Like other indicators of criminal justice system involvement, reincarceration data may include those who are wrongly incarcerated. In addition, reincarceration metrics are flawed in that Black and Latino people are more likely to be detained, receive incarceration sentences, and receive longer sentences than their White peers. For example, Gramlich (2020) used data from the US Census Bureau and the Bureau of Justice Statistics to descriptively highlight that although Blacks make up 12% of the US adult population, they represent 33% of the US prison population. In a study by Abrams et al (2012) exploiting the random assignment of cases to judges in felony cases in Cook County, the authors found significant incarceration rates between African Americans and Whites—though the authors also note that there were no racial differences in sentence lengths. Using multivariate logistic regression with 2010-2011 data from the New York County District Attorney's Office to control for defendant and offense characteristics, Kutateladze et al (2014) find that Black and Latino defendants had an increased likelihood of being detained, receive a custodial plea offer, and to be incarcerated. (

Technical violations

Individuals serving a sentence of community supervision must follow a set of rules, such as regular check-ins with a supervising agency, abstaining from drug and alcohol use, avoiding known felons, and following curfew (Klingele 2013; Phelps 2018). A technical violation refers to an incident where an individual did not follow these rules and the action was noted by the supervising agency (Council of State

Governments Justice Center 2014). This misbehavior may not be an illegal activity (for example, missing curfew) (Klingele 2013; Phelps 2018). However, because these individuals are already involved with the criminal justice system, this misbehavior is tracked by the justice system (Rosenfeld and Grigg 2022).

Strengths.

Supervision data can potentially provide a more detailed history of individuals' post-release life (see general discussion in Rosenfeld and Grigg 2022 and an example of using case notes to track residential trajectories in Harding et al 2013). This is particularly true if supervising agencies keep thorough records of their meetings with individuals, such as updates on what programs and treatments individuals have participated in (and their completion status) as well as employment and housing status (Chen and Meyer 2020; Phelps 2018). This data can also be captured through self-reports (Farrall 2005). More complete data collection efforts can possibly serve as an early warning indicator for program evaluators. In addition, it may help evaluators understand whether technical violations were due to a commission of a new crime and/or a pattern of behaviors (Rosefeld and Grigg 2022).

Challenges.

There are several complications that come with using technical violations as a metric for recidivism. These data only apply to people who are under supervision, which may have racial disparities. For example, using data from three correctional institutions in one state, Huebner and Bynum (2008) utilize a series of proportional hazard models to show that Black offenders spent longer time waiting for parole than their white counterparts. This relationship held true even after the authors controlled for individual (education, employment), legal (crime severity, parole guideline score, prior convictions, institutional misconduct), and community characteristics (community violent crime rate, concentrated disadvantage). In addition, there is wide variation across counties and states in supervision rules, what constitutes a violation, how closely individuals are monitored across states and municipalities, and how violations should be handled (Pew Center on the States 2011). These differences make technical violation rate comparisons across jurisdictions difficult to interpret.

Common Data Sources for Recidivism Metrics

Most studies, reports, and evaluations focus on two data sources for recidivism metrics: self-reports (surveys and interviews) and administrative data collected from criminal justice agencies, including courts and corrections agencies (Rosenfeld and Grigg 2022). This section details the strengths and weaknesses of each data source. **Exhibit 3** details how recidivism metrics map onto possible data sources.

Exhibit 3. Recidivism indicators and data sources

Data sources	Behavior	Criminal justice system involvement				
	Illegal activities	Rearrest	Reconviction	Reincarceration	Technical violations: Probation	Technical violations: Parole[a]
Self-reported criminal behavior	X	X	X	X	X	X
Law enforcement agencies / state repositories		X				
Courts		X	X		X	
Local corrections agencies (for example, county sheriffs and jail administrators)				X		

Data sources	Behavior	Criminal justice system involvement				
	Illegal activities	Rearrest	Reconviction	Reincarceration	Technical violations: Probation	Technical violations: Parole[a]
County probation departments					X	
State Department of Corrections				X		X
Federal Bureau of Prisons				X		X

Source: The information in this table was developed through both common information available on public information sources and through practical experience in working with these agencies to collect administrative data on projects including, but not limited to the Reentry Projects Grants Evaluation, the Evaluation of the National Guard Youth ChalleNGe and Job ChalleNGe Programs, the Evaluation of the Second Chance Act Adult Demonstration Program, and the Evaluation of the Reintegration of Ex-Offenders Program.

Notes: X denotes agencies that have a formal database and can provide the targeted data

(a) While parole is mostly for prisons at the federal and state level and probation is typically for jails at the county-level, some states release people from prison to probation.

Self-reported data on criminal behavior and criminal justice system involvement

Studies have relied on self-reported data collected through surveys and interviews (Auty et al 2015; Thornberry and Krohn 2000). Self-reported data can be used to document both criminal activity and involvement with the criminal justice system. For example, a survey may ask individuals if they have committed various illegal behaviors within a certain amount of time (for example, the past six months) or ask individuals if they have been convicted of a crime within a certain period of time (Kazemian and Farrington 2005).

Strengths.

Self-reports are the most direct measure of a return to criminal activity (Rocque 2021). Studies comparing self-reports with administrative data find reasonable agreement between these two data sources, though studies also note that agreement levels may vary by crime type, with higher agreement for more serious offenses (Auty et al. 2015; Hser and Evans 2008; Kazemian and Farrington 2005; Maxfield et al 2000; Payne and Piquero 2018; Piquero et al 2014). Furthermore, self-reports may be better at capturing less serious crimes such as public disorder (Babinski et al 2001). Finally, interviews may be a particularly powerful way to collect detailed information from respondents (Rocque 2021; Rosenfeld and Grigg 2022). Interviewers can probe interviewees for more information about potential offenses, or how involvement in the justice system impacted them (Snedker et al 2017; Western et al 2015).

Challenges.

While self-reported criminal behavior can provide unique data, they are also associated with several challenges. First, surveys and interviews are typically expensive and resource intensive (Rosenfeld and Grigg 2022; Western et al 2015). For example, programs and evaluators must develop survey and interview protocols, train interviewers and survey administrators, locate respondents, and administer the survey or interview before beginning to analyze the data. As with any data collection efforts, evaluators should consider who is and is not responding to surveys and interviews. Previous studies have found that people with prior justice system involvement tend to be more mobile and are harder to locate for surveys (see discussion in Western et al 2015). Consequently, it may take considerable cost and effort to obtain a high response rate. Those who are located and agree to participate may be those with more stable situations, which may produce more favorable recidivism estimates (Brame and Piquero 2003;

Thornberry and Krohn 2000). Alternatively, it is also possible that data collection efforts skew towards higher recidivism rates if reincarceration makes it easier for researchers and programs to locate respondents because they are already in custody (see discussion about differential participation and response rates in Junger-Tas and Marshall 1999).

Second, because survey respondents and interviewees are asked to report on past events, the responses may suffer from recall biases (Kirk 2006). For example, respondents may misremember the timing of events, mistakenly combine several events into one large event, or forget events that occurred (Kirk 2006). Next, self-reports on criminal activity and criminal justice system involvement are sensitive questions, and respondents may have difficulty answering truthfully due to social desirability issues (Tourangeau and Yan 2007). Respondents may not want to admit to engaging in criminal activity for a wide range of reasons—from feelings of embarrassment and wanting to show improvement to reluctance to offer potentially self-incriminating information (Holbrook et al 2003; Tourangeau and Yan 2007). Another potential issue stems from survey and interview questions that are too vague or can be interpreted in multiple ways (Bosick 2009; Tourangeau 2003). Answers for these questions may not be accurate if respondents do not fully understand the questions. In addition, surveys may fail to collect accurate information if survey and interview instruments are too long, causing respondents to suffer from survey fatigue (Bosick 2009; Thornberry and Krohn 2000). As respondents progress through the survey, they become frustrated by the length and answer "no" to all the questions just to finish the survey quickly (see **Exhibit 4** for best practices to address these challenges).

Exhibit 4. Best practices for collecting self-report data

- Clearly word questions, with one specific interpretation (Gonyea 2005; Tourangeau et al 2000)

- Use screener questions or anchoring events to help respondents more accurately place events in time (Morris and Slocum 2010; Schneider and Sumi 1981; Shillington et al 2012)

- Consider using self-administered surveys to offer greater privacy while asking about sensitive questions (Tourangeau and Yan 2007)

- Be careful of survey length to minimize survey fatigue (Le et al 2021) ◢

Administrative criminal justice data

The second data source that is commonly used by researchers and evaluators to measure criminal justice system involvement is administrative data (Council of State Governments Justice Center 2014; Hunt and Dumville 2016). Data generated from criminal justice authorities such as police, courts, and corrections agencies can be used to track individuals' contact with one or more elements of the justice system.

Strengths.
Administrative data offer several benefits to researchers and evaluators. To begin, data are already being collected by criminal justice authorities, so no new data collection efforts are needed. In addition, because data are being recorded as events occur, evaluators can reliably track individuals' history of criminal justice involvement as well as any future involvement (Lane 2017; but also see Tahamont et al 2020 for a discussion on various studies using administrative data in criminology). Correspondingly, administrative data can be more readily available for evaluators than self-report data (Lane 2017). As previously discussed, studies have shown reasonable correlation between self-reported criminal activity and administrative records (Auty et al. 2015; Kazemian and Farrington 2005; Morris and Slocum 2010), even among probationers (Farrall 2005). However, studies have also shown that administrative data could be

better than self-report data at capturing the frequency of criminal activity and certain offenses (Babinski et al 2001; Kazemian and Farrington 2005). Specifically, Babinski et al (2001) used participants from the Hyperactivity Follow-Up Study of Young Adults at University of California at Berkeley to compare self-report of criminal behavior with arrest records. The authors found that arrest records were more likely to reveal crimes against people (including assault without a weapon, hit spouse or partner, assault with a weapon, robbery and sex-related offenses) than self-report. In addition, prison and supervision records can provide details on individuals' behavior while in custody or under supervision. For example, prisons have information on what types of programs individuals may participate in, or what type of treatments they have received while in custody (Kim and Clark 2013; Messina et al 2006).

Challenges.

Still, there are multiple challenges unique to working with administrative criminal justice data. First, evaluators analyzing arrest data may wish to use arrest records that have final dispositions (arrest outcomes such as convicted, acquitted, dismissed, etc.). However, there is wide variation on whether jurisdictions have this data available and updated (Goggins and DeBacco 2020). States may have a centralized statewide case management system that automatically updates arrest events, while others use a mix of paper and electronic forms to gather the data, which may lead to many incomplete or outdated records. For example, Goggins and DeBacco (2020) looked across 49 states and DC and found that only 68 percent of arrests in state repositories have a final disposition. This finding makes it difficult for evaluators to know if charges are eventually dropped or if individuals are found not guilty.

Moving beyond specific data pieces, it may be difficult to obtain a complete picture of individuals' history with the justice system (Rosenfeld and Grigg 2022; Severson et al 2012). Within a jurisdiction, data is often decentralized—arrest data is held in a different entity from conviction data and reincarceration data (Bishop et al 2020; Russo et al 2020). . A further complication is that in most states, jail and prison data are tracked by separate entities, which can make it difficult to identify all reincarceration, link individuals' custodial history, and/or provide complete records on why individuals were returned to custody Rosenfeld and Grigg 2022For example, researchers wishing to get a complete measure of reincarceration using criminal justice records might need to obtain data from federal prisons, state jails and prisons, and local jails (Rosenfeld and Grigg 2022). Linking these varied data sources together can require extra resources (for example, technology, employee skill and time) and strong partnerships between various agencies, and it can be prone to errors if jurisdictions do not use universal identification numbers (Tahamont et al 2021). In addition, even when evaluators are working with linked data, they may still miss individuals' criminal justice system involvement if those events occurred outside of the jurisdiction.

Another potential challenge with working with administrative data is that data and criminal justice system lags may present flawed timelines of events (Rosenmerkel et al 2009). For example, individuals may be released from custody and then formally arrested for a crime that occurred before they entered custody. If data are not properly updated, this event may be wrongly interpreted as a return to criminal activity.

Studies that compare criminal justice system involvement across multiple jurisdictions may warrant extra caution for several reasons. First, record keeping structures and policies vary across jurisdictions. Jurisdictions may rely on centralized electronic record keeping systems, while others keep records on paper (Goggins and DeBacco 2020). These differences can create discrepancies in what data are being collected and reported. As discussed above, there is variation in how well jurisdictions can, and do, link records across multiple agencies. Consequently, some jurisdictions may be able to produce a more complete criminal history than others. Finally, it is important to keep in mind that jurisdictions vary in

whether and how they handle updated records. For example, some states will purge arrest data if the arrest does not result in a conviction, while others do not (Myrent 2019).

Conclusion and looking forward

This brief reviewed the literature from 2000 to 2022 to develop an understanding of common recidivism indicators that have been used in criminal justice research, as well as the strengths and challenges of each indicator. Additionally, this brief analyzed common data sources for recidivism indicators, and the strengths and challenges of each. While this brief offers insight into different ways to understand and measure recidivism throughout the field and in DOL studies, evaluators may question the feasibility of using these indicators given their constraints such as ability to access various data sources and link different datasets together. Future work should consider criminal justice data accessibility and availability issues and alternative data sources that can supplement criminal justice data.

References

Abrams, D. S., Bertrand, M., and Mullainathan, S. (2012). Do judges vary in their treatment of race?. *The Journal of Legal Studies*, *41*(2), 347–383.

Agan, A. Y., & Makowsky, M. D. (2018). *The minimum wage, EITC, and criminal recidivism*. National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w25116/w25116.pdf

Andersen, S. N., & Skardhamar, T. (2017). Pick a number: Mapping recidivism measures and their consequences. *Crime and Delinquency*, *63*(5), 613–635. https://doi.org/10.1177/0011128715570629

Apel, R., & Powell, K. (2019). Level of criminal justice contact and early adult wage inequality. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, *5*(1), 198–222.

Arditti, J. A. (2012). *Parental incarceration and the family: Psychological and social effects of imprisonment on children, parents, and caregivers*. New York University Press.

Armstrong, S., & McNeill, F. (2012). *Reducing reoffending: Review of selected countries* (SCCJR Research Report 2012–04). Scottish Centre for Crime and Justice Research.

Auty, K. M., Farrington, D. P., & Coid, J. W. (2015). The validity of self-reported convictions in a community sample: Findings from the Cambridge Study in Delinquent Development. *European Journal of Criminology*, *12*(5), 562–580.

Babinski, L. M., Hartsough, C. S., & Lambert, N. M. (2001). A comparison of self-report of criminal involvement and official arrest records. *Aggressive Behavior*, *27*(1), 44–54.

Barnert, E. S., Perry, R., & Morris, R. E. (2016). Juvenile incarceration and health. *Academic Pediatrics*, *16*(2), 99–109. https://doi.org/10.1016/j.acap.2015.09.004

Baumer, E. P. (2013). Reassessing and redirecting research on race and sentencing. *Justice Quarterly*, *30*(2), 231–261.

Beck, A. J., & Blumstein, A. (2018). Racial disproportionality in US state prisons: Accounting for the effects of racial and ethnic differences in criminal involvement, arrests, sentencing, and time served. *Journal of Quantitative Criminology*, *34*(3), 853–883.

Bellotti, J., Sattar, S., Gould-Werth, A., Berk, J., Gutierrez, I., Stein, J., ... & Wiegand, A. (2018). Developing American Job Centers in Jails: Implementation of the Linking to Employment Activities Pre-Release (LEAP) Grants: Mathematica Policy Research.

Berg, M. T., & Huebner, B. M. (2011). Reentry and the ties that bind: An examination of social ties, employment, and recidivism. *Justice Quarterly*, *28*(2), 382–410. https://doi.org/10.1080/07418825.2010.498383

Bhuller, M., Dahl, G. B., Løken, K. V., & Mogstad, M. (2020). Incarceration, recidivism, and employment. *Journal of Political Economy*, *128*(4), 1269–1324. https://doi.org/10.1086/705330

Bishop, E. T., Hopkins, B., Obiofuma, C., & Owusu, F. (2020). *Racial disparities in the Massachusetts criminal system*. Criminal Justice Policy Program at Harvard Law School. https://hls.harvard.edu/content/uploads/2020/11/Massachusetts-Racial-Disparity-Report-FINAL.pdf

Blank Wilson, A., Draine, J., Barrenger, S., Hadley, T., & Evans, A. (2014). Examining the impact of mental illness and substance use on time till re-incarceration in a county jail. *Administration and Policy in Mental Health and Mental Health Services Research*, *41*(3), 293–301.

Blumstein, A., & Nakamura, K. (2009). Redemption in the presence of widespread criminal background checks. *Criminology*, *47*(2), 327–359.

Bosick, S. J. (2009). Operationalizing crime over the life course. *Crime and Delinquency*, *55*(3), 472–496. https://doi.org/10.1177/0011128707307223

Bowles, R. A., & Florackis, C. (2007). Duration of the time to reconviction: Evidence from UK prisoner discharge data. *Journal of Criminal Justice*, *35*(4), 365–378.

Brame, R., and Piquero, A. R. (2003). Selective attrition and the age-crime relationship. *Journal of Quantitative Criminology*, *19*(2), 107–127. https://doi.org/10.1023/A:1023009919637

Brame, R., Kaukinen, C., Gover, A. R., and Lattimore, P. K. (2015). No-contact orders, victim safety, and offender recidivism in cases of misdemeanor criminal domestic violence: A randomized experiment. *American Journal of Criminal Justice*, *40*(2), 225–249.

Brayne, S. (2014). Surveillance and system avoidance: Criminal justice contact and institutional attachment. *American Sociological Review*, *79*(3), 367–391.

Bronson, J., and Carson, A. E. (2019). *Prisoners in 2017* (NCJ 252156). Bureau of Justice Statistics. https://bjs.ojp.gov/library/publications/prisoners-2017

Butts, J. A., and Schiraldi, V. (2018). *Recidivism reconsidered: Preserving the community justice mission of community corrections*. Harvard Kennedy School. https://www.hks.harvard.edu/sites/default/files/centers/wiener/programs/pcj/files/recidivism_reconsidered.pdf

Cantor, D., & Lynch, J. P. (2000). Self-report surveys as measures of crime and criminal victimization. *Measurement and Analysis of Crime and Justice*, *4*, 85-138.

Chen, E. Y., and Meyer, S. E. (2020). Beyond recidivism: Towards accurate, meaningful, and comprehensive data collection on the progress of individuals reentering society. In A. Leverentz, E.Y. Chen, and J. Christian (Eds.), *Beyond recidivism: New approaches to research on prisoner reentry and reintegration* (pp. 13–38). NYU Press.

Coviello, D., and Persico, N. (2015). An economic analysis of Black-White disparities in the New York Police Department's stop-and-frisk program. *The Journal of Legal Studies*, *44*(2), 315–360.

Council of State Governments Justice Center. (2014). *Reducing recidivism: States deliver results.* Council of State Governments Justice Center.

Deady, C. W. (2014). *Incarceration and recidivism: Lessons from abroad*. Pell Center for International Relations and Public Policy. http://www.antoniocasella.eu/nume/Deady_march2014.pdf

Durose, M. R., and Antenangeli, L. (2021). *Recidivism of prisoners released in 34 states in 2012: A 5-year follow-up period (2012–2017)*. Bureau of Justice Statistics. https://bjs.ojp.gov/library/publications/recidivism-prisoners-released-34-states-2012-5-year-follow-period-2012-2017

Epp, C. R., Maynard-Moody, S., and Haider-Markel, D. (2017). Beyond profiling: The institutional sources of racial disparities in policing. *Public Administration Review*, *77*(2), 168–178.

Farrall, S. (2005). Officially recorded convictions for probationers: The relationship with self-report and supervisory observations. *Legal and Criminological Psychology*, *10*(1), 121–131.

Farrington, D. P., and Davies, D. T. (2007). Repeated contacts with the criminal justice system and offender outcomes (Final Report to Statistics Canada). Statistics Canada.

Fogliato, R., Xiang, A., Lipton, Z., Nagin, D., and Chouldechova, A. (2021, May 19). *On the validity of arrest as a proxy for offense: Race and the likelihood of arrest for violent crimes*. AIES. https://dl.acm.org/doi/pdf/10.1145/3461702.3462538

Fontaine, J., Gilchrist-Scott, D., Roman, J., Taxy, S. A., and Gouvis Roman, C. (2012). *Supportive housing for returning prisoners: Outcomes and impacts of the returning home-Ohio pilot project*. The Urban Institute. https://www.urban.org/research/publication/supportive-housing-returning-prisoners-outcomes-and-impacts-returning-home-ohio-pilot-project

Goel, S., Rao, J. M., and Shroff, R. (2016). Precinct or prejudice? Understanding racial disparities in New York City's stop-and-frisk policy. *The Annals of Applied Statistics*, *10*(1), 365–394.

Goggins, B. R., and DeBacco, D. A. (2020). *Survey of state criminal history information systems, 2018*. SEARCH, The National Consortium for Justice Information and Statistics. https://www.ojp.gov/pdffiles1/bjs/grants/255651.pdf

Gonyea, R. M. (2005). Self-reported data in institutional research: Review and recommendations. *New Directions for Institutional Research*, *2005*(127), 73-89.

Gramlich, J. (2020, May 6). *Black imprisonment rate in the U.S. has fallen by a third since 2006*. Pew Research Center. https://www.pewresearch.org/fact-tank/2020/05/06/share-of-black-white-hispanic-americans-in-prison-2018-vs-2006/

Grau, N., Marivil, G., & Rivera, J. (2021). The effect of pretrial detention on labor market outcomes. *Journal of Quantitative Criminology*, 1-50.

Harding, D. J., Morenoff, J. D., & Herbert, C. W. (2013). Home is hard to find: Neighborhoods, institutions, and the residential trajectories of returning prisoners. *The Annals of the American Academy of Political and Social Science*, *647*(1), 214-236.

Harris, P. W., Lockwood, B., Mengers, L., and Stoodley, B. (2011). Measuring recidivism in juvenile corrections. *Journal of Juvenile Justice, 1*(1), 1–16.

Ho, H., Breaux, J., Jannetta, J., & Lamb, M. (2014). *Examining racial disparities in the Sixth Judicial district of Iowa's probation revocation outcomes*. Urban Institute.

Holbrook, A. L., Green, M. C., and Krosnick, J. A. (2003). Telephone versus face-to-face interviewing of national probability samples with long questionnaires: Comparisons of respondent satisficing and social desirability response bias. *Public Opinion Quarterly*, *67*(1), 79–125.

Hser, Y. I., and Evans, E. (2008). Cross-system data linkage for treatment outcome evaluation: Lessons learned from the California Treatment Outcome Project. *Evaluation and Program Planning*, *31*(2), 125–135.

Huebner, B. M. (2005). The effect of incarceration on marriage and work over the life course. *Justice Quarterly*, *22*(3), 281–303. https://doi.org/10.1080/07418820500089141

Huebner, B. M., and Bynum, T. S. (2008). The role of race and ethnicity in parole decisions. *Criminology*, *46*(4), 907–938.

Hunt, K. S., and Dumville, R. (2016). *Recidivism among federal offenders: A comprehensive overview*. United States Sentencing Commission. https://www.ussc.gov/sites/default/files/pdf/research-and-publications/research-publications/2016/recidivism_overview.pdf

Jacobs, L. A., and Gottlieb, A. (2020). The effect of housing circumstances on recidivism: Evidence from a sample of people on probation in San Francisco. *Criminal Justice and Behavior*, *47*(9), 1097–1115. https://doi.org/10.1177/0093854820942285

Johnson, J. L. (2017). Comparison of recidivism studies: AOUSC, USSC, and BJS. *Federal Probation*, *81*(1), 52–54.

Junger-Tas, J., and Marshall, I. H. (1999). The self-report methodology in crime research. *Crime and Justice, 25*, 291–367.

Kakade, M., Duarte, C. S., Liu, X., Fuller, C. J., Drucker, E., Hoven, C. W., Fan, B., and Wu, P. (2012). Adolescent substance use and other illegal behaviors and racial disparities in criminal justice system involvement: Findings from a US national survey. *American Journal of Public Health, 102*(7), 1307–1310. https://doi.org/10.2105/AJPH.2012.300699

Kazemian, L. (2007). Desistance from crime: Theoretical, empirical, methodological, and policy considerations. *Journal of Contemporary Criminal Justice*, *23*(1), 5–27.

Kazemian, L., and Farrington, D. P. (2005). Comparing the validity of prospective, retrospective, and official onset for different offending categories. *Journal of Quantitative Criminology*, *21*(2), 127–147.

Kendall, S., Redshaw, S., Ward, S., Wayland, S., and Sullivan, E. (2018). Systematic review of qualitative evaluations of reentry programs addressing problematic drug use and mental health disorders amongst people transitioning from prison to communities. *Health and Justice*, *6*(4). https://doi.org/10.1186/s40352-018-0063-8

Kim, R. H., & Clark, D. (2013). The effect of prison-based college education programs on recidivism: Propensity score matching approach. *Journal of Criminal Justice*, *41*(3), 196-204.

King, R., and Elderbroom, B. (2014). *Improving recidivism as a performance measure*. Urban Institute. https://www.urban.org/research/publication/improving-recidivism-performance-measure

Kirk, D. S. (2006). Examining the divergence across self-report and official data sources on inferences about the adolescent life-course of crime. *Journal of Quantitative Criminology*, *22*(2), 107–129. https://doi.org/10.1007/s10940-006-9004-0

Klingele, C. (2013) Rethinking the use of community. *Journal of Criminal Law and Criminology, 103*(4), 1015–1070.

Kubrin, C. E., & Weitzer, R. (2003). New Directions in Social Disorganization Theory. *Journal of Research in Crime and Delinquency*, *40*, 374-402.

Kutateladze, B. L., Andiloro, N. R., Johnson, B. D., and Spohn, C. C. (2014). Cumulative disadvantage: Examining racial and ethnic disparity in prosecution and sentencing. *Criminology*, *52*(3), 514–551.

Lane, J. (2018). Building an infrastructure to support the use of government administrative data for program performance and social science research. *The ANNALS of the American Academy of Political and Social Science*, *675*(1), 240-252.

Le, A., Han, B. H., & Palamar, J. J. (2021). When national drug surveys "take too long": An examination of who is at risk for survey fatigue. *Drug and alcohol dependence*, *225*. https://doi.org/10.1016/j.drugalcdep.2021.108769.

Lum, C. (2011). The influence of places on police decision pathways: From call for service to arrest. *Justice Quarterly*, *28*(4), 631–665. https://doi.org/10.1080/07418825.2010.526130

Lum, K., and Isaac, W. (2016). To predict and serve? *Significance*, *13*(5), 14–19.

Lyman, M., and LoBuglio, S. (2007). "Whys" and "hows" of measuring jail recidivism. *American Jails.* Retrieved from https://www.montgomerycountymd.gov/COR/Resources/Files/PDF/jail_recidivism.pdf

MacDonald, J., Fagan, J., and Geller, A. (2016). The effects of local police surges on crime and arrests in New York City. *PLOS One*, *11*(6), e0157223.

Maxfield, M. G., Weiler, B. L., and Widom, C. S. (2000). Comparing self-reports and official records of arrests. *Journal of Quantitative Criminology*, *16*(1), 87–110.

Messina, N., Burdon, W., Hagopian, G., & Prendergast, M. (2006). Predictors of prison-based treatment outcomes: A comparison of men and women participants. *The American Journal of Drug and Alcohol Abuse*, *32*(1), 7-28.

Morgan, R. E., and Thompson, A. (2021). *Criminal victimization, 2020* (NCJ 301775). Bureau of Justice Statistics. https://bjs.ojp.gov/sites/g/files/xyckuh236/files/media/document/cv20.pdf

Morris, N. A., and Slocum, L. A. (2010). The validity of self-reported prevalence, frequency, and timing of arrest: An evaluation of data collected using a life event calendar. *Journal of Research in Crime and Delinquency*, *47*(2), 210–240.

Motivans, M. (2022). *Federal justice statistics, 2020* (NCJ 304314). Bureau of Justice Statistics. https://bjs.ojp.gov/content/pub/pdf/fjs20.pdf

Myrent, M. (2019). *Using State Criminal History Records for Research and Evaluation.* Washington, DC: Justice Research and Statistics Association.

National Institute of Justice. (2022). *Recidivism*. U.S. Department of Justice, Office of Justice Programs, National Institute of Justice. https://nij.ojp.gov/topics/corrections/recidivism

Patillo, M., Weiman, D., and Western, B. (Eds). (2004). *Imprisoning America: The social effects of mass incarceration*. Russell Sage Foundation.

Payne, J. L., and Piquero, A. R. (2018). The concordance of self-reported and officially recorded criminal onset: Results from a sample of Australian prisoners. *Crime and Delinquency*, *64*(4), 448–471.

Pew Center on the States. (2011). *State of recidivism: The revolving door of America's prisons*. The Pew Charitable Trusts. https://www.pewtrusts.org/-/media/legacy/uploadedfiles/pcs_assets/2011/pewstateofrecidivismpdf.pdf

Phelps, M. S. (2018). Mass probation and inequality: Race, class, and gender disparities in supervision and revocation. In J.T. Ulmer and M. Bradley (Eds.), *Handbook on Punishment Decisions: Locations of Disparity* (pp. 43–65). Routledge.

Pierson, E., Simoiu, C., Overgoor, J., Corbett-Davies, S., Jenson, D., Shoemaker, A., and Goel, S. (2020). A large-scale analysis of racial disparities in police stops across the United States. *Nature Human Behaviour*, *4*(7), 736–745.

Piquero, A. R., Schubert, C. A., and Brame, R. (2014). Comparing official and self-report records of offending across gender and race/ethnicity in a longitudinal study of serious youthful offenders. *Journal of Research in Crime and Delinquency*, *51*(4), 526–556.

Pratt, J., and Eriksson, A. (2013). Penal policy and the social democratic image of society. In *Crime, Justice and Social Democracy* (pp. 51–69). Palgrave Macmillan.

Raphael, S., and Rozo, S. V. (2019). Racial disparities in the acquisition of juvenile arrest records. *Journal of Labor Economics*, *37*(S1), S125–S159.

Ringland, C. (2013). Measuring recidivism: Police versus court data. *Crime and Justice Bulletin*. https://www.bocsar.nsw.gov.au/Publications/CJB/cjb175.pdf

Roberts, A. (2019). Arrests as guilt. *Alabama Law Review*, *70*(4), 987–1030.

Rocque, M. (2021). *But what Does it Mean?: Defining, Measuring, and Analyzing Desistance from Crime in Criminal Justice*. National Institute of Justice. US Department of Justice.

Rosenfeld, R., and Grigg, A. (Eds.). (2022). The limits of recidivism: Measuring success after prison. *National Academies of Sciences, Engineering, and Medicine*. https://doi.org/10.17226/26459

Rosenmerkel, S., Durose, M. and Farole, D. (2009) Felony Sentences in State Courts, 2006 – Statistical Tables.

Russo, J., Vermeer, M. J., Woods, D., & Jackson, B. A. (2020). *Data-Informed Jails: Challenges and Opportunities*. RAND.

Washington, DC: Bureau of Justice Statistics.

Schneider, A. L., and Sumi, D. (1981). Patterns of forgetting and telescoping: An analysis of LEAA survey victimization data. *Criminology*, *19*(3), 400–410. https://doi.org/10.1111/j.1745-9125.1981.tb00425.x

Severson, M. E., Veeh, C., Bruns, K., and Lee, J. (2012). Who goes back to prison; Who does not: A multiyear view of reentry program participants. *Journal of Offender Rehabilitation*, *51*(5), 295–315. https://doi.org/10.1080/10509674.2012.677944

Shillington, A. M., Woodruff, S. I., Clapp, J. D., Reed, M. B., & Lemus, H. (2012). Self-reported age of onset and telescoping for cigarettes, alcohol, and marijuana: Across eight years of the National Longitudinal Survey of Youth. *Journal of Child & Adolescent Substance Abuse*, *21*(4), 333–348.

Shoub, K., Epp, D. A., Baumgartner, F. R., Christiani, L., and Roach, K. (2020). Race, place, and context: The persistence of race effects in traffic stop outcomes in the face of situational, demographic, and political controls. *Journal of Race, Ethnicity, and Politics*, *5*(3), 481–508.

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant. *Psychological Science*, *22*(11), 1359-1366.

Snedker, K. A., Beach, L. R., & Corcoran, K. E. (2017). Beyond the "revolving door?": Incentives and criminal recidivism in a mental health court. *Criminal Justice and Behavior*, *44*(9), 1141-1162.

Spohn, C. (2015). Evolution of sentencing research. *Criminology and Public Policy*, *14*, 225–32.

Sweeten, G. (2006). Who will graduate? Disruption of high school education by arrest and court involvement. *Justice Quarterly*, *23*(4), 462–480.

Tahamont, S., Jelveh, Z., Chalfin, A., Yan, S., & Hansen, B. (2021). Dude, where's my treatment effect? Errors in administrative data linking and the destruction of statistical power in randomized experiments. *Journal of Quantitative Criminology*, *37*(3), 715-749.

Thornberry, T. P., and Krohn, M. D. (2000). Delinquency and crime. *Criminal justice 2000: Measurement and analysis of crime and justice*, *volume 4*. National Institute of Justice.

Tourangeau, R., Rips, L. J., & Rasinski, K. (2000). The Psychology of Survey Response. Cambridge, England: Cambridge University Press.

Tourangeau, R. (2003). Cognitive aspects of survey measurement and mismeasurement. *International Journal of Public Opinion Research*, *15*(1), 3–7.

Tourangeau, R., and Yan, T. (2007). Sensitive questions in surveys. *Psychological Bulletin*, *133*(5), 859–883.

Tripodi, S. J., Kim, J. S., and Bender, K. (2010). Is employment associated with reduced recidivism? The complex relationship between employment and crime. *International Journal of Offender Therapy and Comparative Criminology*, *54*(5), 706–720.

Turney, K., & Goodsell, R. (2018). Parental incarceration and children's wellbeing. *The Future of Children*, *28*(1), 147–164.

U.S. Department of Labor. "Grants Awarded," 2022. https://www.dol.gov/agencies/eta/grants/awards.

Western, B., Braga, A. A., Davis, J., & Sirois, C. (2015). Stress and hardship after prison. *American Journal of Sociology*, *120*(5), 1512–1547.

Western, B., and Pettit, B. (2010). Incarceration and social inequality. *Daedalus*, *139*(3), 8–19.

White, A. (2019). Family matters? Voting behavior in households with criminal justice contact. *American Political Science Review*, *113*(2), 607–613.

Wooldredge, J., Frank, J., Goulette, N., and Travis III, L. (2015). Is the impact of cumulative disadvantage on sentencing greater for Black defendants? *Criminology and Public Policy*, *14*(2), 187–223.