Pretrial Assessments - Bias & Disparities?

Staying Grounded in the Research

Introduction

The National Association of Pretrial Services Agencies (NAPSA) has been carefully following claims about disparities and bias related to actuarial pretrial assessments. As the debate continues, NAPSA has noted the dust settling around a large body of research, providing clarity to this polarizing topic. We have always been advocates of pretrial research and have encouraged the exploration of pretrial outcomes for decades. NAPSA continues to promote and encourage research on pretrial assessment validity and potential disparities and bias. We believe that the evidence itself should lead this debate and must be controlled by rational, objective analyses.

This debate was ignited, in part, by Propublica, who made claims in 2016 about racial bias in the COMPAS risk assessment[1]. In turn, COMPAS responded to ProPublica's claims by saying that Propublica had not reviewed the research properly and that there is no bias in their risk assessment[2]. It turned out that ProPublica's claims were likely in error as "Several studies have since shown that ProPublica's analysis was flawed and its conclusions misleading in various ways" (Chouldechova, 2017; Dieterich et al., 2016; Feller et al., 2016; Flores et al., 2016; Rudin et al., 2020).[3]

Because of the contradicting and apparently erroneous claims surrounding the COMPAS tool, and the fact that it is a proprietary tool with various hidden factors[4], NAPSA does not include the ProPublica research in our presentation of the studies that examined disparities and biases in pretrial assessments. Nevertheless, we applaud the resulting research that has emerged since Propublic's challenge, and our *National Standards on Pretrial Release, 2020 Edition,* encourages the on-going exploration of potential racial and gender disparities in all validation research[5].

In 2017, the National Institute of Corrections weighed in on this topic with their own review of existing research at that time, and concluded that pretrial assessments enhance outcomes and reduce

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[1] Larson, Mattu, Kirchner and Angwin, (2016). How We Analyzed the COMPAS Recidivism Algorithm

[2] Response to ProPublica: Demonstrating accuracy equity and predictive parity, 2018,

[3] Desmarais, S. L., Monahan, J., & Austin, J. (2022). The Empirical Case for Pretrial Risk Assessment Instruments. Criminal Justice and Behavior, 49(6), 807–816.

[4] NAPSA recommends transparent, not-for-profit, and locally validated assessment tools. The COMPAS "is a proprietary instrument that is hidden from public view. Northpointe (now, Equivant), the company that owns the COMPAS, refuses to share the factors, weights, scaling, and detailed validations of the COMPAS. This lack of transparency is problematic." (from DeMichele, Matthew and Baumgartner, Peter and Wenger, Michael and Barrick, Kelle and Comfort, Megan and Misra, Shilpi, The Public Safety Assessment: A Re-Validation and Assessment of Predictive Utility and Differential Prediction by Race and Gender in Kentucky (April 25, 2018), page 55.

[5] NAPSA Standards on Pretrial Release, 2020 Edition: Standards 1.8 & 4.4c

disparities[6]. More recently, researchers published a review of the research in the SAGE Journals, stating, *"scientific evidence suggests they [pretrial assessments] can be an effective strategy to help achieve pretrial system change, including reducing pretrial detention for people of color and white people, alike, when their results are actually used to inform decision-making."*[7]

Regardless of the existing research, accusations against pretrial assessments have continued, made mostly by some special interest groups and the bail bond industry. Some in academia have even weighed in and published concerns about this[8], which prompted us to more carefully review what we could find on the known science of this topic. NAPSA noted that much of what was missing from these claims were specific references to pretrial assessment research. We asked, "What research is actually available that can most objectively guide our perspectives on this?" Many of the NAPSA board members have made efforts to gather further research on this topic, enhancing NAPSA's voice in this conversation. As time has marched on, so has the research, and you will notice that the past several years have brought significant publications on this matter. NAPSA hopes that you find this resource helpful, and we encourage feedback and notices when new research develops so we can update this paper.

Defining Our Terms

NAPSA has noted a need for clarity surrounding terms and definitions used when referencing this topic. We are therefore offering the following definitions for consideration and clarity:

Disparities – a noticeable and usually significant difference or dissimilarity.[9]

> Pretrial Assessment Tool Disparity - Statistically significant differences or dissimilarities in data outcomes in pretrial assessments, of particular concern racial and/or gender groups.[10]

Bias – deviation of the expected value of a statistical estimate from the quantity it estimates.[11]

> Pretrial Assessment Tool Bias - Inaccurate classification based on race and/or gender, resulting in certain races or genders labeled as "higher" or "lower" risk than what the quantitative outcomes demonstrate, potentially misleading key stakeholders who are using the assessments.[12]

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[6] "Myths and Facts: Using Risk and Need Assessments to Enhance Outcomes and Reduce Disparities in the Criminal Justice System", 2017, https://s3.amazonaws.com/static.nicic.gov/Library/032859a.pdf

[7] Desmarais, S. L., Monahan, J., & Austin, J. (2022). The Empirical Case for Pretrial Risk Assessment Instruments. Criminal Justice and Behavior, 49(6), 807–816.

[8] Martha Minow, Jonathan Zittrain, John Bowers (2019).Technical Flaws of Pretrial Risk Assessments Raise Grave Concerns.

[9] "disparities" https://www.merriam-webster.com/dictionary/disparities. 2023.

[10] NAPSA 2023 (approved by Board)

[11] "bias." https://www.merriam-webster.com/dictionary/bias. 2023.

[12] NAPSA 2023 (approved by Board)

Review of Studies

The following research summary reveals that the majority of studies on pretrial assessments did not find bias or disparities in the tools. In the studies where concerns were found in the instruments, they were not severe enough that the researchers concluded the tool should not be used. Rather, they recommended adjustments and revalidation projects.

The following chart summarizes NAPSA's research review. A more detailed narrative with citations is listed below.		
Pretrial Assessment name (Alphabetical) with links to validation studies (if available)	**Gender Bias or Disparities Identified (Yes/No)**	**Racial Bias or Disparities Identified (Yes/No)**
Allegheny County, PA - PRA (2020)	No - re-arrest, Yes FTA	No - re-arrest, Yes FTA
Bernalillo County, NM PSA (2021)	No	No
Colorado - CPAT-R (2020)	No	No
El Paso, TX EPPRA-R (2023)	No	No
Federal PTRA (2018)	No	No
Fulton County, GA (2023)	No	No
Houston, TX PSA (2020)	No	No
Kentucky PSA (2020)	No	No
Kentucky PSA (2023)	No	Not Evaluated
Minnesota MPAT (2021)	Not Evaluated	Yes
Minnesota MPAT (2023)	No	Yes
Pierce County, WA PSA (2023)	No	No
San Francisco County, CA PSA (2021)	Yes	Yes
Thurston County, WA PSA (2023)	No	No
Virginia VPRAI (2016)	No	No
Volusia County, FL PSA (2021)	No	No
Washington DC RA (2018)	No	No

Allegheny County Pretrial Risk Assessment Instrument Revalidation Study - Pennsylvania (2020)[13] - While the NCA instrument seemed well calibrated, the FTA instrument showed signs of miscalibration with regards to race and sex. A revised model largely corrected the FTA deficiency. The violent risk RAI appeared robust and the researchers stated that it should be incorporated into pretrial release decision-making. The corrected and revised risk assessment was recommended to be implemented by the researchers, and has since been implemented.

Bernalillo County, New Mexico - Public Safety Assessment (PSA) – (2021) - Overall, the key findings of this report indicate that while differences occur by race, these differences, some of which are noteworthy, were not statistically significant. Differences by gender in scores occur for New Criminal Activity (NCA) and for New Violent Criminal Activity (NVCA) for individuals without the NVCA flag. The predictive validity of the PSA is demonstrably comparative to other jurisdictions and scores are comparable across groups, indicating that the tool is useful regardless of the individual's race or gender.[14]

CPAT-R - Colorado Pretrial Assessment Tool-Revised (2020): The ACLU levied claims about bias and disparities against the CPAT-R based on research performed by the University of Northern Colorado (UNC)[15]. This resulted in a few news articles and special interest opposition[16]. In response, the researchers from UNC reported that "the analyses did not provide support for predictive bias across race/ethnicity, sex, and residential status".[17] The researchers concluded that their study was misinterpreted by the critics.[18]

EPPRA-R - El Paso Pretrial Research Assessment - Revised (2023) - Research conducted by the University of Texas at El Paso found no inherent biases towards subgroups of defendants. Statistical analyses were assessed for risk categories interacting with members of racial and ethnic minority groups, women, age, racial identity and gender, and ethnicity and gender. The study suggests there are no disparities or biases within the tool when predicting risk for defendants of El Paso County. Although differences were found by gender, it was in the direction of the tool being more, rather than less, predictive among women than men. When accounting for all defendants (both defendants that were released and detained pretrial), statistical analyses remained consistent – no biases were found

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[13] Allegheny County, Pennsylvania - Pretrial Risk Assessment Instrument Revalidation Study Technical Report Avinash Bhati, PhD, Maxarth LLC, 2020.

[14] Bernalillo County Public Safety Assessment Validation Study - Prepared for: New Mexico Administrative Office of the Courts and Bernalillo County; Prepared by: Elise Ferguson, M.A., Helen De La Cerda, B.A., Paul Guerin, Ph.D., and Cristopher Moore, Ph.D., June 2021

[15] Dangerous, Misleading and Biased: A Letter on Pretrial Risk Assessment Tools in Colorado. ACLU Colorado, October 29, 2020.

[16] Bias against Black people found in Colorado bail reform tool, John Herrick, 2020

[17] Colorado Pretrial Assessment Tool Validation Project Final Report, Victoria A. Terranova, PhD, Kyle C. Ward, PhD, July 1, 2020 Department of Criminology and Criminal Justice University of Northern Colorado

[18] Response document by the University of Northern Colorado to an ACLU letter disseminated on October 29, 2020, Victoria A. Terranova, PhD, Kyle C. Ward, PhD, November 2020.

for subgroups of defendants in the tool's predicted risk.[19] Analysis remains on-going into 2024 to compare pre-pandemic and pandemic outcomes among pretrial populations.

Federal PTRA (2018) - "This research demonstrates that the PTRA can predict violations irrespective of the defendant's race, ethnicity, and sex. The researchers stated that these findings are supportive of a growing literature showing that risk instruments like the PTRA can be used to assess recidivism risk and inform criminal justice decisions without exacerbating biases in the criminal justice system."[20]

Fulton County, GA - PSA (2023) - "The results show that in Fulton County, the PSA is associated with pretrial outcomes, and we did not find evidence that the PSA exacerbates predictive bias related to race and sex. We do not find evidence that people of color are being scored higher than their actual outcome rates (i.e., no overprediction)". [21]

Houston, Texas - PSA – (2020) - A Harvard study found that there was no substantial evidence to suggest that the PSA scales performed differently for different racial and gender groups. Although some analyses showed statistically significant differences in PSA performance across demographic groups, the differences were substantively small and/or directionally contradictory (i.e., one scale showed higher failure rates for blacks than whites, while another scale showed the opposite).[22]

Kentucky PSA (2020) – Using a statewide data set from Kentucky, researchers found that while the Public Safety Assessment's scores for failure to appear were moderated by race, these differences did not lead to disparate impacts. "We applied a regression modeling approach commonly used to assess bias in test instruments (e.g., cognitive and employment testing), and found some instances of differential prediction by race. These differences suggest that the PSA scores to predict failure to appear (FTA) are moderated by race, with no significant differences found for new crimes and new violent crimes between black and white defendants." [23]

Kentucky PSA (2023) - This research was unique because they found equal base rates by sex for missing a court date, which allowed for assessment for error rate balance by sex. They found the PSA to have predictive validity within acceptable ranges for the criminal legal field. The analyses show a lack of evidence of predictive bias for an arrest or missing a court date, and they found equal error

[19] Validation of the El Paso Pretrial Research Assessment Instrument – Revised, October 2023, University of Texas at El Paso, Jennifer Eno Louden, PhD, Chelsea Queen, MA.

[20] Cohen, Lowencamp, Hicks; (2018) Revalidating the Federal Pretrial Risk Assessment Instrument (PTRA)

[21] DeMichele, Tueller, Inkpen, Dawes, Lattimore (2023), Validation and Predictive Bias Testing of the Public Safety Assessment for Fulton County, Georgia ADVANCING PRETRIAL POLICY AND RESEARCH, RTI International.

[22] Greiner, Stubenberg, Halen (2020); Validation of the PSA in Harris County, TX - Harvard Law School Access to Justice Lab.

[23] DeMichele M., Baumgartner P., Wenger M., Barrick K., Comfort M., Misra S. (2020). The Public Safety Assessment: A re-validation and assessment of predictive utility and differential prediction by race and gender in Kentucky. Criminology & Public Policy, 19(2), 409–431.

rates for five different error measures. The analyses contribute to methodological debates about how to measure predictive bias with assessments.[24]

Minnesota MNPAT (2021) – Although the researchers found that the current MNPAT is both underestimating risk and overestimating risk of pretrial failure among racial groups, they concluded that "there is no indication that using the MNPAT leads to less favorable outcomes for any racial group than if a risk assessment tool is not used. In fact, research suggests that using a tool improves pretrial outcomes…The Committee is confident, based on the preliminary data and available research, that use of the current tool results in better outcomes for the majority of cases than not using an assessment tool." After reviewing these findings, the committee decided to seek improvements to the MNPAT rather than maintaining the status quo.[25]

Minnesota MNPAT (2023) – The MPAT found similar predictiveness between males and females, but did find racial bias in the data. Although the MNPAT was found to be predictive for White, Asian/Native Hawaiian and Hispanic, and "Other", it was not found to be as predictive for Black and Native American people and the levels may have misrepresented the actual risk. Adjustments were made to the tool and three models were considered by a Validation Committee. After extensive review, discussion and analysis of other potential risk assessments, the Validation Committee chose a model that was more predictive than the current MNPAT and did not exhibit racial or gender bias.[26] The Committee found that their own tool was a better option than other existing tools.

Pierce County, WA, PSA (2023): [The researchers] "did not find any evidence of predictive bias by race or sex for the PSA in Pierce County. The predictions from the PSA for FTA, NCA, and NVCA are not different for White individuals and people of color or males and females in the historical Pierce County data." [27]

San Francisco, CA - PSA (2021) - The analysis showed predictive bias in the FTA, NCA, and NVCA scales. The results of the moderator regressions show the FTA scale is calibrated by sex, but not calibrated by race and ethnicity for the population studied. Further, the NCA scale is calibrated by race and ethnicity, but not calibrated by sex. Finally, the NVCA flag is not calibrated by race, but is calibrated by ethnicity and sex. Overall, these results suggest that for each of the tool's scales, the relationship between the tool's score and the outcome is different by demographic group. The researchers recommended working closely with the tool developer to ensure that any modifications to the scales do not invalidate the tool altogether, and to re-validate every three years.[28]

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[24] DeMichele, M., Baumgartner, P., Wenger, M., Comfort, M., & Witwer, A. (2023). Where's the Bias: No Evidence of Bias by Sex When Testing the Public Safety Assessment. Crime & Delinquency, 0(0).

[25] Minnesota Pretrial Release Evaluation Form and Assessment Tool (MNPAT) Validation Study, Minnesota Judicial Branch, 2021.

[26] Medhanie, Ph.D. Hoheisel, M.P.P., Ogunleye, M.P.H., Welter, M.A. (2023). Minnesota Pretrial Assessment Tool Validation Study.

[27] DeMichele, Tueller, Burtch, Dawes, Lattimore, RTI International, (2023); Validation and Predictive Bias Testing of the Public Safety Assessment for Pierce County, Washington ADVANCING PRETRIAL POLICY AND RESEARCH

[28] Skog & Lacoe (2021). Validation of the PSA in San Francisco (capolicylab.org), Page 34, California Policy Lab,

<u>Thurston County, WA - PSA (2023)</u> - The researchers reported that there is no evidence that people of color or women are being scored higher than their actual outcome rates (i.e., no overprediction). These results were based on an historical cohort.[29]

<u>Virginia VPRAI (2016)</u>: A revalidation of the Virginia Pretrial Risk Assessment Instrument (VPRAI) found that race was not a significant predictor of missed court dates or new arrests pretrial. Race also did not impact the relationship between individual or combined factors and any type of pretrial failure. The VPRAI did predict outcomes statistically significantly better for Whites than for Persons of Color. However, when the assessment's risk factors were weighted, summed, and collapsed into levels, the differences in predictive value were not statistically significant. Taken as a whole, the analyses support the VPRAI's neutrality in classifying People of Color and Whites by likelihood of pretrial failure.[30]

<u>Volusia County, Florida - PSA (2021)</u> - This peer-reviewed research did not find racial disparities in the PSA assessment tool. There were some mixed outcomes between black and white defendants, where one group was arrested more than the other in certain areas, but overall, no significant differences were found.[31]

<u>Washington, D.C. Pretrial Risk Assessment (2018)</u> - The Pretrial Services Agency for the District of Columbia contracted with Maxarth, LLC, to complete an independent revalidation of the Agency's pretrial assessment instrument. The evaluation found that while scores and misconduct rates vary by race, the relationship between scores and observed misconduct remained fairly stable across race. Where disparities were detected, the authors noted it as minimal and distributed evenly among all groups.[32]

NAPSA's Position

NAPSA desires to bring objective clarity to this topic and a common reference source for better understanding in the area of disparities and bias in Pretrial Assessments. Based on the empirical research currently available, NAPSA continues to support the position that pretrial assessments, if used properly, are a positive advancement in the field of pretrial justice, providing the only empirical information available to justice stakeholders. However, they should be locally validated by qualified researchers, and checked for bias and disparities. They should not be used to add onerous sweeping conditions, such as electronic monitoring recommendations, or other conditions that may be costly or overly restrictive. In particular, they should never be used to detain people in jail. They should be used

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[29] DeMichele, Tueller, Janda, Dawes, Lattimore, RTI International, (2023); Validation and Predictive Bias Testing of the Public Safety Assessment for Thurston County, Washington ADVANCING PRETRIAL POLICY AND RESEARCH.

[30] Danner, M.J.E., VanNostrand, M., and Spruance, M.S. (2016). *Race and Gender Neutral Pretrial Risk Assessment, Release Recommendations, and Supervision: VPRAI and PRAXIS Revised.* Luminosity: Ft. Lauderdale, FL.

[31] Brittain, B. J., Georges, L., & Martin, J. (2021). Examining the predictive validity of the Public Safety Assessment. Criminal Justice and Behavior, 48(10), 1431-1449.

[32] Pretrial Services Agency for the District of Columbia (2022). PSA's Risk Assessment Ensures Fair Administration of Pretrial Justice in the District of Columbia

to help identify defendants that need the most assistance in being successful during this pretrial period, or defendants who may not need any assistance being successful.

Although NAPSA does not believe that pretrial assessments are the only way of implementing pretrial reform, they can continue to lead the way in empirical studies in pretrial justice, identifying potential biases or disparities in the data. Furthermore, they remain the only empirical tool informing justice stakeholders of realistic pretrial outcomes.

In conclusion, NAPSA agrees with the statements made by Dr. Austin, Dr. Desmaris and Dr. Mohanan in their research review regarding pretrial assessments: *"...we believe these concerns are not supported by the empirical literature on pretrial risk assessment instruments. Instead, as we review in this article, the findings of rigorous scientific investigations suggest that pretrial risk assessment instruments are one strategy that can support—not undermine—efforts to improve the pretrial system."*[33] They are not alone. Other researchers have also noted that "*some concerns, though well-meaning, have gone beyond the evidence.*"[34] Therefore, we agree that pretrial assessment critics are misinformed by calling for the discontinued use of pretrial assessment tools. There is yet to be a published validation study that calls for the discontinued use of a pretrial assessment tool based on bias and disparities, and most of them found no evidence of such. Therefore, NAPSA believes that the science on this topic should have the loudest voice and should lead the way to rational discussions regarding pretrial outcomes. Furthermore, these tools are an effective way of researching and reporting critical data to key stakeholders, and also for on-going evaluation of the equity and fairness of our pretrial justice system.

NAPSA hopes that this information is helpful in informing stakeholders, practitioners, and the public and media. We encourage you to let us know about research that may emerge or be missing from this review.

NAPSA would like to acknowledge and thank Dr. Michael R. Jones, Dr. Brian Brittain, and Dr. Steven Austin for their contributions and review of this paper. We also want to thank all of the jurisdictions tirelessly working on research to better inform the field.

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[33] Desmarais, S. L., Monahan, J., & Austin, J. (2022). The Empirical Case for Pretrial Risk Assessment Instruments. Criminal Justice and Behavior, 49(6), 807–816.
[34] Vincent, Gina, Viljoen, Jodi (2020). Racist Algorithms or Systemic Problems? Risk Assessments and Racial Disparities. VL - 47, JO - Criminal Justice and Behavior.