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Examining Judicial Pretrial Release Decisions: The Influence of Risk Assessments and Race

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ABSTRACT AND ARTICLE INFORMATION

On average, there are over 450,000 individuals in pretrial detention across the United States, despite research noting the considerable economic and social costs of these practices. Previous research on pretrial decision-making shows that legal (e.g., offense severity) and extra-legal factors (e.g., race and gender) exert a strong influence on judicial bond decisions. What is missing in the research is examination of how validated risk assessments tools influence pretrial release decisions. This study examines these relationships by using a sample of 25,617 defendants in Jefferson County, Kentucky from 2014 to 2017. Using logistic regression, the study finds that being Black, having committed a felony offense, possessing a moderate or high qualitative risk score (failing to appear and committing a new offense), and possessing a high risk of committing a new violent offense increases the likelihood of receiving a financial bond requirement for release, while being female decreases the likelihood of receiving a financial bond. Further, the study finds that interactions between race and each of the two risk assessment scores also have a statistically significant influence on pretrial release decisions. The implications and limitations of the study are also discussed.

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Pretrial detention involves the holding of arrested individuals prior to trial. The number of individuals held in pretrial detention in the United States is substantial, where an average of 451,000 persons are held daily (Rabuy, 2017). There is substantial financial cost to pretrial detention with an estimated \$13.6 billion dollars spent in the United States a year (Rabuy, 2017). In addition to financial costs, scholars note numerous social costs including the loss of employment and threats to family cohesion (Alexander, Roberts, & Palermo, 1958; Baughman, 2017). Further, pretrial detention has a negative impact on sentencing (Lowenkamp, VanNostrand & Holsinger, 2013; Oleson, Lowenkamp, VanNostrand, Wooldredge & Cadigan, 2015).

The decision to release or detain someone pretrial is made by a judicial officer, whether a judge or a court officer, using a predefined release scale, who can choose from a variety of pretrial release types and conditions. In examining the pretrial stage of the criminal justice system, one must differentiate between pretrial decisions related to release decisions and release outcomes of those decisions with regard to incarceration before trial. Judicial pretrial decisions include deciding whether the defendant is eligible for pretrial release; if eligible for release, whether to require the financial collateral of bond; and if a financial bond is required, determining the required amount. These decisions directly affect or structure the ultimate outcome of whether a defendant is released or remains in custody prior to trial. These conditions can range from release on one's own recognizance to the financial constraint of bail. When it comes to financial bail, arrested individuals must post a required amount (via cash or surety) to secure their release. Upon return for trial, this money is returned to the defendant (Liu, Numm, & Shambaugh, 2018). In effect, bail is thought to function as an economic incentive to compel appearance at trial and has a presumption of detention attached if the individual is unable to pay (Alexander et al., 1958).

Pretrial release decisions require judicial officers to balance the potential threat to their communities against powerful constraints to arrested individuals' liberty and maintain equality and equity in decision-making. Thus, making accurate pretrial release decisions are challenging (Maxwell, 1999). Further complicating the process, these highly discretionary decisions are often made quickly, with limited information, by a number of judicial actors, and subject to limited review (Clarke & Kurtz, 1983; Demuth, 2003; Goldkamp & Gottfredson, 1979). Pretrial release decisions have come under scrutiny as poor and minority arrested persons are disproportionately impacted by financial bond decisions as they are less likely to meet the court

established financial conditions of release (Dobbie, Goldin, & Yang, 2018). As a result, jurisdictions have long turned to risk assessment tools to create impartial and accurate assessments of pretrial risk (Stevenson, 2018).

In this research, we seek to examine the influence of several factors on one major pretrial decision. Specifically, this research examines the influence of how two validated risk assessment tools, current offense severity, race, and gender influence a judge's decision to impose a financial versus nonfinancial release condition. The study seeks to build on prior research by understanding how judges apply risk assessment tools while accounting for legal and extra-legal factors.

Literature Review

Pretrial detention has been the subject of substantial research. The research has examined both the decision to release as well as the effects of pretrial detention on a wide variety of outcomes (Demuth, 2003; Holsinger, 2016). There are several potential ways in which detention can shape a case's outcome. A defendant who is released may more substantially contribute to his or her own defense. Released individuals may maintain employment and thus make restitution or engage in other prosocial actions that garner favor with the trial court. Attorney consultations while incarcerated are more difficult to accomplish and may therefore be fewer in nature or shorter in duration weakening attorney – client communication. Additionally, defendants who remain incarcerated may be worn down by the experience of imprisonment and therefore more likely to accept a plea agreement (Clarke & Kurtz, 1983). The pioneering Manhattan Bail Project found that pretrial detention was related to case outcomes and that an arrested individual with strong ties to his or her community were less likely to flee while on bail. These findings fueled the call for bail reform in the United States (Phillips, 2007). Researchers have since noted the import of the pretrial phase of the criminal justice system as the down-stream effects of pretrial decisions have been linked to case outcomes as well as important aspects of arrested individuals' future existence (Bynum, 1982; Lowenkamp et al., 2013; Oleson et al., 2015).

To minimize the downstream consequences and increase the equity in pretrial decision making, risk assessment tools have been adopted to assist in pretrial decision-making. These risk assessment tools are designed to aid in understanding the risks associated with the decision to release, such as the failure to appear and the risk to the community (VanNostrand, 2007). Risk instruments present a

series of standardized questions that structure individual interviews to collect relevant information. This information is generally combined with official data (e.g., prior record), and a score is generated placing a defendant into category relative to their risk (e.g., low risk, moderate risk, or high risk; James, 2018). These tools seek to “rationalize” judicial decision making by utilizing objective criteria as the basis for release – retention decisions (Bynum, 1982). Enhanced retention-release decision making advances public safety, expedites case processing, aids in the efficient management of jail space and its associated costs, and provides structure to discretionary decisions that may reduce disparity (VanNostrand, 2003).

While a variety of concerns surround the release – detention decision, risk assessment tools focus on the potential for a defendant to fail to appear for adjudication, the likelihood of a defendant being arrested for a new offense, and the level of danger a defendant poses to a community if released (Bechtel, Holsinger, Lowenkamp, & Warren, 2017; VanNostrand, 2007). In determining risk, these assessment tools consider both static factors (i.e., those that do not change) and dynamic factors (those that may change over time; Andrews & Bonta, 1994). A variety of factors have been associated with danger to the community and court appearance. These include current charge, outstanding warrants at time of arrest, prior record, a history of failure to appear, a history of violence, residential stability, strength of ties to the community, employment history, and substance abuse (VanNostrand, 2007). The use of risk assessment tools has been found to increase both recommendations for release as well as those actually released (Cadigan & Lowenkamp 2011).

Risk assessment tools are not without limitations or critiques. The construction, validation, and administration of risk assessment tools are resource intensive. Risk assessment tools must be examined with regard to their ability to classify arrested individuals equitably. Classification instruments based on entire populations may predict dangerousness and failure to appear accurately for the population but might also disproportionately over classify those with low socio-economic or minority status (Starr, 2014). Furthermore, risk instruments’ reliance on criminal justice data, especially prior criminal history, increases the risks for minorities who are often over-policed and thus more likely to have their deviant activity detected and charged (Ferguson, 2017; Harcourt, 2015). Critics and scholars argue that a pretrial risk assessment tool that is objective and unbiased, cannot shed the upstream biases inherent in the data. Thus, the assessment tools do not eliminate the differences in the front-end of the criminal justice system that can exacerbate biases in risk instruments,

even if they have predictive validity (Berk, Heidari, Jabbari, Kearns, & Roth, 2017; Starr, 2014). Proponents of pretrial risk assessment tools, however, argue that the algorithms are better suited to reducing racial bias than relying on judges’ and prosecutors’ decision-making, where their biases are unknown (Stevenson, 2018). Research does support the use of risk assessments for reducing racial bias and predicting pretrial outcomes (DeMichele et al., 2018), although more research is needed (Stevenson, 2018). Proponents and critics agree that training regarding the proper administration of risk assessment scales is critical as scoring involves professional acumen (Latessa, Lemke, Makarios, Smith, & Lowenkamp, 2010). There is little research that examines the influence of risk assessment tools in pretrial decision-making, a gap this research attempts to fill.

Race and Gender

Over time substantial research has explored the factors that impact pre-trial decision making. Generally these factors have been categorized as legal or extra-legal factors. Legal variables encapsulate relevant legal characteristics related to the case at bar. Such factors include seriousness of the offense committed and the prior criminal record of the defendant (Demuth, 2003; Schlesinger, 2005). Extra-legal factors relate to social and personal characteristics of arrested individuals, such as race and gender (Hagen, 1974; Nagel, 1983). The impact of race upon the administration of justice has long been of interest in the United States (Myrdal, 1944). Judges hold racial stereotypes regarding minorities that could impact release decisions. For example, research has indicated that some judges perceive African Americans as more dangerous or more likely to reoffend. The influence of these stereotypes may explain some of the variation in pretrial outcomes (Demuth 2003; Demuth & Steffensmeier 2004; Schlesinger, 2005).

In an early examination of the legal and extra-legal factors on pretrial decisions, Bynum (1982) examined the effect of a risk assessment system on decisions to release arrested individuals on their own recognizance. The results indicated that current offense charges were a significant but weak predictor of being released on one’s own recognizance, whereas race and financial resources were found to have a significant impact on a defendant’s release on his or her own recognizance (ROR). With regard to race, African Americans or Native Americans were 13% less likely to receive ROR than similarly situated nonminority arrested individuals.

In subsequent research, Demuth (2003) examined the effects of race and ethnicity on pretrial release decisions and outcomes. His findings indicated that

Latinos and African Americans were more likely to be detained than Whites. In terms of pretrial decisions, Latino and African American individuals were more likely to be denied bail, and Latino defendants were less likely to receive ROR decisions than African American or White defendants.

Schlesinger (2005) examined outcomes related to denial of bail, non-financial release, and bail amount. The data examined consisted of a representative sample of state felony cases from 40 of the 75 most populous counties in the United States. The data were collected every two years and included 1990, 1992, 1994, 1996, 1998, and 2000. Analysis showed that legal variables were the best predictor of the decision to incarcerate, while race and ethnicity also impacted retention decisions. Specifically, the odds of being denied bail for African Americans increased by 25% and by 24% for Latinos as compared to Whites. The author also found that the odds of being granted a non-financial release were 25% lower for Latinos and 12% African American defendants than for Whites. Results also indicated that there are racial differences for those arrested for violent crimes. African American defendants were both more likely to be denied bail (33%) and to be granted nonfinancial release (21%) than similarly situated White defendants. No evidence of a race effect was found in the setting of bail amounts for those charged with violent felonies.

Freiburger, Marcum, and Pierce (2010) also examined racial disparity in pretrial decision making for those arrested for drug offenses in one Pennsylvania County. The authors specifically examined the impact of race on receiving ROR and amount of bail. Their findings indicated that African American defendants were less likely to receive ROR decisions and more likely to remain incarcerated prior to trial but that race was not related to bail amount. Finally, Wooldredge (2012) examined the effect of race on felony case outcomes (ROR, Bond amount, and sentence) using a sample from a large trial court in Ohio. A sophisticated analysis found that significant main effects of race of the defendant upon ROR, bail amounts, and sentences reduced to non-significance when legal factors were included in the analysis. Examination of interaction effects, however, found that even with consideration of substantial legal control variables, African American males ages 18-29 had lower odds of receiving ROR decisions, received higher bonds, and had greater odds of incarceration than other groups examined in the study.

Females are another group subject to the potential impact of judicial stereotypes effecting pretrial detention decisions. Under the notions of chivalry and paternalism, women may be seen as weaker than men and thus not suitable for imprisonment. Women may

also be considered more submissive and therefore less culpable for their crimes (Nagel & Johnson, 1994). Little research has examined the impact of gender on pretrial decisions. Generally, this limited body of research has found that females are treated with greater leniency than males (Freiburger & Hilinski, 2010).

Katz and Spohn (1995) examined impact of race and gender on release decisions regarding violent felons in Detroit. The authors found that bail decisions were largely controlled by legal factors (e.g., more serious offense, multiple charges, and prior record) and that bail amounts were not influenced by race and gender. However, race and gender were found to be significant predictors of pretrial release. Males and African American defendants were less likely to be released prior to trial. More specifically, females (both White and African American) and White males were significantly more likely to experience pretrial release than African American Males. These findings suggest that economic ability to meet an established bail amount shape pretrial incarceration.

Demuth and Steffensmeier (2004) examined pretrial decisions as well as outcomes with regard to both race-ethnicity and gender. Significant direct effects for race-ethnicity and gender were found on release outcomes. Female defendants were more favorably treated for both pretrial decisions. White defendants were treated more favorably than African American or Latinos regarding pretrial decisions and were more likely to gain pretrial release. In terms of interactions between race-ethnicity and gender, White females were most likely to experience pretrial release and to receive supportive pretrial release decisions. While Latino and African American males acquired the least favorable pretrial release decisions and were least likely to experience pretrial release respectively. The authors concluded that Whites of both genders were advantaged in the pretrial stage due to greater ability to access the financial resources necessary to pay their established bond amount.

Spohn (2009) found somewhat similar results to those of Demuth and Steffensmeier (2004). In analyzing data from three Midwestern U.S. district courts she found that White defendants were more likely to be released from custody prior to sentencing than African American defendants. Female defendants were also found to have significantly lower odds of detention than Males. Gender also exerted influence within racial categories. That is, both White and African American females experienced less pretrial detention than their same race gender counterparts. Last, with regard to the interaction between race and gender, the author found that the likelihood of pretrial detention was highest for African American males but found no statistically significant differences between African American and White females. However, a

Black arrested individual was significantly more likely than White offenders to be held in custody prior to sentencing, and males faced significantly higher odds of detention than did female offenders.

In sum, the research finds that legal and extra-legal factors influence pretrial release decisions. Legal factors, such as offense severity, tend to be stronger predictors of pretrial decision-making, yet racial disparities continue to persist. Concerns of equity of treatment in the criminal justice system and the substantial human, social, and financial costs associated with pretrial detention demand a full understanding of this decision point. What this larger body of research is missing is the role that risk assessments play in explaining pretrial release decisions when accounting for legal and extra-legal factors. The following section explains the sample, variables, and analyses used to test these relationships.

Method

The sample for this study comes from Kentucky's Administrative Office of the Courts and covers all arrested individuals who were arrested and booked in jail in Kentucky between January 1, 2014 and December 31, 2017. The data were extracted in September 2018 from records maintained by Kentucky Pretrial Services and Kentucky courts. The original dataset contains more than 1.5 million criminal cases statewide. The analysis presented in this study used a random sample of 25,614 cases from Jefferson County, Kentucky, and includes only cases in which an arrested individual was granted pretrial release by a judge following an arrest for a new criminal offense.¹ Kentucky was selected for the analyses as it differs from other states in pretrial detention in two important ways. First, the state does not have a private bail industry. Second, judges, by law, cannot detain someone only because of a threat to public safety. In other words, denial of bond cannot rest solely on the threat to the public. Jefferson County, Kentucky, was selected for the analyses because it is home to Louisville, the state's largest city. Jefferson County also accounted for 19% of all bookings statewide in 2017, and 22% of Jefferson County residents identify as Black providing a large sample to identify racial differences in pretrial detention.

The predictors included in the analyses include race, gender, offense severity, the elevated violence risk score, and a qualitative risk score. Race is measured through a single dummy variable (white=0, black=1), with the White group serving as the control group. The sample statistics can be found in Table 1, with 60.2% White and 39.1% Black. Gender is measured as a dichotomous variable (0=male,

1=female). Almost 71% of the sample were men. Offense severity examines whether the highest charge for each participant's case was a misdemeanor (0) or felony (1). It should be noted that the offense severity measure only captures the highest charge for the new arrest and thus does not capture whether there were multiple charges. Almost 57% of the sample had a new misdemeanor arrest.

The two risk assessment measures come from Kentucky Pretrial Services.² The first risk score is the "qualitative risk score," which is a validated tool that predicts appearance (no failure to appear) and safety (no new criminal activity) when a defendant is released. It should be noted that the qualitative risk score is not "qualitative" in the research sense; rather, it is an accumulation of risk factors such as age and prior criminal history. Qualitative risk score is the nomenclature used in the Administrative Office of the Courts validation study, and thus we follow suit in this manuscript. Since age is included in the risk score, it was not included as a control measure due to multicollinearity. The qualitative risk score ranks an individual as high risk, moderate risk, and low risk.³ In this study, the qualitative risk score was coded low risk=0, medium risk=1, and high risk=2.⁴ Table 1 indicates that 46.5% of the sample had a moderate risk score, while 27.6% had a low score, and 20.1% had a high score. The second risk score used is the Elevated Violence Risk Score (low=0, high=1). Kentucky Pretrial Services calculates the Elevated Violence Risk Score by recoding the new violent criminal activity risk measure (PVF) into a dichotomous measure. The PVF is based on pre-interview risk assessment questions and ranges from 0-7, where an individual scoring 4-7 is considered high. In this study, we use the dichotomous Elevated Violence Risk score. Of the sample, 86.5% were considered low risk for a new violent offense.

The dependent variable in this study is pretrial release type, specifically whether the first was released on a non-financial (0) or financial (1) bond. Non-financial bonds include release on recognizance, surety bonds, and unsecured bonds and accounted for 77.6% of the sample. Within the non-financial bond category, release on recognizance accounted for 96% of all non-financial bonds. Financial bonds accounted for 22.4% of the sample and the categories include 10% cash bond, full cash bail, partially secured bond, and property bonds. Within the financial bond category, cash bail was the most prevalent category accounting for 79% of all financial bonds.

Table 1: Sample Characteristics

Variables	Total		Whites		Blacks	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Release Decision						
Non-financial	19,875	77.6	12,094	78.5	7,647	76.4
Financial	5,739	22.4	3,319	21.5	2,362	23.6
Gender						
Men	18,149	70.8	10,400	67.5	7,629	76.2
Women	7,427	29.0	5,014	32.5	2,381	23.8
Qualitative Risk Score						
Low	7,083	27.6	4,483	29.1	2,497	24.9
Moderate	11,917	46.5	6,874	44.6	4,978	49.7
High	5,153	20.1	2,906	18.9	2,237	22.3
Violence Risk Score						
Low	22,165	86.5	13,367	86.7	8,627	86.2
High	1,979	7.7	890	5.8	1,083	10.8
Current Offense Severity						
Misdemeanor	14,471	56.5	8,835	57.3	5,518	55.1
Felony	9,994	39.0	5,810	37.7	4,113	41.1
Race						
White	15,414	60.2				
Black	10,010	39.1				

Statistical Analyses

We use binary logistic regression to understand the relationship between legal and extra-legal factors and judicial pretrial release decisions. To determine the influence of race, gender, offense severity, and the two risk scores on pretrial release decisions, two models were conducted and analyzed. The initial model demonstrates the effects of the predictors on the outcome measure (see Table 2). Given the broader concerns that risk assessment tools may themselves be racially biased (Stevenson, 2018), our second model (table 3) includes two interaction effects. The first interaction effect examines the interaction between race and the overall risk assessment score, and the second interaction examines race and the violence risk assessment score. We tested for multicollinearity and did not find any significant effects with the independent variables, where VIF was between 1 and 2 for each variable. Overall, both models were found to be statistically significant ($p < .001$).

Results

The results of the initial model indicate that all variables were found to be significantly predictive of pretrial release decisions (see Table 2). Being Black, scoring moderate or high on the qualitative risk score, high on the violence risk score, and having a felony offense all increased the odds of receiving a financial bond, whereas being female decreased the odds of a financial bond. As expected from prior research, the qualitative risk assessment tool predicting failure to appear and new criminal activity was the strongest predictor of receiving a financial bond, as determined by the relative magnitude ($\beta = .08$), followed by the new violent crime risk score ($\beta = .07$). Gender ($\beta = .04$) was the strongest extra-legal factor and was just as strong of predictor as offense severity ($\beta = .04$).

Table 2: Logistic Regression Predicting Legal and Extra Legal Factors on Release Decision

Variables	<i>b</i>	β	Exp(<i>b</i>)	<i>SE</i>
Gender	-.18***	-.04	.84	.04
Race	.10**	.03	1.10	.03
Qualitative Risk Score	.21***	.08	1.22	.02
Violence Risk Score	.46***	.07	1.58	.03
Current Offense Severity	.15***	.04	1.15	.04
McFadden's R_L^2 : .01				
-2 Log likelihood: -11839.16				
X2: 263.84**				

p<.05*; *p*<.01**; *p*<.001***

Interaction Effects

The second model estimates the interaction effects of race with the qualitative risk score and race with the violence risk assessment (see Table 3). As in the previous model, all measures were statistically significant. The interaction effects indicate that Black persons with moderate or high qualitative risk scores are more likely to receive financial bonds. Further, this interaction was the strongest predictor in the model

(β =.10). Regarding the second interaction term, the model found that being Black and having a high risk of committing new violent crime decreased the likelihood of receiving bond, although it should be noted that the measure was the weakest predictor (β =-.02). Another key finding in the analyses was that race switched directions, indicating the being Black decreased the likelihood of receiving a financial bond.

Table 3: Logistic Regression Predicting Legal and Extra-Legal Factors on Release Decision including Interaction Effects

Variable	<i>b</i>	β	Exp(<i>b</i>)	<i>SE</i>
Gender	-.17***	-.04	.85	.04
Race	-.17**	-.05	.84	.06
Qualitative Risk Score	.08**	.03	1.09	.03
Violence Risk Score	.55***	.08	1.74	.08
Current Offense Severity	.15***	.04	1.17	.03
Race*Qualitative Risk Score	.29***	.10	1.34	.05
Race*Violence Risk Score	-.18*	-.02	.84	.11
McFadden's R_L^2 : .013				
-2 log likelihood:-11819.96				
X2: 302.25**				

p<.05*; *p*<.01**; *p*<.001***

Overall, the results provide partial support for our hypothesis. The interaction between race and qualitative risk seemed to be noteworthy predictor of pretrial release decision. For the interaction effects between race and risk scores, the results indicated that the term was statistically significant. These

conclusions, however, must be considered cautiously as the McFadden R_L^2 statistics indicate weak explanatory power in the models. Thus, despite the models showing a statistically significant relationship, the findings should be placed in appropriate context. The implications for these findings are detailed below.

Discussion

Pretrial decision making is a key stage in the court process, and concerns of pretrial decision-making have a long history. Recently, there is a growing interest in the relationship between legal and extra-legal factors on the types of pretrial release decisions. In particular, there are considerable concerns over racial disparities in pretrial release, which has, in part, led to a growing reliance on the adoption and use of “objective” risk assessment tools for pretrial decision-making (Stevenson, 2018). Despite this interest, there are few examinations of how race and risk assessments influence pretrial release decisions. This study contributes to this discussion by analyzing the relationship between race, gender, offense severity, and two risk assessment scores on financial and non-financial release decisions in a sample of 25,614 in Jefferson County, Kentucky from 2014 to 2017.

This study found that race, current offense severity, and the two risk assessment tools increase the likelihood of someone receiving a financial bond, as opposed to a non-financial bond. Specifically, Black individuals who were arrested were 10% more likely to receive a financial bond, while those with a felony were 15% more likely to receive a financial bond. The findings also indicated that the two risk assessment tools were the strongest predictors of pretrial decision-making suggesting that the validated Public Safety Assessment risk tool was being used commensurate with the case circumstances. Gender was the one factor that decreased the likelihood of receiving financial bail, as females were 16% less likely to receive a financial bond while accounting for race, risk scores, and offense severity. These findings are in line with previous research. In particular, the legal factors were the strongest factors in the initial model (Schlesinger, 2005; Wooldredge, 2012). Further, despite controlling for legal factors, race and gender were still important predictors (Demuth, 2003; Freiburger et al., 2010). Given the considerable consequences of being held in pretrial detention (Cohen & Reeves, 2007) and the challenges for minorities meeting financial bond demands (Demuth & Steffensmeier, 2004; Schlesinger, 2005), the research adds to the concerns related to racial disparities in pretrial decision-making.

The second model in the analyses again found the predictor variables to be statistically significant; however, the focus of the model was the inclusion of the interaction effects. The interaction models indicate that a Black individual with moderate to high qualitative risk scores was more likely to receive financial bonds than his or her White counterparts, even when controlling for current offense severity. This finding fits the broader logics of risk assessments,

where an arrested individual deemed a public safety threat or who is deemed unlikely to appear for court may require greater bond assurances. Yet, the model also shows that a Black individual who was at high risk for committing a new violent crime was less likely to receive financial bonds, which is a contradictory finding regarding risk assessment logics. Thus, the interaction model presents a complicated picture of how the application of risk assessments tools varies across race. In particular, the findings raise questions as to the role of judges in using and applying the tools.

The widespread adoption of risk assessment tools is predicated on the notion that objective, algorithmic methods of prediction will be more consistent and fair than a judge’s intuition (Picard-Fritsche et al., 2017). In particular, pretrial decision-making can improve by making smarter decisions about who to release, while not increasing failure to appear or new criminal activity rates. Yet, even with the adoption of risk assessment tools, judicial officers still play a critical role in applying those assessment scores and making final determinations (Cadigan & Lowenkamp, 2011; Stevenson, 2018). It should be reiterated that this study examines how judges use the instrument and is not an empirical assessment of the instrument’s validity or bias. The findings point to three potential issues with using risk assessment tools when racial disparities are present. First, regarding, the interaction of race and the qualitative risk assessment (risk of not appearing and committing crime), a Black individual may be experiencing the negative consequences of a biased risk assessment tool. Researchers note that the inputs of risk assessment tools—prior convictions, prior incarceration, prior failure to appear—may be biased as a minority individual is more likely to live in heavily policed areas and thus experience racially disparate practices. Thus, the noted disparities in racial outcomes related to the qualitative risk assessment tool may be a product of upstream practices and not judicial decision-making (Harcourt, 2015; Stevenson, 2018). Second, the greater likelihood of Black individuals with high violent crime risks receiving a non-financial bond may be a product of judicial discretion and correcting for what they believe to be an error in risk assessment, both to the benefit or hindrance to the defendant. Judges may be overcompensating for existing disparities in enforcement and thus decreasing the probabilities that future violent crime will occur. A third possibility is that judges outright ignored the risk assessment tool and the findings are spurious raising the importance of future research that examines judicial decision-making in the courtroom. It is crucial that research understands how these criminal justice actors are involved in the implementation and use of risk assessment tools in their jurisdiction. Such understanding may well

enhance acceptance and fidelity in use of constructed risk devices (Cadigan & Lowenkamp, 2011). This is particularly important as a growing body of research is examining whether there are existing biases within risk assessment tools due to upstream practices or if biases are occurring in their application, raising questions about risk instruments' objectivity (Berk et al., 2017; Harcourt, 2015; Starr, 2014).

Limitations

In addition to the aforementioned gap in understanding how judges use risk assessment tools, there are other limitations in this study. First, this study did not account for the full range of pretrial decisions including administrative release or decisions to hold arrested individuals without bond. Furthermore, the study did not examine variation within financial and non-financial bonds, particularly as it relates to different levels of cash bail. Previous research notes racial disparities in bail amounts (Ayers & Waldfoegel, 1994; Katz & Sphon, 1995; Nagel, 1983). Yet, there are outstanding questions related to whether there are consistencies between risk assessment scores and the amount of financial bail required. Second, the study was only able to analyze a small range of extra-legal factors, namely race and gender. Research shows that other extra-legal factors play an important role in pretrial release decisions including marriage, education, and employment (Dobbie et al., 2018; Spohn, 2009). Further, this research shows that there are racial differences in how these factors influence pretrial release. For instance, Spohn (2009) shows that employment and having some college or a college degree reduced the odds of pretrial detention for Whites but not Blacks. Third, the study did not examine pretrial outcomes, focusing instead on cases where pretrial release occurred. Demuth (2003) notes the difference between pretrial decisions and pretrial outcomes, where the former is the decision made by the judge, and the latter is the ability of the defendant to meet the bond demands. Of course, one possibility is the outright denial of a bond, leaving the person to be detained. Thus, this study does not capture the full range of pretrial release decisions and outcomes. The full range of decisions and outcomes are important to analyze in future research, especially regarding racial differences. Prior research shows racial and gender differences in the ability to post bail (Demuth & Steffensmeier, 2004; Schlesinger, 2005). Similarly, racial and gender differences exist in decisions to award pretrial release to start with (Demuth & Steffensmeier, 2004). The absence of these two outcomes in our dependent variable limits our ability to understand the full range of bias in using risk assessment tools.

A fourth limitation is that the study did not examine what happened after the defendant was released. For instance, were the individuals identified as moderate or high risk of not reappearing in court more or less likely to reappear? Thus, this is not a study of how well the risk instruments predict outcomes such as failure to appear or new criminal activity. As such, the study does not speak to the validity of the risk assessment tool nor the presence or absence of racial bias in the risk assessment tool. These remain important questions that future research needs to address, as scholarship points out the potential fallacies and biases with risk assessment tools (Stevenson, 2018).

Policy

The findings indicate that Black, moderate or high risk felony arrestees are more likely to be required to post a financial bond than non-financial bond compared to their White or lower risk counterparts. The findings raise issues related to how risk assessment tools are used to determine pretrial release conditions and require the need for further examination into judicial decision-making for specific policy recommendations to be put forward. A central component to this issue is future research that includes judges in the analyses, while also taking into account the outcomes of their decisions (e.g., did an individual fail to appear or commit a new crime while on pretrial). This examination will allow researchers to understand if the risk assessment instruments have built in bias or whether there is disparity in its use. As noted in the limitation, this study only focuses on how the risk assessment was used, but more information is needed to determine if there are systemic biases in its use.

Conclusion

A substantial body of research has examined legal decision making in American criminal courts. This study contributes to the larger research by examining judicial pretrial release conditions. In particular, the study builds on the literature examining the relationship between two validated risk assessment tools, current offense severity, race, and gender on receiving non-financial or financial bonds. Overall, the research finds support for each factor, as well as racial differences in the application of the two risk assessment tools on the type of pretrial release conditions an arrestee received. Given the size, cost, and consequences of pretrial detention in the United States, more research is needed to understand the decision-making process as well as examine the existence and extent of racial disparities.

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Endnotes

- ¹ Cases in which the original arrest was for a probation or parole violation, a failure to appear, or a violation of conditions of pretrial release were omitted. Furthermore, cases in which the defendant was not provided bond or was given administrative release were also omitted.
- ² In July of 2013, Kentucky adopted a new risk assessment tool: the Public Safety Assessment (PSA). This tool was developed by the Arnold Foundation using a large dataset on pretrial releases in more than 300 jurisdictions. The PSA evaluates risk along three dimensions: risk of FTA, risk of new arrest, or risk of new arrest for a violent crime. The risk assessment tool does not take into account current charge. The risk assessment is given to individuals booked into jail and subsequently not administratively released. Those individuals who are administratively released do not receive the full risk assessment.
- ³ The scale is derived from adding together the converted failure to appear risk score and the converted no new criminal activity risk score. The total score (ranging from 2 through 12) is then classified by the cut score criterion: 2-5= low risk; 6-9=moderate risk; and 10-12 high risk. The risk score is based on the pre-interview risk assessment questions.
- ⁴ We also ran our analyses treating qualitative risk score as an ordinal variable, where the medium risk and high risk were included in the model and compared to low risk. In doing so, we also conducted a Likelihood Ratio Chi-Square test and BIC test to compare the two models (one model with risk score as a continuous measure and one with risk score as an ordinal model). We did this to ensure that we were not losing important information in the parsimonious model using a continuous variable. In the model treating Risk as a continuous measure (Table 2 in the manuscript), AIC is 1.034 and BIC is 206350.77, and in the model with an ordinal measure, AIC is 1.033 and BIC is 206361.57. The lower value for the BIC for the original model and the negligible difference in AIC indicates the continuous model is the more parsimonious, and therefore, we maintain the original model. This procedure follows Long and Freese's (2006) argument that ordinal variables can be treated as continuous, but one should test whether treating an ordinal IV as it were interval leads to a loss of information.