



Nebraska Detention Risk Assessment Instrument (RAI) Validation Study

Research Brief

Introduction

Risk and needs assessment tools have been used in justice populations for the last 40 years. Beginning with adult corrections, these tools were identified to be useful with a variety of populations and were adapted to provide pretrial release recommendations. For youth, the Annie E. Casey Foundation (AECF), through their Juvenile Detention Alternatives Initiative (JDAI), led the field in providing technical support to help agencies develop and implement juvenile detention screening tools.

In 2013, the Nebraska Administrative Office of the Courts and Probation (AOCP) Juvenile Probation Services Division, with assistance from the AECF, adapted and implemented the most recent version of the Juvenile Intake Risk Assessment Instrument (RAI). The tool collects offense history and other indicators that are scored and aim to predict failure to appear (FTA) and future system involvement (FSI). The score guides probation officers on detention decisions. Notably, these tools need to be assessed for predictive accuracy, as best practice indicates tools be evaluated for performance every three to five years (Demarais et al., 2022). The Nebraska RAI was updated in 2013, and the last attempt to validate the RAI occurred in 2015 (Moore & Hobbs) as well as in 2020.

Summary

The current study, conducted by a joint team of UNO researchers working in collaboration with the Administrative Office of the Courts and Probation (AOCP) sought to validate the statewide detention risk assessment instrument (RAI) for youths. This screener is deployed to assess the likelihood of a youth's future system involvement (FSI) and/or the likelihood of a youth's failure to appear (FTA) before the first detention hearing. To assess the validity of the assessment, two methodologies were deployed, a process evaluation and a predictive performance validation.

The process evaluation found, through a series of focus groups and surveys, that there was consensus a statewide tool is beneficial. However, the current tool lacked confidence by probation officers and stakeholders. While the rate of FSIs and FTAs is relatively low, the tool's performance was found to predict FSIs and FTAs well below industry standards (Demarais et al., 2022). However, as a proof of concept, the UNO team created a new version by re-scoring RAI items, to better fit the current population and was found to improve predictive validity.

Overall, the UNO team recommends that a re-tooling of the RAI take place, the AOCP continue their work on updating training and incorporate stakeholders in the redevelopment of a Nebraska specific RAI tool. UNO's 'proof of concept' provides a roadmap for developing a more accurate RAI tool.





in 2024 the AOCPC contracted with the Juvenile Justice Institute (JJI) and Nebraska Center for Justice Research (NCJR) to validate the RAI. We note, the RAI is a screening tool that is used to help probation officers assess the need for detention in the time before a detention hearing. This tool is used to predict if the youth is likely to commit another offense and/or likely to flee the jurisdiction of the court prior to the detention hearing. The tool's scoring provides an option to recommend release without restriction, release to an alternative to detention (ATD), placement in staff secure detention, or placement in secure detention. For the current study, the research team, in collaboration with the AOCPC, created a plan to assess the tool via a process evaluation and through statistical analysis. Further, based on study findings, recommendations are provided for future research and development of the RAI.

Process Evaluation

Prior to examining predictive performance, it is important to establish if the tool is being utilized as directed by policy and to identify the perceived effective/ineffective components from staff administering the tool. The research team completed a qualitative evaluation, assessing probation officers (PO) and managers' attitudes regarding the value of the tool, the training received, and utilization of the RAI. Focus groups and surveys were completed to gather feedback on the assessment and utilization. Further, other constituent groups (judges, attorneys &

law enforcement) were also invited to provide their perspectives on the RAI.

Table 1. Number of Participants Included in Focus Groups or Surveys

Participant groups	Number of Participants
Probation Officers	30
Probation Managers	19
Law Enforcement	45
Attorneys	17
Judges	9
Other	1

Overall, there was a consensus among probation and stakeholders that a uniform statewide tool brings objectivity to the intake process. However, qualitative findings demonstrated a lack of confidence with the RAI's ability to identify high risk youth in which detention is warranted. Inconsistent use of the tool was also described, where probation officers and stakeholders identified confusion regarding proper scoring of items. Further, researchers identified inconsistent approaches in the use of the tool regarding warrants. These concerns were noted, as items potentially impacting RAI's reliability and, in turn, its predictive performance.

Predictive Performance

Following the completion of the process evaluation, the research team conducted a statistical analysis focused on validating the RAI through its ability to predict Failure to Appear (FTA) and/or have a new intake screening termed





Future System Involvement (FSI). The sample time frame contained roughly five fiscal years of youths (N = 5,604). This analysis was multifaceted, examining the predictive strength of the RAI considering risk levels, and demographic sub-groups (i.e., race/ethnicity and sex). The standard predictive validity metric, the Area Under the Curve (AUC) was used to determine the ability of the RAI to predict FTAs or FSIs, where values range from 0 to 1. Values near 0.5 indicate random chance and tools that are identified to possess a 0.64 or above are deemed acceptable for use (Demarais et al., 2022). Notably, tools scoring less than 0.64 are identified to be replaced or adjusted to meet with industry standards.

Findings revealed that the RAI score, and its associated release recommendation, was overridden 40% of the time, with 33% of youth scores being overridden to detention. This override finding far exceeds best-practice standards (Vincent et al., 2012) and may indicate staff frustration with the tool's performance. This was also one of the reasons the AOCPS have worked diligently over the past ten years to find a researcher to validate the tool.

When evaluating predictive validity, we assessed the RAI's prediction of both FSI and FTAs. The findings revealed less-than-optimal use of the tool. Specifically, predictive validity for both FTA (AUC=0.43), and FSI (AUC=0.47), indicated that the RAI's prediction is less than random chance. Further, risk level categories (i.e., Low, Moderate, and High-Risk) demonstrated inversion, or more specifically, Moderate and Low-Risk youth committed a greater rate of FSIs and FTAs than High-Risk youth.

However, as a proof of concept, using the existing RAI items we attempted to recalibrate the assessment. This process changes the scoring values of each item, using Nebraska youth data to aid in the prediction for RAI outcomes. Findings revealed improved predictive performance for both FSIs (AUC=0.66) and FTAs (AUC=0.65). Current and updated AUC findings are provided in Table 2.

Table 2. Current & Updated RAI AUC Values

Outcome	Current	Updated
FSI	0.47	0.65
FTA	0.43	0.66

These findings indicate that, while the current RAI scoring is not sufficiently predicting youth outcomes, the tool can be updated to produce a predictive model that is in line with industry standards. With that said, the rates of FTA (4%) and FSIs (18%) are relatively low, representing a generally positive finding for AOCPS.

Conclusions

Study findings indicate that while the current RAI does not meet industry standards, it shows strong potential for improvement when recalibrated for use with Nebraska youth. Finally, the UNO team provided a series of recommendations to improve both confidence in the tool and predictive validity.





Recommendations

- 1) Recalibrate the screening tool using data collected by the AOCJ and Juvenile Probation Services Division.
- 2) Continue updating new and existing probation officer training on the use and implementation of the tool, emphasizing accurate scoring and procedural consistency across probation districts.
- 3) Provide clarity and standardization on the procedures, scoring the RAI, particularly related to warrants.
- 4) Provide more opportunities for collaboration between probation districts, the AOCJ, and other stakeholders to include training opportunities and community planning collaborations on overarching detention system issues.

References:

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Moore, S., & Hobbs, A. (2015). *Analysis of the Nebraska Intake Risk Assessment Instrument-2015*. University of Nebraska Juvenile Justice Institute.

Vincent, G. M., Guy, L. S., & Grisso, T. (2012). *Risk assessment in juvenile justice: a guidebook for implementation*. Available at: <http://www.modelsforchange.net>

