

## **VPRAI Appendices**

Appendices to the *Validation of Use of the Virginal Pre-Trial Risk Assessment Tool: A Report for Shasta County Probation*, Brisolara, S., Inquiry That Matters.

A. VPRAI Instrument.....	Appendix 1
B. Screening Tool.....	Appendix 2
C. PSA Logs.....	Appendix 4
D. Summary of Interviews with Probation Assistants.....	Appendix 6
E. Data Tables.....	Appendix 13
F. References.....	Appendix 29

Appendix **Appendix A. VPRAI Assessment Tool**

	Type: VPRAI  Outcome: Completed: Completed By:
-----------------------------------------------------------------------------------	------------------------------------------------------------

## Questions and Answers

Risk Factor	
1	Charge Type <input type="checkbox"/> Felony <input type="checkbox"/> Misdemeanor
2	Pending Charge(s) <input type="checkbox"/> Yes <input type="checkbox"/> No
3	Criminal History <input type="checkbox"/> Yes <input type="checkbox"/> No
4	Two or More Failures to Appear <input type="checkbox"/> Yes <input type="checkbox"/> No
5	Two or More Violent Convictions <input type="checkbox"/> Yes <input type="checkbox"/> No
6	Length at Current Residence Less than One Year <input type="checkbox"/> Yes <input type="checkbox"/> No
7	Not Employed 2 Years/Primary Caregiver <input type="checkbox"/> Yes <input type="checkbox"/> No
8	History of Drug Abuse <input type="checkbox"/> Yes <input type="checkbox"/> No

## Appendix B. Screening Questions

Anticipating legislation surrounding an assessment of inequities, Probation staff began administering a screening questionnaire comprised of the following 15 questions intended to gather information on mental health issues/illness, substance use disorders, homelessness, and veteran status. Screening results were recorded for 337 individuals or 6.4% of the 5259 individuals appearing in this database. Data was collected between April 7<sup>th</sup>, 2020 and February 8<sup>th</sup>, 2021.

The Screening questions appear below and a table summarizing results follows.

Name: \_\_\_\_\_

Date of Booking: \_\_\_\_\_

### Mental Health Screen Questions

(Circle One)

1. Do you currently believe that someone can control your mind by putting thoughts into your head or taking thoughts out of your head? Yes No
2. Do you currently feel that other people know your thoughts and can read your mind? Yes No
3. Have you currently lost or gained as much as two pounds a week for several weeks without even trying? Yes No
4. Have you or your family or friends noticed that you are currently much more active than you usually are? Yes No
5. Do you currently feel like you have to talk or move more slowly than you usually do? Yes No
6. Have there currently been a few weeks when you felt like you were useless or sinful? Yes No
7. Are you currently taking any medication prescribed for you by a physician for any emotional or mental health problems? Yes No
8. Have you ever been in a hospital for emotional or mental health problems? Yes No

### Housing Screen Questions

(Circle One)

1. At the time of arrest were you living outside, in a car, in a tent, in an overnight shelter, or in someone else's home (i.e. couch-surfing)? Yes No
2. Can you afford housing if released? Yes No

### Substance Use Disorder Questions (Circle One)

1. Have you ever thought that you ought to cut down on your drinking or drug use? Yes No

- |                                                                                                                          |     |    |
|--------------------------------------------------------------------------------------------------------------------------|-----|----|
| 2. Have people expressed concern over your drinking or drug use?                                                         | Yes | No |
| 3. Have you ever felt bad or guilty about your drinking or drug use?                                                     | Yes | No |
| 4. Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover? | Yes | No |
| Are you a Veteran?                                                                                                       | Yes | No |

**Table B1. Results of Mental Health, Substance Use Disorder, Homelessness, and Veteran Status Screenings by Number and Percentage Screening “Yes” of 337**

Total Screenings	Yes (N)	Yes (%)
Mental Health	73	21.7%
Substance Use Disorder	103	30.6%
Homelessness	107	31.8%
Veteran Status	12	3.6%

## Appendix C. PSA Logs

In January 2019, Probation Assistants began collecting information on the recommendations made by Probation staff based on the VPRAI and interview information and the subsequent rulings made by judges. PSA Logs from January 2019 through February 9<sup>th</sup>, 2021 were analyzed for the report. In addition to the specific recommendation and ruling, PSA logs documented the date of the ruling, the individual's (e.g., offender's) name, the judge's name, and the name of the assistant who wrote the recommendation.

Interviews with current and former Probation Assistants indicated the perception that judges, in general agreed with the recommendations made by Probation. They thought that there possibly existed variation among judges with respect to rulings.

**Table C1. Number of Rulings and Percent of Time the Rulings Matched the Probation Assistant's Recommendation January 2019 Through February 9<sup>th</sup>, 2021**

Judge	Total Number of Rulings	Percentage That Agreed with Recommendations	Number That Agreed with Recommendations	Number That Disagreed	Rulings Not Noted (Missing)
Anderson	57	80.7%	46	11	0
Beatty	651	77.9%	507	134	9
Flynn	46	78.3%	36	7	3
Husing	5	100.0%	5	0	0
Nakahara	40	90.0%	36	4	0
Ryan	869	88.1%	766	98	4
Schueller	10	100.0%	10	0	0
Verderosa	28	75%	22	6	0
Weisman	37	78.4%	29	7	1
<b>Total</b>	1743	83.6%	1457	267	17

There were 265 instances where there was a difference between the recommendation made by the Probation Assistant. It should be noted further that in five of the above cases where the judge's ruling and the recommendation were not the same, the Probation Assistant had not offered a recommendation. In one other case, the offender plead guilty and, in another case, OR (release on one's own recognizance) was terminated by the judge. Included in this analysis are cases where the Probation Assistant recommendation noted was "bail review".

In most cases, differences between rulings and recommendations (77.7% or 206) led to rulings of lower levels of supervision; in 22.3% (59) cases, rulings favored higher levels of supervision. When instances where "Bail Review" was initially noted as the recommendation were excluded, 67.2% (178) of the rulings were for lower levels of supervision and 21.9% (58) were for higher levels. The table below displays the primary categories of rulings by initial Probation Assistant recommendations.

**Table C2. Number of Rulings by Probation Assistant (PA) Recommendations**

PA Recommendation	Rulings				
	No SOR	SOR w/GPS	SOR w/Conditions	SOR w/o GPS	OR
No SOR		90	4	9	46
SOR w/GPS	20		2	2	12
SOR w/Conditions	4	3			5
SOR w/o GPS	2	1			3
SOR		2			
OR	5	8	2		
Bail Review	1	4	3	4	21
No Recommendations	2	2			1
Other Outcomes					
Recommendations	Sentenced	Plead Guilty	Bail Set	Bail review	BCF
No SOR	3	1		2	
SOR w/GPS			1		
OR			1		1

**Jail Capacity and Release**

In 2020, Probation staff began recording whether offenders were detained until arraignment or released, the primary reason for release, screenings that were completed (noted above), offense, and VPRAI score. Data gathered between April 7, 2020 and February 8, 2021 were available for this analysis.

**Table C3. Number and Percentage of Individuals Detained or Released by Top Reasons for Release**

Status	N (of 5256)	% (of 5256)
Detained	1894	36%
Released	3362	64%
Reasons for Release for Those Released	N (of 3362)	% (of 3362)
Regular/Other Release	2488	75.1%
Court Cap	493	14.9%
Bail Bond Posted	223	6.7%
All Other Reasons, Combined	158	4.7%

**Table C4. Jail Capacity and Bail Bond Release by Felony, Misdemeanor and VPRAI Score**

Category Release	Felony		Misdemeanor	
	N	%	N	%
All (N=3362) [Felony, Misdemeanor, Parole related categories]	1179	35%	1849	55%
Of Felony/ Misdemeanor Total (N=3028)		38.9%		61.6%
Release Type	N	%	N	%
Jail Capacity	361	30.6%	64	3.5%
Bail Bond Posted	135	11.5%	76	4.1%

<b>VPRAI Scores of All Released</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
0 to 3: Low Risk	113	9.6%	744	40.2%
4 to 6: Moderate	447	38%	1186	64.1%
7 to 9: High Risk	619	52.5%	280	15.1%

## Appendix D. Interviews with Current and Former Probation Assistants

In Shasta County, Probation Assistants have been responsible, with few exceptions, for administering the VPRAI in the jail. As part of the VPRAI Validation study, Probation Assistants and those responsible for supervising Probation Assistants were interviewed about their experiences, training, and observations. Six individuals with such experience and currently working for the Probation Department were interviewed. All but one had direct experience administering the VPRAI. All but one interview was recorded and transcribed,

The interview guide followed is below. Not all questions pertained to every individual.

### D1. Probation Interview Guide

Date: \_\_\_\_\_ Name: \_\_\_\_\_

**Introduction:** Thank you for agreeing to meet with me about your experience with the VPRAI. This interview is part of a larger effort to assess what is working well with respect to pretrial assessment and what might need improvement. Your responses will remain confidential. I will be summarizing your comments and reviewing comments to make sure that you can't be identified through any quotes.

Is it Ok with you if I record our conversation for transcription purposes? And that I take notes of your responses? [Secure consent.]

1. How long have you been working in the agency? And what is your current position?
2. How is administration of the VPRAI connected with your other duties? [What are the main duties associated with this position?]
3. What training did you receive in conducting VPRAI assessments?
4. When did you begin doing VPRAI assessments? And about how many do you estimate you have completed?

#### We have a few questions about a typical assessment.

5. Where do you conduct the VPRAI? The location, what it's like, if there are other people, etc.
6. On paper or computer?
7. How do you usually introduce the assessment to the person who will be assessed? What do they know in advance?
8. I'd like to show you the template that was shared with me. Are there specific ways that the questions are asked every time or is the questioning/interview more informal?
  - a. Which, if any, of these questions/items are not asked and which are not asked. \* \* \*
9. In what ways, if any, is the information checked for accuracy?



10. What are some of the greatest challenges you face in administering the VPRAI? [environment? Time or Timing? Technology? Consistency? Emotional/behavioral state? Anything else?]
11. What “questions”, if any, do you feel are less likely to result in accurate or honest answers?
12. Throughout the state, departments are going to be examining results for equity. Knowing the instrument and context, what could lead to faulty assessments (higher than they should be or lower than should be)?
13. What else might interfere with the reliability of the instrument? (It’s ability to predict behavior in a similar way across race, gender, and income.)
14. Is there anything else you think it is important for me to know or understand about the VPRAI and its administration?

### Summary of Interview Responses

Throughout this summary, the individuals interviewed are referred to as Respondents. Where *Probation Assistants* is used, this refers to the work that respondents conducted while serving as or supervising Probation Assistants even if they did so in the past.

#### Length of Time and Position (Questions 1 and 2)

Respondents included five individuals who had served or were serving as Probation Assistants in Shasta County; one person was now serving as Probation Assistant in a different division, one as a Community Service Officer, and a sixth person was a Division Director responsible for supervision of assistants.

**Table D1. Number of Years with Shasta County Probation and administering the VPRAI**

Code	Probation	Administering VPRAI
1	5	~2
2	16	Supervising
3	8.5	4-4.5
4	2.5	1
5	1 and 8 months	1 and 7 months
6	1 and 4 months	1 and 4 months

#### VPRAI Interviewing Experience and Training (Questions 3 and 4)

One person had an undergraduate degree that provided them with context and understanding; however, all those who conducted the VPRAIs were trained on the use of the VPRAI and the Noble system by the person whose position they were assuming or another Probation Assistant. There did not appear to be training manuals or videos, rather, new staff tended to accompany current Probation Assistants, observing the assessment process and learning how these were conducted “from start to finish”. One staff described learning to conduct the assessments as a “crash course”. Training was described as “hands on” with the

previous Probation Assistants explaining their reasons for the tools and their processes or seeing if the new assistants had any questions.

In later segments of the interview, it appeared that while the one on one, hands on approach and the opportunity to ask questions was appreciated, it contributed to variability in the way that questions were asked, which questions were asked, which questions were verified, and possibly the type and degree of detail that was included as recommendations in the Public Safety reports.

The number of VPRAI interviews completed and number otherwise administered varied among respondents. There was not a record of how many were completed. A respondent who had more recently served as a Probation Assistant mentioned completing 20 to 30 a day for everyone booked with 3 to 4 being ones involving an interview.

### **Administering the VPRAI: Experiences and Observations (Questions 5-8, 10)**

Respondents spoke about assessing anyone who got arrested on fresh felony charges and was not currently on formal supervision or parole during the arraignment phase. Probation Assistants who had held the office more recently spoke about completing a VPRAI on everyone booked into the jail. It was described as an aspect of the public safety assessment that helps determine whether release is recommended and under what conditions. The VPRAI was described as having been introduced in preparation for the impact of SB10 and its focus on eliminating bail. The Probation Department sought a tool for informing the decision-making process on who should be released and clarifying on what criteria that was based. It has been in use since it was introduced.

In terms of logistics, respondents shared some common steps and challenges. Probation Assistants reported that because their office was outside of the booking area and holding cells, if individuals were in in the booking cells, it was easy to interview them. For the most part, they often completed the interviews in that area. If an individual had already been housed, or where in a cell outside of booking, Probation Assistants would make a request to jail staff to have the individual brought down to booking. The interviews were most often conducted on paper or notepad and later entered into the Noble database. One respondent mentioned that during the pandemic there had been talk of using iPads and engaging with those booked in this way, but that had not happened.

Another aspect of administration of the VPRAI is related to how the interviews were conducted. The assessment itself (Appendix A) consists of risk factors. Probation Assistants determine how the questions are worded. Respondents shared some of the ways that questions were worded to keep the conversation casual. Follow-up questions are up to the discretion of the interviewer. Two Respondents commented that the risk factor related to employment/caregiver status was confusing and that they found it difficult to ask questions about this factor. One reported not being sure what the caregiver status referred to, saying they assumed it referred to caring for an adult but was unsure.

Respondents introduced the questions and conversation in different ways. Two respondents let individuals know that they had questions for them to answer to determine if they were good candidates for the SOR program. These reported that individuals were usually cooperative when they perceived an opportunity to be released. Another said that they approached individuals simply saying that they had a few questions they posed to everyone and asked if they were willing to participate. Respondents described asking questions in an informal, conversational manner; one described their approach to questioning as a focus on building rapport and others remarked on the importance of asking questions in a respectful, friendly, and nonjudgmental manner. In all cases, the manner of the approach was described as important.

Respondents differed somewhat in which risk factors they chose to explore through one-on-one interviews. There was agreement that the factors that most required further discussion or verification included history of substance abuse, employment or caregiver status, and length of residence. Current information was not always available through common databases. Respondents acknowledged that appropriately assessing these required additional details and context. Assessing a history of substance abuse, for example, was also described as a gray area; without clear indications such as criminal charges related to drug use or trafficking, the individual's sobriety on entering the jail or physical manifestations like needle marks, it could be difficult to determine what marked the difference between occasional or recreational use and substance abuse. Understanding this context was described as requiring more than a casual question and was an example of an area where Probation Assistants exercised some discretion and were more likely to include a description in their recommendations.

Respondents also differed as to whether they further verified employment or residence by contacting employers, landlords, or others. In some cases, this depended on the information available and in some cases due to workload.

Comments throughout the interviews suggested that Probation staff value the VPRAI, despite its limitations. Respondents frequently noted that its usefulness can be augmented with detailed information based on interviews regarding any recommendations that might be different than the risk assessment assigned. This was thought to be especially important given the areas where context or discretion was warranted. One respondent described this as an opportunity/responsibility to determine whether an individual should be detained, a determination that also considered the impact of the decision on other factors like employment. "If it was someone who was never in trouble, and maybe brought in for vandalism, I would write a report (explaining the circumstances)". For another respondent, consideration appeared to weigh more heavily on considerations of public safety. For example, when asked about writing recommendations, they said, "If we did go a different direction, it would be to go to a higher risk, something like domestic violence cases, those would often show up as moderate risk, but it would depend on injuries that the victim may or may not have sustained, their history of failure to appear and things like that. . . it was more on dv (domestic violence) cases that we would air on the side of caution."

Respondents did not appear to be convinced that jail staff or judges had so much confidence in the assessment that the guidelines were to be closely followed. In terms of judges' support of Probation Assistant recommendations based on the VPRAI assessment, there was a sense, that recommendations were reviewed and taken into account. One respondent thought that the judges were more likely to place more importance on the charges and FTAs and that the recommendations might be used more by attorneys in making their arguments. Several expressed the opinion that judges differed in following/valuing recommendations based on the VPRAI and the Probation Assistant's assessment. One judge was thought to be more adherent than the other. (See Appendix C for a table summarizing an analysis of recommendations vs. rulings.)

The primary challenges to completing the VPRAI that respondents mentioned when asked included:

- Individuals being released before assessments could be completed. This was seen as being due to jail capacity requirements, other reasons for release, the fact that Probation Assistants are not on site 24 hours a day, 7 days a week, and the number of people booked compared with the number (2 to 3) Probation Assistants at the jail.
- What was happening in the jail that day given current staffing levels affected the Probation Assistants' ability to complete VPRAI on individuals booked into the jail. A medical emergency, an instance with an inmate, individuals having to be brought to court in the morning could all affect jail staff's ability to bring someone who was housed to the Probation Assistant. While there were criteria about whether a Probation Assistant was to interview an individual who had been

booked in the jail and was already housed, these environmental factors sometimes impeded or prevented interviews from occurring.

- Having to complete VPRAI on those already released using only data from the rap sheets, Spillman and JALAN without interviews.
- While Probation Assistants could guess who might be called to court first (e.g., those arrested on a warrant), it was difficult to accurately predict if an individual was going to be present or not when Probation Assistants were available to conduct the interview. Leaving for court usually happened in the morning and this, combined with other factors, could limit the number of individuals that could be interviewed.
- The state/condition of the individuals to be interviewed sometimes had an impact on the possibility of an interview. Not everyone wanted to participate in the interview; some were not interested in SOR or in the possibility of being required to wear a GPS, and some were described as exhibiting combative behavior or mental health issues that made interviews difficult or not possible.

### **Observations about Accuracy and Equity (Questions 9, 11-14)**

During the interview, respondents expressed their perspectives that the VPRAI instrument itself did not discriminate based on race or gender. Reasons cited included that the instrument assessed whether or not a risk factor was in place or had occurred (a yes or no response), the fact that an individual's race was not readily apparent on the databases they consulted to complete the assessment, and the fact that they would find someone who speaks Spanish if translation was needed. Responses suggested that the factors were thought of as being neutral, despite comments about the partial nature of any one factor and, for some, the need for contextualization.

As previously stated, respondents acknowledged that some discretion was involved in certain instances of drug use and, sometimes, in what constitutes employment. Looking at context to formulate recommendations can influence the recommendations made. Respondents mentioned instances where they recommended lower levels of supervision than would be suggested by the score alone based on recent stability, how long ago the FTAs, charges or substance abuse had occurred, or factors such as steady employment and other situations suggesting/leading to motivation to comply. Others noted cases such as particular domestic violence cases, proximity to the victim's residence, or a particularly violent violation by a person with few or no previous risk factors where recommendations might suggest higher levels of supervision or detainment. Several respondents noted that specificity in recommendations was important to providing judges with information on which to make their decisions. One respondent cited being specific about the evidence of domestic violence and including calls to service to an address during the time of residence in addition to previous arrests as contextual information.

When asked about their observations on the accuracy of data gathered, respondents noted that external verification of issues like employment and residence was not always available. Not all respondents could be interviewed and sometimes information was missing from the databases. One respondent noted that verification is often advisable for FTAs because the system can reproduce two FTAs on the same case if the individual has two charges. Those who had conducted VPRAI assessments in the first year or so of its introduction noted that gathering data for the assessment used to be much more time consuming than it is currently.

When asked if there were any questions that could lead to less accurate assessments or that advantaged or disadvantaged any groups, respondents noted the following situations that could affect the risk score:

- The length of time between booking and trial impacts FTA rates. The court system moves slowly; the greater the length of time between arrest and going to court, the greater the chance that individuals may move or forget about a court date, a situation leading to a FTA on their record.

- Poverty and homelessness can impact failure to appear (FTA). Individuals may not have phones, calendars, easy access to places to charge GPS units or phones if they have them, and may move in search of housing, support, or work. It should be noted that Probation provides individuals with information about places available for charging in the county like the Mission, the Community Correction Center (CCC), and the lobby of the jail. Probation Assistants also makes efforts to contact individuals; they develop release plans for individuals with whom they work.
- Having a mental illness or a substance use disorder can affect an individual's capacity to track when and where they need to appear.
- Assessing residence, especially in cases of homelessness, and assessing substance abuse are somewhat more subjective than other factors.
- In terms of interviews, one respondent noted that not all individuals were forthcoming with their history of substance abuse or residence. One noted that not all individuals were willing to be on SOR or wear a GPS; this would be revealed in the interviews and included in recommendations.
- Assessment items like previous criminal charges, FTAs, and history of drug abuse count as a point each regardless of how long ago the charges occurred. This was mentioned as an item that could be addressed in the recommendation, a matter left to the Probation Assistant's discretion.
- Reviews of pre-trial assessments have noted that because people of color are often arrested at higher rates, there is a greater chance that they may have previous arrests, criminal history, and possibly pending charges, adding to the total score of these populations.
- Some of the items on which individuals are assessed are related to other factors. For example, a criminal history and two or more criminal convictions, depending on the type and recency, might affect employment opportunities. A history of drug abuse can also show up as criminal history, and lack of steady employment can affect length of stay at current residence. One respondent noted that a high-risk score leading to detainment can affect employment status or residence.

Respondents mentioned other issues that can affect the usefulness of the assessment results. For example, individuals can be ordered onto SOR without completion of interviews or the VPRAI. Perhaps more of an issue, individuals can be placed on SOR without release planning; when a Probation Assistant is involved, staff will review the conditions with the individual to ensure understanding, explaining what the conditions mean, and problem-solving issues that could lead to lack of compliance. An individual's conditions can change after release and thereby affect what one's current score would be; for example, one could experience a change in use of substances, employment, caregiving, or residence (both in terms of address and whether one remains in county). In terms of length of residence, one respondent noted that there can be many reasons for changing residence during the past year that might not be an indicator of risk; change of employment, care giving responsibilities, seeking less expensive rent, transportation, and other reasons were mentioned. One respondent noted their own residence history as a case in point. Finally, several respondents expressed their perception that the judges generally agreed with the recommendations made, although several respondents expressed the opinion that one judged seemed more likely to rule with the recommendations than the other.

## **Summary Comments**

Interviews with Probation staff indicated their observations that the VPRAI is a useful risk assessment tool, noting the limitations inherent in particular questions. It was not thought that adding subsections of questions to a factor such as criminal history would strengthen the predictive reliability to the instrument. It can be hard to truly predict human behavior, one respondent noted, but the tool provides a good guideline.

Respondents reported that the accuracy and usefulness of the instrument lies not only in gathering accurate data from Spillman, booking sheets, and JALAN, but in further contextualizing those risk factors by interviewing individuals. The data gathered from the interviews inform the score in some cases (for example, determining length of residence and caregiving, history of drug abuse, and employment). In some cases, the interviews affect the recommendations made by the assessing staff person regarding interpretation of the score (for example, noting that the point assigned for criminal history was related to a minor violation or an instance that happened many years in the past). Respondents noted several factors for which discretion often needed to be applied, including questions about history of drug abuse, residence, and employment. Context was also seen as being helpful in interpretation of other scores.

Comments suggest that there may exist differences or inconsistencies in the following: instruction about how to administer the VPRAI, how questions about risk factors are worded, which questions should be asked of individuals in what cases, how staff introduce the reason for asking questions while still maintaining a respectful, conversational approach, and possibly the level of details included in the recommendation. It should be noted that the project did not include a review of recommendation reports and it is not known if these inconsistencies resulted in different scores or recommendations. However, the findings suggest that some clarity and formalization around these processes could strengthen instrument reliability.

There also appeared to be differences in understanding whether the focus is on ensuring public safety or accurately assessing decisions about individual liberty/detaining, or both. Previous studies suggest that clarity about the purpose can help guide recommendation formulation.

In addition to clarifying procedures and purpose, the findings suggest that the usefulness of the tool might benefit from the following:

- Education about the tool and the role of interviewing and recommendations.
- Documentation in an easily accessible database noting if an interview was conducted in determining the VPRAI score and if a release plan was provided. One of the current issues being addressed is easier access to such information, scores, outcomes, and other indicators on a larger number of individuals, data that can be disaggregated by race, gender, socio-economic status, and homelessness and to which various measures of equity can be applied.
- Expanding the number and percentage of individuals who are assessed using the VPRAI and who are provided with a release plan.
- When tracking recommendations and rulings, including VPRAI scores, race, ethnicity, and whether or not interviews were conducted as part of the VPRAI.

## Appendix E. Data Tables

This appendix includes data tables summarizing the quantitative analysis conducted as well as brief technical notes on select analysis strategies. A description of databases and a discussion of data limitations and caveats appears in the main report.

**Table E1. Data Available for Analysis**

Data	Duplicated	Unduplicated
VPRAI (Noble) Data	7007	5132
Data Extraction: Individuals on SOR with Termination Codes	1258	949
<ul style="list-style-type: none"> <li>Those on SOR who had Termination codes, but no VPRAI</li> </ul>		186
<ul style="list-style-type: none"> <li>Those on SOR who had Termination codes and one VPRAI for the initial entry date</li> </ul>		518
<ul style="list-style-type: none"> <li>Those on SOR with more than one Termination code but who were missing a VPRAI for one or more termination instances</li> </ul>		26
Data Extraction: Random Sample of Individuals Not on SOR	379	373

## Demographic Characteristics of Individuals Included in the Analysis

**Table E2. Individuals by SOR Status and Gender**

Gender	SOR		Non SOR	
	N	%	N	%
Female	413	32%	97	27%
Male	878	68%	269	73%

**Table E2. Individuals by SOR Status and Race/Ethnicity**

Race/Ethnicity	SOR		Non SOR		Total		2019 Census*
	N	%	N	%	N	%	%
American Indian or Alaska Native	62	5%	11	3%	73	4.4%	2.7%
Asian	16	1%	5	1%	21	1.3%	3.2%
Black or African American	60	5%	21	6%	81	4.9%	1.2%
Hispanic or Latino	54	4%	27	7%	81	4.9%	10%
N/A	12	1%	16	4%	28	1.7%	2%
Other/2 or more races in Census Data	2	0.20%	3	1%	5	0.3%	4%
Native Hawaiian or Pacific Islander	1	0.10%	0	0%	1	0.1%	.1%
White	1088	84%	290	78%	1378	82.6%	86.6%

**Note:** The 2019 Census data is used here to provide a sense of the percentage of the population reporting

One Race as compiled by the US Census Quick Facts. Within Census data, individuals of Hispanic/Latino descent can be of any race. According to data notes available on Census.gov, QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Non-employer Statistics, Economic Census, Survey of Business Owners, Building Permits.

**Table E3. Individuals by SOR Status and Age**

Age	SOR		Not SOR	
	N	%	N	%
18-24 years	70	19%	111	9%
25-30 years	79	21%	296	23%
31-40 years	106	28%	434	34%
41-50 years	70	19%	259	20%
51+ years	47	13%	194	15%

The minimum age for all individuals (SOR and non SOR) was 18 and the maximum was 78. The average age of individuals was 37.2 and the median age was 35.

**Individuals by Warrants, Charges, Recommendations and Risk Levels**

**Table E4. Individuals by SOR Status and Number of Warrants Issued**

# Warrants Issued	SOR		Non SOR	
	N	%	N	%
1-5	732	57%	233	63%
6-10	260	20%	70	19%
11-20	176	14%	49	13%
21+	125	10%	18	5%



**Table E5. Individuals by SOR and Felony/Misdemeanor Status and Probation Assistant Recommendations**

Status	SOR		Non SOR	
	N	%	N	%
<b>Felony</b>	1290	99.54%	373	100%
<b>Misdemeanor</b>	6	0.40%	--	--
<b>Recommendations</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
<b>Increased Bail</b>	46	3.4%	25	6.5%
<b>No Bail</b>	7	0.5%	1	0.3%
<b>No Recommendation</b>	8	0.6%	5	1.3%
<b>Own Recognizance</b>	22	1.6%	13	3.4%
Status	SOR		Non SOR	
	N	%	N	%
<b>Reduced Bail</b>	9	0.7%	5	1.3%
<b>Revoke/Reinstate</b>	4	0.3%	1	0.3%
<b>Revoke/Terminate</b>	1	0.1%	0	0.0%
<b>Same Bail</b>	123	9.0%	61	16.0%
<b>SOR with GPS</b>	435	31.8%	37	9.7%
<b>SOR Not Recommended</b>	675	49.3%	218	57.1%
<b>SOR with Conditions</b>	38	2.8%	16	4.2%

**Table E6. Individuals by SOR Status and Initial Type of Charge Noted**

Charge	SOR		Non SOR	
	N	%	N	%
<b>DUI</b>	0	0.0%	0	0.0%
<b>Drug</b>	258	28.0%	43	15.4%
<b>Failure to Appear</b>	43	4.7%	10	3.6%
<b>Firearm</b>	98	10.6%	19	6.8%
<b>Other</b>	184	20.0%	55	19.6%
<b>Sex Offense</b>	15	1.6%	9	3.2%
<b>Theft/Fraud</b>	0	0.0%	0	0.0%
<b>Traffic</b>	6	0.7%	0	0.0%
<b>Violent</b>	318	34.5%	144	51.4%

**Table E7. Individuals by SOR Status and VPRAI Risk Assessment Score**

Risk Level	SOR		Non SOR		Total	
	N	%	N	%	N	%
High	1043	80.0%	275	73.7%	1318	78.6
Above Average	158	12.1%	48	12.9%	206	12.3
Average	66	5.1%	32	8.6%	98	5.8
Below Average	23	1.8%	7	1.9%	30	1.8
Low	6	0.5%	4	1.1%	10	0.6
Not Assessed	7	0.5%	7	1.9%	14	0.8

**Table E8. SOR and Non SOR Sample by VPRAI Score\***

Risk Level	AI/AN	Black/AA	Hisp/Latino	Asian	White	Other	N/A
High (N=1318)	3.8%	4.5%	3.7%	1.4%	85.3%	.2%	1.2%
Above Average (N=199)	5.5%	3.5%	9%	1%	77.9%	.5%	2.5%
Average (N=95)	4.2%	11.6%	8.4%	1.1%	67.4%	1.1%	6.3%
Below Average (N=30)	6.7%	13.3%	10%	0%	66.7%	0%	3.3%
Low (N=10)	20%	0%	10%	0%	70%	0%	0%

\*Race was rarely included in databases where there were no VPRAI scores.

**Pre-Trial Outcomes**

When an individual’s case is closed, the case is assigned a Termination Code. Termination Codes are grouped into two categories: TSS (Successful Termination) and TSU (Unsuccessful Termination). The Termination Codes used in the following analyses include the following:

**Table E9. Termination Codes**

TSS: Successful Termination	TSU: Unsuccessful Termination
PRF-Formal Probation Granted	FTA-Failure to Appear
CRR-Informal Probation	NLV-New Law Violation
NPB-No Probation Ordered	TEC-Technical Violation
DEJ-Deferred Entry of Judgement	SCJ-Return to Jail for other reasons then listed above
MSB Mandatory Supervision	
ASP Sent to Prison	
MSD-Misdemeanor conviction	
DSC- Case dismissed	
BCH-OR’d or SOR terminated by Judge	

**Table E10. Top Four Termination Action Codes, Successful and Unsuccessful, for Individuals Scoring High Risk (N=799)**

Action Codes		
<b>Successful (TSS)</b>	<b>N</b>	<b>%</b>
CRR: Informal Probation	195	24%
PRF: Formal Probation Granted	161	20%
<b>Unsuccessful (TSU)</b>	<b>N</b>	<b>%</b>
NLV: New Law Violation	128	16%
FTA: Failure to Appear	113	14%
All Other Action Codes Combined	202	25%

**Risk by Gender:**

Men are more likely to be assessed as *High Risk*; the within group proportion was 84% for Men vs. 79% for Women.

**Table E11. High Risk VPRAI Scores by Race/Ethnicity as Within Group Percentage**

Ethnicity (High Risk)	Total Population (N)	High Risk (n)	Within Groups Proportion (%)
American Indian or Alaska Native	76	55	72.37%
Asian	16	13	81.25%
Black or African American	66	54	81.82%
Hispanic or Latino	60	37	61.67%
N/A	15	11	73.33%
White	1310	1111	84.81%

**Termination Code by High Risk and Race/Ethnicity**

While Asian individuals had the highest proportion of successful terminations (noted as TSS), they had one of the highest *High Risk* proportions. It should be noted that the sample size for Asian individuals was small and that the categories of Other and Native Hawaiian were excluded from analyses for even lower sample sizes.

Black individuals had the highest proportion in the *High Risk* category and in the category of those with unsuccessful terminations (coded as TSU). Results are similar for White subjects.

**Table E12. Within Group Percentages for Individuals with an Unsuccessful Termination Code Receiving a High Risk VPRAI Score by Race/Ethnicity**

<b>Ethnicity (TSU)</b>	<b>Total Population (N)</b>	<b>High Risk (n)</b>	<b>Within Groups Proportion (%)</b>
American Indian or Alaska Native	76	15	19.74%
Asian	16	3	18.75%
Black or African American	66	18	27.27%
Hispanic or Latino	60	14	23.33%
N/A	15	2	13.33 %
Nat, Hawaiian/Other Pacific Islander	2	0	
Other	1	0	
White	1310	315	24.05%

**Table E13. Within Group Percentages for Individuals with a Successful Termination Code Receiving a High Risk VPRAI Score by Race/Ethnicity**

<b>Ethnicity (TSS)</b>	<b>Total Population (N)</b>	<b>High Risk (n)</b>	<b>Within Groups Proportion (%)</b>
American Indian or Alaska Native	76	33	43.42%
Asian	16	12	75.00%
Black or African American	66	26	39.39%
Hispanic or Latino	60	31	51.67%
N/A	15	10	66.67%
Nat. Hawaiian/Other Pacific Islander	2	2	100.00%
Other	1	1	100.00%
White	1310	538	41.07%

**Table E14. Percentage of Successful Terminations and Type of Unsuccessful Terminations by VPRAI Risk Level and Race**

<b>Overall</b>	<b>Success %</b>	<b>FTA%</b>	<b>NLV</b>	<b>Tech Viol</b>
High-Above Average (N=1442)	41.3%	8.3%	7.8%	3.9%
Average (N=68)	66.2%	5.9%	8%	2%
Below Average/Low (N=29)	62.1%	0%	13.8%	3.5%
<b>White</b>	<b>Success %</b>	<b>FTA%</b>	<b>NLV</b>	<b>Tech Viol</b>
High-Above Average (N=1236)	39.6%	8.6%	9.4%	5%
Average (N=48)	66.7%	6.3%	14.6%	0%
Below Average/Low (N=21)	66.7%	0%	14.3%	4.8%
<b>American Indian/ Alaska Native</b>	<b>Success %</b>	<b>FTA%</b>	<b>NLV</b>	<b>Tech Viol</b>
High-Above Average (N=65)	44.6%	6.2%	6.2%	4.6%
Average (N=5)	40%	20%	0%	20%
Below Average/Low (N=4)	50%	0%	25%	0%
<b>Asian</b>	<b>Success %</b>	<b>FTA%</b>	<b>NLV</b>	<b>Tech Viol</b>
High-Above Average (N=15)	73.3%	0%	20%	0%
Average (N=1)	100%	0%	0%	0%
Below Average/Low (N=0)	0%	0%	0%	0%
<b>Black</b>	<b>Success %</b>	<b>FTA%</b>	<b>NLV</b>	<b>Tech Viol</b>
High-Above Average (N=57)	36.8%	5.3%	15.8%	1.8%
Average (N=7)	57.1%	0%	14.3%	14.3%
Below Average/Low (N=2)	50%	0%	0%	0%
<b>Hispanic/Latino</b>	<b>Success %</b>	<b>FTA%</b>	<b>NLV</b>	<b>Tech Viol</b>
High-Above Average (N=55)	50.9%	7.3%	9.1%	5.5%
Average (N=3)	66.7%	0%	0%	0%
Below Average/Low (N=2)	50%	0%	0%	0%

### Chi-Square Analysis

For the purposes of this analysis, individuals were noted as being scored *High Risk* if their risk level was assessed as being Above Average and/or High Risk. An individual was noted as having received a *Low Risk* score if their risk level was notes as Low, Medium, and/or Below Average risk.

To examine possible differences between race/ethnicity and Risk Level, a Chi-Square analysis was performed. Risk Level was coded 0 for low and 1 for high. Results indicated a significant difference in Risk Level by race at the .05 level,  $X^2 (8, N=1796) = 1197.251, p=.000$ . That is, there is a meaningful relationship between race and high-risk levels; the racial differences in proportions of individuals who received *High Risk* level scores are meaningful and connected. Another way of stating this is that knowing the race of the individual can help predict risk level.

---

**Table E 15. Chi-Square Results at p<.05 Risk**  
**Race**  $X^2 (7, N=1539) = 35.958, p=.000$

---

To further examine possible differences, a Chi-Square analysis was also performed on scores within racial categories. To this end, individual cases were coded as White (1=White, 0=Not White), Black (1=Black, 0=Not Black), Native American/Alaska Native (1=Native American, 0=Not Native American), and Hispanic/Latino subjects (1=Hispanic, 0=Not Hispanic). The Risk Level was included in the analysis. These groups were selected due to having higher representation in the High Risk and FTA categories.

Results indicated a significant difference for White, Black, and Native subjects at the .05 level,  $X^2(1, N=1539) = 14.986, p=.000$ ,  $X^2(1, N=1539) = 6.280, p=.012$ , and  $X^2(1, N=1539) = 4.519, p=.034$ , respectively. That is, there were meaningful differences in proportions of White, Black, and Native individuals who received *High Risk* level scores when compared to other racial/ethnicity groups suggesting that there is a relationship between these categorical variables. Another way of stating this is that being of White, Black, and Native American race was somewhat predictive of the risk level at which they were assessed.

Chi Square results did not indicate a significant difference for Hispanic subjects. That is, the differences in proportions of Hispanic individuals who received *High Risk* level scores and FTA when compared to other racial/ethnicity groups are not meaningful.

<b>Table E16. Chi-Square Results at <math>p &lt; .05</math></b>	
<b>Race</b>	<b>Risk</b>
<b>White</b>	$X^2(1, N=1539) = 14.986, p=.000$
<b>Black</b>	$X^2(1, N=1539) = 6.280, p=.012$
<b>Native American/Alaska Native</b>	$X^2(8, N=1539) = 4.519, p=.034$

To examine possible differences between race/ethnicity and FTA, a Chi-Square analysis was performed. No significant difference was found between race/ethnicity and FTA. Results were similar for gender and FTA.

A Chi-Square was also performed on Race by FTA and Risk Level. No significant differences were found; therefore, results were not meaningful.

To examine possible differences between gender and Risk level only, a Chi-Square analysis was performed. The analysis did not indicate no significant difference for the variables gender and risk level.

### **Area Under the Curve Analysis**

The Area Under the Curve (AUC) analysis, where the curve is known as a Receiver Operating Characteristic (ROC), is a measure of the accuracy of a quantitative test or the accuracy of a model that classifies subjects into one of two categories. The confidence interval for an AUC indicates the uncertainty of the estimate. A test with no better accuracy than chance has an AUC of 0.5 and a test with perfect accuracy (e.g., of predicting an outcome) has an AUC of 1. In general, with respect to its most common use in diagnosing medical conditions, an AUC of 0.5 suggests no discrimination (i.e., no ability to diagnose people with and without the condition based on the test). An AUC of 0.7 to 0.8 is considered an acceptable range (or ability to predict/diagnose), 0.8 to 0.9 is considered excellent, and more than 0.9

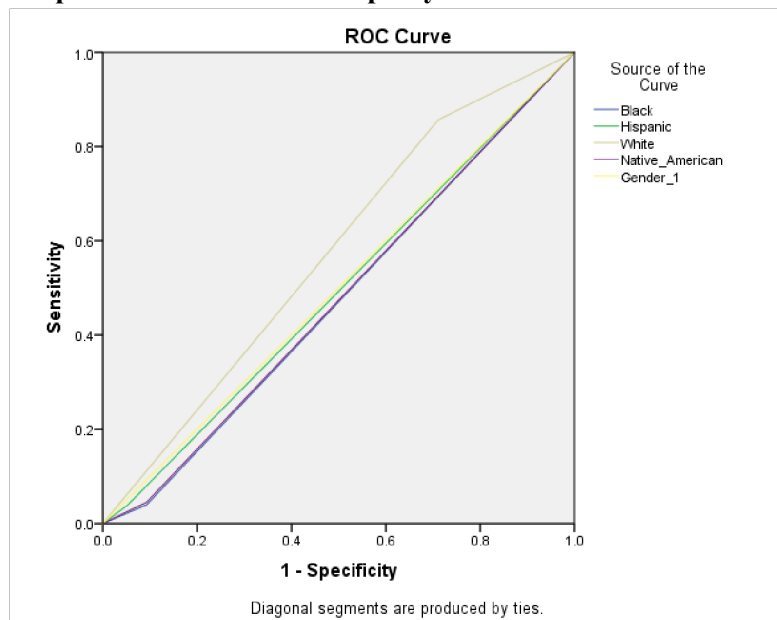
is considered outstanding. According to the PPIC, “Generally, an AUC value greater than 0.7 signals that the risk prediction model makes adequately accurate predictions, whereas values below 0.6 suggest that it does not.” (Harris, et al 2019, p. 20)

An Area Under the Curve (AUC) analysis was performed to examine the distance of the relationship between race/ethnicity and risk level. Specifically, White, Black, Hispanic/Latino, and Native American/Alaska Native subjects were examined. Area Under the Curve results for White subjects was .6 while it was .5 for Black, for Hispanic/Latino, and for Native American/Alaska Native individuals. The results suggest that, in this data set, the VPRAI has an equal chance of predicting who is *High Risk* or *Low Risk* with regards to race/ethnicity. That is, there is no indication of discrimination or bias in assignment of risk evident based on this measure; race/ethnicity does not appear to lead to accurate prediction of risk level.

**Table E17. AUC Results by Race/Ethnicity**

Race (Test Variables)	Area Under the Curve Results
Black	0.473
Hispanic	0.493
White	0.573
Native American/Alaskan Native	0.476
Gender	0.5

**Graph E18. ROC Curve Graph by Race**



An Area Under the Curve analysis was also performed to examine the distance of the relationship between gender and risk level. The result of this analysis was a score of .5, indicating that VPRAI score has an equal chance of predicting risk level based on gender.

## Pre-Trial Outcomes and Equity

In addition to other analyses mentioned in this report, the data was subjected to various analysis intended to examine indications of equity or disproportionate impact by race. In the case of the VPRAI, equity would be achieved if the tool treated different people equally or similarly. For the purposes of this analysis, several standards of equity or fairness applied by Harris et al (2019) in the Public Policy Institute of California (PPIC) study of pretrial risk assessments were applied. These measures are displayed in what are termed Confusion Tables.

A Confusion Table relates the predictions made by risk assessment tools to the behavior observed after the prediction was made. It describes the proportion of predictions that result in correct classifications.

The **Confusion Tables** in this report include the following measures:

- **Accuracy:** This measure examines how often the classifier is correct. It is a measure of whether the accuracy of prediction is the same in both groups.
- **Statistical Parity:** This measure examines if the true positive rate (sensitivity) and the true negative rate (specificity) are the same for both groups. Where there is parity, the rates are the same.
- **Predictive Parity:** Achieving predictive parity requires that the positive predictive value (precision) and the negative predictive value to be the same for both groups. Similarly, the false discovery and false omission rates should be the same for both groups,
  - **A False Positive** indicates the rate by which a positive (expected) result is incorrectly assessed.
  - **A False Negative** indicates the rate by which a negative (unexpected/opposite) result is incorrectly assessed.
  - **A True Positive** refers to an outcome where the model correctly predicts the “positive class”. A True Negative refers to an outcome where the model correctly predicts the “negative class”.
  - **A False Positive** refers to an outcome where the model incorrectly predicts the “positive class”. A True Negative refers to an outcome where the model incorrectly predicts the “negative class”.
  - **False Discovery Rate** refers to the proportion of the individuals with a **positive** test result for which the true condition is actually negative.
  - The **False Omission Rate** is the proportion of the individuals with a negative test result for which the true condition is **positive**.

The confusion tables in this report are modeled after the analysis conducted by PPIC and detailed in the document *Pretrial Risk Assessment in California: Technical Appendices* (<https://www.ppic.org/publication/pretrial-risk-assessment-in-california>). The calculations used are described in the table below.



**Table E19. Description of the Actual Pretrial Outcome (Confusion) Tables**

<b>Actual Pretrial Outcomes (Confusion Table)</b>			
	<b>Failure to Appear</b>	<b>Appear</b>	<b>Statistical Parity (Outcome)</b>
<b>High Risk</b>	True Positive (TP)	False Positive (FP)	<b>FP/(FP+TN) False Positive Rate</b>
<b>Low Risk</b>	False Negative (FN)	True Negative (TN)	<b>FN/(FN+TP) False Negative Rate</b>
<b>Predictive Parity (Prediction Oriented)</b>	<b>FP/(FP+TP) False Discovery Rate</b>	<b>FN/(FN+TN) False Omission Rate</b>	
<b>Accuracy (TP+TN)/(TP+FP+FN+TN)</b>			

**Pretrial Outcomes of Failure to Appear by Race and Level of Risk Analyzed with Accuracy, Predictive Parity, and Statistical Parity Analyses**

Given the current format of the database systems, Probation staff extracted termination (action) codes for individuals included in the SOR database as well as for the random sample of those on the Non SOR database. Unsuccessful termination codes (TSU) included the following:

**FTA**-Failure to Appear

**NLV**-New Law Violation

**TEC**-Technical Violation

**SCJ**-Return to Jail for

other reasons then listed above Probation staff noted that a historical account of successive TSU codes was not available; that is, only the most recent termination code is maintained in JALAN. Given the fact that it is not known if an individual incurred both a Failure to Appear (FYA) and a New Law Violation (NLV) or just one of these, the analysis of pretrial outcomes was conducted with a focus on FTA only, a focus on all TSU codes as described above, and a focus on TSU codes excluding FTA. For the purposes of the analysis given sample sizes, *Above Average Risk* and *High Risk* categories were collapsed into the category *High Risk*; all other categories (*Low, Medium, Below Average, Average*) were collapsed into *Low Risk*.

This section includes tables on *Pretrial Outcomes of Failure to Appear by Race and Level of Risk Analyzed with Accuracy, Predictive Parity, and Statistical Parity Analyses*.

**Table E20. Confusion Tables: Pretrial Failure to Appear by Race/Ethnicity**

<b>American Indian/AN</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>Failure to Appear</b>	<b>Appear</b>		
<b>High Risk</b>	4	61	<b>88.4%</b>	<b>FP Rate</b>
<b>Low Risk</b>	1	8	<b>20.%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>93.85%</b>	<b>9.09%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>16.2%</b>			
<b>Asian</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>Failure to Appear</b>	<b>Appear</b>		
<b>High Risk</b>	1	15	<b>100%</b>	<b>FP Rate</b>
<b>Low Risk</b>	0	0	<b>0%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>93.8%</b>	<b>0%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>6.3%</b>			
<b>Black/African Amer.</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>Failure to Appear</b>	<b>Appear</b>		
<b>High Risk</b>	3	54	<b>85.7%</b>	<b>FP Rate</b>
<b>Low Risk</b>	0	9	<b>0%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>94.7%</b>	<b>0%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>18.2%</b>			
<b>Hispanic/Latino</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>Failure to Appear</b>	<b>Appear</b>		
<b>High Risk</b>	4	51	<b>91.1%</b>	<b>FP Rate</b>
<b>Low Risk</b>	0	5	<b>0%</b>	<b>FN Rate</b>
<b>Predictive Parity</b>	<b>92.7%</b>	<b>0%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>15%</b>			
<b>White</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>Failure to Appear</b>	<b>Appear</b>		
<b>High Risk</b>	106	1130	<b>94.1%</b>	<b>FP Rate</b>
<b>Low Risk</b>	3	71	<b>2.8%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>91.4%</b>	<b>4.1%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>13.5%</b>			
<b>All Races</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>Failure to Appear</b>	<b>Appear</b>		
<b>High Risk</b>	119	1323	<b>93.4%</b>	<b>FP Rate</b>
<b>Low Risk</b>	4	93	<b>3.3%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>91.8%</b>	<b>4.1%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>13.8%</b>			

**Pretrial Outcomes of All Successful and Unsuccessful Termination (Codes) by Race and Level of Risk Analyzed with Accuracy, Predictive Parity, and Statistical Parity Analyses**

This section includes tables on *Pretrial Outcomes of All Successful and Unsuccessful Termination (Codes) by Race and Level of Risk Analyzed with Accuracy, Predictive Parity, and Statistical Parity Analyses*.

**Table E21. Unsuccessful (TSU) and Successful (TSS) Pretrial Outcomes by Race/Ethnicity**

<b>American Indian/AN</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>TSU</b>	<b>TSS</b>		
<b>High Risk</b>	11	29	<b>87.9%</b>	<b>FP Rate</b>
<b>Low Risk</b>	4	4	<b>26.7%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>72.5%</b>	<b>50%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>31.3%</b>			
<b>Asian</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>TSU</b>	<b>TSS</b>		
<b>High Risk</b>	3	11	<b>91.7%</b>	<b>FP Rate</b>
<b>Low Risk</b>	0	1	<b>0%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>78.6%</b>	<b>0%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>26.7%</b>			
<b>Black/African Amer.</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>TSU</b>	<b>TSS</b>		
<b>High Risk</b>	16	21	<b>80.8%</b>	<b>FP Rate</b>
<b>Low Risk</b>	2	5	<b>11.1%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>56.8%</b>	<b>28.6%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>47.7%</b>			
<b>Hispanic or Latino</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>TSU</b>	<b>TSS</b>		
<b>High Risk</b>	13	28	<b>90.3%</b>	<b>FP Rate</b>
<b>Low Risk</b>	1	3	<b>7.1%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>68.3%</b>	<b>25%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>35.6%</b>			
<b>White</b>	<b>Actual Pretrial Outcomes</b>		<b>Statistical Parity</b>	
	<b>TSU</b>	<b>TSS</b>		
<b>High Risk</b>	301	489	<b>91.4%</b>	<b>FP Rate</b>
<b>Low Risk</b>	14	46	<b>4.4%</b>	<b>TN Rate</b>
<b>Predictive Parity</b>	<b>61.9%</b>	<b>23.3%</b>		
	<b>False Discovery Rate</b>	<b>False Omission Rate</b>		
<b>Accuracy</b>	<b>40.8%</b>			

All Races	Actual Pretrial Outcomes		Statistical Parity	
	TSU	TSS		
High Risk	346	587	90.3%	FP Rate
Low Risk	21	63	5.7%	TN Rate
Predictive Parity	62.9%	25%		
	False Discovery Rate	False Omission Rate		
Accuracy	40.2%			

**Pretrial Outcomes of All Successful and Unsuccessful Termination Codes Excluding Failure to Appear by Race and Level of Risk Analyzed with Accuracy, Predictive Parity, and Statistical Parity Analyses**

This section includes tables on *Pretrial Outcomes of All Successful and Unsuccessful Termination Codes Excluding FTA by Race and Level of Risk Analyzed with Accuracy, Predictive Parity, and Statistical Parity Analyses*. The remaining Unsuccessful Termination Codes included in the analysis are **NLV**-New Law Violation, **TEC**-Technical Violation and **SCJ**-Return to Jail for other reasons then listed above.

**Table E22. Unsuccessful (TSS) Pretrial Termination Codes Excluding FTA and Successful (TSS) Pretrial Termination Outcomes by Race**

American Indian/AN	Actual Pretrial Outcomes		Statistical Parity	
	TSU (Excl. FTA)	TSS		
High Risk	7	29	87.9%	FP Rate
Low Risk	3	4	30 %	TN Rate
Predictive Parity	80.6%	42.9%		
	False Discovery Rate	False Omission Rate		
Accuracy	25.6%			
Asian	Actual Pretrial Outcomes		Statistical Parity	
	TSU (Excl. FTA)	TSS		
High Risk	3	11	91.7%	FP Rate
Low Risk	0	1	0%	TN Rate
Predictive Parity	78.6%	0%		
	False Discovery Rate	False Omission Rate		
Accuracy	26.7%			
Black /African Amer.	Actual Pretrial Outcomes		Statistical Parity	
	TSU (Excl. FTA)	TSS		
High Risk	13	21	80.8%	FP Rate
Low Risk	2	5	13.3 %	TN Rate
Predictive Parity	61.8%	28.6%		
	False Discovery Rate	False Omission Rate		
Accuracy	43.90%			

Hispanic or Latino	Actual Pretrial Outcomes		Statistical Parity	
	TSU (Excl. FTA)	TSS		
High Risk	9	28	90.3%	FP Rate
Low Risk	1	3	10 %	TN Rate
Predictive Parity	75.7%	25%		
	False Discovery Rate	False Omission Rate		
Accuracy	29.3%			
White	Actual Pretrial Outcomes		Statistical Parity	
	TSU (Excl. FTA)	TSS		
High Risk	195	489	91.4%	FP Rate
Low Risk	11	46	5.3 %	TN Rate
Predictive Parity	71.5%	19.3%		
	False Discovery Rate	False Omission Rate		
Accuracy	32.5%			
All Races	Actual Pretrial Outcomes		Statistical Parity	
	TSU (Excl. FTA)	TSS		
High Risk	227	587	90.3%	FP Rate
Low Risk	17	63	7%	TN Rate
Predictive Parity	72.1%	21.3%		
	False Discovery Rate	False Omission Rate		
Accuracy	32.4%			

**Other Measures of Disproportionate Impact**

In an effort to examine potential disproportionate impact, the stud also employed measures of disproportionate analysis used by California Community Colleges to determine disproportionate impact. These included the 80% Rule, the percentage point gap, and the proportionality index (Sosa, 2017). These analyses focused on individuals that received a VPRAI risk level assessment of high or above average, 93.7% of risk levels assessed. Asian individuals were excluded from these analyses given the small sample size (N=15).

**80% Rule:** The 80% rule examines if the subgroup in question (e.g., individuals of a particular race) achieved the desired outcome (Successful Termination, No FTA, No New Law Violation, or No Technical Violation) less than 80% of the time the highest achieving group achieves this outcome. The one instance falling below 80% occurred for Black/African American individuals (72.4%) with respect to successful termination.

**Percentage Point Gap:** The percentage point gap approach examines the difference in percentage points between a particular group (e.g., by race) and the average percentage for an outcome across all demographic groups. The larger the difference, the more likely an indication of disproportionate impact. With small sample sizes, it is important to take margin of error percentages into account in analyzing results (Ramirez-Faghih, Keeley, and Brisolar, 2017). Given the margin of error employed with a sample size of 57 (13%), the percentage point gap

noted for Black individuals with respect to successful terminations and New Law Violations do not necessarily suggest disproportionate impact.

**Proportionality Index:** The proportionality index examines whether the proportion of a subgroup (e.g., by race) in a cohort is proportionate to its representation in the desired outcome (e.g., Successful Termination, No FTA, etc.). There is no clear consensus on what the cut off value for the index should be, though a proportion below .85 has been suggested as useful. There were no instances in which this measure fell below .85 for any sub-group.

Examining key successful and unsuccessful termination codes for individuals assessed at high or above average risk by these measures of disproportionate impact suggests attention to successful termination rates and New Law Violations for Black/African American individuals could be examined further in the future with additional data. Given the sample sizes and all measured considered, there was no indication of systematic disproportionate impact by race on these measures for individuals assessed in this risk category.

**Table E23. Additional Measures of Disproportionate Impact to Success Rates for Individuals Receiving High Risk Scores by Race for Successful Termination, No FTA, No NLV, and No TEC**

High Risk	N	Success %		80%	Proportion Success	Proportion of Cohort	PI	%
All Races	1442	41.3%						
White	1236	39.6%		77.7%	84.6	85.7%	1.0	-1.7%
AI/AN	65	44.6%		87.7%	5.0	4.5%	1.1	3.3%
Asian	16	73.3%		144.0%	1.9	1.0%	1.8	32.0%
Black	57	36.8%		72.4%	3.6	4.0%	0.9	-4.5%
Hispanic/Latino	55	50.9%		100.0%	4.8	3.8%	1.3	9.6%
N		578						
High Risk	N	FTA%	No FTA	80%	Proportion Success	Proportion of Cohort	PI	%
All Races		8.3%	91.8%					
White		8.6%	91.4%	96.5%	86.2	85.7%	1.0	0.3%
AI/AN		6.2%	93.9%	99.1%	4.7	4.5%	1.0	-2.2%
Asian		0.0%	100.0%	105.6%	1.1	1.0%	1.1	-8.3%
Black		5.3%	94.7%	100.0%	4.1	4.0%	1.0	-3.0%
Hispanic/Latino		7.3%	92.7%	97.9%	3.9	3.8%	1.0	-1.0%
N		1311						
High Risk	N	NLV%	No NLV	80%	Proportion Success	Proportion of Cohort	PI	%
All Races		7.8%	92.2%					
White		9.4%	90.6%	96.5%	86.7	85.7%	1.0	1.6%
AI/AN		6.2%	93.9%	99.9%	4.7	4.5%	1.0	-1.7%
Asian		20.0%	80.0%	85.2%	0.9	1.0%	0.9	12.2%
Black		15.8%	84.2%	89.7%	3.7	4.0%	0.9	8.0%
Hispanic/Latino		9.1%	90.9%	96.8%	3.9	3.8%	1.0	1.3%
N		1291						
High Risk	N	TEC	No TEC	80%	Proportion Success	Proportion of Cohort	PI	%
All Races		3.9%	96.1%					
White		5.0%	95.0%	96.6%	86.4	85.7%	1.0	1.1%
AI/AN		4.6%	95.4%	97.0%	4.6	4.5%	1.0	0.7%
Asian		0.0%	100.0%	101.7%	1.1	1.0%	1.1	-3.9%
Black		1.8%	98.3%	99.9%	4.1	4.0%	1.0	-2.2%
Hispanic/Latino		5.5%	94.6%	96.2%	3.8	3.8%	1.0	1.6%
N		1359						

## Appendix F. References

- Harris, H., Goss, J., and Gumbs, A. (2019). Pretrial Risk Assessment in California. Public Policy Institute of California. Retrieved from: <https://www.ppic.org/wp-content/uploads/pretrial-risk-assessment-in-california.pdf>.
- Ramirez-Faghih, C., Keeley, M., and Brisolara, S. (2017). “Percentage Point Gap Method in Analyzing Disproportionate Impact”. Presentation to JSPAC (Joint Special Populations Advisory Committee), *California Perkins Annual Equity and Access Through CTE* Conference, Friday, December 1<sup>st</sup>.
- Sosa, G. (2017). Using Disproportionate Impact Methods to Identify Equity Gaps. The RP Group. Retrieved from <https://www.norcocollege.edu/academicAffairs/ie/ir/Documents/other/RP-Using%20Disproportionate%20Impact%20Methods%20to%20Identify%20Equity%20Gaps.pdf>.