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SPECIAL ISSUE ON ADDRESSING DISPARITY IN COMMUNITY CORRECTIONS

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THIS ISSUE IN BRIEF

SPECIAL ISSUE ON:
ADDRESSING DISPARITY IN COMMUNITY CORRECTIONS

Introduction to Special Issue on Addressing Disparity in Community Corrections

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Guest Editors

THIS VOLUME COVERS a critical topic in the field of criminal justice—racial disparity. Racial disparity has a long history in the criminal justice system. From policing to parole, large-scale disparities have been noted (Nembhard & Robin, 2021). In 2020, after the killing of George Floyd, there was renewed interest in and demands for racial equality in the criminal justice system. Several researchers have continued work in this area with renewed vigor, while others have approached this work as new researchers in this space. This volume of *Federal Probation* is dedicated to taking stock of what we currently know about racial disparities and what other research topics need to be explored. Our hope is to spur conversation about how to make changes that bring about equality in the criminal justice system.

"Place Matters: Racial Disparities in Pretrial Detention Recommendations Across the U.S." is the first article to consider the impact of "place" on recommendations for pretrial release. Skeem, Montoya, and Lowenkamp's article indicates that "place" matters. Those districts with low detention rates seem to have greater levels of disparity. Consistent with earlier research on disparities in prison populations, this research finds that the greatest disparities by location are in the Northeastern and Midwestern districts. Those with modest disparities were predominantly in Southern districts. This article ends with thoughts about mediating the impact of "place" on pretrial detention.

Sandra Susan Smith's article, "How Pretrial Incarceration Diminishes Individuals'

Employment Prospects," is one of the co-editors' favorites, as it takes what we have learned from other research and then digs a bit deeper to understand the mechanisms that generated the findings of previous research. This is something that is rare but necessary once large datasets have told us all they can—which, when it comes to elevating the voices and experience of those impacted by criminal justice system policies, administrative data fails to convey.

In "Moving Past Arbitrary Bail: A Proposal for More Deliberative Pretrial Decision-Making," Picard, Rodriguez, and Rempel make an interesting and convincing argument for changing the process of making pretrial decisions. Rather than focusing on the notion that judges and magistrates need more information to make better decisions, the authors argue for changes in the process by which we currently make pretrial decisions. For example, the authors suggest changing the arraignment process, providing complete information at initial hearings, and holding second hearings related to release conditions. The goal here is to make more deliberative decisions in pretrial contexts. The authors' suggestions are important for two reasons. First, such a process can ensure that we release defendants in keeping with the rights afforded to them by the United States Constitution. Second, a more deliberative process can decrease the impact of bias in decision-making, leading to less disparity and greater fairness.

The fairness, or equity, of risk assessment at the pretrial stage has been a topic of considerable interest. Henderson, Sevil, Lessard, and

Rembert add to this growing body of literature in "Determining Racial Equity in Pretrial Risk Assessment." This article indicates that Black defendants tend to have higher scores than White defendants; however, the differences in scoring are solely explained by racial bias. Further, race did not predict false positive rates. While race and false negative rates were related to a significant degree, this relationship did not differ by race. This research certainly contributes to our understanding of racial equity in pretrial risk assessment.

In "Pretrial Supervision: Race and Revocation," Bechtel, Connor, and Lowenkamp focus on understanding the characteristics of those on pretrial supervision, the activities on pretrial supervision, and how those relate to revocation. In bivariate models, Black and White defendants have equal revocation rates. However, in multivariate models controlling for risk, legally relevant factors, the types of conditions on supervision, and the number of contacts per month, race is inversely related to revocation.

Lu and Rempel begin the process of understanding how supervised release is used and which legal and extralegal factors are predictors of release decisions. Because very little is known about pretrial supervision, "Supervised Release in Post-Reform New York: An Exploratory Analysis" is a quite novel article. The authors provide a nice summary of the extant literature on pretrial supervision, the history of bail in New York, as well as bail reform in New York. Using data from New York, the authors estimate several models to understand how race and sex

impact the use of various options at the pretrial stage. The results indicate that race and sex, as well as place, significantly impact the likelihood of an individual defendant being assigned to Release on Recognizance (ROR), supervised release, or remand to jail.

The research on pretrial programming as an alternative to detention and a method for reducing risk is limited. Success in these programs and pretrial supervision can have severe implications for sentencing and future pretrial release or detention decisions. In "The Outcomes of a Pretrial Diversion Program in Texas," Petkus and Ruhland find that race is unrelated to successful outcomes. Age, sex, employment, citizenship, and several other factors are related to the successful completion of the pretrial diversion program. This is an important finding, as pretrial diversion programs might be an option for pretrial release. Further successful completion may be unrelated to race.

Place Matters: Racial Disparities in Pretrial Detention Recommendations Across the U.S.

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IN THE U.S., many jurisdictions are trying to reduce incarceration by improving pretrial decision-making. The pretrial decision is either to release the defendant until the court date or keep the defendant in jail to prevent re-offending or absconding. Rates of pretrial detention can be remarkably high, particularly in the federal system. There, the majority of defendants are detained before trial, even though less than 10 percent are arrested for a new crime or fail to appear while on pretrial release (Cohen & Austin, 2018; see also Rowland, 2018). Pretrial detention has serious consequences, including an increased likelihood of conviction, a harsh sentence, future re-offending, and unemployment (Dobbie et al., 2018; Leslie & Pope, 2017; Lowenkamp, 2022; Oleson et al., 2017). These consequences, in turn, are disproportionately borne by Black defendants (Didwania, 2021; Dobbie et al., 2018; Kutateladze et al., 2014; Leslie & Pope, 2017). Based on a sample of over 337,000 defendants drawn from 80 federal districts, Didwania (2021) found that 68 percent of Black defendants were detained

pretrial, compared to 51 percent of White defendants.

Increasingly, efforts to improve pretrial decision-making include the goal of reducing racial disparities. In pursuing this goal, stakeholders probably assume that personal bias is to blame—i.e., that racial disparities in pretrial detention reflect the influence of implicit racism on human decision-making, and therefore that (perhaps) diversity training for practitioners would prevent such discrimination (see Devine & Ash, 2022). The majority of Americans frame racism as an interpersonal rather than structural problem—meaning that they focus on "a few bad apples" who discriminate, rather than on laws, policies, and systems that have a disparate impact (Rucker & Richeson, 2021).

But disparities can also reflect "upstream" structural forces like socioeconomic and geographic conditions that lead to racial differences in the likelihood of rearrest or failure to appear. Black defendants tend to have more serious criminal histories and other potential risk factors for poor pretrial outcomes than White defendants (Didwania, 2021; Grossman et al., 2022; Spohn, 2008). Because risk of rearrest or flight are legitimate considerations for pretrial release, disparities related to differences in risk are hard to address via pretrial reform. Efforts to address disparities that flow from these kinds of structural forces would better be directed toward approaches like well-timed and well-targeted early prevention programs. In short, understanding the extent to which structural factors play a role in racial disparities is a matter of primary concern

for shaping effective solutions (see Beck & Blumstein, 2018).

In this study, we use federal data to explore the association between *place*—in this case U.S. district and geographic region—and racial disparities in pretrial officers' recommendations for detention. We focus on officers' recommendations in the federal system for three reasons. First, pretrial officers play a central role in assisting federal judges with the pretrial release decision, and officers' detention recommendations strongly predict detention itself (see below, Pretrial Recommendation Context). Second, we conducted this work with the Probation and Pretrial Services Office of the Administrative Office of the U.S. Courts, as part of their effort to reduce disparities by specifying targets for change. Third, the vastness and diversity of the federal system provide a unique opportunity to characterize the districts and regions of the U.S. where racial disparities in pretrial detention are greatest, so that they can be prioritized in problem-solving efforts. The federal system encompasses 93 districts that differ geographically, socially, and culturally—but they are governed by a common set of pretrial laws, policies, and tools for practice.

This study is among the first to describe how racial disparities in pretrial detention vary by place across the U.S. Although some studies have examined racial disparities in arrests geographically (e.g., Fogliato et al., 2021), the most relevant research maps racial disparities in imprisonment (Beck & Blumstein, 2018; Enders et al., 2019; Nellis, 2021). Generally, these studies have yielded results that are

non-intuitive based on mainstream narratives, and (for that reason) important. For example, using Bureau of Justice Statistics data collected from state departments of corrections, Beck and Blumstein (2018) calculated the incarceration rate ratios for each state in 2011 by dividing the percentage of the Black population in prison by the percentage of the White population in prison. They found that states with the largest incarceration disparities were in the North and Midwest (e.g., Minnesota, Iowa, New Jersey)—which "might be surprising if we simply presumed that the traditional racial prejudice of the South would contribute to a higher ratio" (p. 867). Instead, disparities were concentrated where incarceration rates were low, and Black citizens predominantly lived in urban areas. Of course, these studies focus on states, which differ in their laws and policies—unlike the federal system. Although the extent to which findings will generalize from the states to the federal system and from post-conviction incarceration to pretrial detention is unclear, we outline some tentative hypotheses or expectations below.

Again, our goal is to explore how racial disparities in pretrial officers' recommendations for detention vary across U.S. districts and geographic regions, and to characterize the places where disparities are greatest. Given this goal, we have two general expectations. First, we expect to find that place "matters," or that racial disparities vary systematically by district (rather than being uniform or haphazard). This expectation is based on observations that districts have their own practices, norms, populations, and cultures—that manifest in features like different base rates of detention. It is also based on the results of our companion study (Skeem, Montoya, & Lowenkamp, in press), where we found that most (79 percent) of the racial disparity in officers' detention recommendations was explained by structural factors like pretrial policy's emphasis on criminal history, rather than personally mediated factors like implicit racism. Place is another structural factor that is likely associated with disparities in recommendations. Second, we expect to find that disparities will be greatest in districts with relatively low rates of pretrial detention and high rates of inequality (rather than in the stereotypic South). This expectation is based on past state-level research. By shedding light on where racial disparities in pretrial recommendations are concentrated, we hope to inform strategies for addressing them—both within and beyond the pretrial criminal legal system.

Method

The method involved defining an appropriate study population of defendants and districts, selecting variables and metrics to characterize racial disparities within each district, and completing descriptive analyses to address the study aims. In this section, we outline the pretrial context of the federal system before describing the study population, variables, and metrics for the analytic approach.

Pretrial Recommendation Context

In the federal courts, when a person is charged with a criminal offense, a pretrial officer conducts an assessment on that person and then writes a pretrial services report (or "bail report"). The report's primary purpose is to provide information for the judge to determine whether to release the defendant. As part of the assessment, the officer interviews the defendant about residence, family ties, foreign ties, employment, education, military service, financial resources, physical and mental health, substance abuse, gambling, criminal history, and other topics. The officer also gathers information from records and contacts with collateral informants and completes the Pretrial Risk Assessment (PTRA, Cohen & Lowenkamp, 2019; Cohen et al., 2018). The report includes the interviewing officer's recommendation for detention or release and the conditions of release necessary to manage the risks of nonappearance and/or dangerousness (Probation & Pretrial Services Office, 2019).

Based in part on the officers' recommendation, the judge decides whether to detain the defendant at either an initial hearing or later detention hearing. There are multiple potential decision points, because the federal bail statute allows the government to move for a formal detention hearing up to three days after the initial hearing if the defendant's case meets one of many eligibility criteria (18 USC §3142(f)). In the current study's population, 65 percent of officers' recommendations were present at the initial hearing, 30 percent at the detention hearing, and 5 percent at a post-detention hearing.

Officers' recommendations for detention strongly predicted judicial detention decisions. Absolute rates of agreement between officer recommendations and judicial decisions were 87 percent; chance-corrected levels of agreement were "good" and approached the "excellent" range (Kappa = .73, Fleiss et al., 2013). As shown later, racial disparities in officer recommendations are highly similar to those for actual detention.

Study Population

To accurately represent recent practices, we began by defining the study population as all cases with a valid officer recommendation that were processed in calendar years 2015-2019 (the year prior to onset of the COVID-19 pandemic, which affected case processing, N=471,470). We pooled data across these four years to permit the inclusion of districts with relatively low representation of Black defendants while ensuring ample cell sizes for some key variables. This decision is supported by high levels of stability by year in (a) the degree of correlation between officer recommendations (on one hand) and defendants' race and the covariates (on the other hand), and (b) the probability of a release recommendation (which fluctuated slightly between 48 percent and 45 percent).

The selection process for the final study population is described in Skeem et al. (in press). Exclusion criteria included (a) non-U.S. citizen status (n=233,347, because non-citizens are subject to unique policies and rarely released) and (b) race other than Black or non-Hispanic White (n=84,207). We focus on Black and non-Hispanic White defendants because disparities in the U.S. criminal justice system are greatest for these groups (Tonry, 2012). (We will examine Hispanic and non-Hispanic White disparities in a separate study.) We excluded 10 districts with fewer than n=100 or less than 10 percent Black defendants (n=4,100) because, even after pooling across years, these districts have insufficient diversity to study racial disparities.

The final study population includes 149,816 defendants, 51 percent of whom were Black. The population's characteristics are described by race in Table 1.

Variables

Race

Defendant's race was operationalized as Black or (non-Hispanic) White, given the value that the interviewing officer entered into the Probation and Pretrial Services Automated Case Tracking System (PACTS). The interviewing officer generates the race variable by integrating the official report of race and the defendant's self-report. The official report of race is drawn from the Federal Bureau of Investigation's National Crime Information Center (NCIC) data and local law enforcement reports relating to the current offense. If during the pretrial investigation process the defendant reported a race different from that in the official record, then the interviewing

officer entered the defendant's self-reported race. This race variable is ideal for addressing the aims of the present study, because it is likely to reflect the officer's perception of the defendant's race.

Detention Recommendations and Detention Itself

Officers' pretrial recommendations were coded as "detention" or "release" when the officer recommended detention or release (with or without supervision or conditions), respectively. Similarly, defendants' outcomes were coded as "detention" or "release" based on judicial decisions.

Metrics for Descriptive Analyses

Relative Risk Metrics

We chose an unadjusted relative risk (RR) as the core metric for describing the degree of difference in the likelihood that an officer will recommend pretrial detention for Black and White defendants. RR is the probability of a detention recommendation occurring in the Black group divided by the probability of a detention recommendation occurring in the White group. RR does not provide information about the absolute risk of a detention recommendation, but rather the higher or lower likelihood of that recommendation in the Black versus the White group. A RR greater than 1.0 indicates an increased likelihood of a detention recommendation in the Black group, whereas RR less than 1.0 indicates an increased likelihood of a detention recommendation in the White group. We use RR because it is commonly used and less subject to misinterpretation than the odds ratio, particularly for events with moderate-high probabilities (Zhang & Yu, 1998), like detention recommendations.

We calculated two RRs for each district: (1) the basic or uncorrected RR, and (2) the population-corrected or standardized RR. The latter RR involves standardizing each district's risk ratio based on the racial diversity of its population (details provided below).

Detention Rates

We contextualize racial disparities in detention recommendations (RRs) by cross-referencing local base rates for detention; specifically, whether the district has a "low detention" or "high detention" rate (using the median split of 52 percent). We do so because officers must make more judgments about who can be safely recommended for release in districts where base rates of detention are relatively

low—which introduces greater room for disparities. In keeping with this premise, districts with relatively low detention rates tend to have greater racial disparities in detention recommendations ($r = -.41$, $p <.0001$).

Analytic Approach

Our analytic approach is meant to be exploratory and purely descriptive of the association between racial disparities and detention recommendations in the U.S. We deliberately do not adjust for third variables (e.g., young age, male gender, risk) that partially explain this association (see Skeem et al., in press for an alternative approach).

Results

Describing Racial Disparity Across Districts: Basic RRs

We began with analyses that describe racial disparity (in RRs) by district. Although the median risk ratio for the system is 1.34 (Skeem et al., in press), the average risk ratio is 1.49, indicating a positive skew in the distribution that could be based on outliers with high disparities. Given that the average RR's standard deviation is 0.50, most districts (60 percent) have relative risk ratios that range from indicating no racial differences in the probability of a detention recommendation (RR=0.99) to the probability of a detention recommendation being nearly 200 percent higher for black defendants compared to white defendants (RR=1.99). Notably—and as expected, given that officer recommendations strongly predict judges' detention decisions—disparity in actual detention follows the same distributional pattern as detention recommendations (M RR=1.53, sd=.51; Mdn=1.39).

Depicting the Variability in Racial Disparity and Association with Detention Rates

In Figure 1, we plot each district's risk ratio as a black dot, ordering districts from the lowest RR (at the left end of the X axis) to the highest RR (at the right end of the X axis). The left-side Y axis is the Basic Risk Ratio. The figure indicates that a handful of districts (about ten) have unusually high disparity ratios ($RR > 2.0$).

Figure 1 also displays each district's officer-recommended detention rate as a gray dot, corresponding to the right-side Y-axis. As noted earlier and as shown in the figure, increasing risk ratios are moderately associated with decreasing recommended detention rates (r=-.41). This is consistent with past

research at the state level (Beck & Blumstein, 2018). In our view, this indicates that places that tend to detain everyone artificially leave little room for racial disparities.

Characterizing Where Racial Disparities Are Greatest: Population-Corrected RRs

To characterize the places where disparities were greatest, we used an approach described in Beck and Blumstein (2018). Specifically, we standardized each district's risk ratio based on the racial diversity of its population in 2017 (U.S. Census Bureau, 2020). Then, we calculated the population-corrected District Recommendation Ratio (DRR) as follows: DRR= (Black defendants/Black population)/ (White defendants/White population). Finally, we used the 2017 Region and Division Codes from the U.S. Census Bureau (2019) to characterize regions in which the districts with the 10 highest and 10 lowest DRRs were located.

Of the districts with the ten highest DRRs, virtually all (90 percent) were located in the Northeast or Midwest. In four of these districts, the DRR was 25 or more. Of the districts with the ten lowest DRRs, most (80 percent) were in the South (20 percent were in the West). This finding is consistent with our hypothesis that disparity would be greatest in places with the greatest structural inequality.

Given the association between disparities and detention rates, we also zeroed in on the 53 districts with recommended detention rates that fall in the average range for the system (i.e., within one standard deviation of 55 percent, or 43 percent to 67 percent). Based on this smaller set of districts with relatively homogeneous detention rates, we mapped the ten highest and lowest disparity districts based on DRRs. Importantly, the pattern of results was remarkably similar to that described earlier for the larger set of districts.

Discussion

In this study, we explored how racial disparities in officers' recommendations for detention vary across U.S. districts and geographic regions, and characterized the places where disparities were greatest. Our results may be organized into three points. First, we found that place "matters," in keeping with both our hypothesis and past finding that institutional factors like pretrial policy strongly influence racial disparities in recommendations (Skeem et al., in press). Beneath our estimate of moderate racial disparity nationally (RR=1.34), most districts ranged from no disparity to strong disparity (RR=1.99). Nevertheless, the

probability of a detention recommendation was over 200 percent higher for Black than White defendants in about ten outlying districts (RR > 2.0). Ideally, efforts to reduce disparities would prioritize places where disparities are most pronounced.

Second, we found that districts with relatively low detention rates were moderately likely to have relatively high racial disparities in detention recommendations (*r*= -.41; see also Beck & Blumstein, 2018). This tradeoff probably reflects the fact that officers in low detention districts must make more judgments about who can be safely released, which introduces more room for racial disparities. In contrast, high detention districts where virtually everyone is detained *artificially* leave little room for racial disparities—and incur unnecessary human and fiscal costs in the process (see above in the introduction to this article). Given the substantial harm that can be caused by pretrial detention, we recommend that districts prioritize reducing detention rates, perhaps by using structured decision-making tools like the PTRA to identify lower risk people for presumptive release while minimizing disparities (for details see Skeem et al., in press). The priority goal is to "first, do less harm" by eliminating unnecessary detention.

Third, population-corrected estimates indicate that districts with the greatest racial disparities in detention recommendations were predominantly Northeastern and Midwestern districts, and those with the most modest disparities were predominantly Southern districts. This pattern is the same for both the full set of districts and for the subset of districts with detention rates that fall within the system's average range. This finding is consistent with both our hypothesis and past studies of racial disparities in state incarceration (Beck & Blumstein, 2018; Nellis, 2021).

This finding that disparities were *not* concentrated in Southern districts, where racial prejudice has historically and stereotypically been greatest, may seem counterintuitive. But the results are consistent with our hypothesis that disparity would be greatest in places with the greatest structural inequality. Using recent data from the U.S. Census Bureau, U.S. Department of Justice, and Centers for Disease Control, Stebbins (2022) used a multi-factor index to measure disparities between Black and White Americans in each state. The index included household income, poverty, educational attainment, homeownership, unemployment rates, imprisonment rates, and mortality rates. Based on this broad racial

FIGURE 1
Racial disparities plotted across individual districts, with districts' recommended detention rates
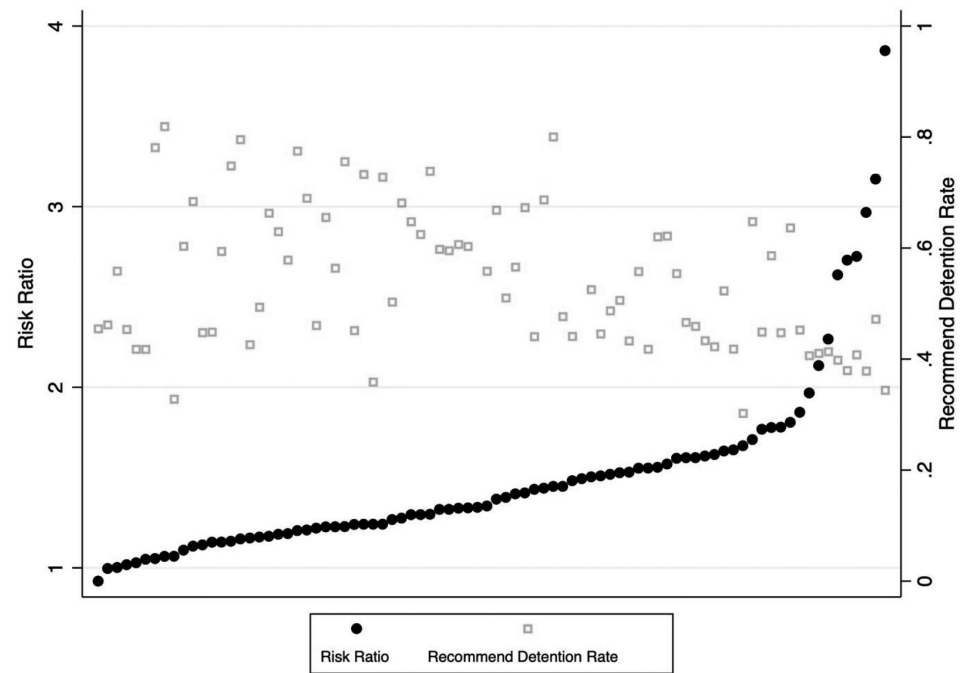
Note: The left side Y axis is the Risk Ratio (RR). Each district's RR is plotted as a black dot, with districts ordered from low to high RR, left to right on the X axis, respectively. The right side Y axis is the officer-recommended detention rate for the district, which is plotted as a gray dot. The figure indicates that districts vary in racial disparities, with a handful of districts having RRs > 2.0; and that increasing RRs are moderately associated with decreasing recommended detention rates (r=-.41).

TABLE 1
Description of study population (N=149,816)

	All		Black (n=76,126)		White (n=73,690)	
	N	Mean (SD)/%	N	Mean (SD)/%	N	Mean (SD)/%
Age	149,803	38.01 (12.07)	76,119	34.87 (10.49)	73,684	41.25 (12.72)
Male sex	25,768	17.2	9,975	13.1	15,793	21.43
PTRA score (risk estimate)	129,868	7.44 (2.96)	66,591	8.28 (2.58)	63,277	6.57 (3.07)
Criminal history score (from bail report)	149,816	0.00 (3.25)	76,126	0.37(3.48)	73,690	-0.39(2.94)
Earned annual income (in $)	149,816	1378.55 (65104.15)	76,126	801.85 (21098.55)	73,690	1974.32 (90314.52)
Educational attainment < High school or GED	51,414	38.54	32,073	47.08	19,341	29.63
Officer recommended detention	81,533	54.42	47,355	62.21	34,178	46.38
Detained pretrial	79,870	53.31	46,074	60.52	32,857	45.11

*PTRA= Pretrial Risk Assessment; GED=General Education Development

inequality index, Stebbins found that most of the "worst states for Black Americans" were in the Midwest and Northeast. The overlap between Stebbins's findings and our results suggests that institutionalized factors like socioeconomic inequality contribute to racial disparities in pretrial detention recommendations and must be considered in efforts to reduce disparities where they are greatest.

These results have implications for problem solving that extend beyond the pretrial system and broader criminal legal system. Pretrial reform alone cannot eradicate racial disparities that reflect true differences in risk that lie further upstream. In places where pretrial disparities are bundled with broader indices of racialized social inequality, it is essential to also address "root causes" of involvement in crime that include socioeconomic disadvantage, educational and job opportunities, and more (Beck & Blumstein, 2018). Investing in well-timed and well-targeted early prevention programs is one promising approach. Another promising approach involves engaging with community-based organizations that support marginalized groups by leveraging evidence-informed strategies to promote education, community bonding, and training for employment opportunities.

Alongside these efforts to disrupt "root causes" of crime outside the criminal legal system, reforms in pretrial policy and practice are also essential for reducing racial disparities in detention. In our companion study (Skeem et al., in press), we found that pretrial policies and, to a much lesser extent, personally mediated bias help explain these racial disparities. There, we provide detailed recommendations for reform—including strategic shifts in pretrial policies and their implementation. One promising direction is to corral criminal history by adopting a tight definition that demonstrably predicts violence and failure to appear, and limiting the weight assigned to criminal history versus other predictive factors when making recommendations. Another promising direction is to adopt a risk-based release policy that leverages the PTRA to meaningfully reduce both detention rates and racial disparities. The one recommendation that we tentatively add, based on the results of the present study, is for pretrial policymakers and practitioners to deliberately consider their district's rates of detention and racial disparities—with an awareness of their larger geographical context. It is possible that an awareness of the role that "place" can play in pretrial decision-making could inspire local changes and improvements, both large and small.

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How Pretrial Incarceration Diminishes Individuals' Employment Prospects

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DECADES OF RESEARCH have shown that penal system contact worsens individuals' employment prospects. With arrest, conviction, and incarceration, people are significantly less likely to find work, and when they are employed, they work fewer weeks per year, on average, and earn significantly lower wages (Freeman, 1991; Grogger, 1992; Waldfogel, 1994; Nagin & Waldfogel, 1995; Western, 2006). In keeping with this, three recent reports causally link pretrial detention to diminished employment prospects. In a 2018 publication, economists Will Dobbie, Jacob Goldin, and Crystal Yang show that pretrial release increased formal sector employment by roughly 25 percent compared to equivalent, marginal defendants who were detained instead. Importantly, the employment effects of detention were strongest for first-time "offenders." Jung Kim and Yumi Koh (2022) report that while pretrial release had a negligible effect on employment among Whites, among Blacks of prime working age and across all education categories, pretrial release increased labor force participation, full-time job status, and the number of hours worked. More recently, researchers at the New York City Criminal Justice Agency report not only that justice-involvement was associated with employment, financial, and housing instability, but also that pretrial detention specifically predicted poor outcomes in each of these areas (Bergin et al., 2022).

What accounts for pretrial incarceration's negative effect on individuals' employment? While neither study offers an unequivocal account of the mechanisms linking pretrial incarceration to diminished employment outcomes, Dobbie, Goldin, and Yang (2018) point to the role that criminal conviction plays: Because pretrial detention increases the likelihood that individuals are convicted, it also diminishes the likelihood of finding work, since employers are disinclined to hire job seekers with criminal records. Criminal conviction, however, is arguably just one mechanism linking detention with diminished employment prospects.

To further explore how pretrial incarceration might erode employment prospects, this study draws from in-depth, semi-structured interviews with 191 ethnoracially diverse individuals in the San Francisco Bay Area who were cited or arrested for low-level misdemeanor offenses between 2013 and 2018. The study focused on study participants' experiences pre-, during, and post-detention. Analysis suggests that both detention-related job losses and vehicle seizures contribute to destabilizing employment post detention, in the short and long term. It also suggests that such losses shape individuals' perceived barriers to employment, no matter their conviction status. Indeed, a higher percentage of people who lost their jobs and/or vehicles perceived the criminal record, employer discrimination, and lack of transportation as major barriers to employment some three years after the detention experience. Thus, this exploration suggests two additional pathways through which pretrial incarceration erodes employment prospects: by initiating job and vehicle losses that then further destabilize employment, and then by shaping perceptions about the extent and nature of barriers to employment they face, increasing both the number of barriers they imagine and their sense of how important these barriers are to finding and keeping jobs. Importantly, previous research finds that such perceptions negatively affect whether people search for work and how they do so (Apel & Sweeten, 2010; Sugie, 2018; Smith & Broege, 2019).

Why Do Employment Prospects Erode with Pretrial Incarceration?

Theories abound about why incarceration erodes employment prospects. Certainly, some job seekers would struggle with employment even if they had never had contact with the penal system. Before penal contact, justice-involved people, who are disproportionately poor, less educated, and of color, generally struggle with higher rates of unemployment, and when employed garner lower hourly wages, work relatively few weeks per year, and have annual earnings that place them below the poverty line (Grogger, 1995; Useem & Piehl, 2008). After penal contact, however, their employment prospects dim further still (Western, 2006; Visher & Kachnowski, 2007).

The dominant explanation for eroded employment prospects attributes diminished job prospects to institutional exclusion, the role that legal and social stigmas play in erecting institutional barriers to legitimate work in the formal economy. From this perspective, the system-involved people experience higher rates of unemployment, despite their best efforts to find work, because of state and

federal restrictions on access to government employment and government-regulated private industry (Dale, 1976; May, 1995; Olivares et al., 1996; Petersilia, 2003; Mills, 2008); employers' fears that they will be found liable for negligent hiring if marked employees act criminally on the job (Bushway, 1998; Glynn, 1998; Holzer et al., 2007); and employers' general distrust of a pool of applicants who essentially have been certified untrustworthy by the penal system (Schwartz & Skolnick, 1964; Boshier & Johnson, 1974; Pager, 2003, 2007; Holzer et al., 2007; Ispa-Landa & Loeffler, 2016). Faced with blocked access to job opportunities, such job seekers struggle to find work. They also struggle with labor force participation: Discouraged by the stigma associated with the criminal record and frustrated by early job search failures, many who have had contact with the penal system do not put in the amount and type of effort needed for job search success (Apel & Sweeten, 2010; Sugie, 2018; Smith & Broege, 2019).

Consistent with the dominant frame, Dobbie, Goldin, and Yang (2018) attribute detention's negative employment effect to the stigma of a criminal conviction. When compared to people who are released pretrial, those who have been detained pretrial are at greater risk of taking a plea deal that includes an admission of guilt, "perhaps simply to avoid further detention and uncertainty while awaiting trial" (10). With a guilty plea, defendants gain a criminal record of conviction, which makes finding work in the formal wage economy much more difficult. As is by now well-known, employers are disinclined to hire job seekers with criminal records of arrest and/or conviction (Schwartz & Skolnick, 1964; Boshier & Johnson, 1974; Pager, 2003; Holzer et al., 2007; Ispa-Landa & Loeffler, 2016).

At the same time, Dobbie, Goldin, and Yang discount two factors. Because the impact of pretrial release on formal employment lasts for at least 3-4 years, they saw little evidence of a role for incapacitation—one's inability to work because one is in jail. Their results also led them to dismiss the role that job disruptions play. Very few who were employed at arrest reported having the same employer one year later (16 percent); pretrial detainees are people who, even without detention, would have precarious ties to the formal economy. Thus, the researchers reasoned, pretrial detention is not likely a major cause of job instability.

Dobbie, Goldin, and Yang's study is perhaps the first to causally link pretrial detention

with reduced employment, contributing to our understanding of the extent and nature of costs borne by pretrial incarceration. Still, while they were able to identify one important mechanism—the stigma of the criminal conviction—they were necessarily limited by the data they had access to—administrative court and tax records—in the factors they could consider. It is very likely that pretrial incarceration erodes employment prospects in other ways, as recent research by Bergin and colleagues suggests (2022), and with other data sources, we can begin to identify what some of these other factors might be. Given this, I further explore just how pretrial detention might lead to reduced employment success post detention.

Data and Methods

To further explore the connection between pretrial incarceration and diminished employment prospects, in this article I draw from in-depth, semi-structured interviews with a non-random sample of 191 ethnoracially and, to a lesser extent, class-diverse individuals who participated in two pretrial diversion programs in San Francisco between 2013 and 2018— Neighborhood Court (NCt) and the Pretrial Diversion Program.[1] Respondents were compensated with $40 to be interviewed by phone or in person at a location of their choosing about their background, relationships and social support, affiliations, employment, substance use and mental health issues, and their experiences with the criminal legal system. The latter included questions about their arrests, convictions, and incarceration; their experiences with and perceptions of legal authorities; their experiences in pretrial detention; and their post-detention integrative experiences, with a focus on employment, housing, and legal financial obligations. Interviews took place between 2016 and 2020, lasted on average

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[1] Both programs were designed as alternatives to the traditional legal adjudication process. NCt takes a restorative justice approach, centering on accountability and healing over punishment. Individuals arrested or cited for low-level, non-violent misdemeanor offenses are given the opportunity to have their cases heard before a panel of 3-4 trained volunteers from the neighborhood where arrests took place instead of going to court. The panel decides on a non-carceral "directive," ranging from writing an essay to community service and/or restitution. Through Pretrial Diversion (PD), a judge mandates that individuals accused of low-level, nonviolent misdemeanors attend therapy, group classes, and/ or community service for a set number of hours or sessions. For NCt and PD, program completion is rewarded with dismissed charges.

roughly two hours, and were transcribed to facilitate coding and analysis. A five-member coding team adopted both a deductive and an inductive approach. Each transcript was read by two coders to ensure intercoder reliability. The process allowed for the development of mini theories based on findings from prior research, respondents' interpretation of their circumstances, and team members' thinking about the meaning of responses that respondents shared. Thus, in-depth interview responses allowed for a unique opportunity to explore mechanisms linking pretrial detention to post-detention employment.

Study participants were disproportionately male (68 percent), diverse in terms of ethnoracial background (23 percent are Black, 24 percent are Latino, and 30 percent are White) and educational attainment (24 percent are high school graduates, 41 percent have some college, and 25 percent have a college degree or more), and predominately low-income (30 percent live in households that make under $20,000 per year and an additional 28 percent live in households with incomes under $40,000 per year). Although more than half relied solely on jobs to make ends meet, almost one-fifth relied on government programs exclusively, and one-quarter relied on a combination of income sources to get by.

To determine the impact of pretrial detention on employment prospects, I considered the material losses that might reasonably affect employment in the short and long term. Coding revealed several material losses experienced by a significant minority of study participants (see Figure 1). Almost half reported some type of material loss directly or indirectly related to pretrial incarceration, including legal debt (36 percent), missed work (40 percent), lost jobs (18 percent), and lost property (18 percent). Descriptive analysis revealed strong relationships between detention-related job and/or vehicle losses and employment woes 2-3 years later. It also revealed a strong link between detention-related job and/or vehicle losses and perceived barriers to employment two-to-three years later. I take each in turn, focusing specifically on those who report strong work histories— they worked all or most of their adult lives—to control for the likely role this variable plays in shaping individuals' employment prospects.

Pretrial Incarceration-Related Job Loss

Incapacitation kept people from going to work, and, importantly, missing work dramatically

increased the likelihood that detained people would lose their jobs. Focusing on those with strong work histories, roughly 40 percent missed work because they had been detained. Importantly, as their number of days in detention grew, so too did the percentage of people missing work—20 percent of those detained less than one day grew to 43 percent for those detained one-to-three days, which increased to 62 percent for those detained four-to-seven days; just 46 percent of those detained eight days or longer reported missing work. Almost one-fifth of the employed lost their jobs while incapacitated or immediately after. And as days in detention grew, so too did the percentage who lost their jobs. Three percent held less

than one day lost their jobs; 7 percent held one-to-three days did too. After three days in detention, however, job losses spiked—almost one-third held four-to-seven days reported losing their jobs, as did 37 percent held eight days or more (see Figure 2). Missing work because of incapacitation was by far the single greatest reason that people lost their jobs after arrest (see Figure 3). With only two exceptions, people who did not miss work did not lose their jobs; however, among those who did miss work, 17 percent held for under four days lost their jobs, 46 percent held for four-to-seven days lost their jobs, and 77 percent held for eight days or more lost their jobs (see Figure 3).

In relative terms, the odds of losing one's job after just a few hours of incapacitation were very low, because few had to miss work.[2] Among those held for less than one day, four in five avoided absences. In so doing, they also avoided job loss. This outcome was also typical for people arrested and detained over the weekend and released before work on Monday morning. Stays in detention were short enough that they were out and back to their normal lives before those lives were disrupted. Among people held one-to-three days, none lost their jobs if they made it to work, but most who missed work were also able to keep their jobs. Forty-three percent missed work; five of six of them kept their jobs. Some were in management roles; their positions of authority and autonomy shielded them, to some extent at least, from whatever negative consequences might have resulted had they been in positions of less authority and autonomy. Others simply lied about the circumstances surrounding their absences. Fearing the stigma of arrest and detention, they either asked close family ties to reach out to employers on their behalf to explain that they had been leveled by a bad cold or the flu or were tending to a family emergency, or they reemerged after a day or two in detention to share these tales themselves. Still others told the truth and received sympathy and support. The few who did lose their jobs were "no show, no call," a primary factor leading to job loss among those detained four days or more.

The percentage experiencing job loss increased significantly for those held four-to-seven days and eight days and beyond, respectively: 46 percent of the former who missed work lost their jobs, and 77 percent of the latter who missed work lost their jobs. This general pattern helps us to understand ethnoracial differences in job loss. Black and multiracial workers were the big job-losers, and this was in good part because they were held in detention longer on average, were less able to get bailed out, and were more likely to be released on their own recognizance days after admission. Whereas one-third of Latinos and Whites who missed work lost their jobs, half of multiracial workers and two-thirds of Black workers did (see Figure 4). Almost two-thirds of Latinos and Whites were released in under four days, but similar percentages of Black and multiracial workers were released

FIGURE 1
Percentage of Respondents Reporting Detention-Related Material Losses

FIGURE 2
Among Respondents with Strong Work Histories, Percentage Missing Work and Losing Jobs by Days in Detention
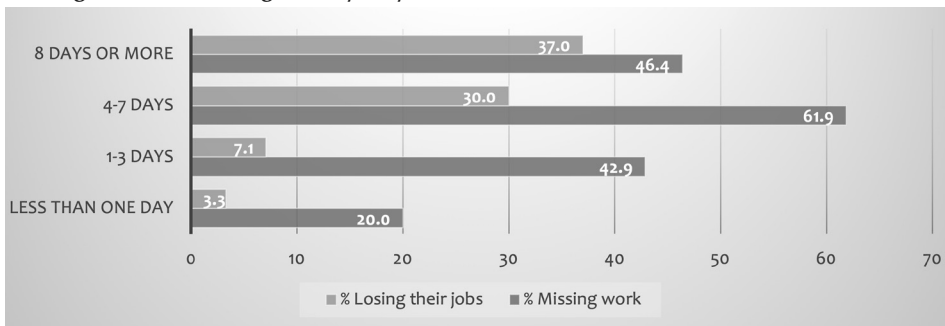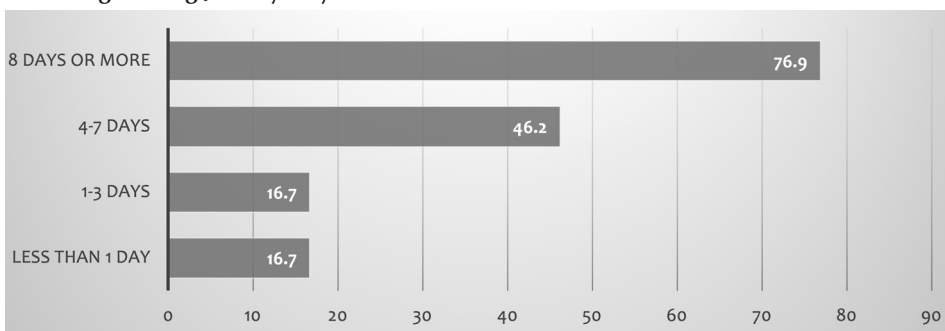

FIGURE 3
Among Respondents with Strong Work Histories, Percentage Losing Jobs by Days in Detention

[2] Indeed, for some, arrest and detention took place when they had plans to be away from work; their employers had not expected them, and so they did not miss any days.

after four days or more—64 percent and 71 percent, respectively. Thus, although a somewhat lower percentage of Black and multiracial workers missed work when compared to Latinos, when they did, they missed work for longer days, and so a higher percentage lost their jobs.

For workers held longer than three days, job loss was associated with failing to show and failing to call. Assuming they would be fired no matter the reason for their absences, many saw no point in calling. "No show, no call" was not always intentional, however. Some detainees wanted to inform their employers immediately that they would likely not be in attendance for a few days, even if they did not want to explain why. But they could not, for reasons related to barriers to using jail phones. Some were never given the opportunity to call out; some struggled with a phone system that was too difficult to navigate or was frequently broken; some could not remember the telephone numbers of the people or organizations they needed to call; and some were stymied by the rules around what times of day and for how long phones could be used. To some extent at least, these barriers to phone usage affected detained workers' employment. For instance, among those who were disallowed by officers from making phone calls or not given the opportunity, 57 percent reported missing work. This compares to just 31 percent of those who did not report that they were disallowed from using the phone.

Pretrial-Incarceration-Related Vehicle Losses

While 18 percent of study participants lost jobs, 12 percent of all study participants (and 14 percent of participants with strong work histories) reported a detention-related vehicle loss. Among those who spent less than one day in jail, roughly one in ten lost their vehicles; 3 percent and 7 percent of those held one-to-three days and four-to-seven days, respectively, did too. Most who lost their vehicles did so after being detained eight or more days. One in three held for that long reported lost vehicles, and they represented 68 percent of all who lost their vehicles (see Figure 5).[3]

[3] How did individuals lose their vehicles? The state confiscated them. In California, almost one million vehicles are towed each year. In 2016, for instance, 979,000 were. In San Francisco that same year, over 42,000 vehicles were towed, roughly 163 daily. Among those whose vehicles were confiscated, over half occurred after arrests precipitated by traffic stops and, to a lesser extent, parking disputes.

It is important to note that Black and Latino defendants were disproportionately represented among those whose vehicles were confiscated. Fifteen percent had their vehicles taken compared to just 9 percent of Whites. Except for DUI cases, all but one of the arrests, detentions, and vehicle confiscations resulting from traffic stops or parking disputes were of people of color, and especially black men. In most encounters that formerly detained people described, there did not appear to be sufficient cause for a warrantless seizure, and so, based on respondents' reports, most confiscations were likely violations of individuals' Fourth Amendment protections.

Longer Term Employment Consequences of Detention-Related Job and Vehicle Losses

Employment Instability

Losing work because of detention-related

After an encounter that led to an individual's arrest and detention, police authorized their vehicles to be towed from the scene and impounded. These included stops that led to arrests for driving under the influence (DUIs). These also included possibly pretextual stops for alleged moving violations, such as running a red light, that eventually revealed a bench warrant. The remaining confiscations occurred following alleged criminal acts.

incapacitation appears to have had longer term employment consequences. Among those with an otherwise strong work history, job loss was negatively associated with stable employment—40 percent of job-losers reported that they worked immediately after detention (T1) *and* at the time of the interview (T2)—typically around three years later; 61 percent of job-keepers reported working both periods (see Figure 6). Job loss was also associated with stable *joblessness*. While 25 percent of job-losers reported working neither at T1 nor T2, just 10 percent of job-keepers with otherwise strong work histories reported the same. Related to this, a lower percentage of job-losers reported that they relied on employment exclusively to make ends meet—50 percent versus 73 percent. Further, at T2 more relied on multiple sources of income, including government assistance and friends and family members, to get by—32 percent vs. 20 percent—or on government support exclusively—20 percent versus 12 percent. What this suggests is that while pretrial incarceration might not lead to *job* instability, or staying employed with the same employer, it very well might amplify the risks of *employment* instability—or staying employed with *any* employer over some period.

Among those with an otherwise strong

FIGURE 4
Among Workers Who Missed Work, Percentage Losing Jobs by Race
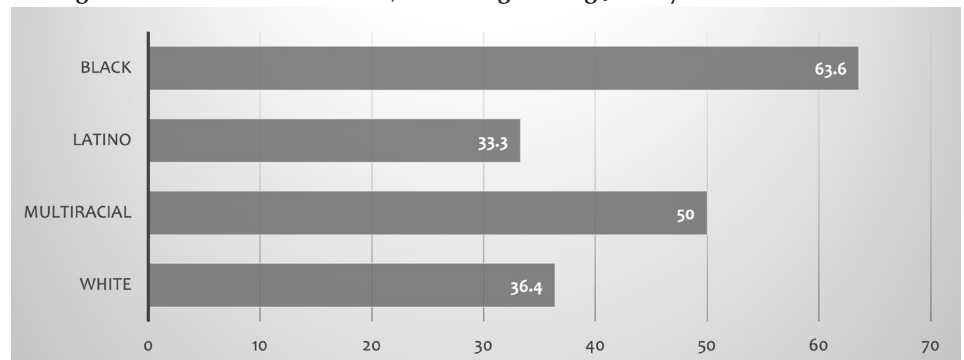
FIGURE 5
Percentage Who Lost Vehicles by Days in Detention and Work Status
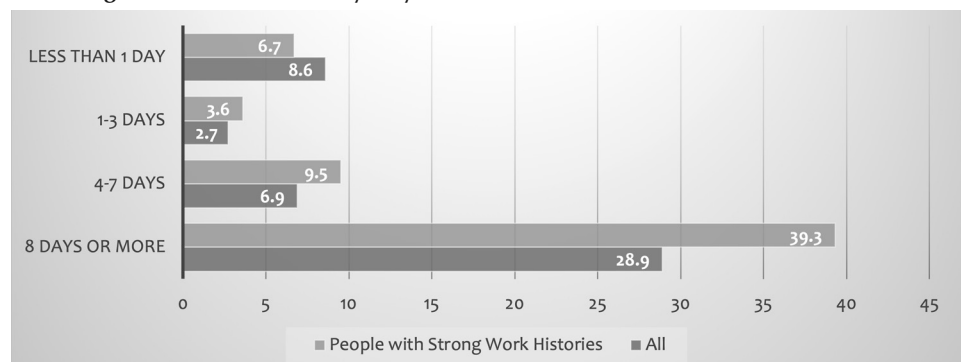
work history, vehicle loss was also negatively associated with stable employment. While 59 percent of those who had not reported detention-related vehicle losses reported working at T1 and T2, just 38 percent of vehicle losers reported employment at both time points. Reports also indicate that a higher percentage of vehicle losers experienced stable joblessness (see Figure 7). Whereas 25 percent of vehicle losers reported being without a job

at T1 and T2, 12 percent of those who had not lost their vehicles reported joblessness at both time points. And, as with those who experienced employment-related job losses, proportionately fewer vehicle-losers relied exclusively on employment to make ends meet (31 percent versus 75 percent). Far more relied on a combination of sources—44 percent versus 14 percent—or on government support solely—25 percent versus 12 percent.

Not surprisingly, those who suffered both employment and vehicle losses were also most disadvantaged where employment stability was concerned. A much higher percentage of workers who lost both were jobless at T1 and T2—38 percent relative to 0-17 percent (see Figure 8). Proportionately fewer worked at T2. Whereas 83-86 percent of those who had not suffered these twin losses had at least one job at the time of their interviews, just 63 percent of those who lost their job and vehicle reported the same. Proportionately fewer also relied exclusively on employment to make ends meet. Just 25 percent relied solely on employment to make ends meet. This compared to 76 percent of those who lost neither, 67 percent of those who lost a job, and 43 percent of those who lost a vehicle. And finally, a far higher percentage relied exclusively on government assistance to make ends meet—38 percent compared to 12 percent of neither, 8 percent of job-losers, and 14 percent of vehicle losers.

FIGURE 6
Among Respondents with Strong Work Histories, Employment (In)Stability by Detention-Related Job Loss Status
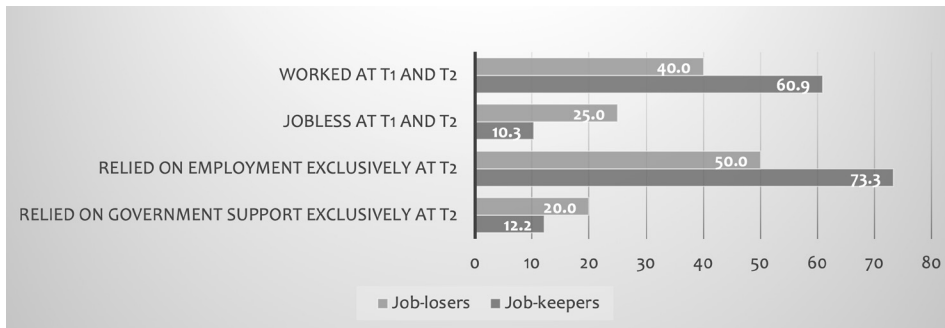
FIGURE 7
Among Respondents with Strong Work Histories, Employment (In)Stability by Detention-Related Vehicle Loss Status
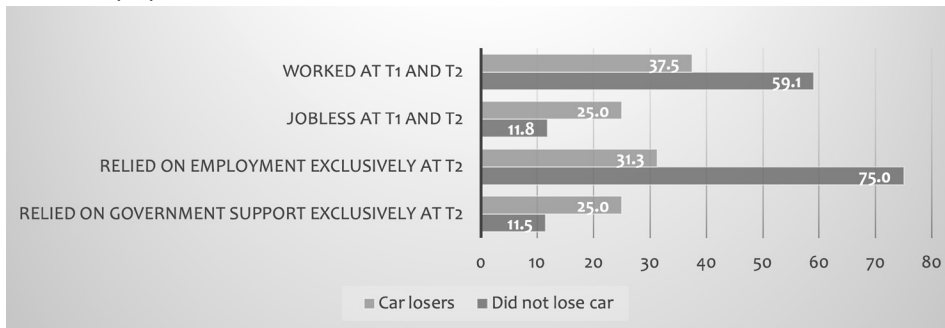
FIGURE 8
Among Respondents with Strong Work Histories, Employment (In)Stability by Job and Vehicle Losses

Perceived Barriers to Employment

Importantly, too, job-losers were far more likely to report that a criminal record, employer discrimination, and transportation acted as major barriers to their employment at T2. Whereas 65 percent of formerly detained job-losers reported the criminal record as a barrier, just 20 percent of job-keepers saw a criminal record as a barrier. Whereas 55 percent of job-losers reported employer discrimination as a barrier, just 29 percent of job-keepers did. And whereas 50 percent of job-losers reported that transportation was a barrier to employment, just 26 percent of job-keepers did.

This was especially true among Black, Latino, and to a lesser extent multiracial workers. Further, no other categories of employment barriers—housing instability, health, substance abuse, human capital, domestic violence, familial obligations, lack of jobs, residency status, and soft skills—could account for the strong relationship between losing one's job at T1 and perceiving at T2 the following as barriers: the criminal record, employer discrimination, or transportation. In other words, perceived barriers to employment resulting from a criminal record, employer discrimination, and transportation seem directly linked to their detention-related job loss.

And conviction status did not alter this pattern. Indeed, among those who reported zero convictions, 38 percent of those who lost their jobs shared that their criminal record

made finding work difficult; just 12 percent of job-keepers shared the same, representing a gap of 26 percentage points. Among those who did have prior convictions, 67 percent of job-losers reported that their criminal records were a barrier to their employment; this compares to just 39 percent of job-keepers, a gap of 28 percentage points (see Figure 9). In other words, even among those who report that they do not have criminal convictions, detention-related job loss seems to drive the perception that the criminal record is a significant barrier to finding work.

Furthermore, in figures not shown here, formerly detained people who lost jobs because of detention reported a greater number of barriers to employment three years later than did detainees who did not lose work—4.2 versus 2.5. This set of findings is important. Even if job-losers were objectively no more hampered by a criminal record than those job-keepers, because they rightly perceive that the nature of their contact with the penal system has constrained them, such perceptions will likely affect the extent and nature of their labor force participation in ways that have noteworthy employment effects (Apel & Sweeten, 2010; Sugie, 2018; Smith & Broege, 2019).[4]

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[4] A growing body of research suggests that because of discouragement born from the anticipation of stigma, and because of frustration born from early job search failures, many do not put in the amount of effort required to find a job (Apel & Sweeten 2010; Sugie 2018). Using the NLSY97, for instance, Apel and Sweeten (2010) investigated the factors that lay behind incarceration's apparent effect on employment outcomes, contrasting the experiences of convicted young men who had been incarcerated with convicted young men who had not. They showed that formerly incarcerated young men were less likely to be employed in good part because they were less likely than their non-incarcerated counterparts to search for work. For Apel and Sweeten, it was this detachment from the labor market that contributed significantly to the lower wages that formerly incarcerated individuals earned when employed. Time without employment further eroded the skills, education, and training they brought to the labor market, which negatively affected wage outcomes as well. More recently, Sugie (2018) reports that immediately after release from prison, the formerly incarcerated in her sample overwhelmingly searched for work, but within one month their search efforts plummeted, likely also the result of frustration and discouragement (see also Visher & O'Connell, 2012).

And finally, to investigate whether and how criminal justice contact — arrest, conviction, and incarceration — altered search patterns and, through search, affected search success, Smith and Broege (2019) analyzed the 2001-2011 panels of the 1997 cohort of the National Longitudinal Survey of Youth (NLSY97). Focusing solely on men,

FIGURE 9
Percentage Reporting Employment Barriers by Job Loss Status
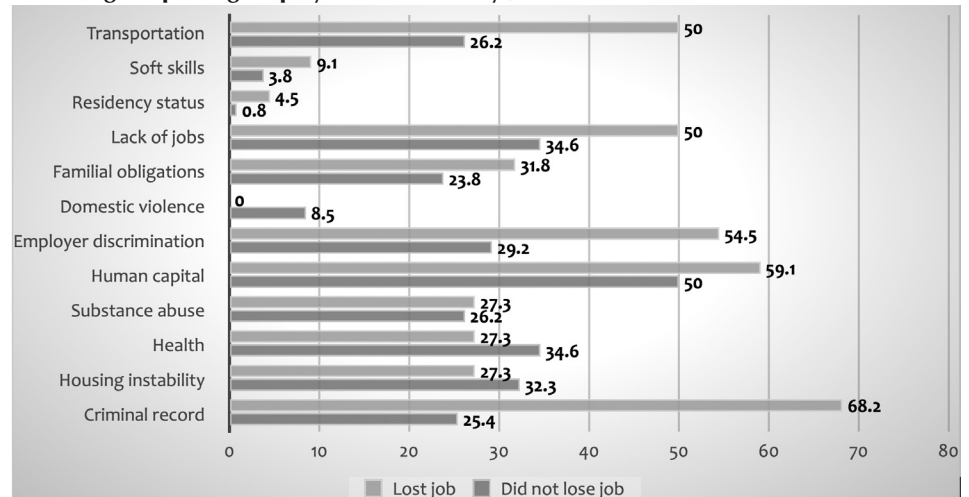
As with detention-related job loss, vehicle confiscation took a toll, in particular shaping individuals' objective and subjective sense of barriers to employment years later. Of all the barriers, it should come as no surprise that people whose vehicles were confiscated reported transportation as a significant barrier to employment three years later—42 percent versus 28 percent of non-vehicle-losers (see Figure 10). A higher percentage of vehicle-losers also reported that a criminal record was a major barrier to employment—53 percent

who still comprise the vast majority of those who have had penal contact, they examined whether and how young, justice-involved blacks, Latinos, and whites searched for work. In the process the authors implicated both non-search engagement and the use of ineffective search methods in job seekers' relative lack of job-finding success. After penal contact, individuals were less likely to search for work; for whatever reasons they appeared to detach from labor force participation. Those who did search tended to use fewer methods of job search and abandoned search methods that were more effective and efficient at producing jobs, such as direct application. This resulted in less successful job search episodes; they suffered unemployment. Smith and Broege also show that whether and how individuals searched mattered not only for former prisoners, but also for arrestees and nonincarcerated convicts. For the full sample, all three penal dispositions showed patterns of search that differed from the search efforts observed before contact with the criminal justice system. Further, these changes in job search patterns contributed significantly to justice-involved individuals' lower odds of search success, especially for blacks. Thus, although we continue to study the proportion of justice-involved individuals who continue to search for work, more research needs to be done to better understand the process by which some individuals opt out of labor force participation altogether, or alter their search patterns to the point of ineffectiveness.

versus 30 percent who had not lost their vehicles. Importantly, for those without criminal convictions, I found no difference in the percentage reporting this barrier, but for those reporting at least one conviction, 75 percent of vehicle-losers reported the criminal record as a barrier to employment, compared to just 44 percent of non-vehicle-losers. In other words, controlling for conviction status, a much higher percentage of vehicle-losers perceived that the criminal record mattered, subjectively at least creating a barrier to employment that made finding and keeping work difficult.[5]

Discussion and Conclusion

Three recent publications causally link pre-trial detention to the erosion of employment prospects (Dobbie et al., 2018; Bergin et al., 2022; Kim & Koh, 2022). To explain this relationship, Dobbie, Goldin, and Yang (2018) offer empirical support for the role that stigma plays, noting that because detention increases the likelihood that people will plead guilty, it indirectly makes employment harder to come by, because employers have a distaste for hiring job seekers with records of conviction. Meanwhile, they discount other potential factors, notably job instability and incapacitation, citing a lack of support—empirical or analytical. Data limitations, however, make it difficult for them to explore other potential factors,

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[5] Among formerly detained people with co-occurring disorders, vehicle-losers also reported roughly three years later that their struggles with substance abuse represented a barrier to employment. Whereas 86 percent of vehicle-losers reported that substance abuse was a major barrier to employment downstream, 43 percent of non-car-losing CODs reported the same.

FIGURE 10
Percentage Reporting Employment Barriers by Vehicle Loss Status

detention-related job loss and vehicle seizure, and by magnifying individuals' sense of the barriers to employment they face.

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since the stigma of the criminal conviction is not likely the only detention-related factor that erodes future employment possibilities.

In this study, I explored other potential mechanisms, drawing from in-depth, semi-structured interviews with 191 ethnoracially diverse individuals in the San Francisco Bay Area who were cited or arrested for low-level misdemeanor offenses between 2013 and 2018. Analysis points to the role that detention-related job losses and vehicle seizures play in creating unstable employment histories post detention. Those who experienced one or both detention-related losses appear less stably employed roughly three years later than those who had neither. They also appear far more reliant on public assistance to make ends meet.

This set of findings would seem to conflict with what Dobbie, Goldin, and Yang have reported. Specifically, they suggest that pretrial detention does not increase job instability, because most who experience detention already have unstable jobs. But disruptions differ in degree and kind. For instance, one can leave one employer to immediately begin a new job with another employer—job instability but employment stability. One can also leave an employer without another job lined up—job and employment instability. Both would be considered job disruptions, but only one would be considered an employment disruption, since employment in the former case is continuous. What my research suggests is that while pretrial detention might not independently destabilize jobs, it might destabilize employment—creating the conditions for job loss and then making employment thereafter more difficult to find. People who lose jobs because of detention become unemployed job seekers, but unemployed job seekers are less likely to meet with job-finding success than their counterparts who are employed. Further, people who lose jobs because of detention might be disinclined to search for a new job until after their cases have been resolved, given the uncertainty of case outcomes. Others might be discouraged from looking at all, fearing the negative effect that a criminal record might have on their likelihood of search success. To the extent that this is true, alternative measures of disruptions in the labor market sphere are needed to better capture these potentially important distinctions.

Analysis also points to how such losses shape individuals' perceived barriers to employment, no matter their conviction status, some three years later. Specifically, a higher percentage of people who lost their jobs and/or vehicles because of detention reported that the criminal record, employer discrimination, and lack of transportation created major barriers to employment. This last point is particularly important given prior research that links negative perceptions about labor market opportunities to reduced search intensity and effort. Thus, this research offers two additional pathways through which pretrial incarceration erodes employment prospects—by making work more difficult to find after a

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Moving Past Arbitrary Bail: A Proposal for More Deliberative Pretrial Decision-Making

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I. Introduction

THE 1980s USHERED in a punitive age in the American criminal legal system that has either been credited with the "great crime decline" of the last 25 years or blamed for its role in driving mass incarceration. With respect to pretrial practice, the Supreme Court's 1987 *U.S. v. Salerno* decision allowed for greater discretion in the use of money bail, explicitly permitting judges to consider risk to community safety during bail hearings, in addition to the traditional consideration of flight risk (*United States v. Salerno*, 1987). Over the ensuing decades, a quiet but steadily increasing reliance on cash and commercial security bonds took hold in courts across the country, resulting in a 60 percent increase in the use of financial conditions between 1990 and 2009, and an accompanying twofold increase in bail amounts levied (Hood & Schneider, 2019).

In the present day, money bail is the default release mechanism in many courts across the country, overwhelming jails, feeding mass incarceration, and contributing to acute racial disparities in incarceration (Menefee, 2018). On any given day in 2019, local jails held 735,000 people, a modest decrease from the daily count of 767,000 ten years earlier. Two-thirds were held while awaiting trial. The jail incarceration rate was over three times higher for Black people than for White people (Zeng & Minton, 2021).

A. A Budding Reform Era

Despite stubborn levels of incarceration, recent years have seen increased attention to the collateral consequences and inequities of pretrial detention, kicking off a new wave of pretrial reform. Like prior efforts in the 1960s, current initiatives tend to focus on reducing the use of financial conditions that result in more pretrial detention. However, the contemporary pretrial justice movement is unique in several ways. First, advances in the collection and analysis of justice-system data have allowed for a more robust justification of the need for reform and the emergence of data-driven strategies. Second, the rapid spread of pretrial supervision and services programs has broadened the field of release options from the traditional polar alternatives of unaffordable bail on the one hand or release with no conditions on the other. Finally, the pretrial justice movement is now more closely aligned with the broader push for racial equity throughout the criminal justice system.

B. The Challenge of Good Implementation

Despite recent steps forward, a survey of the research literature quickly reveals a mix of halting progress—significant in some, but meager in other jurisdictions—and an array of implementation deficits that have curtailed the reach of many reforms. Ultimately, the

divide is one of policy versus practice. Many reforms depend on the judges who make pretrial decisions every day to implement new tools such as risk assessments and pretrial supervision. But recent experience and years of prior research suggest reforms relying on judicial discretion may fall short without structural change to courtroom practice that supports deliberative decision-making.

In this article, we propose improving the impact of pretrial reforms that depend on discretion by slowing down, restructuring, and increasing the quality and quantity of information available during arraignments or bond hearings.

II. Recent Pretrial Reforms: A Brief Survey of Research and Practice

Recent pretrial reform efforts have taken three primary forms: (1) development of intermediate pretrial options besides "bail or nothing"; (2) implementation of structured decision-making protocols during pretrial hearings, many of them based on formal risk algorithms; and (3) state-level reform legislation and precedential court decisions that curtail the types of cases where money bail is legally permissible or restrict the setting of unaffordable bail. We review the literature on each of these strategies below.

A. Pretrial Supervision and Services as a Pretrial Option

For years, Washington, D.C., operated a system in which close to nine in ten people are released pretrial and, in most cases, assigned to a supervision regimen that varies systematically based on people's assessed risk of re-offense (Pretrial Services Agency for the District of Columbia, ND). However, reflected in the very existence of this special issue of *Federal Probation*, while the expansion of pretrial supervision and services elsewhere has been slow to date, it is an integral component of recent reform efforts.

For example, procedures for implementing New Jersey's 2017 bail reform law expressly require the availability of three distinct intensities of pretrial supervision in every county, as well as the option of ordering electronic monitoring or home detention for cases on the high end of the risk spectrum but for whom detention is deemed inappropriate (ACLU of New Jersey; National Association of Criminal Defense Lawyers; New Jersey Public Defenders Office, 2016). New York's bail reform is less prescriptive, but similarly requires all counties to make pretrial supervision available to judges in any case—either with treatment or not—with no eligibility restrictions (Rempel & Rodriguez, 2020)

Research in multiple jurisdictions points to the potential effectiveness of pretrial supervision, indicating that it does not increase rearrest rates, while it does increase court attendance—and is especially effective with those least likely to attend court otherwise (APPR, 2021; Skemer, Redcross, & Bloom, 2021).

B. Structured Decision Making

Structured decision protocols tie the results of risk algorithms to recommendations for release on recognizance, one of several possible intensities of supervision, or monetary conditions (Hu, KiDeuk, & Mohr, 2017). Although some well-known pretrial assessment tools, such as the PSA and the VPRAI, have been widely implemented and validated across jurisdictions, protocols regarding their application tend to be unique to the local jurisdictions that adopt them. As a result, research regarding the theoretical implications of these tools has proliferated (Goel et al., 2018) but there have been few rigorous evaluations of their application in practice.

Several studies suggest that if judges adhered to a risk assessment's recommendations, they could reduce recidivism, pretrial detention, or both (Baradaran & McIntyre, 2011; Kleinberg et al., 2018). However, the few implementation studies that exist have produced mixed results depending on the jurisdiction studied and generally point to a dearth of judges following the recommendations of the jurisdiction's formally adopted decision-making matrices (Bechtel, Holsinger, Lowenkamp, & Warren, 2017; Viljoen et al., 2019). For example, recent studies in both Kentucky and Florida suggest that structured decision protocols could have but did not yield sustained reductions in pretrial detention, mainly because judges often chose to override the recommendations tied to the assessment (Stevenson, 2017; Copp, Casey, Blomberg, & Pesta, 2022).

Research also indicates that risk assessments can exacerbate racial disparities by erroneously overclassifying Black and Latino people as higher risk than their White counterparts (Angwin, Larson, Mattu, & Kirchner, 2016; Picard, Watkins, Rempel, & Kerodal, 2019) This tendency is largely driven by historic bias that is "baked" into the criminal history data that underlies most public safety risk assessment tools, leading to a "bias in, bias out" conundrum (Mayson, 2019). Moreover, the racial disparities inevitably seep into structured protocols that jurisdictions use to determine conditions of release or supervision levels, leading to more punitive outcomes for Black and Latino defendants (Picard et al., 2019).

Given the well-documented downstream consequences of detention, the widespread mistrust of risk algorithms among decision-makers is not without merit (Heaton & Stevenson, 2019). However, even if it is the predominant practice today, structured decision-making by no means requires the use of potentially biased public safety risk assessments, as we discuss below with reference to our proposed reform in New York City.

C. State Level Reforms Fully or Partially Eliminating Bail

Over the last ten years, bail reform legislation has passed in a diverse array of states, including Kentucky, New York, New Jersey, Illinois, and New Mexico. The nature of these reforms varies by state, with Illinois (2022) eliminating the option of bail (Chicago Appleseed Center for Fair Courts, 2021), New York (2020) eliminating bail for most misdemeanors and nonviolent felonies but retaining bail for violent felonies (Rempel & Rodriguez, 2019), and New Jersey (2017) and New Mexico (2016)

placing risk-based limitations on who can be detained pretrial or requiring pretrial hearings to establish cause for detention (ACLU of New Jersey, et al., 2017; Dole, Denman, Robinson, White, & Maus, 2019). Systematic evaluations of the effects of pretrial reform legislation remain nascent given the recency of some of the legislation. The research that does exist suggests that state-level reforms have the potential to reduce pretrial detention without increasing crime (Anderson, Redcross, Valentine, & Miratrix, 2019; Lu, Bond, Chauhan, & Rempel, 2022).

Failure to comply with standing court precedents with respect to excessive bail have also figured into recent reforms. In 1951, the Supreme Court ruled bail is excessive if it is "set at a figure higher than an amount reasonably calculated… to fulfill [assuring the presence of the accused]" (*Stack v. Boyle*, 1986). Yet, as national studies of pretrial detention and bail payment make clear, unaffordable bail has been a stubborn reality for more than 70 years. In response, the last five years have seen courts in California, Georgia, Louisiana, Maryland, Massachusetts, New York, and Texas all find that people's ability to afford bail must be assessed and considered.[1] However, except for Harris County, Texas (Heaton, 2022), evaluations of the impact of these court decisions suggest poor implementation has curbed their efficacy in practice (Lu & Rempel, 2022).

III. Pretrial Reform and the Controversy Over Judicial Discretion

Why is there public controversy regarding pretrial reforms that seek to reduce pretrial detention caused by unaffordable bail? Among other reasons, it is a common perception that bail reform ties the hands of judges and, in so doing, requires judges to release too many people and inevitably leads to an increase in crime. In a period when crime and violence are on the rise, the belief that part of the crime

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[1] For example, in California, see: *In re Humphrey*, S247278 Supreme Court of California (2021) (decided: 3/25/2021). In Louisiana, see, *Caliste v. Cantrell*, No. 17-6197, 2018 U.S. Dist. LEXIS 43338 (E.D. La. Mar. 16, 2018). In Maryland, see *Bradds v. Randolph*, 239 Md. App. 50 (2018) (decided 2/20/18). In Massachusetts, see *Brangan v. Commonwealth*, 477 Mass. 691 (2017) (decided 8/25/2017). In New York, see People ex rel. *Desgranges v. Anderson*, 59 Misc. 3d 238 (Sup. Ct. 2018) (decided 1/31/18). In Texas, see *Daves v. Dallas City*, 341 F. Supp. 3d 688 (N.D. Tex. 2018) (decided 9/20/2018).

problem lies with prescriptive reforms that take bail and detention flatly off the table is increasingly popular among judges, moderate and conservative legislators alike, and the public (e.g., see Grasso, 2022).

The critics correctly observe that many bail reforms curtail judicial discretion to use money bail in some or all cases. Noted above, Harris County's reforms eliminated bail in most misdemeanor cases, as did New York's for most misdemeanors and nonviolent felonies. With its rigorous hearing requirements, strict presumption of release for most charges, and presumptive decision-making matrix (ACLU of New Jersey, 2016), New Jersey's reform also created boundaries for when judges could expeditiously detain people. Yet, while rigorous studies are scant, available research does not support the idea that reduced judicial discretion is driving recent crime increases (Ropac & Rempel, 2022; Sorenson, 2021; Zhou et al.,2021). To the contrary, new research on New York's bail reforms has found that provisions depriving judges of the ability to set bail in most misdemeanor and nonviolent felony cases actually *reduced* recidivism over two years, when compared to similar cases facing bail in the year before the reforms were implemented (Lu & Rempel, Forthcoming).

Furthermore, contrary to stark claims suggesting that reforms wholly tie judges' hands, most bail reform laws (and some court-ordered reforms) have significant charge-based carve-outs. In addition, reforms that restrict bail-setting, such as those in New Jersey and New York, also give judges *more* discretion to select from a large menu of release conditions, including pretrial supervision with or without treatment conditions and electronic monitoring. It is worth noting, however, that opponents of bail reform who advocate for judicial discretion are not truly making a generalized argument that reforms reduced it. They are making a specific argument about judges' right to detain or set bail based solely on discretion. For the critics, creating more discretion in the form of an enlarged menu of non-monetary conditions may be beside the point.

A. Is Judges' Discretion to Detain People Worth Preserving?

Perhaps more important than whether judges are losing discretion is the unfortunate reality that judicial discretion does not necessarily produce better or fairer pretrial decisions.

First, regarding the lack of better decisions,

recent research in a large southeastern study suggests that the stated goals in implementing pretrial reforms—reduced pretrial detention and reduced racial disparities—was thwarted by the use of judicial overrides (Copp et al., 2022). Similar findings across a diverse range of jurisdictions suggest that inadequate implementation of structured decision protocols, risk algorithms, or charge-based constraints on the use of money bail often fail via decision-maker mistrust of protocols and subsequent overrides of recommendations (Shook & Sarri, 2007; Chappell, Maggard, & Higgins, 2013; Cohen, Lowenkamp, Bechtel, & Flores, 2020). Moreover, when left to exercise discretion, judges tend to inaccurately classify people as high risk, leading to increased pretrial detention for those unlikely to be rearrested and disproportionately impacting Black and Latino people (Baradaran & McIntyre, 2011; Kleinberg et al., 2017).

Regarding the lack of fairer decisions, the significant Black-White gap that exists today in the nation's pretrial jail populations did not first materialize during the recent "reform era," but over decades of discretionary decision-making. Recent scholarship expressly identifies racial disparities in judges' detention decisions (Eaglin & Solomon, 2016, Leslie & Pope, 2017), with one study attributing two-thirds of the racial disparity in New York City's pretrial decisions to racial discrimination after controlling for other factors (Arnold, Dobbie, & Hull, 2020). In fact, within this very issue of *Federal Probation*, a study of discretionary decisions by judges in New York State found that they led to significant racial disparities. Not surprisingly, disparities were greatest among charges that remained eligible for bail after the passage of the state's bail reform law; conversely, charges mostly subject to reduced discretion through the elimination of bail saw fewer disparities (Lu & Rempel, 2023).

Finally, decades of empirical research on judicial discretion caution against the assumption that judges are consciously making individualized decisions with an eye toward preserving public safety. Instead, judges facing high-stakes decisions with relatively little pertinent information and limited time to deliberate tend to revert to heuristic shortcuts and intuitive rather than deliberative decision-making approaches (Rachlinski & Wistrich, 2017a). Intuitive decision-making is more likely to result in racial and socioeconomic disparities, given well-documented implicit biases among judges—including adherence to peer group expectations, vulnerability to

cognitive shortcuts like anchoring, and bias in favor of the judge's "in-group" (e.g., White judges will be more lenient with White accused individuals) (Bennet, 2014). While there is less research specific to the pretrial phase, heavy caseloads and time pressure are inherent to the pretrial phase of the justice system, likely accentuating the use of potentially biased heuristics in lieu of thoughtful, data-driven decision making.

B. Restructuring Pretrial Decision-Making

Several theoretical solutions have been proposed for addressing disparities in judicial decision-making, including the cognitive and implicit biases that contribute to the problem. Solutions include the use of second appearances before rendering a decision, reductions in caseload pressure, training for decision makers, two-stage decision processes, and written rather than verbal decisions (Rempel et al., 2021; Wistrich & Rachlinski, 2017b). For the most part, however, these strategies are not featured in most pretrial reform initiatives, which tend to focus on improving the type of information judges have available and placing legal restraints on the use of discretion. As a result, the impact of these proposed solutions on pretrial decisions is not known, and the recommendations remain largely theoretical.

In this article, we propose a model decision-making process that directly addresses the obstacles that prevent deliberative decision-making and exacerbate racial disparities in pretrial outcomes.

IV. New York City as a Case in Point

Given our experience and knowledge within New York City, we use it as a case study for why judicial decision-making reforms are needed and how they could work in practice. While New York City may be unique in terms of case volume and the extent of resources available to individuals who are released pretrial, it is remarkably like other jurisdictions across the country in terms of how the court responds to cases where money bail is a legal option (referred to as "bail eligible" in New York). In short, decision-making in these cases is largely reliant on the discretion of judges with limited time and information to support deliberation.

A. New York's Bail Reform Law

Introduced above, New York State legislators passed a sweeping bail reform law that went

into effect in 2020 and seeks to reduce pretrial detention through four main elements. First, the law eliminates bail for most misdemeanors and nonviolent felonies. Second, the law sets a series of standards guiding judicial discretion, ostensibly establishing conditions for more consistent and informed decision-making across different judges. For example, the law includes a presumption of release, which requires courts to release people with no conditions *unless* there is a "risk of flight." When a risk of flight is present, the court must then set the "least restrictive conditions" that can suffice to assure court attendance and compliance with other conditions of pretrial release. Finally, the law specifies a long list of non-monetary conditions from which courts can select—including pretrial supervision and electronic monitoring (Rempel & Rodriguez, 2019).

B. Implementation Deficits

In general, the New York State bail law has led to significantly lower rates of monetary bail-setting and pretrial detention, a predictable outcome given the range of charges that became flatly ineligible for money bail. Yet, several other provisions that rely on judicial discretion have been implemented only to varying degrees. For instance, while the City's validated release assessment that measures likelihood of returning to court overwhelmingly recommends individuals for release and does so at similar rates regardless of people's race/ethnicity (Peterson, 2020), judges usually *do not* adhere to the tool's recommendations in cases remaining eligible for bail (Rempel & Weill, 2021). Further, despite the reformed statute's mandate to consider financial circumstances when bail is set in the post-reform era, cash amounts are higher, and individuals are *less* likely to pay the bail when compared to the pre-reform era (NYC Comptroller Brad Lander, 2022; Lu & Rempel, 2022).

V. Reimagining the Arraignment Process

While there are challenges to any effort to reform ingrained procedures, New York City can serve as a useful site for imagining what decision-making reforms might look like due to its ready-made possession of relevant laws and infrastructure.

A. Background: The Current Pretrial Process in NYC

In New York City, most individuals are arraigned within 24 hours following arrest.

While about a third of misdemeanors are disposed right at the arraignment, the most significant event for all other cases is the judge making a release decision. Here is how it works.

First, the prosecutor speaks, offering a summary of the allegations, the individual's prior criminal history (if any), and a narrative justification for bail or some other release recommendation, such as supervised release in cases ineligible for bail. The defense attorney then presents an argument for why the judge should consider release on recognizance or other non-monetary conditions for bail-eligible cases. These arguments and the judge's ensuing release decision often take place in a matter of minutes. Under New York law, even in bail-eligible cases, if the judge finds a demonstrable risk of flight,[2] they must then set the "least restrictive condition" necessary. Judges may not set bail unless first finding that less restrictive conditions such as supervised release will not suffice. For the most part, however, this process is also mostly subjective in the status quo. While a supervised release staff member is present in the courtroom during the release decision to answer questions regarding suitability for pretrial supervision if there are any, this is not usually the case.

B. Strategies for More Deliberative Decision-Making

Much as in New York, in courts across the country, pretrial hearings (or "arraignments" in the New York City context) are handled quickly and can yield inconsistent and racially disparate outcomes. The proposed reforms seek to establish slower and more careful deliberation through a revised arraignment structure and a more information-rich process. This process would involve three essential elements, detailed below, and could potentially be implemented through court directives with or without accompanying laws. For larger jurisdictions like New York City, the proposed restructuring also creates opportunities to off-ramp lower risk cases and make the more deliberative process more manageable in terms of caseloads.

1. Two-Step Decision Making. In contrast to the current arraignment process in New York, where risk for flight and release

conditions assignment are integrated into one decision, the proposed structure would purposefully bifurcate the process into two distinct steps to occur for everyone appearing before the court.

The first step would involve a determination of whether the individual presents a demonstrated risk of flight—or risk to public safety outside the New York State context. Individuals without such risk should be released on their own recognizance, making legally and practically moot any discussion of conditions (e.g., bail or supervised release).

Second, only when a pretrial risk is established would the court hear a second round of arguments and recommend appropriate release conditions be set based on a pretrial supervision representative's recommendation. This second round would include providing more relevant information directly to the judge than in current practice.[3]

In New York, this strategy would encourage judges and other court practitioners to focus on the primary legal issue before the court first—*whether there is any basis in the first place to divert from the constitutionally mandated presumption of release*—and only then intentionally shift to the matter of release conditions, selecting the "least restrictive" as New York's law explicitly requires. In most other jurisdictions, a similar process of identifying the least restrictive condition could play out as a matter of court policy. Once establishing that conditions of some kind are necessary, judges could be presented with a recommendation for release conditions based on an assessed probability of pretrial compliance. A finding that someone is likely to comply with supervision or support would lead to a recommendation of supervision in lieu of bail. In other words, the aim of setting no more than the least restrictive condition necessary is often implicit, but making this consideration *explicit* is certainly feasible as a policy matter in many jurisdictions.

Both inside and outside the New York context, the practice of conducting a deliberative process that foregrounds the question of whether any credible pretrial risk exists before jumping ahead to a discussion of pretrial

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[2] This decision may be based on the current validated "risk of flight" tool that informs eligibility for pretrial supervision as announced by the pretrial supervision agent during the hearing, but also may be based on judicial discretion or factors that are not currently tracked in the available data.

[3] For a New York City-specific variant of this proposal, see Rempel, M., Rodriguez, K., Nims, T., Weill, J., Katznelson, Z., & Volpe, M. (2021). Closing Rikers Island: A roadmap for reducing jail in New York City. New York, NY: Independent Commission on New York City Criminal Justice and Incarceration Reform and the Center for Court Innovation. Available at: https://www.courtinnovation.org/publications/reducing_jail_Rikers.

conditions has the potential to lessen unnecessary supervision and preserve court resources.

2. More Complete Information at Initial Hearing. Without disrupting established processes, we also propose that the initial two-step hearing be informed by enhanced information based on a needs assessment and mitigating contextual information. Given the clear harms of pretrial detention, we argue that enabling courts to have the best information possible before setting a bail that could result in pretrial jail time is a necessary and minimum requirement. In the status quo, courts may have varying degrees of information when making a pretrial determination, potentially including the results of a validated assessment tool or contextual information provided by a prosecutor or defense attorney. In the case of New York City, while judges receive paperwork with a formal recommendation based on the result of a pre-arraignment likelihood of court appearance assessment, it plays a minimal role in practice. In many other jurisdictions, we can assume even less information is available in advance of a decision, perhaps limited exclusively to the individual's demographic and contact information and the charges they are facing. In either situation, the judge must make deeply consequential decisions about pretrial liberty based on a dearth of information.

In the New York City context, pretrial services representatives already conduct interviews to verify demographic information, identify needs and challenges the individual may be facing, and determine what kind of supports and level of supervision would be appropriate following release. However, defeating what could be the most important purpose, *this information gathering in New York City occurs after the fact and has no bearing on what the judge decides.* Pretrial services obtain information about people's needs only after the arraignment has happened and only for those cases that the judge releases to supervision and *not* to those where the court has set bail.

Instead, we propose that the courts use a more in-depth needs assessment to develop specific criteria that could make an individual "default" eligible for release to supervision at arraignment (while retaining the judge's discretion to override this eligibility). The criteria could be based on "static" factors (e.g., past charges and convictions, nature and recency of justice system involvement) present in information available to the court prior to the individual's appearance. Based on

these criteria being met, a supervised release representative may speak to the individual and ask a few brief questions to better inform the court regarding the individual's ability to return to court. In other words, pretrial agents who are not official court actors and have specific knowledge regarding service needs and challenges faced by many individuals before the court may be in the best position to advise the court regarding the potential for successful release of a particular individual. This does not mean that individuals who work for the local pretrial services agency would be offering discretionary recommendations; pretrial services recommendations would be based on the default criteria for how and for whom that assessment is used, in a manner that would be discussed and agreed upon by local stakeholders as a policy matter.

New York City already has the necessary resources to shift to such an approach. For other jurisdictions with established supervised release programs that also conduct some assessment (though perhaps a limited one) prior to a first hearing, the early assessment model described above may be easily adapted. In other jurisdictions, we recognize there may be a need to invest in new pretrial services infrastructure. The benefit of such an investment is providing needs and resources information that could nudge court practice toward release to services in lieu of potentially far more costly overuses of bail and of housing people in detention.

3. Hold a Second Call for Release Conditions. The final element of our proposed reform involves a second call during which the judge could hear the results of a full assessment and recommendation for services and supervision. If the judge's preliminary decision (or declared inclination) is to set money bail, the proposal is to hold an explicit and more in-depth inquiry into possible pretrial services or other nonmonetary conditions to mitigate the risk that led to this initial preference for bail *before actually imposing it.* More specifically, we propose a same-day adjournment with the purpose of reconsidering bail.

In New York City, after allowing for the initial bail application, if the judge is still considering pretrial detention via money bail or remand, the judge should temporarily adjourn (or "second call") the case for 2-4 hours. Including only those cases where bail or remand has been seriously considered by the court will be particularly important for New York and other high-volume jurisdictions to

make the second call feasible. This time would be used for a pretrial supervision representative to conduct a full needs assessment. The case would then be re-called before the court so the representative can share the results on the record, providing the judge with more in-depth information than was available at the first call and a recommendation for supervised release where warranted. This additional time and information could give the judge an opportunity to more deliberately consider whether pretrial detention or money bail are necessary, and to consider the proposed supervision plan as an alternative to setting money bail.

Importantly, the use of a second-call approach might seem to tax judicial and other staff resources since it effectively adds a second same-day court appearance. But, in fact, this is a strategy to conserve resources by interjecting a comprehensive interview into the process only where the results could meaningfully alter a pending decision to set bail when risk could be mitigated through supervision or services.

For jurisdictions outside of New York City, the adaptability of the proposed second call element will vary and may require the establishment of an independent agency whose role it is to gather needs assessment during adjournment and to connect released individuals to appropriate services (e.g., a local community-based organization). However, we believe that this element, in combination with a policy directive that separates the consideration of eligibility for release from consideration of specific release conditions, has the potential to mitigate the impact of implicit and cognitive biases in pretrial decisions.

VI. Implications for Local and National Practice

In jurisdictions across the country, courts often operate with limited case information and under strenuous time constraints—as little as a few minutes per case—when making decisions concerning pretrial release conditions. These pressures are exacerbated by the high stakes inherent in pretrial hearings, during which judges must balance each individual's presumption of innocence and right to pretrial liberty against the need to assure court appearance and public safety while cases are pending. For nearly 50 years, courts across the country have increasingly come to rely on unaffordable money bail to detain individuals perceived to be a public safety risk, tipping the

overall balance of pretrial justice away from a presumption of release.

Recent efforts at pretrial reform have focused largely on improving information provided to judges (e.g., use of risk assessment tools) and decreasing the number of cases in which judges may consider money bail or outright detention (e.g., bail reform laws). While such efforts are laudable, we argue that they are insufficient to achieving the ideal system, one in which pretrial liberty is the norm and historic racial inequities are minimized. Our review of the current research on pretrial reform and judicial decision-making supports this view, pointing toward reform implementation failure and implicit bias among judges as major hurdles to achieving a fair and effective system of justice.

Acknowledging that a constant challenge for judges in high-pressure hearings is making decisions that rely on non-arbitrary facts and avoid implicit bias, we argue that a slower, more structured pretrial hearing process that allows for deliberate decision-making could improve pretrial outcomes. Using New York City as a template, we propose a model structure for deliberative decision-making that could potentially work for jurisdictions across the country and help set a new standard for evidence-based pretrial practice. Given the well-documented role of money bail in producing racial disparities in the system and subsequent collateral consequences, we believe this model holds the potential to create a fairer justice system.

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Determining Racial Equity in Pretrial Risk Assessment

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ON THE HEELS of the George Floyd Movement, advocacy groups and activist journalists called for the dismantling of pretrial risk assessments. They argued that Black and Brown defendants were being unfairly classified as high-risk threats to public safety. The negative attention directed at pretrial risk assessments swept pretrial justice by storm and overshadowed empirically supported benefits to pretrial assessments in favor of the previously established judicial determinations of risk.

A few of the more urban counties responded by returning to judicial determinations of pretrial release and supervision. In fact, some have gone so far as to remove pretrial risk assessment requirements, placing the determination of risk and needs squarely in the hands of county judges, a practice that was more common over four decades ago (Sanchez & Strenio, 2022; Desmarais & Lowder, 2019; Rachlinski et al., 2008; Guthrie et al., 2007). Unfortunately, the statutory removal of pretrial risk assessments came without adequate interest or support from academic researchers. In fact, there have yet to be any determinations of the extent to which judicial determinations of risk and need differ from or improve upon risk assessment instruments (Desmarais & Lowder, 2019; Gottfredson, 1999).

At this moment, findings of racial bias in pretrial risk assessment are ambiguous, at best, as scholars continue to debate the nexus of bias in the instruments (Desmarais et al., 2021). One camp holds that Black and Hispanic persons score higher on these assessments than White persons (Desmarais et al., 2021). Others note that racial bias in pretrial assessments is inevitable because racial minority groups have a much higher likelihood of being arrested, thus ensuring that risk assessment instruments with criminal history items will inevitably score them at higher risk than others (Eckhouse et al., 2019; Mayson, 2019). The third group holds that minority groups are more likely to be over-classified (i.e., false positives) and White persons are at greater risk of being under-classified (i.e., false negatives), rates of error that often go unexamined in risk assessment validations (Rembert et al., 2014; Singh & Fazel, 2010; Whiteacre, 2006). Lowder et al. (2021) have suggested further research to understand the nature and extent of racial bias in pretrial risk assessment, as these assessments have consequences for individuals, communities, and the overall legitimacy of the criminal justice system.

The ability of pretrial risk assessments to equitably predict outcomes has garnered limited attention in the academic literature. Despite the limited research, the results remain mixed, and examinations of predictive error are far fewer (Desmarais et al., 2021; DeMichele, 2020; Bechtel, 2017; 2011). Given the demographics of the pretrial system, these gaps are all the more troubling as the system seeks to maintain public safety and reduce racial/ethnic disparities.

In general, researchers have found pretrial risk assessments to be valid predictors of pretrial success, court appearances, rearrest, and violent crime, despite a few findings of racial/ethnic predictive inequities (Desmarais et al., 2021; DeMichele et al., 2020). Most of the racial bias pretrial risk assessment research finds instrument validity, though not as good for racial/ethnic groups, is in the fair to good category for these groups.

Despite the limited focus of pretrial risk assessment research on racial group validations, most prior analyses have hinged on group classification proportionality and regression analysis, leaving bias, as measured by error, mostly unexamined (Rembert et al., 2013; Singh & Fazel, 2010; Whiteacre, 2006). As a result, very little is understood about the degree of bias expressed in pretrial risk assessment. Understanding the impact of bias in pretrial risk assessment is ever more pertinent

TABLE 1.
Sample Characteristics

Variable	*n*	(%)
Defendant Race		
Black	69	(19.66)
White	242	(68.95)
Unknown	40	(11.40)
Defendant Sex		
Female	86	(24.50)
Male	226	(64.39)
Unknown	39	(11.11)
Court		
District	208	(59.26)
Circuit	93	(26.50)
District and Circuit	10	(2.85)
Unknown	40	(11.40)

TABLE 2.
Sample Risk Classification and Highest Charge

Variable	*n*	(%)
Risk classification		
Low	25	(7.12)
Moderate	220	(62.68)
Moderate/High	2	(0.57)
High	100	(28.49)
N/A	3	(0.85)
Unknown	1	(0.28)
Defendant Highest Charge		
Animal Cruelty	2	(0.57)
Assault	71	(20.23)
Murder	2	(0.57)
Burglary and Theft	21	(5.98)
Drug Possession	94	(26.78)
Child Abuse	4	(1.14)
Disorderly Conduct	3	(0.85)
Driving Offenses	15	(4.27)
Obstruction of Justice	42	(11.97)
Firearms	8	(2.28)
Forgery	9	(2.56)
Harassment	2	(0.57)
Intoxicated Endangerment	2	(0.57)
Property Destruction	2	(0.57)
Sexual Offenses	7	(1.99)
Robbery	2	(0.57)
Order Violation	60	(17.09)
Unknown	5	(1.42)

when considering the deleterious effect bias has on pretrial detention and sentencing decisions (Jackson et al., 2013; Zinger, 2004). Fair predictions also serve as the crux of rehabilitative efforts and appropriate supervision levels.

There remains ambiguity regarding predictive racial disparities in pretrial risk assessments. As these debates continue, it is pertinent to keep in mind that all these instruments should be validated on their local population, and that jurisdictions should never adhere to blind adoption. As such, we examine racial differences in predictive accuracy of a pretrial release risk assessment instrument. To do so, we use a convenience sampling of 351 defendants who had been administered a pretrial release risk assessment within an East Coast county. The goal of the

TABLE 3.
Sample Violation Year and Pretrial Status

Variable	*n*	(%)
Defendant Violation Year		
2021	47	(13.39)
2022	55	(15.67)
No Violation	249	(70.94)
Defendant Pretrial Status		
Active	155	(44.16)
Completed	112	(31.91)
Removed	84	(23.93)

TABLE 4.
Distribution of Risk Classification Groups

Risk classification	Total		Removed	
	n	(%)	*n*	(%)
Low	25	(7.12)	2	(2.38)
Moderate	220	(62.68)	46	(54.76)
Moderate / High	2	(0.57)	2	(2.38)
High	100	(28.49)	34	(40.48)
N/A	3	(0.85)	0	(0.00)
Unknown	1	(0.28)	0	(0.00)
Total	351	(99.99)*	84	(100.00)

Note. * Due to rounding, the percentage does not equal 100%

TABLE 5.
Sample Classification Errors

	False Positives		False Negatives	
	%	(*n*)	%	(*n*)
Defendants	92.59	(25)	7.41	(2)

current research is to examine the ability of a pretrial risk assessment instrument to predict supervision outcomes and to understand the extent to which error is equitably distributed.

Methods
Participants
In this study, we used a convenience sampling (*N*) of 351 pretrial defendants. Table 1 demonstrates characteristics of subsamples (*n*) within the sample (*N* = 351). The majority of the pretrial defendants were White (68.95 percent), male (64.39 percent), and awaiting district court trial (59.26 percent).

Table 2 highlights the risk classification determined using the Pre-Trial Release Risk Assessment (PTRA) tool and *defendant's highest charge*. Slightly more than 1 percent of the sample (1.14 percent) had no identified risk classification. Still, most defendants had been classified as Moderate Risk. Moreover, most defendants' highest charge was reported as a drug possession (26.78 percent).

Table 3 demonstrates defendants' violation year and pretrial status. Most defendants had unreported violation years (70.94 percent) due to having no reported violations. Moreover, almost half (44.16 percent) of defendants were currently under pretrial supervision, with another quarter (23.93 percent) already removed.

Additionally, Table 4 demonstrates sample characteristics of persons awaiting trial by risk classification and defendant pre-trial status. This tabulation demonstrates that most defendants were assessed as having Moderate Risk (62.86 percent), and the majority of removed defendants also had Moderate Risk (54.76 percent).

Table 5 highlights classification errors—or incorrect predictions using the PTRA—within the sample as either false positives or false negatives. Specifically, false positives were instances where defendants were classified as having high risk but successfully completed their pretrial diversion term, false negatives were instances where pretrial defendants were classified as having low risk but were removed from supervision. False positives were more common within the sample than false negatives. That is, only 2.38 percent (*n* = 2) of persons removed were classified as having low risk, but 7.71 percent (*n* = 27) of high-risk persons were incorrectly predicted.

Last, Table 6 (next page) demonstrates classification errors as a cross tabulation of defendant race. The majority (75 percent) of false positives were White defendants, and all

false negatives were White defendants (*n* = 2). Moreover, 8.7 percent (*n* = 6) and 0% (*n* = 0) of Black defendants were either false positives or false negatives, respectively. Regarding White defendants, 7.44 percent (*n* = 18) and .83 percent (*n* = 2) of defendants were false positives or false negatives, respectively.

Materials

The current study used a convenience sampling of 351 pretrial criminal defendants supervised by the county detention center. Data were received within a Microsoft Excel workbook. The file contained defendants' demographic information, as well as responses to the PTRA. The dataset comprised 14 categories of information with both non-numerical and numerical data, including gender, race, court, case, risk level, risk score, highest charge, notes, violation, next court date, and whether the pretrial term was completed. The risk level of each defendant was calculated using the PTRA, a risk assessment tool designed to score defendants based on risk of unsuccessfully completing their pretrial supervision term. The PTRA was administered to defendants independently from the current study, wherein defendants were scored based on six categories: 1) their most serious current offense, with a maximum of nine points; 2) additional considerations, with a maximum of two points; 3) their current legal status, with a maximum of six points; 4) the severity of their prior convictions, with a maximum of nine points; 5) supervision, failures to appear, or probation violations within the past 10 years, with a maximum of eight points; and 6) mitigating factors, with a maximum of four points able to be subtracted from a defendant's score. Based on these scores, defendants were classified as either: 1) high risk, with 14 points or more; 2) moderate risk, with between 6 and 13 points; and 3) low risk, with 5 points or fewer.

Procedures

Upon request, the county detention center provided data. We screened, cleaned, and coded the data and derived 31 coded risk assessment variables. Zero represented the absence of a phenomenon, and 1 represented the observation of that phenomenon. Coded variable groups included 1) defendant's pretrial status, comprising a) active, b) completed, or c) removed; 2) risk classification, comprising a) Low Risk, b) Moderate Risk, c) Moderate / High Risk, d) High Risk, and e) unknown; 3) defendant sex, comprising a) female, b) male, and c) unknown; 4) defendant race, comprising a) Black, b) White, and c) unknown; 5) court, comprising a) circuit, b) district, and c) unknown; 6) defendant highest charge, comprising a) animal cruelty, b) assault, c) murder, d) burglary and theft, e) drug possession, f) child abuse, g) disorderly conduct, h) driving offense, i) obstruction of justice, j) firearms, k) forgery, l) harassment, m) intoxicated endangerment, n) property destruction, o) sexual offenses, p) robbery, q) order violation, and r) unknown; and 7) defendant violation year, comprising a) 2021, b) 2022, and c) no violation.

Defendant violation year was derived from the violation variable where exact dates and times of defendants' violations were reported. Violation year was created to limit categories of violation date.

Results

To determine the instrument's predictive accuracy, we calculated a tetrachoric correlation (*rtet*) analysis. We found that *rtet* was favorable over a Pearson product-moment correlation, as the risk classification and defendant pretrial status measures were categorical as opposed to continuous. Risk classification and defendant pretrial status being dichotomous, we could not test the normality and linearity assumptions necessary to examine a Pearson correlation coefficient. Table 7 demonstrates our *rtet* results. Most relationships were significant using Alpha (α) = .05, 2-tailed. The only non-significant finding was the association between Moderate / High Risk classification and completed defendant pretrial status (*rtet* = -.01, probability *p* = .8). Additionally, we removed Case 314 from our analysis because no information regarding the defendant's risk classification was reported.

To estimate the predictive accuracy of the risk classification model with *N* = 351, we constructed scatterplots using false positive rates and true positive rates statistics. Visual analysis of this plot demonstrated that PTRA accurately predicted pretrial program removal and completion. Moreover, we calculated receiver operating characteristics (ROC) and summed them to produce an area under the curve (AUC) statistic. Table 8 demonstrates these findings, including the *p,* standard error (*SE*), and margin of error (*ME*). We used Hanley and McNeil's (1982) formula for calculating AUC *SE.* Even more sparse are formulas for calculating AUC *ME.* As such, we used a common formula to calculate *ME* for regression models. Specifically, *ME* can be calculated by multiplying the *t*-crit by the *SE* of *β*. To derive the AUC *ME,* we multiplied z-critical values derived from the Mann-Whitney U statistics by the AUC *SE.* Table 8 shows the PTRA as a good predictor of pretrial outcomes. This is because an AUC statistic of 1 indicates perfect predictability of the analyzed tool. An AUC of 0.5 suggests no discrimination, 0.7 to 0.8 is considered acceptable, 0.8 to 0.9 is considered excellent, and more than 0.9 is considered outstanding. Moreover, we found each AUC statistic to be significant using a Mann-Whitney U-test. This means there is leastways a 99.99 percent probability that analyzed samples were similarly distributed.

Due to Moderate / High Risk not being a risk classification prescribed by the PTRA, we

TABLE 6.
Sample Classification Errors

	False Positives		False Negatives	
Defendant Race	%	(n)	%	(n)
Black	25	(6)	0	(0)
White	75	(18)	100	(2)
Total	100	(24)	100	(2)

Note. Total of false positives is less than *n* in Table 7 because one defendant's race was unreported.

TABLE 7.
Correlations Between Risk Classification and Outcome

	Low Risk	Moderate Risk	Moderate / High Risk	High Risk	Completed	Removed
Low Risk	1	-	-	-	-	-
Moderate Risk	.4*	1	-	-	-	-
Moderate / High Risk	-.52*	-.72*	1	-	-	-
High Risk	-.97*	-.8*	-.93*	1	-	-
Completed	-.34*	.89*	-.01	.99*	1	-
Removed	-.93*	-.95*	-.96*	-1*	.93*	1

Note. * Indicated significance using α = .05, 2-tailed.

calculated alternate AUC statistics by delegating $n = 2$ defendants classified as Moderate / High Risk to the appropriate classification (High Risk). Table 9 demonstrates AUC statistics between the instrument's predictive accuracy for Black and White pretrial defendants without the moderate/high risk classification. The AUC statistics were all higher than those that included Moderate / High Risk. Only the total sample AUC remained significant using the Mann-Whitney U test, but this only suggests that samples used to derive the AUC may be differently distributed and should not be interpreted as a sole determinant of accuracy.

To estimate the probability of predicting PTRA score by race, we controlled for four other independent variable (IV) groups. We calculated a 27-predictor multiple generalized regression (MGR) analysis and included 1) defendant race, 2) defendant sex, 3) court, 4) defendant highest charge, and 5) pretrial status. An MGR analysis calculates scalar directional relationships between a non-dichotomous dependent variable (DV) and multiple IVs, with each relationship accounting for others within the model. Prior to constructing the MGR, we scanned the DV—PTRA score—for missing values. Subsequently, $n = 47$ cases within the dataset were identified as missing PTRA scores. We removed these $n = 41$ cases from analyses as a necessity for calculating beta coefficients (β).

β were calculated using the Moore-Penrose generalized method. The Moore-Penrose generalized method is a type of pseudo-inversion that assumes linearity between residuals and z-scores, as well as homoscedasticity of residuals and predicted values ($\hat{y}$). We constructed a normal probability plot with residuals and z-values, which, upon visual inspection, indicated linearity. That is, a linear relationship was observable between the error terms for predicted values. Additionally, we constructed a scatterplot with residuals and $\hat{y}$, which, upon visual inspection, indicated homoscedasticity. That is, $\hat{y}$ and residual error terms did not linearly relate. We used Moore-Penrose inversion because it provides the same output as generalized inversion when determinant > 0 but remains interpretable for determinant = 0. As such, data were appropriate for regression modelling.

An analysis of variance (ANOVA) indicated the 27-predictor MGR accounted for a non-significant 18.04 percent of the variance in PTRA score, calculated as $R2 = .18$, $F(278,277) = .22$, $p = > .99$, $\alpha = .05$, 2-tailed. This means there is leastways a 99.99 percent probability that the 18.04 percent of the variance in PTRA scores accounted for by the IVs may be due to sampling error.

Table 10 provides the output of the MGR, including β, SE, p, and ME for all predictors within the model. Both Black ($\beta = 2.63$, $p = < .01$, 2-tailed) and White ($\beta = 1.82$, $p = < .01$, 2-tailed) defendant race were significant positive predictors of PTRA score using α

TABLE 8.
Area Under the Curve Statistics

Sample	AUC	p	SE	ME
Black	.86	<.01	.26	.52
White	.85	<.01	.16	.31
Total	.85	<.01	.14	.27

TABLE 9.
Area Under the Curve for Black and White Pretrial Defendants

Sample	AUC	p	SE	ME
Black	.92	>.99	.17	.34
White	.86	>.99	.15	.29
Total	.87	<.01	.14	.27

TABLE 10.
Pre-Trial Release Risk Assessment Multiple Generalized Regression Output

	Estimate	SE	df	t	t-crit	ME
Intercept	4.45*	0.08	276	55.58	1.97	0.16
Defendant Race						
Black	2.63*	0.14	276	18.78	1.97	0.28
White	1.82*	0.10	276	18.17	1.97	0.16
Defendant Sex						
Female	1.77*	0.14	276	12.63	1.97	0.20
Male	2.68*	0.08	276	33.48	1.97	0.28
Court						
District	0.36	0.24	276	1.5	1.97	0.47
Circuit	1.72*	0.29	276	5.94	1.97	0.57
District Circuit	2.36*	1.01	276	2.34	1.97	1.99
Defendant Highest Charge						
Animal Cruelty	2.55	8.40	276	0.3	1.97	16.54
Assault	0.37	0.59	276	0.63	1.97	1.16
Murder	6.79	8.53	276	0.8	1.97	16.79
Burglary and Theft	0.93	1.25	276	0.74	1.97	2.46
Drug Possession	1.47*	0.53	276	2.77	1.97	1.04
Child Abuse	-0.42	4.36	276	-0.1	1.97	8.58
Disorderly Conduct	0.66	5.72	276	0.12	1.97	11.26
Driving Offenses	1.32	1.54	276	0.86	1.97	3.03
Obstruction of Justice	-1.92*	0.76	276	-2.52	1.97	1.50
Firearms	1.24	2.40	276	0.51	1.97	4.72
Forgery	1.93	2.67	276	0.72	1.97	5.26
Harassment	2.24	8.39	276	0.27	1.97	16.52
Intoxicated Endangerment	-6.50	16.47	276	-0.39	1.97	32.42
Property Destruction	-7.31	16.70	276	-0.44	1.97	32.88
Sexual Offenses	-3.08	3.13	276	-0.98	1.97	6.16
Robbery	2.42	8.44	276	0.29	1.97	16.61
Order Violation	1.76*	0.65	276	2.71	1.97	1.28
Pre-Trial Status						
Active	1.19*	0.13	276	9.18	1.97	0.26
Removed	2.52*	0.16	276	15.75	1.97	0.31
Completed	0.73*	0.14	276	5.23	1.97	0.28

Note. * indicates significance using $\alpha = .05$, 2-tailed.

= .05, 2-tailed. That is, on average, being a Black defendant within pretrial supervision predicted greater PTRA scores than being a White defendant. Being significant, these results indicate there is leastways a 95 percent probability that the observed relationships are not related to sampling error. Additionally, having a removed pretrial status predicted, on average, more PTRA points than an active or completed status.

To estimate the probability of predicting removal from pretrial supervision using five IV groups, comprising 28 IVs, we conducted a multiple probability of outcome generalized regression (MPOGR) analysis. The IV groups included 1) risk classification, 2) defendant sex, 3) defendant race, 4) court, and 5) defendant highest charge. An MPOGR calculates the non-scalar directional relationship between a binary DV and multiple IVs, with each relationship accounting for others within the model. Prior to constructing the MPOGR, the DV—removal—was scanned for missing values. Subsequently, $n = 41$ cases within the dataset were identified as missing values for removal. These $n = 41$ cases were removed from analyses as a necessity for β calculation. Further, we calculated β for $n = 310$ to calculate $\hat{y}$, odds (eL), and probability of outcome ($p(X)$) necessary for MPOGR. $p(X)$ replaced the binary DV values within the model, creating a MPOGR.

We calculated β using the Moore-Penrose generalized method. Due to the model being a probability of outcome regression, no assumption testing was required, and data were deemed appropriate for regression modelling.

An analysis of variance (ANOVA) indicated that the 29-predictor MPOGR accounted for a significant 2.86 percent of the variance in removals, calculated as predicted $R2$ ($\hat{y}R2$) = .03, $F(281,280) = 34.04$, $p = < .01$, $\alpha = .05$, 2-tailed. This means there is leastways a 95 percent probability that the 2.86 percent of the variance in removals accounted for by the IV was not related to sampling error.

Table 11 provides the output of the MPOGR, including β, SE, p, and ME for all predictors within the model. Only three predictors within the current model were non-significant, using $\alpha = .05$, 2-tailed: 1) animal cruelty ($\beta = 0$, $p = 1$), 2) child abuse ($\beta = 0$, $p = 1$), and 3) robbery ($\beta = -.01$, $p = .16$). Regarding risk classification, defendants being classified as High Risk was the strongest predictor of pretrial supervision failure. Specifically, being classified as High Risk predicted a significant 9 percent probability

of unsuccessfully completing pretrial supervision, whereas being classified as having Low Risk predicted a significant 2 percent probability. Moreover, Black race and female sex were both the greatest predictors of removal, predicting a significant 11 percent probability of unsuccessfully completing pretrial supervision. Being significant, these results indicate there is leastways a 95 percent probability the observed relationships are not related to

sampling error.

Additionally, we calculated an MPOGR analysis to estimate the probability of predicting PTRA false positives by defendant race using $n = 310$. The false positive MPOGR included defendant race alongside three other IV groups to control for possible relationships. That is, the false positive MPOGR comprised 24 IV groups: 1) defendant race, 2) defendant sex, 3) court, and 4) highest charge. The IV

TABLE 11.
Pretrial Removal Multiple Probability of Outcome Generalized Regression Output

Variable	Estimate	SE	df	t	t-crit	ME
Intercept	0.20*	0.00	281	62.53	1.97	0.01
Risk classification						
Low	0.02*	0.01	281	3.30	1.97	0.01
Moderate	0.05*	0.01	281	8.53	1.97	0.01
Moderate / High	0.20*	0.01	281	24.60	1.97	0.01
High	0.09*	0.01	281	15.23	1.97	0.01
Sex						
Female	0.11*	0.00	281	65.11	1.97	0.00
Male	0.09*	0.00	281	53.50	1.97	0.00
Race						
Black	0.11*	0.00	281	63.39	1.97	0.00
White	0.09*	0.00	281	54.39	1.97	0.00
Court						
Circuit	0.06*	0.00	281	44.27	1.97	0.00
District	0.06*	0.00	281	43.63	1.97	0.00
District Circuit	0.09*	0.00	281	41.25	1.97	0.00
Highest Charge						
Animal Cruelty	0.00	0.01	281	0.00	1.97	0.00
Assault	0.07*	0.00	281	15.11	1.97	0.01
Murder	-0.02*	0.01	281	-2.79	1.97	0.01
Burglary and Theft	0.10*	0.00	281	20.58	1.97	0.01
Drug Possession	0.03*	0.00	281	6.54	1.97	0.01
Child Abuse	0.00	0.01	281	0.00	1.97	0.01
Disorderly Conduct	0.02*	0.01	281	3.12	1.97	0.01
Driving Offenses	0.10*	0.00	281	20.10	1.97	0.01
Obstruction of Justice	0.07*	0.00	281	14.94	1.97	0.01
Firearms	0.15*	0.01	281	28.29	1.97	0.01
Forgery	0.09*	0.01	281	16.66	1.97	0.01
Harassment	0.02*	0.01	281	2.80	1.97	0.01
Intoxicated Endangerment	0.05*	0.01	281	5.52	1.97	0.02
Property Destruction	0.03*	0.01	281	3.30	1.97	0.02
Sexual Offenses	0.02*	0.01	281	3.66	1.97	0.01
Robbery	-0.01	0.01	281	-1.40	1.97	0.01
Order Violation	0.09*	0.00	281	19.37	1.97	0.01

Note. All SE are > 0 but are presented as 0 when below .01.
* indicates significance using $\alpha = .05$, 2-tailed

risk classification group was not included within the false positive MPOGR because risk classification was used to calculate the false positive DV. We again used the Moore-Penrose generalized method to calculate β.

The ANOVA indicated the 24-predictor MPOGR accounted for a significant 4.6 percent of the variance in false positives ($\hat{y}R2$ = .05, $F(285,284)$ = 20.81, p = < .01, α = .05, 2-tailed). This means there is leastways a 95 percent probability that 4.6 percent of the variance in false positives accounted for by the IVs was not related to sampling error.

Table 12 provides the output of the false positive MPOGR, including the intercept, β, SE, p, and ME for all predictors. All predictors and the intercept were significant. Both

Black and White defendant race predicted the same probability of false positive on the PTRA (12%). This means we observed no difference in the probability of being classified as high risk and completing pretrial supervision between Black and White defendants.

Last, we calculated the same MPOGR analysis to estimate the probability of predicting false negatives by defendant race using n = 310. The ANOVA indicated the 24-predictor MPOGR accounted for a non-significant 73.36 percent of the variance in false negatives ($\hat{y}R2$ = .73, $F(285,284)$ = .36, p = > .99, α = .05, 2-tailed). This means there is more than a 99.99 percent probability that variance in false positives accounted for by the false negative MPOGR was somehow related to sampling

error.

Table 13 (next page) provides the output of the false negative MPOGR, including the intercept, β, SE, p, and ME for all predictors. Both Black and White defendant race were positive predictors of false negatives; however, both were equal as in the false positive MPOGR (11%). This means we observed no difference in the probability of Black and White defendants being classified as low risk and being removed from pretrial supervision.

Discussion

We aimed to determine if relationships among risk classification categories were measurable. As such, we calculated a tetrachoric correlation. From our tetrachoric correlation, we found measurable relationships amongst PTRA risk classification categories. Specifically, each PTRA risk classification category significantly correlated with every other category. Being significant, this means classification categories of the PTRA are related and do not rank individuals' risk randomly. Additionally, the tetrachoric correlation addressed the second research question to determine if relationships between PTRA risk classification categories and pretrial supervision completion and removal were measurable. Relationships between PTRA risk classification categories and pretrial supervision completion and removal were measurable; however, one relationship was non-significant. The relationship between PTRA moderate/high risk classification and pretrial supervision completion may be due to sampling error. This means, unlike low, moderate, and high-risk classification categories, Moderate / High Risk may be randomly ranking individuals' risk.

We found that being a Black pretrial defendant led to higher scale scores on the PTRA than being a White defendant. This supports previous research suggesting Black defendants score higher on assessments similar to the PTRA (Desmarais et al., 2021). Moreover, previous research has suggested such findings are likely because Black persons are more likely than White persons to be arrested (Henderson et al., 2015). Still, the current research does not demonstrate such scoring is the result of racial bias. This is because, like previous research, the current research evidences that risk assessments are leastways equitable amongst Black and White criminal defendants (Bechtel et al., 2017; Bechtel et al., 2011; DeMichele, 2020; Desmarais, 2021). This is an important finding given that racial inequities are present in total scale score, but the disparity is not solely

TABLE 12.
False Positive Multiple Probability of Outcome Generalized Regression Output

Variable	Estimate	SE	df	t	t-crit	ME
Intercept	0.25*	0.00	285	209.61	1.97	0.00
Defendant Race						
Black	0.12*	0.00	285	171.60	1.97	0.00
White	0.12*	0.00	285	178.90	1.97	0.00
Defendant Sex						
Female	0.12*	0.00	285	172.00	1.97	0.00
Male	0.12*	0.00	285	182.09	1.97	0.00
Court						
Circuit	0.08*	0.00	285	115.45	1.97	0.00
District	0.09*	0.00	285	138.98	1.97	0.00
District / Circuit	0.07*	0.00	285	58.77	1.97	0.00
Defendant Highest Charge						
Animal Cruelty	-0.08*	0.00	285	-18.50	1.97	0.01
Assault	-0.07*	0.00	285	-25.02	1.97	0.01
Murder	0.15*	0.00	285	34.68	1.97	0.01
Burglary and Theft	-0.07*	0.00	285	-23.79	1.97	0.01
Drug Possession	-0.05*	0.00	285	-18.02	1.97	0.01
Child Abuse	-0.08*	0.00	285	-22.17	1.97	0.01
Disorderly Conduct	-0.08*	0.00	285	-20.66	1.97	0.01
Driving Offenses	-0.06*	0.00	285	-19.91	1.97	0.01
Obstruction of Justice	-0.07*	0.00	285	-24.69	1.97	0.01
Firearms	-0.05*	0.00	285	-15.61	1.97	0.01
Forgery	-0.05*	0.00	285	-15.33	1.97	0.01
Harassment	-0.08*	0.00	285	-18.49	1.97	0.01
Intoxicated Endangerment	-0.08*	0.01	285	-14.64	1.97	0.01
Property Destruction	-0.09*	0.01	285	-16.44	1.97	0.01
Sexual Offenses	-0.08*	0.00	285	-24.42	1.97	0.01
Robbery	-0.08*	0.00	285	-18.53	1.97	0.01
Order Violation	-0.07*	0.00	285	-24.96	1.97	0.01

Note. All SE are >0, but are presented as 0 when below .01.
* Indicates significance using α = .05, 2-tailed

explainable by racial bias, and it is worthy of future research considerations. Still, removal from pretrial supervision is associated with racial disparity.

The four PTRA risk classification categories significantly predicted removal from pretrial supervision. This means that PTRA's prediction of which individuals will be removed from pretrial supervision is likely not random. Further, being classified as a High-Risk individual was the best predictor of removal from pretrial supervision. This supports the risk assessment tool as effective at delineating individuals of higher risk.

Prediction for removal from pretrial supervision was more likely for Black and White pretrial defendants. Being significant, this result has a 95 percent probability of not being due to sampling error. This is important, given that Black persons were predicted at a greater probability (11 percent) of removal than White persons (9 percent). As such, when controlling for PTRA risk classification, sex, court, and highest charge, being Black was a greater probability of being removed from pretrial supervision.

Previous research suggested Black defendants were more often wrongly classified than White defendants by risk assessment tools (Rembert et al., 2014; Singh & Fazel, 2010; Whiteacre, 2006). The sixth and seventh research questions aimed to determine if this notion was supported within our sample. The sixth research question was addressed using

the false positive regression analysis. The results demonstrated that race did significantly predict false positives on the PTRA, but races did not differ in prediction. As such, no racial disparities were observed in predicting false positives. Last, we aimed to determine if race predicted false negatives on the PTRA by using the false negative regression analysis. Like the false positive regression, race did significantly predict false negatives; however, racial groups did not differ in prediction. This means no racial disparities were observed in predicting false negatives. Ultimately, the current results demonstrate that Black defendants have a greater probability of being removed from pretrial supervision but not of being falsely classified. Our AUC findings demonstrating that the PTRA was more accurate among Black defendants within the sample also support this assertion.

This research contributes to a growing understanding of racial equity in pretrial risk assessment instruments. As noted within the current review of the literature, research investigating racial appropriateness of risk assessment instruments is limited and contentious (Bechtel, et al. 2017; Bechtel et al., 2011; DeMichele et al., 2020; Desmarais et al., 2021). The current research is not contentious, as the evidence is clear for this population. The PTRA risk classification items collectively form a tool that predicts success in pretrial supervision. Being imperfect, the PTRA produces both false positive and false negative predictions that can have undue effects on defendants' lives. Despite this, the PTRA does not falsely classify defendants disproportionately by race for this population. Still, Black criminal defendants do experience racial disparities in removal and PTRA total scale scoring. Consequently, there is a need to better understand how race and the PTRA intersect.

Limitations

Despite the contributions of this research, there are a few limitations that must be noted. The extant pretrial literature has used varying outcome measures (i.e., rearrest, conviction, and pretrial failure), yet all of these have been shown to be directly impacted by racial/ethnic, gender, and class disproportionalities. As a result, it should be assumed that any pretrial outcome measure used, any criminal justice outcome, for that matter, potentially is exacerbated by these demographic criminal justice realities (Holsinger, Lowenkamp, & Latessa, 2006; Vincent, Chapman, & Cook, 2011). In our sample, though Whites comprised the

TABLE 13.
False Negative Multiple Probability of Outcome Generalized Regression Output

Variable	Estimate	SE	df	t	t-crit	ME
Intercept	0.21*	0	285	326.79	1.97	0
Defendant Race						
Black	0.11*	0	285	292.62	1.97	0
White	0.11*	0	285	309.79	1.97	0
Defendant Sex						
Female	0.11*	0	285	291.95	1.97	0
Male	0.11*	0	285	303.15	1.97	0
Court						
Circuit	0.07*	0	285	187.48	1.97	0
District	0.07*	0	285	200.63	1.97	0
District / Circuit	0.07*	0	285	109.08	1.97	0
Defendant Highest Charge						
Animal Cruelty	0	0	285	0	1.97	0
Assault	0	0	285	0	1.97	0
Murder	0	0	285	0	1.97	0
Burglary and Theft	0	0	285	0	1.97	0
Drug Possession	0	0	285	0	1.97	0
Child Abuse	0	0	285	0	1.97	0
Disorderly Conduct	0	0	285	0	1.97	0
Driving Offenses	0	0	285	0	1.97	0
Obstruction of Justice	0.01*	0	285	6.55	1.97	0
Firearms	0	0	285	0	1.97	0
Forgery	0	0	285	0	1.97	0
Harassment	0	0	285	0	1.97	0
Intoxicated Endangerment	0	0	285	0	1.97	0.01
Property Destruction	0	0	285	0	1.97	0.01
Sexual Offenses	0	0	285	0	1.97	0
Robbery	0	0	285	0	1.97	0
Order Violation	0	0	285	0	1.97	0

Note. All SE are >0, but are presented as 0 when below .01.
* Indicates significance using α = .05, 2-tailed

majority, Blacks had the greatest likelihood of pretrial failure. It should be noted that Blacks represent only 5.3 percent of this county's population; thus they are overrepresented in the pretrial population and are failing. Therefore, it is plausible to assume the possibility of the overrepresentations affecting our results and ultimately biasing the degree to which the predictors affect the outcome measure (Warren, Chiricos, & Bales, 2012). In short, our results are dependent upon the outcome measure of choice. Therefore, we recommend that future research seeking to determine predictive equity be contextualized within the context of the various motivations for pretrial success and/or failure closure types (such as positive drug test, rearrests, etc.) and their potential intervening variables.

We must also note that our outcome measure is subject to potential treatment effects recommended by the assessment instrument and/or officer directives (Hosp, Hosp, & Dole, 2011). In effect, there are potential treatment implementations and supervision effects that could affect the likelihood of pretrial failure, but that we were not able to measure. Consequently, we recommend that further pretrial risk assessment validations examine the impact of treatment modalities. We also recognize an additional limitation here in the focus on intersectionality concerning race and other factors. In particular, intersectionality research often focuses on the particular, rather than the universal (e.g., "being Black" vs. "being human"), which may serve to reify racial differences at the same time racial problems are being isolated (Mitchell, 2013). The tendency of quantitative research is to focus on the particular and, as such, supplemental qualitative or mixed-methods research may be warranted, as these approaches may more adequately be able to consider both the particular *and* universal.

Recommendations

The PTRA appears suitable for predicting pretrial supervision completion, but it is imperfect, and as such, should serve in an advisory capacity to inform decisions. Therefore, we posit two recommendations: First, the use of a moderate/high risk classification should be discontinued. Untested subcategories are not recommended. Specifically, only two pretrial defendants were classified as Moderate / High Risk, and both were removed from pretrial supervision. The most accurate risk classification within the current study was High Risk, which is guideline-prescribed.

Secondly, PTRA items should be adjusted to predict relationships with specific offenses committed while under pretrial supervision. Specific offenses include 1) animal cruelty, 2) child abuse, and 3) robbery. While relationships were observed between most offenses and removal, those between removal and animal cruelty, child abuse, and robbery were non-significant, and could be a result of randomness. To inform PTRA item adjustments that better predict pretrial success, we recommend individual item-level data reporting. This would allow validation of each item within the PTRA tool. Thereafter, specific suggestions for adjustments can be posited. Further, such data is usable to assess reliability and validity of the PTRA alongside accuracy, which has been tested herein via AUC.

Conclusion

In conclusion, the PTRA functions as a risk classification tool for a particular county. Further research that evaluates the PTRA's validity and reliability will assist in the ability to understand how this instrument functions among various populations. To aid in this endeavor, administrators of risk assessment tools should both report and provide item-based data for future research to explore.

Our study finds that there are racial disparities in scoring and removal from pretrial supervision programs, but they may not warrant a return to judicial determinations of risk, primarily because we cannot hold that these disparities are the result of racial bias. Rather, research suggests other factors may better explain racial disparities here. Such disclosures are important because racial disparities are of greater societal and systemic concern. Future research should venture towards uncovering those factors impacting racial disparities in pretrial risk assessments and the extent to which bias in the instruments compares to judicial determinations of risk.

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Pretrial Supervision: Race and Revocation

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THE HARMS OF PRETRIAL detention are nearly irrefutable. Recent research indicates that, especially for extended periods, pretrial incarceration may negatively impact case outcomes and pretrial outcomes, and individuals may experience a variety of collateral consequences associated with detention (Lowenkamp, VanNostrand, & Holsinger, 2013; Heaton, Mayson, & Stevenson, 2017; Lowenkamp, 2022). Beyond this, racial disparities are often observed in release and detention decisions and appear to perpetuate with further downstream consequences (Martinez, Petersen, & Omori, 2020). Yet, racial disparities have been noted even before the release decision is made. One study found a 34 percent higher likelihood of a detention recommendation for Black individuals in comparison to Whites, and the source of racial bias was primarily attributed to pretrial policies centered on criminal history, and not personal bias (Skeem, Montoya, Lowenkamp, 2022).

Of course, there is nothing unique or surprising about courts and communities wanting reassurance that individuals who will be released pretrial will return to court, follow release conditions, and avoid arrest. Given the public and political discourse about bail reform, whether new policies are derived from local court orders or follow from community engagement and advocacy, legislative authority, or even litigation if an individual is released, judicial officers may choose to order release conditions to mitigate the risk of flight and rearrest. When subjected to release, defendants often are placed on pretrial supervision. Pretrial supervision might include other conditions (for example, location monitoring, testing for the use of illegal substances, obtaining and maintaining employment, and residency requirements). While being released on pretrial is preferable to being detained, the requirements of pretrial supervision are not negligible. Further, there is concern over the use of pretrial supervision and its associated conditions, since conditions expose defendants to revocation and a return to custody (as opposed to release with no conditions), and possible disparate outcomes.

The current study takes advantage of a large federal pretrial sample to describe the assignment of pretrial supervision and subsequent revocation rates. Given the concerns mentioned above about pretrial detention and supervision, this research seeks to determine if there is a racial disparity in revocation rates.

Background on Federal Pretrial Services

The Administrative Office of the U.S. Courts operates the United States Probation and Pretrial Services System across 94 federal districts. The judiciary provides pretrial services in 93 of those 94 districts. The districts follow policies intended to inform the court's release decision and assist in identifying appropriate release conditions.[1] Additionally, pretrial services provides supervision services and monitors the release conditions ordered by the court.

To assist the courts in making the release decision and setting release conditions, pretrial services officers will conduct a criminal record check, gather information on the current case and charges, and complete a voluntary interview with the defendant. Only authorized personnel are present for the interviews, such as defense counsel and interpreters, and interviews are completed in private locations outside the presence of law enforcement and government attorneys. While these interviews are voluntary, collateral investigations will be conducted if the interview is declined, which could delay the release decision. Pretrial services will also attempt to obtain information regarding employment history, credit history, prior supervision and system contact, and personal references.

Once these background steps are conducted, the officer will complete the pretrial

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[1] Information describing the Federal Pretrial Services policies and report were obtained from the Pretrial Services Investigation and Report Procedures Manual (September, 2019). There are multiple volumes of supervision guides that provide additional information about supervision intensity, the PTRA and related supervision levels, as well as release conditions, such as drug testing and location monitoring. References to these guides and the related Federal Pretrial Services supervision protocol will be integrated throughout this article.

services report, which provides information relevant to the release decision, focusing on the risk of nonappearance in court and danger to another person and the community. Critical sections of the pretrial services report include information about the individual's background, residential and family ties; employment history and financial resources; health; prior record; Pretrial Risk Assessment (PTRA); and the recommendation to the court. Pretrial services officers may recommend release without conditions when there are no risks present, and if there are risks present, the officer may recommend release with conditions or detention. Along with the additional information collected for the pretrial services report, release recommendations and supervision intensity are based on the PTRA scores. Officers are expected to recommend the least restrictive conditions to mitigate risk and maximize success during the pretrial period. Category one is associated with release with no conditions, while the remaining four categories propose gradually increasing supervision intensity. Release conditions range from options intended to address needs, such as participation in treatment and programming for mental health or substance abuse, to those that are monitoring-based, such as drug testing, home confinement, and location monitoring. Ultimately, the court determines if an individual is released, released with conditions, or detained.

Based on the most recent information available, during fiscal years 2011 to 2018, the federal system released pretrial approximately 32 percent of their criminal cases, the majority of which were for property charges. Seventy-nine percent of those released had conditions applied to their release, and the reported violation rates were relatively low – 19 percent had at least one violation of a release condition, 17 percent were charged for a technical violation, 2 percent were rearrested for a new charge, and 1 percent had a failure to appear for a court hearing (Browne & Strong, 2022). These rates suggest that too few individuals are released pretrial in the federal system. For those who are, the success rates, such as avoiding a pretrial arrest (estimated to be 98 percent for the fiscal years 2011-2018 sample), are relatively high. While the pretrial supervision and release conditions evidence base is limited, there is research that can be drawn upon that speaks to the harms of pretrial detention, as well as what we can glean from county- and state-level research, which suggests that most individuals released pretrial are successful in

attending scheduled court appearances and not experiencing pretrial arrest. The following sections summarize the research on pretrial detention, supervision, and release conditions.

Pretrial Detention

As previously noted, pretrial detention length is associated with poor pretrial and case outcomes, destabilization, and racial disparities.

Two studies from Kentucky, one from 2013 and one from 2022, revealed that lengthy stays in pretrial detention were associated with worse case outcomes (2022), pretrial outcomes (2013 and 2022), and post-disposition recidivism (2013). The 2013 study sample (N=153,407) found that the likelihood of failure to appear (FTA) increased with lengthy pretrial detention—especially for individuals assessed as low risk. Relatedly, new criminal arrests for low risk were also associated with longer stays in pretrial detention, and the odds of failure are 1.39 times more likely for those detained 2 to 3 days compared to those detained one day. Post-disposition recidivism at 12 and 24 months was also observed when individuals were detained for two or more days (Lowenkamp, VanNostrand, & Holsinger, 2013). There were a few limitations with the 2013 study that the 2022 follow-up study attempted to address, including calculating the time in pretrial detention using timestamp admission and release data to get a more accurate estimate of detention length and estimating causal impact by applying a regression discontinuity design looking at the length of pretrial detention cutoffs in hours and days. The 2022 analysis (N=1,487,107) found similar results: pretrial detention for any length of time is associated with a higher likelihood of pretrial arrest, is not consistently associated with court appearance, and is associated with a higher likelihood of conviction and a sentence to incarceration even when compared to those who experienced pretrial failure (FTA or pretrial arrest) (Lowenkamp, 2022).

Similar findings have been observed in other jurisdictions. For example, results from a study in Harris County, Texas, examining the impact of pretrial detention for misdemeanor cases on case outcomes and future crime, revealed that when comparing similarly situated detained and released individuals, those who are detained are 25 percent more likely to plead guilty, and are 43 percent more likely to have a jail sentence and one that is nearly double in length. There was also a higher likelihood for future crime (Heaton, Mayson,

& Stevenson, 2017). In two large urban jurisdictions, Dobbie, Goldin, and Yang (2018) leveraged quasi-random assignment of judges to examine the impact of pretrial detention and found that pretrial detention increases the likelihood of conviction, primarily through guilty pleas (which some argue is a primary mechanism for release, especially for those unable to afford cash bail), had no net effect on future crime, and decreased formal sector employment opportunities and government benefits. Finally, in a landmark qualitative study that included interviews with over 1500 individuals in New York City, pretrial detention was associated with multiple collateral consequences that suggest the rapid destabilization of individuals who cannot be quickly released from detention. Responses indicated higher rates of negative experiences with employment, finances, residential stability, and family disruption (Bergin et al., 2022).

Collectively, the consequences that follow pretrial detention appear to be quite substantial. While court appearance and community safety are paramount and understandable concerns, importantly, this population's constitutional rights must not be overlooked. While the literature on the impact of pretrial detention is growing, perhaps the field can reflect on what was observed in a recent meta-analysis focusing on the harms of mass incarceration, one which revealed that across 116 studies, custodial sanctions—being incarcerated—had either a null effect or slightly increased recidivism when compared with non-custodial sanctions (Petrich et al., 2021).

Pretrial Supervision and Release Conditions

If pretrial detention suggests greater negative impacts on case and pretrial outcomes, post-disposition recidivism, and individual and family stability, it will be important to understand what, if any, benefits there are to pretrial supervision and release conditions. However, the research base is limited on the effectiveness of pretrial supervision and its equitable application. Is pretrial supervision needed for all individuals and, if not, whom is it needed for, and what supervision characteristics are essential to ensure pretrial success? There is minimal evidence to suggest if supervision contacts or dosage, as well as the number and type (focusing on monitoring or addressing needs) of release conditions are associated with reducing the likelihood of revocation during the pretrial stage. Further, it is unknown if the assignment to pretrial

supervision, application of release conditions, and outcomes vary by race. Overall, the field needs answers to these questions because, if most individuals are successful when released pretrial, what are the benefits of supervision and release conditions?

Most of the evidence, beyond a few RCTs demonstrating the consistent effectiveness of court reminders and the inconsistent results of drug testing, are descriptive and lack methodological rigor, conducted on relatively small samples in a limited number of jurisdictions, and the policies and practices previously examined are now outdated (Bechtel et al., 2016). A review of the most recent research indicates that with release conditions and supervision models (monitoring or needs-focused)—following a "less may be more" approach may be more effective for pretrial populations in terms of increasing community safety and court appearance outcomes. The information below highlights the evidence on pretrial supervision and two primary forms of release conditions—drug testing and electronic monitoring.

Pretrial Supervision

If applied appropriately, pretrial supervision is perceived as a practice that may lead to increased court appearances and law-abiding behavior. However, one recent study used a regression discontinuity design to estimate the impact of supervision and supervision levels (e.g., intensity) on pretrial outcomes. The results suggest that supervision did not significantly impact court appearance and pretrial arrest. In other words, individuals who received no supervision were just as likely to appear to court and avoid arrest as those who were supervised. Further, when comparing supervision levels, there was no significant difference in these outcomes, regardless of the variation in supervision intensity (Valentine & Picard, 2023). Older studies have reached similar conclusions. One study with over 3,900 people released pretrial in Colorado and Virginia found that both those who were and were not supervised had the same arrest-free rate at 76 percent, indicating no difference between the groups (Lowenkamp & VanNostrand, 2013). Another study of 3,200 individuals released pretrial in Philadelphia found that both monitored and unmonitored groups had a similar arrest-free rate of 87 percent (Goldkamp & White, 2006). Research has also found an association between risk level and alternatives to detention (ATD). A study on people charged with a federal offense found that low-risk individuals who were released into an ATD program were more likely to experience pretrial failure than moderate- and higher-risk (VanNostrand & Keebler, 2009). These findings demonstrate that risk level must be considered when deciding who is eligible for pretrial supervision. If risk levels are not considered, then supervision may increase the likelihood of failure for low-risk individuals.

Drug Testing

Drug testing for individuals with substance use disorders has been used to improve pretrial outcomes for this population. However, studies have not found a clear association between drug testing and improved pretrial outcomes. For example, an RCT from 1992 conducted in two counties in Arizona produced mixed results when examining the impact of drug testing on court appearances. Specifically, drug testing did not decrease FTAs in one county and increased FTAs in the other (Britt, Gottfredson, & Goldkamp, 1992). Another 1992 report for the U.S. Department of Justice found that drug testing did not reduce arrests in three of the five sites evaluated (Washington, DC; Phoenix, AZ; Tucson, AZ; Milwaukee, WI; and Prince George's County, MD (Visher, 1992)).

Furthermore, a rigorous study exploring the use of sobriety monitoring found that those who were on sobriety monitoring avoided arrests and made court appearances at the same rates as those who were not (Golub, Valentine, & Holman, 2023). Similar to the research summarized on pretrial supervision, the risk principle has application when examining outcomes associated with drug testing. Risk levels are also associated with pretrial failure and drug testing. Individuals with a low- to moderate-risk level that were given a condition of drug testing were more likely to experience pretrial failure than those who were high-risk (VanNostrand & Keebler, 2009).

Electronic Monitoring

Electronic monitoring (EM) is another common strategy that is believed to lead to better pretrial outcomes. As a result of the lockdowns associated with COVID and public health mandates related to social distancing in congregate settings, such as jails, the assignment of EM has increased substantially across the U.S., especially in larger jurisdictions, such as Los Angeles, California, Harris County, Texas, and Cook County, IL. Despite this expansion, there is limited research on the effectiveness of EM on pretrial samples, as most of the studies have been conducted on probation and parole samples. Predominantly, the pretrial studies have yielded discouraging results regarding EM's efficacy. There has not been much rigorous evidence to suggest that EM leads to improved pretrial outcomes; at best, the research is mixed and fails to be conclusive given the limitations noted (Wolff et al., 2017; Sainju et al., 2018; Belur et al., 2020). Nevertheless, evidence suggests that individuals on EM are likely to have higher revocation rates, technical evaluations, and arrests.

Further, some evidence suggests that the racial disparities observed in jail populations and pretrial detention are also observed with electronic monitoring (Cross et al., 2020). For example, a recent MDRC study compared outcomes of individuals released on special conditions (electronic and sobriety monitoring) and those on "regular" forms of supervision in four large urban jurisdictions. The findings suggest that people who were not assigned to EM were more likely to avoid arrest (76 percent) than those who were assigned to EM (67 percent) after six months (Golub, Valentine, & Holman, 2023). EM has also been found not to have an association with reductions in recidivism for domestic violence cases (Grommon, Rydberg, & Carter, 2017).

Once again, the risk principle does apply to the application and efficacy of EM. Specifically, individuals with low-risk levels and who were released with an EM condition were more likely to experience pretrial failure than those who did not have EM ordered (VanNostrand & Keebler, 2009). This association is evidence that risk levels should be considered when mandating EM for individuals, and broad applications of this practice should be avoided.

Lastly, a large-scale study from Cook County, Illinois, that used instrumental variables analysis by leveraging the quasi-random assignment of judicial officers compared the effectiveness of EM relative to release or detention on pretrial misconduct, case outcomes, and recidivism. Additionally, the analytical strategy included conducting a two-stage least squares analysis and estimating marginal treatment effects. Collectively, the results were mixed when examining the results relative to release or relative to detention and varied depending on the analytical approach. For example, when examining the impact of EM relative to release, the findings suggest that EM reduced failure to appear. However, when

comparing EM relative to detention, EM was found to increase failure to appear. When examining EM relative to release on new pretrial cases, mixed results were observed based on the analytical approach. The two-stage least square results indicated an increase in the likelihood of a new pretrial case, including for both low-level and serious cases and violations. However, these findings were not sustained when examining marginal treatment effects. These inconsistent and mixed findings were also observed when comparing the EM group relative to detention and varied based on the analytical approach (Rivera, 2022). Overall, EM's efficacy is questionable, and the research examining the effectiveness of EM on pretrial populations does not appear to suggest a consistent improvement in pretrial outcomes.

The current study aims to provide additional descriptive evidence on the assignment, effectiveness, and equity of pretrial supervision and release conditions.

Research Questions

The research questions for the current study are as follows:

- What is the profile of defendants placed on pretrial supervision?
- Does race-based disparity exist in revocation rates?
- What are the revocation rates by PTRA supervision level, and do these vary by race?
- Is there a relationship between the number of supervision contacts and revocation?
- Is there a relationship between the number of release conditions and revocation?
- Is there a relationship between release conditions type (location monitoring, drug testing and treatment, employment, and education) and revocation?

Data & Methods

The data for this study come from a larger study of the disparity in recommendations for detention between White and Black defendants in U.S. district courts (see Skeem, Montoya, & Lowenkamp, 2022). More specifically, the data for the current study include all cases that were released and granted pretrial supervision between 2015 and 2019. These criteria led to a sample size of 65,558 observations. Following the criteria used in previous research, the sample was limited to White and Black defendants (see Skeem & Lowenkamp, 2016; and Skeem, Montoya, & Lowenkamp, 2022).

Data on the total PTRA score and the associated PTRA categories were missing on 9 percent of the sample. To address this issue of missing data, we used multiple imputation using chained equations. This process addressed the issue of missing data on the PTRA and allowed us to use the complete sample in the multivariate analyses.

The measure of interest in this study is the race of the defendant. Because there are only two races in this study, the variable capturing this construct is labeled as "Black," with one indicating a Black defendant and a value of zero indicating a White defendant. Male is coded as one for males and zero for females. Age is the number of years old, and earned income is the average monthly dollar earned. The type of offense is captured through a series of dummy variables where a value of one represents the presence of that particular offense, and a value of zero indicates the defendant was not charged with that type of offense.

The PTRA category, rather than the PTRA score, is used in this study. The referent group is PTRA category I. The other categories are represented by dummy variables that are coded such that the risk category for each defendant is captured. The coding for the PTRA risk category is mutually exclusive.

The last block of variables used in this study captures some aspects of a defendant's experience on supervision. The number of conditions is measured as the number of conditions imposed at release. The average number of monthly contacts is the total number of contacts during the period of release divided by the total number of months a defendant was on release. Education, employment, drug testing and treatment, and location monitoring are all captured as dummy variables, with the presence of a condition represented by a value of one and the absence of a condition with a value of zero.

Analyses include bivariate and multivariate models to test the research questions listed in the previous section. Specifically, for categorical and dichotomous measures, bivariate tests and simple cross-tabulations were constructed. Significance was determined using chi-square values. For continuous measures, t-tests were used to determine each measure's significance and the average value by race. Multivariate models were constructed and estimated using an iterative process. This iterative process started as a bivariate model only containing whether the defendant is Black. A model was then constructed that

included other demographics (age and sex), case characteristics (release recommendation and offense characteristics), risk (PTRA categories), and characteristics of supervision (frequency of contacts, the number of conditions, and type of conditions).

The results of the regression analyses are reported as risk ratios rather than coefficients. Risk ratios are somewhat easier to interpret and represent the relative increase or decrease in the likelihood of an event occurring. A risk ratio of one indicates that a measure does not impact the likelihood of an event occurring. A risk ratio over one indicates that a measure increases the likelihood of an event occurring, and a risk ratio less than one indicates that the measure decreases the likelihood of an event occurring. For example, if being male produces a risk ratio of 2.5, then males are 2.5 times more likely than females to experience an event (say, rearrest). Conversely, if being female produces a risk ratio of .5, that can be interpreted to mean that females are half as likely as males to experience an event (rearrest for a violent offense).[2]

Findings

Table 1 contains the statistics that provide a profile of those released pretrial (Research Question 1) and the revocation rates by race (Research Question 2). The typical defendant has a PTRA score of 5.88 (which equates to a PTRA category of I), is 40.29 years old, and has an earned monthly income of 2,098 dollars. In terms of education, the typical defendant has a high school diploma, has attended a vocational school, or has attended some college. Most defendants are unemployed and do not own their residences. Most defendants are charged with a financial offense, although those charged with a drug offense produce a percentage (31%) close to that for financial offenses. Finally, 9 percent of the sample is revoked from pretrial release.

Table 1 also clearly demonstrates that Black and White defendants differ along several important constructs. Black defendants have, on average, a significantly higher PTRA score than do White defendants (6.73 & 5.17 respectively). White defendants are older and have higher education attainment and a significantly higher income. White defendants are also more likely to own their residence. The two groups demonstrate equal levels of employment. This finding might be because the sample in this study includes

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[2] These values are hypothetical.

TABLE 1.
Description of the Sample

	All		White		Black	
	N	Mean (SD)/%	N	Mean (SD)/%	N	Mean (SD)/%
PTRA Score*	59,656	5.88 (2.72)	32,590	5.17 (2.65)	27,066	6.73 (2.56)
Earned Income*	65,558	2,098 (28,821)	36,374	2,599 (24,007)	29,184	1,475 (33,868)
Age*	65,558	40.29 (13.24)	36,371	43.17 (13.66)	29,184	36.69 (11.75)
Education Attainment*						
Less than High School or GED	15,688	24.98	6,916	19.95	8,772	31.17
High School, Vocational, Some College	34,240	54.52	18,428	53.16	15,812	56.19
College Degree	12,879	20.51	9,324	26.90	3,555	12.63
Own Resident*						
No	42,483	71.86	20,247	61.67	22,236	84.57
Yes	16,640	28.14	12,583	38.33	4,057	15.43
Employed						
No	36,401	55.52	20,108	55.28	16,293	55.83
Yes	29,157	44.48	16,266	44.72	12,891	44.17
Financial Charge*						
No	41,798	63.76	22,303	61.32	19,495	66.80
Yes	23,760	36.24	14,071	38.68	9,689	33.20
Violent Charge*						
No	62,743	95.71	34,935	96.04	27,808	95.29
Yes	2,815	4.29	1,439	3.96	1,376	4.71
Firearms Charge*						
No	57,729	88.06	33,631	92.46	24,098	82.57
Yes	7,829	11.94	2,743	7.54	5,086	17.43
Sex						
Male	47,914	73.09	26,588	73.10	21,326	73.07
Female	17,644	26.91	9,786	26.90	7,858	26.93
Revocation						
No	59,599	90.91	33,018	90.77	26,581	91.08
Yes	5,959	9.09	3,356	9.23	2,603	8.92
PTRA Category*						
I	20,256	33.95	14,730	45.20	5,526	20.42
II	14,663	24.58	7,795	23.92	6,868	25.38
III	13,690	22.95	5,990	18.38	7,700	28.45
IV	8,234	13.80	3,142	9.64	5,092	18.81
V	2,813	4.72	933	2.86	1,880	6.95

*p-value ≤0.001

those defendants released pretrial. Having employment might be an influential factor in deciding who is released and who is detained.

The percentage of defendants charged with each type of offense listed in Table 1 also varies significantly by race. The differences observed for financial and violent offenses are small in magnitude. For firearms offenses the difference is considerably larger, with Black defendants on pretrial release being over twice as likely to have charges for firearms offense when compared to White defendants.

The distribution of PTRA categories differs by race. The most common PTRA category for Black defendants is PTRA category III. The most common PTRA category for White defendants is PTRA category I. Across the PTRA categories White defendants tend to be concentrated at the lower end of the scale. The distribution of Black defendants seems to be fairly even across the first three categories, with smaller percentages in the higher risk categories. However, the likelihood of being classified in PTRA category IV or V is higher for Black defendants compared to their White counterparts.

Of note, Table 1 provides a test of whether revocation varies by the defendant's race (Research Question 2). The chi-square testing indicates no statistical difference in revocation rates between White and Black defendants. The revocation rate for Black defendants is 8.92, and that for White defendants, 9.23, does not differ significantly ($\chi2(1, 65,558) = 1.85$, $p = 0.174$).

The third research question focuses on the PTRA and whether revocation rates by the PTRA vary by race. Table 2 contains the results of these analyses. The overall failure rates, regardless of race, increase monotonically as one moves across risk categories. Revocation rates are roughly 2 percent, 7 percent, 13 percent, 21 percent, and 28 percent for PTRA I, II, III, IV, and V, respectively.

The revocation rates across races are similar for PTRA category I, as indicated by the values of the revocation rates (2.08 and 1.72 for White and Black defendants) and the non-significant chi-square test. The revocation rates for each of the other PTRA categories differ from a statistical standpoint. Some might question the practical meaning of the differences in revocation rates across subsamples of race. However, the revocation rates for the PTRA categories I through IV are between 1.4 and 1.8 times higher for White defendants compared to Black defendants.

Why exactly these differences exist requires

speculation. Even so, these differences might be meaningful for practical reasons. Since this article is not focused on the PTRA, exploring the potential causes of differing revocation rates across the races is beyond its scope.[3] The findings reported in Table 2 provide evidence that perhaps this factor should be considered when constructing and estimating multivariate models.

Research questions four through six focus on determining the impact of race on revocation while controlling for supervision-related activities. Again, we began with a bivariate regression model and added variables to each subsequent model. Those variables included defendant demographics, officers' recommendations for release, offense-related characteristics, risk, and supervision-related measures. The supervision-related measures can be thought of as dosage (frequency of contacts and the number of conditions) and content (types of conditions).

Model 1 in Table 3 contains the results of the bivariate regression model predicting revocation with race only. As indicated and consistent with Table 1, Model 1 in Table 3 demonstrates no significant difference associated with race when predicting revocation. However, the effect of race changes when sex (male) and age are added to the model. The effect of race (black = 1) becomes significant and indicates that Black defendants are about 20 percent less likely to be revoked after controlling for age and sex.

In addition to controlling for age and sex, Model 3 in Table 3 includes whether the defendant was recommended for release. In this model sex is no longer a significant predictor of revocation; those recommended for release have a likelihood of revocation that is 50 percent of those not recommended for release, and Black defendants are about 25 percent less likely to experience a revocation.

As the number of variables added to the equation increases, it appears that the impact of race also increases (although the value for Black decreases in absolute value that indicates that the decrease in relative risk gets larger and larger). The addition of the PTRA categories, Model 4, demonstrates that risk has a large impact on whether a defendant is revoked. However, the impact of being a Black defendant also continues to play an important role in determining the likelihood of revocation.

Finally, Model 5 includes the measures mentioned above and the measures relating to a defendant's experience on supervision. In this model, the impact of the race measure indicates that net the effects of other variables, Black defendants have a likelihood of revocation that is 0.61 times that of White defendants. Sex continues to be a non-significant factor in predicting revocation, while age continues to be a significant predictor. Recommendation for release continues to be a strong predictor of revocation. Why this is the case is speculative; however, it could be that officers believe those recommended for release are less risky and, therefore, tolerance for violations is high. It could also be that officers add something to the prediction process beyond the PTRA, even within categories of the PTRA. Interestingly, firearms, violent, and sex offenses are now significantly and positively related to the likeliness of revocation. This relationship may be present, as supervision violations are tolerated to a lesser extent among those defendants on supervision for these categories of offense. Interestingly, the number of conditions is not

a significant predictor of revocation, although the number of average monthly contacts, which is higher among Black defendants, is significantly related to a reduction in the likelihood of revocation. One might argue, however, that a relationship of such a small magnitude does not reach clinical or practical significance. Finally, Model 5 indicates that only drug testing and treatment, as a condition of pretrial supervision, is associated with

TABLE 2.
Revocation Rates for Entire Sample and by Race

PTRA Category	Percent Revoked		
	All	White	Black
I	1.98	2.08	1.72
II*	6.66	8.44	4.63
III*	13.23	17.31	10.05
IV*	21.05	27.40	17.12
V*	27.55	34.41	24.15

*p-value ≤0.001

TABLE 3.
Regression Analyses Predicting Revocation

Measures	Model 1	Model 2	Model 3	Model 4	Model 5
Black	0.967	0.798*	0.759*	0.603*	0.610*
Male		1.189*	1.095	1.011	1.018
Age		0.966*	0.968*	0.993*	0.993*
Recommended for release			0.479*	0.852*	0.820*
Financial				0.888	0.916
Sex offense				1.148	1.259*
Violent				1.100	1.164*
Firearms				1.183*	1.187*
PTRA					
II				3.172*	3.090*
III				6.195*	5.839*
IV				9.645*	9.163*
V				12.202*	11.842*
Number Conditions					1.000
Average monthly contacts					0.991*
Education					0.973
Employment					1.048
Drug testing & Tx					1.260*
Location monitoring					1.031
Constant	0.092*	0.322*	0.591	0.038*	0.038*

*p-value ≤0.001

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[3] For additional information on the PTRA and testing bias, see Cohen & Lowenkamp, 2019.

an increase in the likelihood of revocation. This might be because monitoring substance use via testing provides concrete evidence of supervision violations.

Because of the interest in how revocation rates differ across races, we also wanted to determine if the impact of supervision activities on revocation differed by race. There are several variables in Table 4 where the effect varies across races. Sex, age, the offense categories, and the impact of the PTRA all vary across races. Except for age and PTRA category, the variables listed above have larger effects on revocation for Black defendants than White defendants. Age and the PTRA categories produce larger effects for White defendants than Black defendants. In some instances, these differences are sizeable (PTRA categories, sex offense, and defendant sex). In one measure, while statistically significant, the importance of that difference is questionable (age).

The effects of supervision-related variables across race categories are of greater importance and interest. As indicated in Table 4, none of the supervision-related variables differ in their impact on revocation between the races. This is a remarkable and important finding, as it indicates that, while the level of conditions, monthly contacts, and use of other conditions might differ by race, those factors mean the same thing in terms of impact on revocation. Further, most of the supervision-related factors have no impact on outcomes. The exceptions to this are the number of average monthly contacts, which is associated with a very small decrease in the likelihood of revocation and drug testing and treatment.

Discussion and Policy, Practice, and Research Implications

First, we did observe significant differences in the defendant profile characteristics by race. Higher PTRA scores (and a subsequent increase in the likelihood of a higher PTRA classification) and the frequency of firearms offenses were significantly more prevalent for Black defendants than for White defendants. Nearly 55 percent of White defendants fell into PTRA categories II through V, but almost 80 percent of Black defendants fell into these same categories.

Second, revocation rates did not differ significantly by race in the bivariate analysis (9.23 for White defendants v. 8.92 for Black defendants), and this finding persisted in the multivariate analysis after controlling for demographic characteristics, offense-related characteristics, risk, supervision conditions, and officers' recommendations for release or detention.

Third, the PTRA performed as expected. There was a consistent increase in revocation rates from 2 percent to 28 percent that coincided with the PTRA risk categories. With the exception of PTRA category I (the lowest risk level), revocation rates significantly differed by race for PTRA categories II through V. Black defendants experienced significantly lower revocation rates than their White counterparts, despite nearly 45 percent of White defendants falling into Category 1 compared to 20 percent of Black defendants.

Finally, other than drug testing and treatment, supervision conditions and the frequency of contacts did not differ across the races.

The data from this sample likely only tell part of the story, and several questions promptly emerge as a result. Why is it that a group found to be higher risk on the PTRA and with greater needs experiences the same base rate for revocations as a lower risk group? This seems to defy the risk and need principles, unless what we are observing (without the data to confirm it) is precisely what officers are trained to do—identify and mitigate risk and address needs. Or perhaps this is just as simple as recognizing that the majority of people often fare quite well and are successful during the pretrial period.

While further rigorous research is needed to tease out and evaluate these potential confounders, we lift up the following recommendations for policy and practice:

1. The risk and need principles continue to have application—identifying, understanding, and addressing an individual's challenges during the pretrial period is essential if the individual is ordered to pretrial supervision.
2. A "less is more approach" may be applicable and beneficial for pretrial supervision policies and practices. Both

TABLE 4.
Comparison of Risk Ratios Across Race

	White			Black		
	Risk ratio	95% LL	95% UL	Risk ratio	95% LL	95% UL
Male*	0.929	0.868	0.993	1.305	1.173	1.452
Age*	0.999	0.996	1.002	0.984	0.980	0.988
Recommended for release	0.806	0.750	0.867	0.840	0.773	0.912
Financial*	0.775	0.704	0.852	1.151	1.035	1.279
Sex offense*	1.160	0.997	1.348	1.754	1.302	2.363
Violent*	1.010	0.848	1.203	1.344	1.144	1.579
Firearms*	1.114	1.020	1.216	1.273	1.169	1.386
PTRA category						
II*	3.446	3.019	3.934	2.132	1.722	2.639
III*	6.444	5.639	7.364	4.064	3.312	4.987
IV*	9.752	8.481	11.214	6.587	5.348	8.114
V *	12.039	10.275	14.106	8.827	7.076	11.010
Number conditions	1.003	0.996	1.011	0.995	0.986	1.005
Average monthly contacts	0.992	0.989	0.994	0.989	0.986	0.992
Education	0.867	0.695	1.081	1.050	0.871	1.266
Employment	1.042	0.968	1.122	1.053	0.967	1.147
Drug testing & Tx	1.275	1.173	1.386	1.230	1.123	1.347
Location monitoring	1.022	0.934	1.119	1.058	0.965	1.161
Constant	0.031	0.025	0.038	0.034	0.026	0.046

* p-value ≤0.05

prior and current research suggests that pretrial supervision intensity may not be as necessary as we originally considered. Further testing of this concept is imperative, as it is also unlikely that a one-size-fits-all approach will be universally beneficial.

3. The field should be cautious about the application, or perhaps over-application, of supervision conditions and should closely monitor the dosage of these conditions, as they may not be required or be effective for the full supervision period.

4. Education and training on the impact of pretrial detention—as well as supervision conditions and intensity—are needed to correct the negative and false narratives related to bail reform and to provide the most rigorous evidence available to inform pretrial decision-making. Widespread evidence dissemination will be important for multiple audiences—especially for individuals navigating the pretrial process, the public, judges, prosecutors, policy makers, and the media.

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Supervised Release in Post-Reform New York: An Exploratory Analysis

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IN 2019, 735,000 people were held in our nation's jails. Two-thirds were held before trial, usually due to an inability to pay bail (Zeng & Minton, 2021). Several states, including New Jersey (Anderson et al., 2019), New York (Rempel & Rodriguez, 2019), and Illinois (Chicago Appleseed Center for Fair Courts, n.d.) recently changed their bail laws, eliminating the option of monetary bail for some or all charges.

Reforming a status quo in which pretrial liberty depends on whether people facing charges, their families, or friends can afford bail offers the obvious equity benefit of mitigating the criminalization of poverty. Yet, a shift away from a bail system raises the inevitable question of what judges can do when they believe the people before them pose too great a flight or public safety risk to be released without conditions.

On the more restrictive end of the spectrum, even in states and jurisdictions eliminating bail, judges retain the option to remand people (sometimes known as "preventive detention") for at least some charges or circumstances. On the less restrictive end of the spectrum, many state and local jurisdictions are investing in a range of non-monetary conditions, generally administered by local nonprofit agencies or probation departments. Such conditions can simply involve assigning people to receive frequent phone or text reminders regarding pending court dates—a strategy shown to be effective in decreasing failure to appear rates (APPR, 2021a). More intensive conditions can involve monitoring through what are known as "supervised release" programs, with or without the addition of further conditions delineating mandatory participation in services or treatment programs, such as for a drug addiction or mental health needs.

About the Current Research

Using data from New York State, a diverse state that encompasses the nation's largest city, its highly populated eastern and northern suburbs, and a varied range of small cities, towns, and semi-rural and rural areas known as "Upstate," our primary research question was:

What are the characteristics of individuals facing charges who tend to be assigned to supervised release—as distinguished on the one hand from assignment to release on recognizance (without conditions) and on the other hand to money bail or straight remand to jail.

Specifically, our data permitted examining factors related to the charge on the current case; whether the individual had another pending case at the time of their current arraignment; their demographic background; and region where the case was heard (New York City, its suburbs, or the more rural upstate region).

Given significant racial disparities in the nation's jail populations (Zeng & Minton, 2021), a second question of particular interest was whether there were disparities in supervised release assignment itself as well as whether the existence of such a program might offer courts an alternative to incarceration that lessened the likelihood of racial disparities in bail and detention:

Do pretrial conditions vary by race/ethnicity, both in simple terms and after controlling for people's other characteristics?

Finally, acknowledging the existence of three quite distinct regions in terms of culture, politics, and supervised release policies and resources (for example, New York City has by far the most well-funded program of anywhere in the state), we paid particular attention to variations in our results among the state's three regions.

We first briefly summarize the supervised release model as it exists nationwide and, in turn, in New York State. We then describe our study data and methods, results, and major takeaways regarding our questions of interest.

About Supervised Release

Since the field is only just emerging, current supervised release programs vary significantly in their policies and services and in how intensively they monitor people. But in general, supervised release programs will usually remind participants of their court dates; assist with transportation to and from court (especially important for indigent people who lack cars or live in rural areas); hold a mix

of in-person or phone check-ins (i.e., "monitoring"); administer a needs assessment and possibly a public safety risk assessment; make voluntary service or treatment referrals, and—often subject to an explicit judicial order—link people to mandatory treatment to address needs that could otherwise lead them to miss court or be rearrested (APPR, 2021b; Rempel & Pooler, 2020).

While currently spreading, supervised release is not a new innovation. For years, Washington, D.C., has operated a well-regarded system in which close to nine in ten people are released pretrial and, in most cases, assigned to a supervision regimen that varies in frequency and in the degree of required services based on people's assessed risk of re-offense (Pretrial Services Agency for the District of Columbia, n.d.). People who pose a higher risk of rearrest or who present with more significant treatment needs will tend to receive more frequent and intensive monitoring and services. Compliance and noncompliance can, respectively, trigger a "step up" or "step down" among different supervision levels. Analogously, New Jersey's statewide supervised release model relies on results of the Public Safety Assessment (APPR, n.d.), which guides assignment to any of three possible supervision levels, the most intensive of which can also include electronic monitoring (American Civil Liberties Union of New Jersey et al., 2016).

Research to date offers some support for supervised release, indicating that it does not increase rearrest rates, but does increase court attendance—and is especially effective among people otherwise least likely to attend court (APPR, 2021b; Skemer et al., 2020). Jurisdictions newer to supervised release often start with misdemeanors, expand to nonviolent felonies, and eventually serve people charged with violent felonies, the latter of whom tend to face greater requirements, on average.

Supervised Release in New York State

Effective January 1, 2020, New York State's reformed bail law required each of its 62 counties to certify a pretrial services provider and make supervised release available to every individual, regardless of current charge or criminal history (Rempel & Rodriguez, 2019). Judges could decide when to order supervised release, but county governments had to make it available to judges in any case.

Pre-bail reform, New York City had a well-funded program available to most people facing misdemeanor or nonviolent felony charges, but open to few charged with violent felonies. To accommodate a more seriously charged population under bail reform, the city overhauled its model just prior to January 2020. The result was a system of five supervision levels, where people would be assigned to a higher level based on two factors: (1) the results of a formal assessment of their likelihood of attending court and (2) the severity of the charge (NYC Criminal Justice, 2021). People assigned to Level 1 only have a single phone check-in each month; at the other end of the spectrum, people assigned to Level 5 have an in-person check-in each week. In addition, those assigned to Levels 4 and 5 participate in at least three mandatory cognitive-behavioral therapy-informed group sessions. Beyond these supervision levels, the law also granted judges the option of ordering more intensive "mandatory programming" (e.g., for drug or mental health treatment needs) that the supervised release provider would be charged with monitoring (Rempel & Rodriguez, 2020).

Outside New York City, the size and scope of available programs before 2020 remains unclear. A fair summary is that Monroe County, which encompasses the city of Rochester, New York, had a longstanding program broadly analogous to New York City's, while options in the vast majority of the state's remaining counties varied from none to small programs that could serve only limited numbers. Bearing this context in mind—and the ramification that not all counties may have had truly robust offerings by the time of the 2020 and 2021 data used for this report—the law nonetheless required an option to exist everywhere in the state. Interestingly, despite the arguably greater preparation for universal eligibility in New York City, data described below show that judges ordered supervised release in a higher percentage of cases in the suburbs.

Data and Methods

This study uses data from the New York State Office of Court Administration (OCA) on criminal court arraignments in 62 New York State counties from 2020-2021. The data are at the docket-level and include individual-level (e.g., race, gender, age) and case-level (e.g., borough of arraignment, charge at arraignment) information. The analysis includes only felony and misdemeanor cases arraigned between January 1, 2020, and December 31, 2021, that were not disposed at arraignment (i.e., continued cases).

Outcome Variable

The dependent variable examined in this study is the likelihood of receiving one of three release decisions at arraignment: 1) release on recognizance (ROR), 2) release to supervision (or supervised release), or 3) having bail set or receiving a direct remand to jail. For our analysis, we selected supervised release as the reference category. We exclude from the data any case that is released to electronic monitoring, as these are substantively different from cases released to a pretrial supervision program or to treatment services. (This exclusion accounts for barely any cases in New York City where electronic monitoring is rare, 25 percent of cases assigned to non-monetary conditions in the suburban region, and 10 percent upstate.)

Predictor Variables

In this exploratory analysis, we examine a number of case- and individual-level characteristics that are relevant to judges' decision-making around bail and release. We look at differences in release decisions across three geographic regions: New York City, Suburban NYC (counties of Nassau and Suffolk on Long Island as well as Westchester), and the rest of Upstate courts.

We include several case-level characteristics that are crucial to determining bail and release outcomes. Charge severity consists of misdemeanor, non-violent felony, and violent felony, which aligns with bail-eligibility criteria. We also include whether a case involved a domestic violence (DV) charge, whether the case involved a drug charge, whether the case involved a felony weapon/firearm charge, whether there was one or more other pending case, and whether the case was a desk appearance ticket arraignment (DAT), which signifies the arresting officer released the individual from the precinct to return on their own for a later arraignment, as opposed to taking the individual into custody until arraignment within 24 hours. Additional individual-level characteristics include gender (male or female), race/ethnicity (Black, Latino, and White), age at arrest (excluding 16–17-year-olds, most of whom are handled in the state's juvenile system), and whether the individual was a young adult (aged 18 to 24).

Analysis

We first sought to present descriptive results

showing, whether due to correlated characteristics or other reasons, differences by race/ethnicity in supervised release assignment. We then estimated a series of multinomial logistic regression models, both between-region and within-region. Multinomial logistic regression model is most appropriate for our exploratory analysis of an unordered, categorical outcome variable. Further, estimating a multinomial model rather than multiple binary logistic models allows us to estimate the relative probability of group membership.

Results

Descriptive Statistics

Table 1 shows that about two-thirds of felony and misdemeanor cases continued at arraignment in New York State in 2020 and 2021 were released on recognizance, while 12 percent were released to supervision and 22 percent had bail set or were remanded to jail. New York City, in particular, had the largest proportion of ROR (70 percent), followed by Suburban NYC (64 percent) and Upstate courts (59 percent), while Suburban NYC had the largest proportion of supervised release (14 percent), followed by NYC (12 percent) and Upstate (9 percent).

Statewide, the vast majority of misdemeanor cases were released on recognizance (80 percent), compared to around half of non-violent felony cases and just a quarter of violent felonies. In contrast, the majority of violent felony cases had bail or remand (60 percent), while non-violent felony cases had the largest proportion of supervised release (18 percent) followed by violent felonies (15 percent) and misdemeanors (9 percent).

Similarly, 78 percent of misdemeanor domestic violence (DV) cases were released on recognizance, while only 11 percent were released to supervision. The vast majority of DAT arraignments also resulted in ROR (85 percent), while only 6 percent were released to supervision. (The high ROR rate of these cases by a judge at arraignment is a logical extension of the initial arresting officer having previously released the individual at the point of arrest with an expectation to return on their own for an initial arraignment.) Among felonies, 17 percent of DV cases were released on supervision compared to 12 percent of felony weapon cases. In cases involving both felony and misdemeanor drug charges, 64 percent resulted in ROR while 13 percent were released to supervision and 22 percent had bail or remand.

Of all case and charge characteristics, supervised release was most prevalent when individuals had at least one other pending case (27 percent).

In each region individually, racial differences in release decision diverged slightly. In Upstate courts (Table 2, next page), White people had the largest proportion of ROR (49 percent) in non-violent felony cases, while Black people had the largest proportion of bail or remand (47 percent). White people also had the largest proportion of ROR (18 percent) in violent felony cases as well as the largest proportion of supervised release (12 percent). Suburban NYC (Table 3, next page) had similar patterns for violent felonies, but among misdemeanors, White people had the largest proportion of ROR (80 percent), and the Black-White gap was far larger than in other regions (10 percentage points compared to 3 in Upstate and NYC). Finally, in NYC (Table 4, next page), supervised release was more prevalent among White people (24 percent) in non-violent felony cases but more prevalent among Latino people (18 percent) in violent felony cases.

Surprisingly, bail or remand was ordered in a quarter of cases involving women, compared to just 10 percent for men; women also had a

TABLE 1.
Descriptive Statistics

	Release on Recognizance	Supervised Release	Bail/Remand
Total	66%	12%	22%
Geography			
New York City	70%	12%	17%
Suburban NYC	64%	14%	22%
Upstate Courts	59%	9%	32%
Charge Level			
Misdemeanor	80%	9%	11%
Non-Violent Felony	51%	18%	31%
Violent Felony	25%	15%	60%
Charge Type			
Misdemeanor DV	78%	11%	11%
Felony DV	36%	17%	47%
Drug Charge	64%	13%	22%
Felony Weapon	19%	12%	69%
Desk Appearance Ticket[1]	85%	6%	10%
Pending Case	51%	27%	22%
Race			
Black	62%	13%	25%
Latino	71%	11%	18%
White	68%	11%	21%
Gender			
Male	80%	10%	10%
Female	63%	12%	25%
Age Group			
18-24	67%	11%	23%
25-34	66%	11%	23%
35-54	65%	12%	23%
55+	70%	13%	17%
Median Age	33	34	33

[1] In New York State, a Desk Appearance Ticket is an arrest in which the individual is released from the police precinct to return to court on their own at a later date in lieu of being taken into custody and held in pre-arrangement detention.

slightly larger proportion of supervised release (12 percent compared to 10 percent for men).

There were minimal age-group differences in supervised release and bail or remand, except that the proportion assigned to supervised release increased slightly with age. Additionally, the proportion of ROR decreases as age increased but only until 54.

Predictors of Supervised Release

A multinomial logistic regression model was used to estimate the likelihood of receiving three categories of release decisions: release on recognizance (ROR), supervised release, and bail set or remand to jail. The reference category is supervised release, and relative risk ratios are presented in Table 5 (next page). The model also includes interaction terms of race with charge level, and DV charge with charge level.

First, we find that people outside NYC are significantly more likely to have bail set or to be remanded than to be released to supervision compared to people in NYC. In Upstate especially, people are more than three times as likely to face bail or remand. In contrast, people in NYC are more likely to be released on recognizance than to supervision compared to those Upstate and in Suburban NYC. In Suburban NYC especially, people are about 40 percent less likely to be released on recognizance than in NYC.

In terms of charge characteristics, we find

that violent felonies are almost three times as likely as misdemeanors to face bail or remand rather than supervised release and 81 percent less likely to result in ROR than in supervised release. Meanwhile, non-violent felony cases in general are 4 percent less likely than misdemeanors to have bail or remand than supervised release but are *more* likely

to receive supervised release in DV cases. In contrast, non-violent felony cases are less likely to result in ROR than supervised release compared to misdemeanors, with the odds further decreasing in DV cases.

Drug charges are about 13 percent more likely to have bail or remand than supervised release but are 13 percent less likely to have

TABLE 2.
Release Decisions by Race and Charge Level, Upstate Courts

	Release on Recognizance	Supervised Release	Bail/Remand	Total
All Charges				
Black	53%	10%	36%	34,211
Latino	61%	8%	32%	7,411
White	64%	9%	28%	36,706
Misdemeanor				
Black	72%	9%	19%	19,043
Latino	77%	6%	17%	4,453
White	75%	6%	19%	24,492
Non-Violent Felony				
Black	42%	12%	47%	9,480
Latino	48%	9%	43%	2,013
White	49%	11%	39%	9,384
Violent Felony				
Black	10%	11%	79%	5,688
Latino	11%	10%	78%	945
White	18%	12%	70%	2,830

TABLE 3.
Release Decisions by Race and Charge Level, Suburban NYC

	Release on Recognizance	Supervised Release	Bail/ Remand	Total
All Charges				
Black	57%	15%	29%	16,772
Latino	66%	13%	21%	11,956
White	70%	15%	16%	15,143
Misdemeanor				
Black	70%	12%	19%	9,365
Latino	78%	10%	12%	7,618
White	80%	10%	10%	10,687
Non-Violent Felony				
Black	48%	22%	30%	5,487
Latino	55%	22%	23%	3,158
White	50%	27%	23%	3,644
Violent Felony				
Black	18%	10%	72%	1,920
Latino	17%	11%	72%	1,180
White	27%	16%	58%	812

TABLE 4.
Release Decisions by Race and Charge Level, NYC

	Release on Recognizance	Supervised Release	Bail/ Remand	Total
All Charges				
Black	67%	13%	29%	81,248
Latino	73%	11%	15%	53,306
White	75%	13%	12%	18,145
Misdemeanor				
Black	82%	10%	7%	52,919
Latino	86%	8%	6%	36,714
White	85%	10%	6%	13,318
Non-Violent Felony				
Black	55%	22%	23%	11,703
Latino	60%	18%	22%	7,820
White	54%	24%	22%	2,677
Violent Felony				
Black	27%	16%	56%	16,626
Latino	32%	18%	50%	8,772
White	40%	17%	43%	2,150

ROR. Felony weapon charges are 71 percent more likely to have bail or remand but are 17 percent less likely to have ROR. DAT-eligible charges are 30 percent more likely to have bail or remand than supervised release and are more than twice as likely to result in ROR. Conversely, the existence of a pending case lowers the likelihood of bail or remand and of ROR compared to supervised release.

Overall, Black and Latino people are slightly more likely to have bail or remand than supervised release compared to White people (4 percent and 2 percent, respectively). Further, these differences increase in non-violent and violent felony cases, by 19 percent and 32 percent for Black people and by 21 percent and 25 percent for Latino people. In contrast, while Black people in general are less likely to have ROR than supervised release compared to White people, the gap narrows in non-violent felony cases but increases in violent felony cases. Meanwhile, Latino people are generally more likely than White people to have ROR rather than supervised release, but the difference is smaller in violent felony cases.

As descriptive statistics indicate, women are more than twice as likely as men to have bail or remand rather than supervised release and are 35 percent less likely to have ROR.

Finally, although older individuals are more likely to be released to supervision, the magnitude of difference is small (less than 1 percent). However, findings are reversed when we compare young adults (18-24) to people over 25. Young adults are 21 percent less likely to have bail or remand and 20 percent more likely to have ROR than supervised release.

Discussion

Overall, findings on the likelihood of supervised release compared to ROR and bail or remand are in expected directions. First, the finding that people outside NYC are less likely to be released to supervision than to have bail or remand aligns with the fact that NYC has had more established and robust supervised release programs since before bail reforms were implemented, which may have increased judges' confidence in the program even in more serious cases (see, e.g., Skemer et al., 2020). Subsequently, the lack of services may compel judges outside NYC to order bail or remand even in cases where supervised release is a viable option. At the same time, NYC cases were the least likely of the three regions to be released to supervision when the comparison was to ROR.

Considering all the regional differences in totality, NYC judges were more willing to use supervision in serious cases where they might have otherwise set bail, while outside the city, judges resorted to supervision even in cases where NYC judges deemed the individual to pose a sufficiently low flight risk not to require any conditions at all.

As expected, violent felony cases are much more likely to result in bail or remand than misdemeanors and conversely much less likely to result in ROR than misdemeanors. Non-violent felony cases, on the other hand, are less likely to result in bail or remand than supervised release compared to misdemeanors, except in domestic violence cases. One hypothesis is that when there is the option of supervised release in non-violent felony cases, charge severity is not the sole determining factor. Judges in these cases may give more weight to factors such as treatment needs, criminal history, and ability to pay bail than they would in violent felony cases, where they are quicker to resort to bail regardless of other factors.

Among specific charge types, judges are more likely to order supervised release than ROR for drug charges, likely because individuals in these cases have substance use or

TABLE 5.
Multinomial Logistic Regression Model Estimating Likelihood of Supervised Release Compared to ROR and Bail/Remand with Interaction Terms, Statewide

| | Release Decision (Ref=Supervised Release) | | | | | |
| | Bail/remand | | | Release on Recognizance | | |
	RRR	95% CI		RRR	95% CI	
Geography (Ref=NYC)						
Suburban NYC	1.401***	1.360	1.441	0.602***	0.567	0.636
Upstate Courts	3.345***	3.307	3.382	0.940***	0.907	0.974
Charge Level (Ref=Misdemeanor)						
Non-Violent Felony	0.958***	0.892	1.023	0.351***	0.293	0.409
Violent Felony	2.979***	2.888	3.071	0.186***	0.091	0.280
DV Charge	0.803***	0.756	0.850	0.849***	0.814	0.885
Drug Charge	1.127***	1.078	1.176	0.871***	0.828	0.913
Felony Weapon Charge	1.706***	1.638	1.773	0.837***	0.761	0.914
Desk Appearance Ticket	1.298***	1.242	1.353	2.343***	2.297	2.389
Pending Case	0.683***	0.626	0.741	0.269***	0.220	0.317
Race (Ref=White)						
Black	1.037***	0.985	1.088	0.863***	0.821	0.904
Latino	1.018***	0.956	1.081	1.153***	1.104	1.201
Female	2.264***	2.222	2.306	0.653***	0.620	0.686
Age at Arrest	0.995***	0.993	0.996	0.998***	0.996	0.999
Young Adult (Under Age 25)	0.796***	0.751	0.841	1.201***	1.161	1.241
Interactions						
Black *non-violent felony	1.192***	1.114	1.270	1.152***	1.083	1.221
Black *violent felony	1.317***	1.217	1.417	0.967***	0.864	1.070
Latino *non-violent felony	1.209***	1.114	1.303	1.060***	0.980	1.141
Latino *violent felony	1.254***	1.217	1.417	0.829***	0.716	0.941
DV *non-violent felony	1.962***	1.883	2.041	0.786***	0.713	0.859
DV *violent felony	0.908***	0.821	0.995	1.648***	1.563	1.734
Constant	0.472***	0.386	0.558	15.072***	15.001	15.143
N	274,898					
McFadden's R²	0.173					
AIC	391,007.400					

Note: *p<0.05, **p<0.01, ***p<0.001

other mental health treatment needs that supervised release programs can provide (Rossman et al., 2011). In contrast, cases involving DAT-eligible charges are much less likely to result in supervised release than either bail/remand or ROR. The finding that these cases more often receive ROR than supervised release makes sense in the context of the laws governing DAT issuance, which allows law enforcement to make custodial arrests on otherwise DAT-eligible charges if the individual has open warrants, a history of failure to appear, or medical or mental health needs (CPL § 150.20). Therefore, if a DAT has been issued without making an exception, it already signifies lower flight risk, on average; and since law enforcement left the individuals to return for arraignment on their own, it follows that judges would similarly believe no release conditions are required. More difficult to explain, however, is why judges resort to bail more than supervised release in DAT cases; it may be that their tendency to default to ROR is overcome if they deem that aggravating factors are clearly present, such as that the individual failed to appear at their original arraignment date under the DAT; in such cases, having identified significant aggravating factors, judges may then bypass supervision and skip directly to bail. However, such an explanation of greater use of bail in these cases remains necessarily speculative.

Unexpectedly, our findings on criminal history suggest that individuals with one or more pending cases are more likely to be released to supervision than to ROR or having bail set or being remanded. One hypothesis is that charge severity or the nature of the charge/charges is influencing judges' decisions in these cases. To that end, we ran a post hoc analysis interacting pending case with charge level and found that in fact, in non-violent felony cases with a pending case, the odds of being released to recognizance increase significantly compared to being released to supervision, while the odds of having bail set or being remanded conversely decline. On the other hand, violent felony cases with a pending case are much less likely to be released to supervision compared to either of the other options.

Interestingly, we found that women had higher odds of having bail or remand and lower odds of being released on recognizance, suggesting that contrary to expectations about gender differences in court outcomes, women in our sample receive more restrictive release outcomes than men. One hypothesis is that

although there are fewer women arraigned in general, a larger proportion are arraigned on more serious, bail-eligible charges; or they are more likely to be arraigned if aggravating circumstances are present for which we are unable to control.

Finally, age-related findings suggest that, in general, judges order less restrictive release options for young people, while the likelihood of being released to supervision increases with age. It is possible that older people are more likely to have medical or mental health treatment needs, and/or are more likely to experience homelessness (Peterson, 2016).

Racial Disparities

An important research question pertained to the role of racial disparities, if any, in supervised release assignment. Overall, we find that racial differences in likelihood of supervised release align with prior research on racial disparities in pretrial decision-making (Lu et al., 2022; upcoming DCJ bail report).

Reviewing the descriptive data on differential outcomes received by people from each racial/ethnic group, we should note up front the caveat that specific findings do vary by region. But in general, the data indicate that (1) Significant racial disparities exist across New York State, (2) Disparities are especially present in violent felony cases (and least so in misdemeanors), and (3) Disparities essentially entail Black people facing the most and White people the least restrictive conditions, as one goes up the ladder from ROR to supervised release to bail or remand. To illustrate the pattern with violent felony cases, which generally show the largest differences, Black people were 9 percentage-points more likely than White people to face bail or remand Upstate, 14 points more likely in the suburbs, and 13 points more likely in New York City.

However, regarding supervised release, specifically, the descriptive data alone point to barely any disparities. Instead, racial disparities mainly existed at the extremes, with Black people more likely to face bail or remand, White people more likely to receive ROR, and Latino people falling close to either one or the other two groups, varying by region and charge. Across all of our descriptive analyses, there was only one instance in which there was a substantively meaningful racial/ethnic disparity (more than 2 percentage points) in the middle supervised release category: In Suburban NYC, Black and Latino people both received supervised release 22 percent of the time compared to 27 percent for White

people in nonviolent felony cases; and Black and Latino people received supervised release 10 percent and 11 percent of the time, respectively, compared to 16 percent for White people in violent felony cases. For all other regions and charge severities, disparities in supervised release assignment (at least in the descriptive results) were non-significant and/or substantively negligible.

Turning to the multivariate findings, judges are more likely to order bail or remand than supervised release for both Black and Latino people compared to White people and are less likely to release Black people on recognizance, independent of charge severity. And while charge severity does significantly impact the magnitude of disparities, our findings suggest that ultimately, Black and Latino people receive more restrictive release options than White people. The finding regarding Latino people is especially notable, because before controlling for other characteristics, Latino people showed somewhat inconsistent results in the descriptive analysis. The multivariate findings make clear that, like Black people in New York State, Latino people are also significantly more likely than White people to face the most restrictive condition of bail or remand.

These findings mean that while, perhaps, the spread of supervised release programs could potentially offer judges a new option they would use in cases for which they previously set bail, thereby mitigating racial disparities in bail-setting, that was not the outcome obtained in the present analysis. Supervised release offered an intermediate option potentially reducing bail/remand for all people, but we did not detect evidence that it mitigated disparities by race/ethnicity.

Conclusion

Supervised release is an important tool available to judges and courts in New York State as an alternative to the more restrictive options of bail setting and/or remand to jail while individuals await trial. It is particularly important for those individuals who require more intensive programming or treatment services and would otherwise not receive it either in custody or in the community and for whom such services would advance the interests of both justice and public safety. Reforms to New York State's bail laws, which went into effect in 2020, mandated the expansion of supervised release, but while supervised release programs have been well-funded and used in New York City even prior to reforms, this has not been

consistently true in other parts of the state.

The current study provides insight into New York State's judges' propensity to order supervised release in lieu of setting bail or remanding individuals to jail, and compared to releasing individuals on recognizance, and how this varies by case characteristics and demographic background. While our overall findings on the odds of individuals being released to supervision as compared to ROR and having bail set or being remanded were in the expected direction, we found interesting divergent results after controlling for charge, criminal history, and gender.

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The Outcomes of a Pretrial Diversion Program in Texas[1]

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IT IS WELL-DOCUMENTED that the United States has a large number of people under correctional control, including those subject to both institutional and community supervision (Kluckow & Zeng, 2022). Such individuals can experience many negative consequences, and may be subjected to long sentences (Mauer, 2018). Incarcerated persons are stripped from their communities, including family and other supportive resources, while those on probation and parole must comply with multiple conditional requirements (Klingele, 2013). Additionally, community sanctions often function as delayed levers to prison (Phelps, 2020). The colossal number of people under criminal justice supervision creates an overwhelmed and burdensome system that frequently does more harm to justice-involved individuals than good. One method intended to reduce these consequences is the implementation of pretrial diversion programs.

Diversion programs aim to reduce constraints on the criminal legal system and lessen negative personal consequences by shortening the amount of time individuals remain justice-involved. Pretrial diversion programs intend to decrease the number of individuals processed formally through the criminal justice system (Greene & Madon, 2014). While

the goal of pretrial diversion is well-known, the specifics of how such programs operate and their impact on program participants are less clear. Somewhat unknown are details about those who participate and successfully complete pretrial diversion programs. In this study, we address these questions by examining a pretrial diversion program in one Community Supervision and Corrections Department (CSCD) in Texas. We analyze the personal and criminal case characteristics of pretrial diversion participants at this CSCD and explore the relationship between such attributes and program success. Pretrial diversion programs can have real benefit to decrease further justice system involvement, as well as in some cases avoid a conviction (Ulrich, 2002). Given the potential benefits, it is critical to explore outcomes of such programs. If individuals are successful in these programs, they should be expanded; if not, then modifications may need to be proposed.

Background

Diversion programs are known as "front-door" programs working with individuals in the early stages of the criminal justice process in hopes of preventing further involvement and future incarceration (Latessa & Lovins, 2019). Diversion programs, as originally conceived, were to provide more individualized rehabilitative services that would "eliminate criminogenic stigma associated with lengthy adversarial proceedings and ensuing convictions" (Matthews, 1988; p. 191). A quasi-experimental design study on pretrial diversion programs found

positive results in the avoidance of criminal convictions among the pretrial diversion participants (Davis et al., 2021). Pretrial diversion programs also decrease stress on the system. A mixed methods study found that staff time as well as fiscal resources were saved in the studies of pretrial programs (Zlatic, Wilkerson, & McAllister, 2010).

The types of populations served, services offered, and length of pretrial diversion vary among jurisdictions, making it difficult to conduct large-scale studies of these programs. Despite diversion's rehabilitative roots, some diversionary programs became more punitive during the "Get Tough on Crime" era of public policy. Around this same time frame, diversion programs experienced budget cuts and thus instituted fees to shift service costs onto participants (Matthews, 1988). The use of pretrial diversionary programs has failed to fully launch within the legal system (Zlatic et al., 2010), but there are pretrial diversion programs in the majority of states. According to the National Conference of State Legislatures (2017), 48 states along with the District of Columbia have statutory pretrial diversion programs. It is important to evaluate predictors of pretrial diversion success and to explore if success varies by demographic characteristics.

There is some limited research available that shows demographic differences may influence who is offered pretrial diversion. One study using data from court processing statistics found that Black defendants had lower odds of receiving pretrial services than White defendants. This same study also

found that younger defendants (24 years and younger) had higher odds of receiving pretrial diversion than those 25 years of age and older (Schlesinger, 2013). In survey research of prosecutors and defense attorneys, both legal and extralegal factors were found to significantly influence whether these attorneys would recommend diversion to the court. Interestingly, 58 percent of prosecutors in this survey said an individual's background and ties to community would influence their decision on whether they recommended pretrial diversion (Alarid & Montemayor, 2010). Thus, the existing research highlights that demographic differences can be seen in who is offered pretrial diversion. In this current study, we explore whether there are demographic differences in who successfully completes a pretrial diversion program in one CSCD in Texas. Specifically, we ask the following research questions: 1) Who is on pretrial supervision? 2) What are the outcomes of individuals on pretrial diversion? And 3) Who is more likely to succeed on pretrial diversion?

Methods

Data were extracted from administrative records of an adult CSCD (i.e., probation department) serving an urbanized (U.S. Census Bureau, 2010) county in Texas. The sample for this study includes all individuals participating in a pretrial diversion program with this CSCD department between 2012 and 2020. Individuals with multiple records were dropped from the analysis, as were those still on active supervision. The final sample contained data from 8,642 pretrial diversion participants. Demographic, offense, and supervision information for each participant was included in this study.

Measures

Demographics
Age. The age of each participant was calculated based on their date of placement in pretrial diversion. This is the age of each person at the start of the diversion program. Age was calculated using the date of birth and placement date contained in probation agency records. Responses ranged from 17 to 81 years old.

Gender. The gender of each participant as reflected in probation records. Only male (0) and female (1) categories existed, so that is what was used for analysis.

Race. The race of each participant was as described in their probation record. Initially, individuals were classified as White (98.3%), Black (0.5%), Asian or Pacific Islander (0.3%),

Native American or Alaskan (0.1%), or unknown/other (0.8%). Due to the small number of individuals who fell into each minority group, participants were grouped into White (0) and Non-White (1) categories for analysis.

Ethnicity. The ethnicity of each participant was recorded in the person's probation record as Hispanic (97.0%), non-Hispanic (1.8%), or Other (1.2%). Due to a lack of detail concerning what "Other" entailed, that group was dropped from our analyses. Thus, the final variable for this measure was coded as non-Hispanic (0) or Hispanic (1).

Employment Status. Probation records captured if the individual was employed or unemployed at intake, which would have occurred shortly after the person's assignment to the pretrial diversion program. The final variable for this measure was coded as Employed (0) or Unemployed (1).

Citizenship. This measure reflected if the individual was a U.S. citizen at intake. This measure initially recorded each person's country of citizenship. The most prevalent country of citizenship for diversion participants other than the United States (86.6%) was Mexico (12.9%). Other countries that were also represented from several regions of the world include Central and South America, the Caribbean, Europe, and Africa. For analysis, this variable was coded as a U.S. Citizen (0) or Non-U.S.-Citizen (1).

Marital Status. Each participant's marital status was captured at intake. Initially this variable had responses of Married, Divorced, Separated, Single (never married), Widowed, and Common Law Partner. For analysis, these categories were collapsed to: Married or Partnered (1); Divorced, Separated, or Widowed (2); and Single (3).

Number of Dependents. This is the number of dependents for which participants reported at intake that they were financially responsible. This could have included adults as well as children. Responses ranged from 0 to 21, with a mean of 1.6 and standard deviation of 1.4.

High School Completion. Participants reported whether they had received a high school diploma or equivalent (ex: GED) at intake. This variable was coded as completed high school (0) or did not complete high school (1) for analysis.

Criminal Justice Variables
Offense Seriousness. This variable reflects the seriousness of the offense associated with

an individual's pretrial diversion. Initially responses included the level and degree of the associated offense. This was recoded to reflect only the offense level for analysis; thus, the final variable was coded as misdemeanor (0) or felony (1).

Offense Type. This variable reflects the type of offense associated with an individual's pretrial diversion. Probation records included the Texas penal code and related description, which we coded to create this variable. Each offense was categorized as either a person (assault, battery, child endangerment, accident involving injury, etc.), property (theft, burglary, criminal mischief, accident involving property damage, fraud, graffiti, etc.) weapon (deadly conduct, exhibiting firearm, prohibited weapon, unlawful possession of a weapon, unlawful discharge, etc.), sex (indecency/indecent exposure, prostitution, solicitation of a minor, public lewdness, sexual assault, etc.), drugs or alcohol (possession of paraphernalia or illicit substance, intent to distribute, DUI/OWI, sale to minors, etc.), or other (driving on a suspended license, cruelty to animals, giving false identification, evading arrest, obstruction, retaliation, racing on a highway, reckless driving, bribery, etc.). These categories were collapsed into four types based on the number of individuals in each group. Person, weapon, and sex offenses were combined into a single category for the final analysis; this was done to denote "violent" offenses and because of the small number of individuals in each category (i.e., person vs. weapon vs. sex) compared to the other categories available. The final variable used for analysis was coded: (1) Drug/Alcohol, (2) Property, (3) Violent (Person/Sex/Weapon), or (4) Other.

Supervision Outcome. This was the dependent variable and recorded the status of each individual's case upon termination from the pretrial diversion program. Initially this variable included four categories—completion of pretrial diversion, death, transfer, and violation of conditions (denoting unsuccessful completion). Due to the small number of total individuals who died or were transferred (n=25), participants who fell into those two categories were excluded. Therefore, the final variable used in regression analysis was coded as either (1) completion of pretrial diversion (i.e., successful) or (2) violation of conditions (i.e., unsuccessful).

Time on Supervision. This variable was created by subtracting each individual's termination date from their placement date. This allowed us to calculate the number of months

each person participated in the pretrial diversion program. Participation ranged from 0 to 29 months (2 years 5 months), with a mean of 8.2 months and standard deviation of 5.0 months.

Court-Appointed Attorney. Whether or not an individual used a court-appointed attorney was retrieved from probation records to create this variable. This variable was coded as (0) private attorney or (1) court-appointed attorney.

Results

Regarding our first research question, many individuals in this county who participated in pretrial diversion were male (70 percent), White (99 percent) and Hispanic (98 percent), employed (78 percent), U.S. citizens (86 percent), who possessed a high school diploma or equivalent (69 percent). The average age of participants was about 26 years old (sd=9.3), and most had never been married or in a domestic partnership (71 percent). On average, participants reported responsibility for 1-2 dependents. Additionally, most participants were charged with misdemeanor crimes (81 percent) and did not use a court-appointed attorney (83 percent). On average, individuals participated in pretrial diversion for about 8.2 months (263 days) and had engaged in drug- or alcohol-related offenses (73 percent) (driving under the influence; manufacturing, possession, or delivery of a controlled substance; intent to distribute; selling alcohol or tobacco to minors; etc.).

Overall, the demographic characteristics of pretrial diversion participants are similar to the general makeup of adult probationers in the sample county during the years examined, which the authors examined in a separate study (forthcoming). The high percentage of White-Hispanic participants reflects the overall population makeup of the sample county, which is majority White and Hispanic according to 2020 U.S. census data. The general adult probation population also reflects such characteristics in this jurisdiction. However, compared to the general adult population of this county, a higher percentage of pretrial diversion participants are employed and have high school diplomas.

In answer to our second research question, probation pretrial diversion records for this study indicated that most participants fell into two categories—they either successfully completed pretrial diversion (about 90 percent) or were unsuccessfully terminated due to a violation of the program conditions (about 10 percent). A small minority were transferred

(0.2 percent) or died (0.1 percent) during their time in the program instead. Violations were associated with several status changes including absconding, deportation, incarceration, and new charges being filed.

Our third and final research question asks who is more likely to succeed on pretrial diversion. Our analyses examine the impact of a variety of demographic and criminal justice characteristics on an individual's chance of successfully completing pretrial diversion. Due to the small number of individuals whose diversion participation ended when they transferred or died, we limited our regression analysis to include only those who either successfully completed diversion or violated their conditions.

Prior to conducting the logistic regression, we ran several preliminary and descriptive tests comparing successful vs. unsuccessful participants in completing pretrial diversion. Table 2 (next page) displays descriptive statistics for each variable included in the logistic regression separated by diversion outcome. Chi square, t-test, and ANOVA statistics were calculated to examine the significance of differences present between the two groups as shown in the table. Results indicated that individuals who successfully completed pretrial diversion were significantly different from those who violated their conditions on all variables tested except for ethnicity. To further explore these differences, a logistic regression was conducted.

To determine the effects of demographic (age, race, ethnicity, high school completion, employment, marital status, number of dependents, citizenship) and criminal justice (supervision length, offense seriousness, offense type, and having a public defender) variables on pretrial diversion completion, we performed a logistic regression. Results are displayed in Table 3 (next spread). We first tested how the demographic variables included in this study impacted an individual's chance of successful completion, then added criminal justice variables to the model. Both models were statistically significant (Model 1: X2=252.25, p=0.000; Model 2: X2=549.10, p=0.000). The final model including all variables explained about 17 percent of the variance in diversion completion and correctly classified about 88.2 percent of cases.

In both models, age, gender, employment, and citizenship significantly predicted pretrial completion. Specifically, those who were older, female, employed, or a non-U.S. citizen had significantly higher chances of successfully completing diversion than individuals who

were younger, male, unemployed, or U.S. citizens. Every year increase in age was associated with a 5 percent decrease in an individual's odds of unsuccessful completion. Females were significantly less likely to unsuccessfully complete pretrial diversion than males, while unemployed persons were significantly more likely to unsuccessfully complete pretrial diversion than those employed. Likewise, non-U.S. citizens were significantly less likely to unsuccessfully complete pretrial diversion than U.S. citizens. In Model 1, ethnicity, having a high school diploma, and being divorced/separated/widowed were also significantly associated with diversion completion. Those who were Hispanic, or had a high school diploma, or were married/partnered were more likely to successfully complete diversion than those who were non-Hispanic, divorced/separated/widowed, or did not complete high school. However, these variables became non-significant in Model 2.

TABLE 1.
Sample Characteristics

Supervision Outcomes	
% Successfully Completed Pretrial Diversion	89.6
% Violated Conditions	10.4
Demographics	
% Female	30.1
% Non-White	0.8
% Hispanic	98.2
% Unemployed	22.2
% High School Diploma	68.6
% US Citizen	86.5
Marital Status	
% Married or Common Law Partners	21.0
% Divorced, Separated, or Widowed	7.8
% Single/Never Married	71.2
Average Age	26.1
Average Number of Dependents	1.6
Criminal Justice Variables	
% Felony	19.0
% With Court Appointed Attorney	16.9
Offense Type	
Violent (Person, Sex, Weapon)	6.0
Property	16.3
Drug or Alcohol	72.5
Other	5.1
Average Months on Supervision	8.2

Adding criminal justice variables in Model 2 slightly increased correct classification of cases from 87.8 percent to 88.2 percent. Pseudo-predictors of dependent variable variance (Negelkerke R2 statistic) also increased from Model 1 (R2=0.08) to Model 2 (R2=0.18). Thus, the inclusion of criminal justice predictors into our analysis in addition to known demographic characteristics associated with criminal justice involvement appeared to improve our model. We found that all variables added to our analysis in Model 2 (months on supervision, offense seriousness and type, and having a court-appointed lawyer) were significantly associated with successful completion of pretrial diversion. Specifically, those under pretrial supervision for longer periods, with a felony offense, or with a court-appointed lawyer were significantly more likely to unsuccessfully complete diversion. Of note is our finding that individuals with a felony offense were 5.17 times more likely to unsuccessfully complete pretrial diversion compared to those with a misdemeanor. Further, individuals who used a court-appointed lawyer were 1.47 times more likely to complete diversion unsuccessfully than those with a private attorney. However, compared to individuals with drug and/or alcohol offenses, those with property offenses, violent offenses (i.e., person, sex, or weapon offense types), or "other" offenses were significantly less likely to complete diversion unsuccessfully.

Discussion

This study provides a snapshot of the characteristics of pretrial diversion participants in one county in Texas and the impact of these characteristics on diversion outcome. The CSCD agency examined serves a county that is quite racially homogenous. This county was identified by the U.S. Census as majority white and Hispanic. This demographic is also reflective of who is on probation; thus, we did not uncover racial disparities. Diversion is primarily for individuals who are assessed at low-risk and have committed minor offenses (Latessa & Lovins, 2019). Thus, it would be expected that risk factors associated with future offending, such as unemployment and low educational achievement, would be less prevalent among pretrial diversion participants. This is consistent with our results, as most participants were employed high school graduates who had committed a misdemeanor offense. Further, as reported in the literature review, attorneys heavily weigh an individual's ties to the community (Alarid & Montemayor, 2010) when considering recommending diversion. Active employment could signal community ties. Relatedly, individuals on pretrial diversion reported responsibility for approximately two dependents on average (slightly higher than the average for the general probation population of this county), which could also be suggestive of existing community ties. Further, pretrial diversion is also meant to be short term (Latessa & Lovins, 2019). This is consistent with the less than one-year (about 8 months on average) individuals in the sample spent on pretrial diversion. Interestingly, though increased age and marriage are associated with lower chances of re-offending, most pretrial diversion participants in our sample were single young adults.

In answering our second research question we found that most individuals in this sample successfully completed the pretrial diversion probation. With the third question, we see some differences in completion by demographics. Individuals who were employed had significantly higher odds of completing than individuals who were unemployed. Specifically, in our final model, unemployed individuals were almost one and half times more likely to unsuccessfully complete pretrial diversion than those who were employed. Age also mattered; in this sample older individuals were more likely to be successful. As individuals aged, their likelihood of success increased.

From this sample, pretrial diversion appears to have the most success with individuals who have fewer barriers and potentially more resources. For example, unemployed individuals and those who use a court-appointed attorney (signaling a low-income background) have higher odds of unsuccessfully completing this pretrial diversion program. Future research is needed, however, to understand why these groups are more likely to be unsuccessful. As noted in previous literature, the cost of diversion often falls on the clients (Matthews, 1988). A barrier to success may be that some individuals are not able to afford required diversionary services (ex: drug/alcohol treatment and/or monitoring), then stop attending, and are consequently violated for absconding. Aside from the financial piece, individuals with multiple

TABLE 2.
Descriptive Comparisons of Successful vs. Unsuccessful Pretrial Diversion Participants

	Successful Completion of Pretrial Diversion	Unsuccessful Completion – Violated Conditions
Demographics		
% Female**	31.4	19.4
% Non-White*	0.7	1.5
% Hispanic	98.3	97.6
% Unemployed**	20.7	35.5
% High School Diploma**	69.4	61.7
% US Citizen**	86.0	91.9
*Marital Status**		
% Married or Common Law Partners	21.3	18.1
% Divorced, Separated, or Widowed	7.9	6.4
% Single/Never Married	70.8	75.5
Average Age**	26.4	23.2
Average Number of Dependents**	1.6	1.4
Criminal Justice Variables		
% Felony**	17.7	29.6
% With Court-Appointed Attorney**	15.9	25.6
*Offense Type**		
Violent (Person, Sex, Weapon)	6.2	4.7
Property	17.3	8.1
Drug or Alcohol	71.2	84.6
Other	5.4	2.7
Average Months on Supervision**	8.4	6.2

*p<0.05, **p<0.01

barriers could be experiencing other challenges that make it difficult for them to comply with diversion, such as transportation constraints or needing to prioritize finding employment. These findings highlight a need for further investigation to fully understand the explanations for these differences.

The benefits of pretrial diversion programs are that they are short by design and can prevent further involvement in the criminal legal system (Greene & Madon, 2014). While they often do not fully reduce the collateral consequences of legal system contact, at a minimum they can reduce some of the collateral consequences and stigma from more severe, prolonged contact. Seeing individuals do well in pretrial diversion is good for them and for the criminal legal system. However, if those who do well are likely to have more resources and connections to the community than those who are unsuccessful, then there are unequal consequences of punishment. A comprehensive qualitative study highlights how the experience and consequences of criminal legal involvement often differ based on one's class and privilege (Clair, 2020). This pretrial diversion program may be producing similar results. Individuals with greater resources may be able to more easily access pretrial diversion and therefore more quickly exit the justice system, whereas individuals with less resources face prolonged involvement and are thus pushed further upstream to more severe consequences. This suggests another area of research to explore further: What happens to individuals who do not successfully complete pretrial? Similarly, what happens long-term to individuals who *do* successfully complete pretrial diversion? Gittner and Dennis (2022) write that there is disconnect in the "outcome of diversion" (p. 188). They recommend that greater attention be given to what happens after participation in diversion programs ends. Examining outcomes beyond recidivism for pretrial diversion participants can help us better measure whether individuals become contributing, productive, community members post-diversion. Future research may want to longitudinally explore how diversion participants fare, including examinations of both those who successfully complete diversion and those who do not.

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TABLE 3.
Logistic Regression Results Predicting Successful vs. Unsuccessful Completion of Pretrial Diversion

	Model 1		Model 2	
	Odds Ratio	Standard Error	Odds Ratio	Standard Error
Age	0.95**	0.01	0.95**	0.01
Non-White	2.21	0.50	2.43	0.52
Female	0.51**	0.10	0.62**	0.11
Hispanic	0.52*	0.32	0.60	0.33
No High School Diploma	1.41**	0.09	1.19	0.09
Unemployed	1.71**	0.09	1.47**	0.09
Divorced, Separated, or Widowed	1.44*	0.18	1.34	0.19
Single	1.03	0.12	1.01	0.13
Number of Dependents	1.07	0.04	1.07	0.04
Not a US Citizen	0.56**	0.16	0.64*	0.16
Months on Supervision			0.89**	0.01
Felony			5.17**	0.12
Court-Appointed Lawyer			1.47**	0.10
Property Offense			0.40**	0.16
Violent Offense			0.34**	0.26
"Other" Offense Type			0.56**	0.20
Constant	0.89	0.39	1.27	0.40
	Chi Square		Chi Square	
Model Summary	252.25**		549.10**	

*p<0.05, **p<0.01

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