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Exploring Alternatives to Cash Bail: An Evaluation of Orange County's Pretrial Assessment and Release Supervision (PARS) Program

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Abstract

This evaluation examines the impact of a pretrial risk assessment and supervised release program on pretrial release rates, judicial bail determinations, and failure to appear (FTA) rates among non-violent felony defendants in Orange County, CA. The results indicate that program implementation was not associated with a significant increase in pretrial release rates. However, defendants who received supervised release under the program were significantly less likely to FTA than similarly situated defendants who were released on cash bail. The results therefore suggest that pending bail reform measures in California and elsewhere, which replace cash bail with risk assessment screening and non-monetary supervised release, can be implemented without sacrificing appearances in court.

Keywords Pretrial · Bail · Supervised release · Program evaluation

Introduction

Cash bail was initially conceived as a method to "free untried prisoners" while ensuring future appearances in court (Appleman 2012, p.1324).[1] However, cash bail is now

[1]Bail refers to "the process of releasing a defendant from jail or other governmental custody [prior to trial] with conditions set to reasonably assure public safety and court appearance" (Pretrial Justice Institute 2015, p.2). In the U.S., defendants must typically post a cash "bond" in order to meet bail requirements and obtain pretrial release (Pretrial Justice Institute 2015, p.2). The bond is returned only if the defendant appears for all scheduled court dates, thereby providing an incentive for the defendant to attend all required court appearances.

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being questioned nationwide for disproportionately burdening low-income defendants, regardless of their risk to public safety, sparking national discussions about whether this system favors the wealthy and criminalizes the poor. Over 65% of detainees in U.S. jails are defendants awaiting trial (Zeng 2018). Nearly all of these pretrial detainees remain in jail solely due to a financial inability to post cash bond (Rabuy and Kopf 2016; Reaves 2013). African-American and Latinx defendants in particular experience higher rates of pretrial detention (Ayres and Waldfogel 1993; DeMuth 2003; Schlesinger 2005). Defendants who are incarcerated pretrial are significantly more likely to be convicted (Dobbie, Golden, and Yang 2018) and to receive longer sentences upon conviction (Saks and Ackerman 2014). Despite these issues, cash bail remains the primary mechanism for obtaining pretrial release nationwide, and research exploring non-monetary alternatives to cash bail is remarkably scant (Bechtel, Holsinger, Lowenkamp, and Warren 2017; Mamalian 2011). Accordingly, the current study addresses the potential effectiveness of an alternative program implemented in Orange County, CA, involving the use of a risk assessment procedure to inform judicial decisions about non-monetary pretrial release.

The issues that plague pretrial detention at the national level are particularly pronounced in California. Pretrial detainees comprise 64% of California's jail inmates and nearly one-quarter of the state's total incarcerated population (Tafoya, Bird, Nguyen, and Grattet 2017). California detains 59% of defendants awaiting trial, compared to just 32% in the rest of the country (Tafoya 2015). The median bail amount in California is $50,000, more than five times the median bail amount in the remaining states (Tafoya 2015). Despite high bail requirements, California defendants generally exhibit higher rates of failure to appear in court after pretrial release (Tafoya 2015). A recent California appellate court decision, *In re Humphrey* (2018), concluded that bail reform legislation was desperately needed "to correct a deformity in [California's] criminal justice system."

The state legislature responded by passing Senate Bill 10 (S.B. 10) in August 2018. This legislation would make California the first state in the country to entirely eliminate cash bail, replacing it with a system centered on risk assessment, preventative detention, and non-monetary conditions of release (Romo 2018). Under S.B. 10, most misdemeanor arrestees would be automatically cited and released within 12 hours of booking in county jail.[2] For felony arrestees, the bill would require counties to use a validated risk assessment tool to evaluate the likelihood that a defendant will fail to appear in court while on pretrial release. Depending on the defendant's assessed risk level, the bill would authorize pretrial services agencies and courts to impose a variety of non-monetary supervisory conditions on pretrial release. The bill would also allow courts to preventatively detain defendants prior to trial, if the court determined that "no condition or combination of conditions of pretrial supervision will reasonably assure public safety or the appearance of the defendant in court" (Cal. Stat. 2018). Governor Brown signed S.B. 10 into law on August 28, 2018, and the bill was due to become effective in October 2019 (Romo 2018). However, the California bail bonds industry responded by gathering enough signatures to initiate a public referendum on S.B. 10, and the bill's implementation has now been placed on hold pending the result of a 2020 ballot initiative (Ulloa 2018).

[2] S.B. 10 excludes misdemeanor arrestees from automatic pretrial release if they are suspected of certain specified crimes, such as domestic violence offenses (Cal. Stat. 2018).

California's S.B. 10 is illustrative of the type of bail reforms being introduced across the country to expand non-monetary opportunities for pretrial release. The Vera Institute of Justice described 2017 as a "breakthrough year for bail reform," as New Jersey, Arizona, and Kentucky each implemented reforms that integrate statistics-based risk assessment instruments into decision-making processes about non-monetary conditions of release (Rahman 2018).[3] More recently, in April 2019, New York passed legislation eliminating cash bail for most non-violent arrestees and explicitly encouraging judges to utilize the "least restrictive non-monetary alternative conditions" necessary to ensure a defendant's future appearances in court (Kamins 2019). However, despite the building political momentum behind these reforms, there is little empirical research that examines either the impact of risk assessment instruments on judicial decisions about pretrial release or the efficacy of non-monetary release conditions in reducing subsequent failures to appear in court (Mamalian 2011). In a recent meta-analysis of pretrial research, Bechtel et al. (2017, p.443) concluded that "the quality of pretrial research, overall, is weak at best." While there is some evidence to suggest that non-monetary conditions of release may reduce subsequent failures to appear in court, the authors ultimately argue that "more peer-reviewed, quantitative research needs to be completed regarding interventions for pretrial services" (Bechtel et al. 2017, p.461).

Pursuant to this call for research, the current study presents findings from an evaluation of a pretrial assessment and release program implemented in Orange County (O.C.), the third most populous county in California and the sixth most populous county in the U.S. (U.S. Census Bureau 2018). Using funds from the California Courts' Recidivism Reduction Fund, the O.C. Superior Court launched its Pretrial Assessment and Release Supervision (PARS) program in February 2016, two years prior to the passage of S.B. 10. The PARS program serves as model for both the type of program that all California counties will be required to implement under S.B. 10 and the type of programs currently being implemented across the country to reform and replace cash bail. The PARS program involves the use of a risk assessment tool, the Virginia Pretrial Risk Assessment Instrument (VPRAI), to assess the risk that felony arrestees will fail to appear for court if released pretrial. The court and probation department then use these VPRAI risk scores to inform decisions about pretrial release and non-monetary supervisory conditions.

This article focuses on the impact of the PARS program on pretrial release decisions and failure to appear (FTA) rates among O.C. pretrial defendants. The results ultimately provide some empirical support to bail reform efforts in California and across the nation, as participation in the PARS program was associated with a significant reduction in failure to appear rates relative to release on cash bond. The article is organized into six sections. Section I begins by reviewing prior empirical research on pretrial risk assessment instruments and non-monetary alternatives to cash bail. Sections II and III provide a description of the PARS program and the research questions addressed in the study. Section IV describes the data and methods used to address these research questions. Section V reports the results of the study, including the PARS program's impacts on pretrial release rates, judicial bail determinations, and the likelihood of FTA. Section VI concludes by discussing the study's implications for current bail reform efforts in California and beyond.

[3] Statistics-based risk assessment instruments are instruments whose predictive validity has been established through statistical analysis techniques.

Literature Review

Factors Predicting Failures to Appear in Court (FTA)

Most of the prior empirical research on pretrial assessment and release programs focuses on validating the risk factors used to predict whether a defendant will fail to appear in court (FTA) if released. An early review of such studies from Eskridge (1981) uncovered mixed results for most of the factors then in use to predict FTA, including community ties, prior criminal record, and possession of a telephone. Employment was the only risk factor consistently associated with appearance in court across the studies covered by Eskridge (1981). However, a recent meta-analysis from Bechtel, Lowenkamp, and Holsinger (2011) illustrates that subsequent pretrial research has generally produced more positive results regarding risk factors that predict FTA. This research suggests that the most robust predictors of FTA include prior FTAs, prior misdemeanor convictions, other pending charges, employment status, history of substance abuse, and residential instability (*see,* e.g., Lowenkamp, Lemke, and Latessa 2008; Lowenkamp and Whetzel 2009; VanNostrand and Keebler 2009).

Impact of Pretrial Risk Assessment on Judicial Release Decisions

In contrast to the extensive research on risk factors predicting FTA, research exploring the impact of pretrial risk assessment instruments on judicial decisions about pretrial release is relatively scarce. When properly implemented, pretrial risk assessments have the potential to reduce the number of defendants detained prior to trial dramatically (Cooprider 2009; NIJ 2001). However, as numerous scholars have noted, judicial buy-in is essential to the successful implementation of risk assessments in criminal justice settings (Goldkamp and Gottfredson 1988; Goldkamp and Vilcica 2009). Most pretrial release decisions are made by a judge at the conclusion of a bail hearing, and therefore judges ultimately determine whether and to what extent risk assessment instruments will factor into pretrial release decisions. When determining bail conditions, judges may ultimately choose to ignore risk assessments entirely, thereby negating any potential benefits derived from risk assessment screening.

Despite the important role that judicial discretion plays in determining how risk assessment scores are incorporated into pretrial release decisions, research documenting judicial responses to pretrial risk assessment is exceedingly rare. As Cadigan and Lowenkamp (2011, p.31) describe, “A seemingly ‘obvious’ issue not found in virtually any other research on the topic of risk assessment is the importance of including judicial officers in the development, implementation, and ongoing use of a risk assessment device.” This gap in research is especially noteworthy in light of the longstanding resistance among criminal justice practitioners to actuarial risk assessment tools that encroach upon discretionary decision-making processes (Harris 2006). Hence, one of the primary questions left open by previous risk assessment research is whether the implementation of risk assessment screening is likely to have any significant impact on judicial decisions regarding pretrial release.

Non-Monetary Pretrial Release Conditions

Likewise, research on the effectiveness of non-monetary release conditions in reducing FTA rates is also relatively scarce (Mamalian 2011; VanNostrand, Rose, and Weibrecht 2011). In a recent meta-analysis, Bechtel et al. (2017) were only able to identify two peer-reviewed studies examining the impact of pretrial supervision on the likelihood of FTA (Goldkamp and White 2006; Robinson, VanBenschoten, Alexander, and Lowenkamp 2011). Moreover, both studies compared failure rates among supervised defendants to failure rates among defendants released without any conditions at all, including the posting of cash bond. Thus, while both studies found that supervised defendants were significantly less likely to FTA than unsupervised defendants, neither study explored whether supervised defendants were more or less likely to FTA than defendants released on cash bail.

One of the primary factors contributing to the dearth of quality empirical research on non-monetary release conditions is the difficulty of finding a suitable comparison group with which to evaluate FTA rates among supervised defendants. Judicial decisions about pretrial release conditions are explicitly based on a given defendant's FTA risk. Therefore, defendants who are placed on pretrial supervision will likely differ systematically from defendants who are released under other conditions. These group-level differences are likely to exert an independent influence on FTA rates, making it difficult to attribute differences in FTA rates to differences in pretrial release conditions as opposed to differences in *ex ante* FTA risk. For example, several studies have attempted to use State Court Processing Statistics (SCPS) data to compare FTA rates among those who post cash bond and those placed under non-monetary conditions of release (*see,* e.g., Bechtel et al. 2016). However, the Bureau of Justice Statistics, which hosts the SCPS data, has strongly cautioned against such comparisons on the grounds that the necessary data to control for any group-level differences in FTA risk are unavailable (BJS 2010).

The limited research that has been conducted on non-monetary release conditions indicates that the "risk principle" identified by Andrews, Bonta, and colleagues in the context of rehabilitative programming (*see,* e.g., Andrews, Bonta, and Hoge 1990) is likely applicable to the pretrial supervision context as well (Bechtel et al. 2017). The risk principle posits that intensive supervisory conditions are most likely to reduce FTA rates among medium- and high-risk defendants, rather than low-risk defendants (Latessa and Lovins 2010). When applied to low-risk defendants, intensive supervisory conditions are more likely to increase rather than decrease the risk of FTA. For example, VanNostrand and Keebler (2009) found that low-risk defendants exposed to substance abuse testing or location monitoring were significantly more likely to FTA or be re-arrested relative to low-risk defendants who had not been placed under such conditions. These findings suggest that graduated supervisory conditions that place minimal burdens on low-risk defendants are the most likely to succeed in reducing FTA.

The O.C. Pretrial Assessment and Release Supervision (PARS) Program

By coupling risk assessment screening with graduated pretrial supervisory conditions, the PARS program provides an ideal opportunity to expand an understanding of how bail reform measures might impact judicial decisions about pretrial release and the

likelihood of FTA. The O.C. Superior Court initially implemented the PARS program in February 2016 with grant assistance from the California Courts' Recidivism Reduction Fund. Absent a few exceptions, felony arrestees who have not previously been convicted of a violent crime are eligible for pretrial release under the PARS program. Most misdemeanor arrestees in O.C. are automatically cited and released without having to post cash bond, and the county continues to deal with felony arrestees who are ineligible for PARS through California's typical cash bail procedures.

Upon booking in the county jail, pretrial services officers screen PARS-eligible arrestees using the Virginia Pretrial Risk Assessment Instrument (VPRAI). Like other pretrial risk assessment instruments, the VPRAI is designed to identify the risk of pretrial failure via FTA or re-arrest (VanNostrand 2003). The instrument was initially developed through an analysis of pretrial defendants in Virginia between 1998 and 1999 (VanNostrand 2003), and two more recent studies have provided additional empirical support to the VPRAI's predictive validity (Danner, VanNostrand, and Spruance 2015; VanNostrand and Rose 2009). Since its introduction in Virginia, the VPRAI was adopted by counties in several other states, including Ohio, Washington, Michigan, Illinois, Pennsylvania, and North Carolina (VanNostrand 2015). The O.C. Superior Court employed an unaltered version of the VPRAI discussed in VanNostrand (2003).

The VPRAI includes many of the same items identified in prior risk assessment research as significantly predictive of FTA, including prior FTAs, prior convictions, other pending charges, employment status, history of substance abuse, and residential instability. These individual risk factors are combined into a single score ranging from 1 to 9 that reflects the relative likelihood that an arrestee will fail pretrial, either by failing to appear in court or through re-arrest on a new offense. For arrestees who score a 1 or 2 on the VPRAI assessment, pretrial services officers may contact the on-call magistrate for approval to release the arrestee directly from jail on their own recognizance (OR), without posting cash bond. For arrestees who score a 3 or higher on the VPRAI, screening officers provide a recommendation to probation about whether the arrestee should be released on PARS supervision. Probation then provides a final recommendation to the court, and the ultimate decision of whether to place an arrestee on PARS supervision is made by a judge at a subsequent hearing.

Defendants released on the PARS program do not have to post cash bond. However, they are subject to varying levels of supervision from O.C. Probation depending on their VPRAI assessment scores and the court's release order. These supervisory conditions can range from monthly mail-in reports to weekly in-person visits and constant electronic monitoring. Consistent with the risk principle, defendants with higher VPRAI risk scores are subject to higher levels of supervision upon release. Table 1 provides a description of the supervision conditions that can attach to PARS participants based on their VPRAI assessment scores.

For defendants who are denied release on the PARS program, cash bail is typically set according to the court's Uniform Bail Schedule. As a result, most defendants who are denied PARS release are still eligible to receive pretrial release by posting cash bond. The opportunity for release on cash bail is denied entirely only in cases where (1) the defendant is charged with a capital crime and the facts are highly suggestive of guilt or (2) the defendant is charged with a violent felony and the court finds by clear and convincing evidence that pretrial release would pose a substantial likelihood of great bodily harm to others (*see* Cal. Const. art. I, § 3).

Table 1 PARS supervision conditions

Supervision Condition	VPRAI Score 1–2	VPRAI Score 3	VPRAI Score 4	VPRAI Score 5–9
Court Reminder	–	✓	✓	✓
Probation Orientation	–	✓	✓	✓
Face-to-Face Contact	–	Monthly	Biweekly	Weekly
Mail-In Report Forms	–	✓	–	–
Phone Contact	–	✓	–	–
Office Contact	–	–	✓	✓
Optional Conditions*	**VPRAI Score 1–2**	**VPRAI Score 3**	**VPRAI Score 4**	**VPRAI Score 5–9**
Field Contact	–	–	–	✓
Substance Testing	–	–	✓	✓
Electronic Location Monitoring	–	–	–	✓

*Note: Optional conditions can be imposed by court order but are not automatically required as a condition of release.

Research Questions

In light of the research gaps identified in Section I, the current study seeks to build upon existing knowledge of pretrial assessment and supervision programs by addressing the following three research questions regarding the PARS program:

1. Are more PARS-eligible defendants released prior to or at arraignment since the PARS program was implemented in February 2016?
2. What factors influence the court's ultimate decision to grant or deny PARS release after a defendant is recommended for PARS by probation?
3. Does PARS participation reduce the likelihood of FTA relative to cash bond?

Data and Methods

We constructed two samples to test whether the PARS program increased the number of defendants who receive pretrial release prior to or at arraignment (Research Question #1). One sample included all defendants that were booked in county jail in January, February, March, June, August, October, November, and December of 2015, who would have been eligible for PARS if it was available ($n = 2814$).[4] The other sample included all PARS-eligible defendants booked in county jail in February, March, June, August, October, November, and December of 2016 and January of 2017, after the PARS program was implemented ($n = 3818$). We coded defendants as "released" if: (1) the defendant was released on his or her own recognizance (OR) prior to arraignment without posting cash bond; (2)

[4] These are the only months in 2015 for which release data on all PARS-eligible defendants were available from the .OC. Superior Court.

the defendant posted cash bond prior to arraignment; (3) the defendant received OR release at arraignment (only applicable to 2015 defendants); or (4) the defendant was placed on the PARS program at arraignment (only applicable to 2016–17 defendants). We then performed a two-sample proportion test using Stata's "prtesti" command to determine whether the release rates for defendants in the 2015 pre-PARS sample significantly differed from the release rates for defendants in the 2016–17 PARS-eligible sample (Lomax and Hahs-Vaugh 2012).

To answer the remaining two research questions (Research Questions #2 and #3), Pretrial Services provided demographic information, jail booking dates, risk assessment scores, and FTA data for the 557 defendants recommended for PARS release by probation in 2016. Unfortunately, despite extensive data collection efforts, demographic data were missing for a small proportion of defendants included in the study samples. Of the 557 defendants recommended for PARS by probation, 61 defendants (11.0%) were missing data regarding either their gender, race, employment status, or military status. Of the 313 defendants released after a probation recommendation, 18 defendants (5.8%) were missing data on employment status. When comparing defendants with complete data and defendants with missing data, there were no significant differences in mean VPRAI scores, PARS participation proportion, or FTA proportion. However, defendants with missing data were significantly more likely to be male and employed relative to defendants with complete data, suggesting that the data are missing at random (MAR).

To retain cases with missing data in the analyses, we conducted multiple imputation by chained equations (MCE) to impute values for the missing data (White, Royston, and Wood 2010). MCE uses observed data to estimate a set of plausible values for missing data. Subsequent analyses use these estimated values for the missing data so that all defendants are retained in the sample, not just the defendants with complete data. MCE can also address potential estimation bias arising from the use of MAR data by including variables correlated with missing data as predictors in the multiple imputation process (see White, Royston, and Wood 2010, p.384–5). MCE provides unbiased estimates of MAR data only if missing data are a function of either observed covariates or random chance. The observed covariates in this case include key demographic information (gender, race, military status, and employment status) as well as VPRAI risk scores reflecting likelihood of FTA, making it unlikely that missing data are systematically correlated with unobserved defendant characteristics.

MCE was conducted in Stata 14 using the "mi impute" command with all available independent and dependent variables included as predictors in the imputation process. The command produced $m = 50$ sets of imputed data, which were then pooled for regression analyses. We report results for the full sample with MCE imputed data in the text of the article. The Monte Carlo random error associated with predicted coefficients and standard errors in these models was below 10% of the value for each predicted coefficient and standard error, indicating that these findings are not biased by an insufficient number of imputed data sets (see White, Royston, and Wood 2010). Values for the average relative increase in variance (RVI) and the largest fraction of missing information (FMI) are provided with model estimates. In unreported analyses, we also re-estimated the models using only complete data. In each case, the results obtained using only complete data did not significantly differ from the results obtained using the MCE imputed data.

Results

Research Question #1

Table 2 provides release rates by release type for the 2015 pre-PARS sample ($n = 2814$) and the 2016–17 PARS-eligible sample ($n = 3818$), along with the results of the two-sample proportion Z-score tests.

The release rate prior to or at arraignment is slightly higher among the pre-PARS 2015 sample relative to the 2016–17 sample, although the difference is not statistically significant ($Z = 0.38$; $p > 0.10$). These results suggest that PARS implementation did *not* significantly increase the number of arrestees who receive pretrial release prior to or at arraignment. The 2016–17 sample exhibited significantly higher rates of OR release directly from jail ($Z = -5.77$; $p < 0.001$), and the proportion of 2016–17 defendants who were released on PARS supervision at arraignment was significantly larger than the proportion of 2015 defendants who received OR release at arraignment ($Z = -6.42$; $p < 0.001$). Thus, the PARS program had the intended effect of increasing non-monetary release orders made by judges and on-call magistrates. However, these increases were entirely offset by a significant decrease in the number of arrestees who posted cash bond prior to arraignment ($Z = 5.46$; $p < 0.001$). When presented with the opportunity to obtain pretrial release on the PARS program without posting cash bond, it appears that more defendants declined the opportunity to post cash bond directly from jail prior to arraignment.

Research Question #2

Of the 557 defendants recommended for PARS by probation in 2016, O.C. judges released only 206 defendants (36.98%) on PARS supervision. We used logistic regression to identify the factors that differentiated defendants who were recommended for PARS but denied by the court from defendants who were recommended and approved for PARS. We included defendants' gender, race, employment status, military status, and VPRAI assessment scores in the logistic regression model to predict the court's decision to grant or deny PARS. Table 3 provides the results of this logistic regression model.

Table 2 Release rates for PARS-eligible arrestees

	2015 ($n = 2814$)	2016–17 ($n = 3818$)
Released	26.19% (737)	25.77% (984)
OR release from jail	1.31% (37)***	3.61% (138)***
Bonded Out	23.42% (659)***	17.97% (686)***
OR release at arraignment	1.46% (41)	–
PARS Granted at arraignment	–	4.19% (160)

***$p < 0.001$

Only two variables reached statistical significance in the model: VPRAI assessment scores and employment status. Defendants scoring higher on the VPRAI were significantly less likely to be placed on PARS when they appeared before the court. Controlling for other factors in the model, a one unit increase in the VPRAI assessment score was associated with a 22% decrease in the odds of being placed on PARS by the court (OR = 0.78). This finding suggests the VPRAI assessment significantly influenced judicial decisions about pretrial release. Judges apparently incorporated evidence-based risk assessment in their determinations of who should or should not be placed on the PARS program.

Employed defendants were also significantly more likely to be placed on PARS after a probation recommendation, and the effect size was quite large. Controlling for other factors in the model, including VPRAI assessment scores, the odds that an employed defendant would be granted PARS release after a probation recommendation were 108% higher than the odds for a similarly situated unemployed defendant (OR = 2.08).

Research Question #3

As noted above, only 206 of the 557 defendants recommended for the PARS program by probation were granted PARS when they appeared before the court. Of the remaining 351 defendants, 107 subsequently obtained pretrial release after posting cash bond; the remaining 244 defendants were either unable or unwilling to meet the requirements of cash bail. These 107 defendants provide a suitable comparison group for determining whether the PARS program reduces the likelihood of pretrial failure relative to cash bond. Table 4 presents descriptive statistics on VPRAI risk scores and FTA rates for the two groups.

On average, the 107 defendants posting cash bond after being denied PARS had slightly higher VPRAI assessment scores than the 206 PARS participants, although the difference was not statistically significant ($t = -1.04$; $p > 0.10$). The 107 defendants on cash bond also had a considerably higher FTA rate (45.79%) than the 206 PARS participants (32.52%).

Table 3 Logistic regression model predicting judicial decision to grant PARS ($n = 557$)

Variable	Coefficient	S.E.	Odds Ratio
Gender (Female)	−0.12	0.22	–
Race (Non-white)	−0.03	0.21	–
Employed	0.73***	0.19	2.08
Military Status	−0.19	0.52	–
VPRAI Assessment Score	−0.24**	0.07	0.78

Model Pseudo-R^2 = 0.043

Average RVI = 0.025

Largest FMI = 0.064

***$p < 0.001$

**$p < 0.01$

Table 4 Descriptive statistics for defendants released after probation recommendation for PARS

	PARS Defendants ($n = 206$)	Cash Bond Defendants ($n = 107$)
Female	23.65%	30.10%
Non-white	72.91%	68.93%
Employed	65.82%	48.48%
Military Participation	3.10%	1.05%
Average VPRAI Risk Score	3.96	4.12
FTA Rate	32.52% (67)	45.79% (49)

We employed logistic regression modelling to examine whether this difference in FTA rates could be explained by PARS participation or other observed characteristics of released defendants. We constructed a composite sample of 313 defendants by combining the 206 PARS participants with the 107 defendants who were denied PARS but later released on cash bond. We then used PARS participation, in addition to observed defendant characteristics, predict the likelihood of FTA. Table 5 displays the results of the logistic regression model.

The results indicate that PARS participation significantly reduced the likelihood of FTA relative to cash bond. Holding all else constant, the odds that a defendant placed on the PARS program would FTA were 43% lower than the odds for a similarly situated defendant released on cash bond (OR = 0.57).

VPRAI assessment scores are also a marginally significant predictor of FTA. Holding all else constant, a one unit increase in the VPRAI assessment score was associated with an 18% increase in the odds of pretrial failure (OR = 1.18). This provides some preliminary evidence that the VPRAI is successful at predicting the likelihood of FTA among O.C. defendants. However, the current sample only includes PARS participants and those who subsequently bonded out after they were recommended for PARS by probation but denied by the court. More comprehensive release data on the remaining defendants who are screened by pretrial services officers will be

Table 5 Logistic regression model predicting FTA ($n = 313$)

Variable	Coefficient	S.E.	Odds Ratio
Gender (Female)	−0.13	0.28	–
Race (Non-white)	0.45	0.28	–
Employed	−0.08	0.25	–
Military Status	−0.13	0.89	–
VPRAI Assessment Score	0.17†	0.09	1.18
PARS Participation	−0.56*	0.25	0.57

Model Pseudo-$R^2 = 0.029$

Average RVI = 0.023

Largest FMI = 0.075

*$p < 0.05$

† $p < 0.10$

necessary to conduct a more robust evaluation of the VPRAI's predictive validity for O.C. defendants.

Although employment status was a significant driver of judicial decisions to grant PARS after a probation recommendation, employment status did not have a significant impact on the likelihood of FTA in the model. Among those who were recommended for PARS by probation, employed defendants were not significantly less likely to FTA than unemployed defendants, once VPRAI assessment scores and PARS participation are statistically controlled. However, the VPRAI includes an item related to employment status,[5] so it is possible that the effect of employment on FTA rates is captured in the coefficient estimate for VPRAI assessment scores. In unreported analyses, the model was re-estimated with a VPRAI score variable that excludes the employment-related item. As before, employment status did not reach statistical significance under this revised model, providing further evidence that employment status does not exert a significant independent influence on the likelihood of FTA.

Discussion and Conclusion

Orange County's experience with the PARS program offers several important lessons for current bail reform movements in California and beyond. First, the results indicate that supervised pretrial release is possibly more successful at ensuring appearance in court than cash bonds, a finding that supports current efforts to eliminate cash bail in favor of non-monetary alternatives. After controlling for *ex ante* FTA risk, defendants released on PARS supervision were substantially less likely to FTA than similarly situated defendants who were released on cash bail. This finding suggests that current bail reform measures like S.B. 10, which replace cash bail with graduated supervisory conditions depending on FTA risk, can be successfully implemented without significantly increasing pretrial failure rates.

Second, the results highlight the important role that judges play in shaping the implementation of bail reform. Contrary to expectations, the PARS program did not significantly increase the number of arrestees who were released prior to or at arraignment. Although judicial release orders increased after the PARS program was implemented, these modest increases were entirely offset by a significant decrease in the number of arrestees who posted cash bond prior to arraignment. This finding is especially noteworthy in light of S.B. 10's pledge to entirely eliminate cash bail as an option for obtaining pretrial release. If one of the goals of bail reform measures like S.B. 10 is to reduce the number of defendants who are detained pending trial, judicial release orders will have to increase quite substantially in order to counterbalance the drop-off in defendants who post cash bond.

Finally, the results also suggest that even after the implementation of risk assessment screening, judges are likely to base their pretrial release orders on factors beyond just risk assessment scores. After the implementation of the PARS program, pretrial release

[5] This item asks whether an arrestee has been employed or served as a primary caregiver continuously for the 2 years prior to his or her arrest.

decisions continued to be heavily influenced by whether an arrestee was employed at the time of arrest, despite the fact that employment status was not significantly correlated with FTA risk once VPRAI assessment scores were taken into account. This emphasis on employment was one of the primary reasons that recommendations for PARS from probation were only followed in about 37% of cases presented before the court. Furthermore, compared to employed defendants, unemployed defendants are considerably more likely to lack the funds required to post cash bond. Hence, the focus on employment in bail determinations not only suppressed the number of defendants placed on the PARS program—it also likely contributed to the population of pretrial detainees who were incarcerated pretrial solely due to an inability to post cash bond. To improve pretrial decision-making and avoid undesirable disparities between equally risk-prone defendants, bail reform measures like S.B. 10 may need to be coupled with judicial education campaigns designed to encourage evidence-based and risk-focused decision-making. This conclusion coincides with recent findings from other jurisdictions, also suggesting that risk assessment instruments are unlikely to be properly implemented by court actors without direct education and guidance (see DeMichele et al. 2018a; DeMichele, Comfort, Misra, Barrick, & Baumgartner 2018b; Stevenson 2018).

It is important to acknowledge several limitations of the current study. First, the study focuses on the experiences of a single county with a pilot program available only to non-violent felony arrestees. The generalizability of these findings to other defendants and other jurisdictions across California and the nation will depend on the representativeness of O.C.'s experience with the PARS program relative to these differing populations and contexts. Second, the PARS program was also implemented alongside California's typical cash bail procedures, which provided an alternative option for obtaining pretrial release to defendants who were denied participation in the PARS program. Consequently, O.C. judges may have been more inclined to deny PARS release than they would be if cash bail were not available.

Third, as in most quasi-experimental designs, the potential for omitted variable bias cannot be entirely eliminated. While the study was able to control for key demographic variables and *ex ante* pretrial risk when comparing PARS defendants and defendants released on cash bond, it is nonetheless possible that omitted variables may have influenced the study findings regarding the effect of PARS participation on FTA. Due to limitations in available data, we were not able to control for the number of required court appearances, time elapsed between court appearances, and the types of conditions imposed on particular defendants in the PARS program, all of which are likely to impact the likelihood of FTA among the study sample. Future studies on the effects of non-monetary pretrial release would be improved by either controlling for such variables in regression analyses or utilizing such variables in matched sample techniques to minimize any possible selection effects.

Nevertheless, despite these limitations, the current study provides some of the strongest empirical support to-date for bail reform efforts designed to replace cash bail with risk assessment screening and non-monetary supervised release. The results from this evaluation suggest that such reforms can be implemented without sacrificing one of the primary goals of cash bail—ensuring appearances in court.

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