TAB 5

KENTUCKY PRE- PSA - COURT

Table 11
The Current And New Weighting Rules For The Revised Pretrial Risk Assessment Instrument.

	Scoring Items	Current		Modified	
		Yes	No	Yes	No
1	Does the defendant have a verified local address and has the defendant lived in the area for the past twelve months?		1		2
2	Does the defendant have verified sufficient means of support?		1		1
3	Did a reference verify that he or she would be willing to attend court with the defendant or sign a surety bond?		1	Removed	
4	Is the defendant's current charge a Class A, B, or C Felony?	1		1	
5	Is the defendant charged with a new offense while there is a pending case?	5		7	
6	Does the defendant have an active warrant(s) for Failure to Appear prior to disposition? If no, does the defendant have a prior FTA for felony or misdemeanor?	4		2	
7	Does the defendant have prior FTA on his or her record for a criminal traffic violation?	1		1	
8	Does the defendant have prior misdemeanor convictions?	1		2	
9	Does the defendant have prior felony convictions?	1		1	
10	Does the defendant have prior violent crime convictions?	2		1	
11	Does the defendant have a history of drug/alcohol abuse?	2		2	
12	Does the defendant have a prior conviction for felony escape?	1		3	
13	Is the defendant currently on probation/ parole from a felony conviction?	2		1	
	Did you receive special education services in school for an emotional or behavioral problem?	Not Used			
	Have you ever spoken to a counselor or psychologist about a personal problem?	Not Used			
	Violated conditions of pretrial release in last 12 mos	Not Used			
	If yes, was bond revoked?	Not Used			

Table 12:
The Current And New Cut-Points For The Revised Pretrial Risk Assessment Instrument

	Current	Modified
Low	0-5	0-5
Moderate	6-12	6-13
High	13-High	14-High

Results from the First Six Months of the Public Safety Assessment – Court™ in Kentucky

July 2014

Since adopting the Public Safety Assessment – Court on July 1, 2013, Kentucky's courts have achieved a truly remarkable result: They have been able to ***reduce crime by close to 15%*** among defendants on pretrial release, while at the same time increasing the percentage of defendants who are released before trial.

On July 1, 2013, judges in all 120 counties in the Commonwealth of Kentucky began using the Public Safety Assessment – Court™ (or PSA-Court™), a new data-driven risk assessment, to inform their decisions about which defendants can most safely be released from jail while they await trial, and which defendants should be detained because of the risks they pose to public safety. The first six months of results indicate that the PSA-Court is serving Kentucky well. Most importantly, they show that by using the risk assessment and applying their discretion, Kentucky judges have reduced crime, reduced jail populations, and led to a smarter, more effective use of criminal justice resources.

Kentucky has long been a leader in providing effective, research-based pretrial services – and, even prior to adopting the PSA-Court, the system was rightly seen as a national model. But since implementing the new risk assessment, Kentucky's courts have achieved a truly remarkable result: They have been able to ***reduce crime by close to 15%*** among defendants on pretrial release, while at the same time increasing the percentage of defendants who are released before trial. In short, the PSA-Court has assisted judges in making decisions that both better protect the public ***and*** more effectively use the Commonwealth's criminal justice resources.

The PSA-Court has proven to be highly accurate at identifying the small group of Kentucky defendants who are at an elevated risk of committing violence if released before trial. Indeed, defendants flagged by the PSA-Court as posing an increased risk of violence are, in fact, rearrested for violent acts at a rate ***17 times*** that of defendants who are not flagged. In addition, the PSA-Court has been accurately evaluating the risk that a given defendant will commit a new crime or fail to come back to court if he is not detained.

The report below summarizes the first six months that the PSA-Court was used throughout Kentucky (July – December 2013). The underlying analysis was conducted by a research team led by Dr. Marie VanNostrand and relied on data (supplied by Kentucky's Administrative Office of the Courts) on the 56,866 defendants who were booked into jail and released during this period. Although the tool has been in effect for a year, many of the cases arising from January through June 2014 have not yet been resolved and, as such, they have not been included in this analysis. While we do not have sufficient outcome data to analyze the more recent cases, the results identified here continue to be seen in the data from January 2014 to the present.

SYSTEM IMPACTS

As noted above, Kentucky's courts have used the PSA-Court to help identify low-risk defendants who pose little threat to public safety and are therefore suitable for pretrial release. In the first six months that the PSA-Court was used, Kentucky increased to 70% the proportion of defendants released pending trial, up from 68% during the previous four years.

What makes the increase in release rate notable is that it has not come at the expense of public safety; to the contrary, it has been achieved alongside a ***decrease*** in pretrial crime. Since implementation of the PSA-Court, and as compared to the four years prior to July 1, 2013, the new criminal activity rate has dropped significantly. The average arrest rate for released defendants has declined from 10% to 8.5%. This represents a ***15% reduction in pretrial crime.***[1] Moreover, while more defendants are now being released, Kentucky has not seen any increase in the rate at which defendants miss court. In short, Kentucky is now detaining more high-risk and potentially violent defendants, while more low-risk defendants are being released. And crime is down.

In addition to the positive impacts on crime and pretrial incarceration, Pretrial Services has reported that the tool has allowed a more effective deployment of resources. In large part, this is because the PSA-Court can be completed without conducting a defendant interview. The streamlined assessment process permits Kentucky Pretrial Services to use its limited resources to mitigate risk through supervision and services. Moreover, although Kentucky statutes require brief defendant interviews, the overall time it takes to administer the risk assessment tool has decreased significantly; and Pretrial Services can now assess *all* defendants, not just those who consent to an interview and provide information that can be verified.

PREDICTIVE VALIDITY

The PSA–Court is made up of nine risk factors that can be obtained from administrative data (e.g., criminal history and current charge). These factors are weighted and combined to evaluate the risk that if a defendant is released before trial, he will: (1) commit a violent crime; (2) commit any new crime; or (3) fail to appear for court. Data from the first six months of Kentucky's use of the PSA-Court demonstrate that the assessment is predicting all three risks with a high degree of accuracy.[2]

"When training a new employee or speaking to a judge about the risk assessment, they often ask why some factors are counted and others are not. With this tool, it is much easier to explain the reasons why – and because of that it makes sense to the person you are explaining it to. I think this tool is much more accurate and easier to use than what we had in the past."

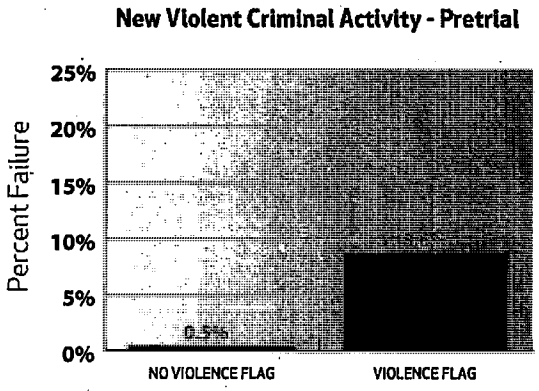
-Michael Greene, Pretrial Services Supervisor

1 Since a small number of cases from the July – December 2013 period remain open, there may be a slight increase in arrest rates as the remaining cases close. But the ultimate reduction in pretrial crime is estimated to fall between 10% and 15%.

2 Since a small number of cases from the July – December 2013 period remain open, there may be a slight increase in failure rates as the remaining cases close.

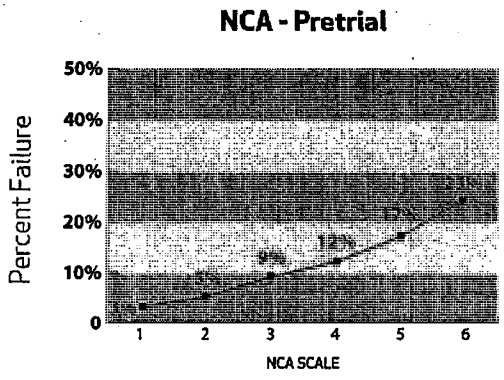
NEW VIOLENT CRIMINAL ACTIVITY

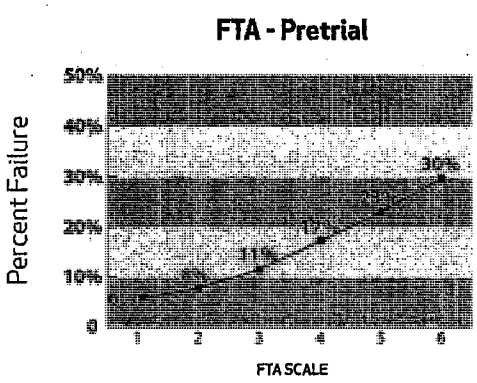
During the first six months of the PSA-Court implementation, a select group of judges pilot-tested the PSA-Court's violence "flag," which identifies a small group of defendants who are significantly more likely to commit an act of violence if released before trial. Indeed, flagged defendants – just 6% of individuals who were released – were 17 times more likely to be arrested for new violent criminal activity than defendants who were not flagged. All Kentucky judges began receiving this information on July 1, 2014, which could potentially help improve public safety even further.



NEW CRIMINAL ACTIVITY AND FAILURE TO APPEAR

The new criminal activity (NCA) and failure to appear (FTA) scales classify a defendant's risk from one to six, with one representing the lowest risk and six representing the highest. As can be seen in the graphs below, the scales accurately group defendants according to the risk they pose of being arrested for new criminal activity or failure to appear while on pretrial release. With each increase in risk score, defendants become significantly more likely to fail.



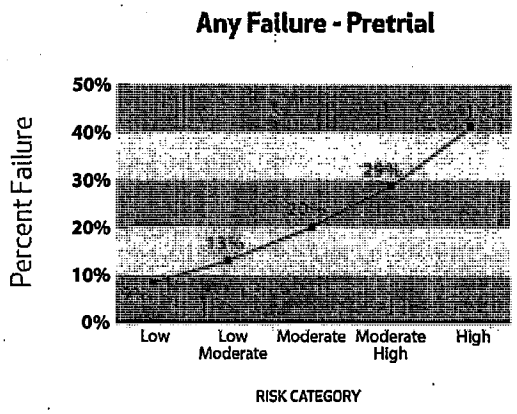


"Thanks in large part to the risk assessment tool, Kentucky judges have a pretty good grasp on making appropriate release decisions. When used correctly and in conjunction with other factors which may appear, the instrument is extremely helpful in aiding courts with making good release decisions."

- Circuit Court Judge David Tapp

ANY FAILURE

Although not a part of the PSA-Court, Kentucky uses the NCA and FTA scales to create an additional measure of pretrial failure. This "Any Failure" measure represents any type of pretrial failure – NCA, FTA, or both. The scores from the NCA and FTA scales are added together and, as can be seen in the graph, the combined Any Failure rate increases with each corresponding increase in risk level.

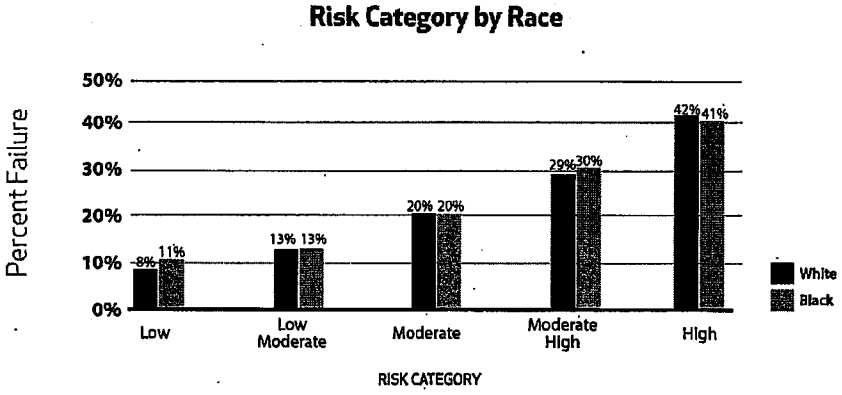


RACE AND GENDER

Data from Kentucky's first six months using the PSA-Court were also closely examined to determine whether the instrument had any discriminatory impact on minorities or women. What it revealed is that the tool is both racially neutral and gender neutral. It accurately classifies defendants' risk levels ***regardless*** of their race or gender, meaning it does not have a discriminatory impact.

RACE[3]

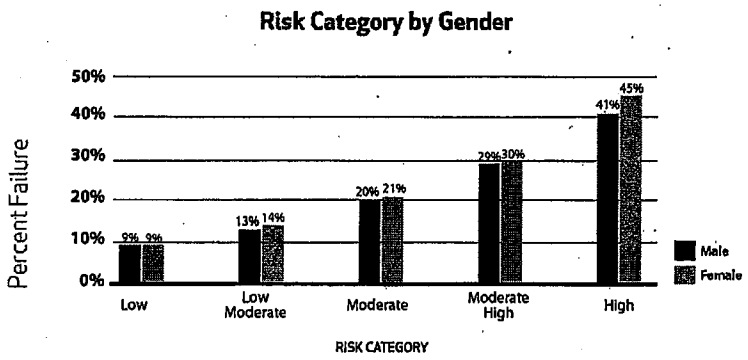
As we see in the chart below, black and white defendants at each risk level fail at virtually indistinguishable rates, which demonstrates that the PSA-Court is assessing risk equally well for both whites and blacks, and is not discriminating on the basis of race.



3 In Kentucky, over 96% of the population is either black or white. As a result, other racial groups are not sufficiently represented in the sample to perform the analysis.

GENDER

Similarly, when we look at gender, we see that men and women in the same risk category fail at almost exactly the same rate. This indicates that the PSA-Court is assessing risk accurately for both genders and is not discriminating on that basis.



"The instrument is a valuable tool and one that I rely on, along with my judicial discretion, to set an appropriate bond, taking into account the current offense, the criminal history of the accused, and the likelihood of reappearance in court if released."

-District Court Judge Ann Bailey Smith

CONCLUSION

Kentucky is highly regarded nationally as a leader in providing effective pretrial services and has remained at the forefront of the field for the past four decades. The Commonwealth's decision to be the first site in the nation to adopt the PSA-Court is in keeping with that tradition. The first six months of results indicate that the PSA-Court is serving the state well. Most importantly, the results show that by using the risk assessment and applying their discretion, Kentucky judges have effectively made pretrial decisions that have reduced crime, reduced jail populations, and led to a smarter and more effective use of criminal justice resources.

"The performance of the PSA – Court in Kentucky is truly remarkable. Being able to accurately identify defendants with an elevated risk of violence, as well as being able to distinguish between the risks of new criminal activity and failure to appear, has proven invaluable. Because it is based on administrative data, Pretrial Services is able to conduct risk assessments on all cases within 24 hours of arrest and provide the Courts with critical information to inform the pretrial release decision-making process."

-Tara Klute, General Manager Kentucky Pretrial Services

Kentucky Pretrial

Risk Assessment Instrument Validation

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Introduction

In 2009, the Kentucky Pretrial Services Agency (KPSA) made a request to the Pretrial Justice Institute (PJI) to receive technical assistance on its risk assessment instrument. PJI has an award from the Bureau of Justice Assistance, U.S. Department of Justice, to provide technical assistance for a wide variety of correctional agencies. The primary partner with PJI is the JFA Institute, which responds to all referrals made by PJI. One of JFA's organizational capabilities is to conduct validation studies of risk assessment instruments. For this reason the KPSA request was forwarded to JFA to complete.

The KPSA has been using a risk assessment instrument for a number of years. The instrument itself was designed based on other pretrial risk assessment instruments that have been validated in other jurisdictions. But the KPSA instrument had never been tested by an external agency on people who had been arrested, detained and subsequently released on pretrial status. Thus the task of this study was to determine the extent to which the current instrument was valid.

Research Methods

Kentucky created pretrial services in 1976 to replace for-profit commercial bail bonding services and is one, of only a few states, that has outlawed commercial bail bonding. Unlike many other jurisdictions, KPSA is part of the state's court system. Furthermore, because it is a statewide agency, all of the its functions and data are standardized. Such a statewide structure greatly enhances the ability to conduct a meaningful validation effort.

Data on the Kentucky pretrial release population were obtained and analyzed to assess the extent to which the instrument needed to be modified and, if so, what items needed to be dropped and what additional items needed to be introduced into a modified instrument.

The data used to complete this analysis were based on all cases where a pretrial interview was conducted by the various pretrial services agencies that are located throughout Kentucky. Specifically, there were 52,344 interviews conducted between July 1, 2009 and September 30, 2009. For these interviews, 38, 478 or 74% were released pre-trial. For each case, it was recorded where the person was re-arrested or failed to appear (FTA).

Table 1 shows the basic demographic attributes of the persons who were interviewed and released pretrial. Also included are the FTA, pretrial re-arrest rates, and a composite FTA/re-arrest rate. As in most jurisdictions, the FTA, re-arrest and combined rates are relatively low. Specifically, the FTA rate is 8%, the re-arrest rate 7%, and the combined rate 14%. The table also shows relative associations of each item and the three measures of success/failure on pretrial release.

Tables 2, 3, 4 and 5 repeat this type of analysis for measures that reflect the current charge (Table 2), substance abuse measures (Table 3), and mental health (Tables 4 and 5). In all of these tables there are some items that have no meaningful statistical relationships and others that do have a statistically significant relationship. However, it should be emphasized that because the base rates are so low, there will be few items that have very strong relationships with pretrial release outcomes.

Tables 6, 7, and 8 summarize this same analysis for the 13-item risk instrument. Here, one can see that the current instrument items and scale are associated with pretrial arrest and FTA rates. There are some items that either have a very modest association or have little variance in the scoring results. For example, item 3. ("Reference verified willingness to attend court or

sign surety bond") has little if any statistical association with the failure rates. The table also shows two additional items (14 and 15), which were test items to see if that would add to the overall risk assessment instrument's predictive capabilities. As indicated, they show that less than 2% of the assessed cases are being scored into one of the two categories. With such a lack of variance they are unlikely to have much predictive abilities.

In summary, the current 13-item instrument is producing a strong association between the risk levels of low, moderate and high and FTA and pretrial arrest rates. It is also noteworthy that the vast majority of the released defendants are either low (45%) or moderate risk (22%) to either Fail To Appear (FTA) or be re-arrested for a new crime while under pretrial release status.

Use of Special Conditions

The data files also contained information on the use of special conditions. Table 9 shows the extent to which they are being used with most of the conditions being drug testing and special monitoring requirements. We also looked at those persons who received the special conditions of drug testing, special monitoring and notification requirements but are low risk cases. These three conditions have the most low risk cases to do such an analysis. As shown in Table 10, about half of the special condition populations are scored as low risk. More significantly, these low risk cases have higher failure rates than the "average" low risk pretrial releasee. While one cannot say that the special conditions caused the higher rates, the statistical association suggests that imposing such conditions is not beneficial.

Can The Current Instrument Be Improved?

There are two areas to be explored here. First is whether the current instrument can be made more efficient by reducing the number of items being used by the staff? Making the instrument more parsimonious would reduce the burden to staff without jeopardizing the validity of the instrument. Second, are there any items that are not being used that might enhance the validity of the instrument?

To answer these two questions required more sophisticated multivariate analysis. The first task was to re-weight the items included in the current instrument. In doing so, a few considerations should be pointed out:

1. When there was a conflict among the risk models, e.g., a variable has a negative effect on FTA but a positive effect on re-arrest, the re-arrest risk measure model was used to trump the FTA risk model. Examples include items #1 and #4.
2. In some cases, a slight change in the statistical significance cut-off value of 95% would have brought an item into the model (e.g., Risk Item 15). In such cases, the variable was included in the item in accordance with consideration 1 noted above.

Once a modified instrument was constructed, additional variables were included in the analysis—one variable group at a time—to assess their contribution to the discriminating power of the instrument. These additional variables included the following:

1. *Substance abuse related questions*: These variables did not add sufficiently to the model's predictive power and were therefore ignored.
2. *Mental health related questions*: These variables did not add sufficiently to the model's predictive power and were therefore ignored.
3. *Mental health history related questions*: As a group, mental health history related questions improved the explanatory power of the model. However, individually only two of them were found to be statistically significant. These include "Received special

education services in school for emotional/behavioral problems?" and "Spoken to counselor or psychologist about personal problem?".

4. *Domestic violence related questions*: As a group, domestic violence related questions did improve the models. However, only two of them were statistically significant individually. These included "Any record of prior DV restraining order") and "Was a weapon used?". However, only a handful (1.2%) of suspects in the sample had affirmative responses to these questions.
5. *Removal of current risk instrument items*: The current risk instrument included items 1 through 13. Items 14 and 15 "Violated conditions of release in past 12 months—and if so, was bond revoked?" were deleted from the revised current instrument. These items were either statistically insignificant or had incorrect effect directions. Similarly, item 3 added little to the predictive attributes of the instrument. So all three can be removed from further consideration.

Based on the above considerations, one new version of the instrument was developed which simply removed item 3 and re-weighted the remaining 12 items. In addition to new weights for the revised risk assessment instruments, the cut-points needed to classify suspects as low, moderate, or high risk were modified as well. Tables 10 and 11 show these changes and provide the cut-points for the 12-item instrument.

Finally, Figures 1, 2, and 3 provide a side-by-side comparison of the current and the revised instruments on risk measures. In general, the modified version performs basically the same as the current version of the risk assessment instrument but without using item 3. It should also be emphasized that although some of the other items that have a significant bi-variate relationship but were excluded form the final instrument can be used as a basis for over-riding the risk level or making a final risk recommendation.

TABLE 1
FAILURE RATE BY DEMOGRAPHICS

Item	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
Base	**38,478**		**8.0%**	**7.0%**	**14.1%**
Sex					
Female	10,678	27.8%	7.7%	6.5%	13.3%
Male	27,695	72.0%	8.2%	7.3%	14.4%
Unknown	105	0.3%	3.8%	2.9%	5.7%
Race					
American Indian	117	0.3%	6.0%	3.4%	9.4%
Asian	64	0.2%	4.7%	3.1%	7.8%
Black	6,854	17.8%	9.8%	7.2%	16.0%
Other	738	1.9%	11.5%	2.0%	13.3%
Unknown	448	1.2%	5.8%	1.8%	7.4%
White	30,257	78.6%	7.6%	7.2%	13.8%
Marital Status					
Divorced	5,810	15.1%	7.6%	7.4%	13.9%
Married	7,889	20.5%	6.8%	6.2%	12.1%
Separated	2,501	6.5%	8.9%	8.3%	15.9%
Single	20,714	53.8%	8.5%	7.3%	14.9%
Unknown	1,112	2.9%	6.6%	3.1%	9.4%
Widowed	452	1.2%	8.8%	8.2%	15.7%
Education					
AA	607	1.6%	8.7%	6.1%	13.5%
BA/BS	906	2.4%	5.5%	4.0%	8.5%
Vocational	328	0.9%	7.6%	5.2%	11.9%
GED	3,760	9.8%	8.9%	8.9%	16.2%
HS	9,939	25.8%	7.4%	6.7%	13.3%
Less than HS	10,369	26.9%	9.1%	8.9%	16.8%
Null	6,782	17.6%	7.8%	4.8%	11.9%
Post graduate	334	0.9%	3.6%	3.6%	7.2%
Some college	5,453	14.2%	7.4%	6.6%	13.2%
On Supervised Probation					
No	36,379	94.5%	8.0%	6.8%	13.9%
Yes	2,099	5.5%	8.6%	10.5%	17.8%
Supplied an email address					
No	30,215	78.5%	7.9%	6.6%	13.5%
Yes	8,263	21.5%	8.7%	8.6%	16.0%
Verified Address					
No	11,492	29.9%	8.9%	5.7%	13.3%
Yes	26,986	70.1%	7.7%	7.9%	14.4%
Verified Occupation					
No	12,504	32.5%	9.1%	5.5%	13.8%
Yes	25,974	67.5%	7.5%	7.8%	14.2%

TABLE 2
FAILURE RATE BY CHARGE

Item	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
Base	**38,478**		**8.0%**	**7.0%**	**14.1%**
Charge Level					
Felony	9,122	23.7%	6.0%	10.1%	15.2%
Misdemeanor	26,346	68.5%	8.8%	6.4%	14.1%
O	1,512	3.9%	5.6%	2.8%	8.1%
V	1,356	3.5%	9.5%	5.0%	13.6%
Unknown	152	0.4%	9.9%	3.3%	12.5%
Charge Class					
A	14,388	37.4%	7.5%	6.9%	13.3%
B	12,650	32.9%	9.9%	6.0%	14.9%
C	2,091	5.4%	4.7%	11.0%	14.5%
D	6,317	16.4%	6.7%	9.7%	15.5%
X	2,880	7.5%	7.5%	3.9%	10.7%
Unknown	152	0.4%	9.9%	3.3%	12.5%

TABLE 3
FAILURE RATE BY SUBSTANCE ABUSE ITEMS

Item	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
Base	**38,478**		**8.0%**	**7.0%**	**14.1%**
Have you ever felt you should cut down on your drinking?					
No	25,182	65.4%	8.1%	7.2%	14.3%
Yes	8,007	20.8%	7.8%	8.8%	15.4%
Null	5,289	13.7%	7.8%	3.7%	10.9%
Have people annoyed you criticizing your drinking/drug use?					
No	29,230	76.0%	8.0%	7.2%	14.1%
Yes	3,959	10.3%	8.2%	10.3%	17.0%
Null	5,289	13.7%	7.8%	3.7%	10.9%
Have you felt guilty about your drinking/drug use?					
No	26,649	69.3%	8.0%	7.1%	14.1%
Yes	6,540	17.0%	8.2%	9.5%	16.4%
Null	5,289	13.7%	7.8%	3.7%	10.9%
Drink in the morning to get rid of hangover/use drugs to change effects of other drugs					
No	30,997	80.6%	7.9%	7.4%	14.3%
Yes	2,165	5.6%	9.6%	10.4%	18.3%
Null	5,316	13.8%	7.8%	3.7%	10.9%
Willing to participate in residential treatment					
No	27,179	70.6%	8.1%	7.1%	14.2%
Yes	6,008	15.6%	7.9%	9.8%	16.4%
Null	5,291	13.8%	7.8%	3.7%	10.9%

TABLE 4
FAILURE RATE BY MENTAL HEALTH ITEMS

Item	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
Base	**38,478**		**8.0%**	**7.0%**	**14.1%**
Past 30 days how often do you feel nervous					
None of the time	21,046	54.7%	8.1%	6.9%	14.1%
A little of the time	3,856	10.0%	7.7%	8.1%	14.6%
Some of the time	3,831	10.0%	7.9%	8.5%	15.2%
Most of the time	1,716	4.5%	7.4%	9.1%	15.2%
All of the time	2,737	7.1%	8.6%	10.0%	17.2%
Null	5,292	13.8%	7.8%	3.7%	10.9%
Past 30 days how often do you feel hopeless					
None of the time	27,050	70.3%	8.0%	7.3%	14.3%
A little of the time	2,195	5.7%	7.5%	8.0%	14.5%
Some of the time	1,972	5.1%	8.6%	9.4%	16.7%
Most of the time	870	2.3%	7.8%	8.6%	15.2%
All of the time	1,099	2.9%	9.3%	10.3%	18.5%
Null	5,292	13.8%	7.8%	3.7%	10.9%
Past 30 days how often do you feel restless or fidgety					
None of the time	23,839	62.0%	8.2%	7.2%	14.3%
A little of the time	2,839	7.4%	6.8%	7.7%	13.5%
Some of the time	3,180	8.3%	8.1%	8.7%	15.6%
Most of the time	1,364	3.5%	7.6%	9.0%	15.5%
All of the time	1,964	5.1%	8.9%	9.4%	16.8%
Null	5,292	13.8%	7.8%	3.7%	10.9%
Past 30 days how often do you feel so depressed nothing cheers you up					
None of the time	26,819	69.7%	8.1%	7.2%	14.3%
A little of the time	2,088	5.4%	8.0%	9.2%	16.2%
Some of the time	2,065	5.4%	7.5%	8.7%	15.5%
Most of the time	939	2.4%	6.8%	9.4%	15.1%
All of the time	1,275	3.3%	9.3%	8.5%	16.6%
Null	5,292	13.8%	7.8%	3.7%	10.9%
Past 30 days how often do you feel everything was an effort					
None of the time	27,194	70.7%	8.0%	7.3%	14.3%
A little of the time	1,742	4.5%	7.0%	9.8%	15.8%
Some of the time	2,016	5.2%	9.1%	8.7%	16.4%
Most of the time	908	2.4%	8.4%	8.1%	15.4%
All of the time	1,326	3.4%	8.1%	8.7%	15.7%
Null	5,292	13.8%	7.8%	3.7%	10.9%
Past 30 days how often do you feel worthless					
None of the time	28,903	75.1%	8.1%	7.3%	14.4%
A little of the time	1,344	3.5%	6.8%	10.5%	16.3%
Some of the time	1,445	3.8%	8.7%	8.0%	15.6%
Most of the time	598	1.6%	6.9%	8.9%	14.2%
All of the time	896	2.3%	9.4%	9.6%	17.6%
Null	5,292	13.8%	7.8%	3.7%	10.9%

TABLE 5
FAILURE RATE BY MENTAL HEALTH HISTORY

Item	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
Base	**38,478**		**8.0%**	**7.0%**	**14.1%**
Has doctor prescribed meds for emotional problem					
No	24,337	63.2%	8.0%	7.0%	14.1%
Yes	8,547	22.2%	8.0%	9.3%	15.9%
Have you been hospitalized for emotional problem					
No	29,448	76.5%	8.0%	7.3%	14.2%
Yes	3,443	8.9%	8.7%	10.0%	17.3%
Did you have special schooling for emotional problems					
No	30,953	80.4%	8.0%	7.3%	14.3%
Yes	1,937	5.0%	9.6%	11.6%	20.0%
Ever spoken to a counselor or psychologist					
No	24,335	63.2%	8.0%	6.9%	14.0%
Yes	8,551	22.2%	8.2%	9.4%	16.3%
Ever received treatment for drug/alcohol abuse					
No	26,476	68.8%	8.0%	7.1%	14.1%
Yes	6,417	16.7%	8.3%	9.8%	16.7%

TABLE 6
FAILURE RATE BY RISK ASSESSMENT SCORE ITEMS

Item	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
1. Verified local address & lived in area for past 12 months					
No	2,856	7.4%	11.1%	6.3%	16.5%
Yes	24,227	63.0%	7.2%	8.1%	14.2%
2. Verified sufficient means of support					
No	13,798	35.9%	8.4%	9.1%	16.2%
Yes	13,287	34.5%	6.9%	6.7%	12.7%
3. Reference verified willingness to attend court or sign surety bond					
No	2,195	5.7%	8.7%	9.2%	16.5%
Yes	24,889	64.7%	7.6%	7.8%	14.3%
4. Current charge class A, B or C felony					
No	24,404	63.4%	8.0%	7.5%	14.4%
Yes	2,677	7.0%	4.6%	11.3%	14.8%
5. Charged w/ new offense while case pending					
No	21,258	55.2%	6.9%	5.6%	11.7%
Yes	5,822	15.1%	10.5%	16.4%	24.5%
6. Active warrant or prior FTA					
No	22,325	58.0%	6.6%	7.5%	13.2%
Yes	4,753	12.4%	12.5%	9.7%	20.3%
7. Prior FTA for traffic violation					
No	22,465	58.4%	6.9%	7.4%	13.4%
Yes	4,614	12.0%	11.5%	10.1%	19.7%
8. Prior misdemeanor conviction					
No	8,769	22.8%	6.3%	4.7%	10.4%
Yes	18,311	47.6%	8.3%	9.4%	16.4%
9. Prior felony conviction					
No	20,416	53.1%	7.1%	6.9%	13.1%
Yes	6,664	17.3%	9.3%	10.9%	18.6%
10. Prior violent crime conviction					
No	21,770	56.6%	7.4%	7.0%	13.4%
Yes	5,309	13.8%	8.7%	11.6%	18.8%
11. History of drug/alcohol abuse					
No	23,865	62.0%	7.5%	7.2%	13.7%
Yes	3,214	8.4%	9.1%	13.0%	20.4%
12. Prior conviction of felony escape					
No	26,536	69.0%	7.6%	7.8%	14.2%
Yes	541	1.4%	12.6%	14.4%	25.0%
13. On probation/parole for felony conviction					
No	24,933	64.8%	7.5%	7.6%	14.0%
Yes	2,142	5.6%	9.6%	11.0%	19.4%

Item	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
14. Test Item: Violated conditions of pretrial release in last 12 mos.					
No	32,516	84.5%	8.1%	7.4%	14.5%
Yes	671	1.7%	7.6%	14.0%	20.3%
15. Test Item: If yes, was bond revoked?					
No	32,383	84.2%	8.0%	7.6%	14.6%
Yes	153	0.4%	5.2%	11.1%	15.7%

TABLE 7
FAILURE RATE BY RISK ASSESSMENT SCORE

Risk Score	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
Base	**38,478**		**8.0%**	**7.0%**	**14.1%**
0	2,898	7.5%	4.0%	2.9%	6.8%
1	4,909	12.8%	4.9%	3.9%	8.4%
2	3,863	10.0%	6.5%	5.0%	10.8%
3	2,143	5.6%	7.0%	6.8%	12.7%
4	1,780	4.6%	7.1%	6.1%	12.1%
5	1,838	4.8%	8.9%	8.3%	16.4%
6	2,066	5.4%	8.9%	9.8%	17.4%
7	1,887	4.9%	9.9%	11.3%	19.3%
8	1,292	3.4%	10.8%	13.1%	22.0%
9	1,074	2.8%	11.6%	14.5%	23.9%
10	878	2.3%	10.6%	13.8%	22.0%
11	798	2.1%	12.4%	15.2%	24.6%
12	620	1.6%	12.1%	14.5%	25.0%
13	360	0.9%	11.7%	17.5%	26.9%
14	261	0.7%	13.0%	16.9%	26.8%
15	166	0.4%	10.2%	12.1%	28.3%
16	123	0.3%	15.4%	18.7%	30.9%
17	79	0.2%	11.4%	20.3%	29.1%
18	36	0.1%	11.1%	13.9%	25.0%
19+	18	0.0%	7.1%	35.7%	39.9%
Null	11,389	29.6%	8.9%	5.0%	13.2%

TABLE 8
FAILURE RATE BY SCORED RISK LEVEL

Risk Level	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
Base	**38,478**		**8.0%**	**7.0%**	**14.1%**
Low	17,311	45.0%	6.0%	5.0%	10.4%
Moderate	8,519	22.1%	10.4%	12.5%	20.9%
High	1,031	2.7%	12.1%	18.3%	57.8%
Ineligible	5,722	14.9%	8.4%	4.0%	11.8%
Not Verified	5,895	15.3%	9.4%	6.2%	14.8%

TABLE 9
FAILURE RATE BY RELEASE CONDITIONS

Item	N	%	FTA rate	Rearrest Rate	Either FTA or Rearrest
Base	**38,478**		**8.0%**	**7.0%**	**14.1%**
Condition - Drug test					
No	37,621	97.8%	8.0%	6.9%	13.9%
Yes	857	2.2%	7.4%	14.6%	20.3%
Condition – Reporting					
No	37,253	96.8%	8.0%	6.8%	13.9%
Yes	1,225	3.2%	8.5%	13.1%	20.4%
Condition - Court Notify					
No	38,304	99.5%	8.0%	7.0%	14.1%
Yes	174	0.5%	10.3%	10.3%	17.8%
Condition – Curfew					
No	38,339	99.6%	8.0%	7.0%	14.1%
Yes	139	0.4%	6.5%	13.7%	17.3%
Condition - Home incarceration					
No	38,455	99.9%	8.0%	7.0%	14.1%
Yes	23	0.1%	8.7%	8.7%	17.4%
Condition - Mental health treatment					
No	38,471	100.0%	8.0%	7.0%	14.1%
Yes	7	0.0%	14.3%	28.6%	28.6%
Condition - drug/alcohol treatment					
No	38,455	99.9%	8.0%	7.0%	14.1%
Yes	23	0.1%	4.3%	17.4%	21.7%
Condition – Other					
No	38,251	99.4%	8.0%	7.0%	14.0%
Yes	227	0.6%	17.2%	12.3%	25.6%

Table 10
SUPERVISION CONDITIONS VS. RISK LEVEL

Yes Condition	N	% of Special Conditions	FTA rate	Rearrest Rate	Either FTA or Rearrest
All Low Risk	**17,311**		**6.0**	**5.0**	**10.4**
Low Risk Condition - Drug test	419	49%	7.2%	8.1%	14.3%
Low Risk Condition - Reporting	565	46%	3.4%	8.1%	13.6%
Low Risk Condition - Notification	82	47%	7.3%	6.1%	11.0%

Table 11
The Current And New Weighting Rules For The Revised Pretrial Risk Assessment Instrument.

	Scoring Items	Current		Modified	
		Yes	No	Yes	No
1	Does the defendant have a verified local address and has the defendant lived in the area for the past twelve months?		1		2
2	Does the defendant have verified sufficient means of support?		1		1
3	Did a reference verify that he or she would be willing to attend court with the defendant or sign a surety bond?		1	Removed	
4	Is the defendant's current charge a Class A, B, or C Felony?	1		1	
5	Is the defendant charged with a new offense while there is a pending case?	5		7	
6	Does the defendant have an active warrant(s) for Failure to Appear prior to disposition? If no, does the defendant have a prior FTA for felony or misdemeanor?	4		2	
7	Does the defendant have prior FTA on his or her record for a criminal traffic violation?	1		1	
8	Does the defendant have prior misdemeanor convictions?	1		2	
9	Does the defendant have prior felony convictions?	1		1	
10	Does the defendant have prior violent crime convictions?	2		1	
11	Does the defendant have a history of drug/alcohol abuse?	2		2	
12	Does the defendant have a prior conviction for felony escape?	1		3	
13	Is the defendant currently on probation/ parole from a felony conviction?	2		1	
	Did you receive special education services in school for an emotional or behavioral problem?	Not Used			
	Have you ever spoken to a counselor or psychologist about a personal problem?	Not Used			
	Violated conditions of pretrial release in last 12 mos	Not Used			
	If yes, was bond revoked?	Not Used			

Table 12:
The Current And New Cut-Points For The Revised Pretrial Risk Assessment Instrument

	Current	Modified
Low	0-5	0-5
Moderate	6-12	6-13
High	13-High	14-High

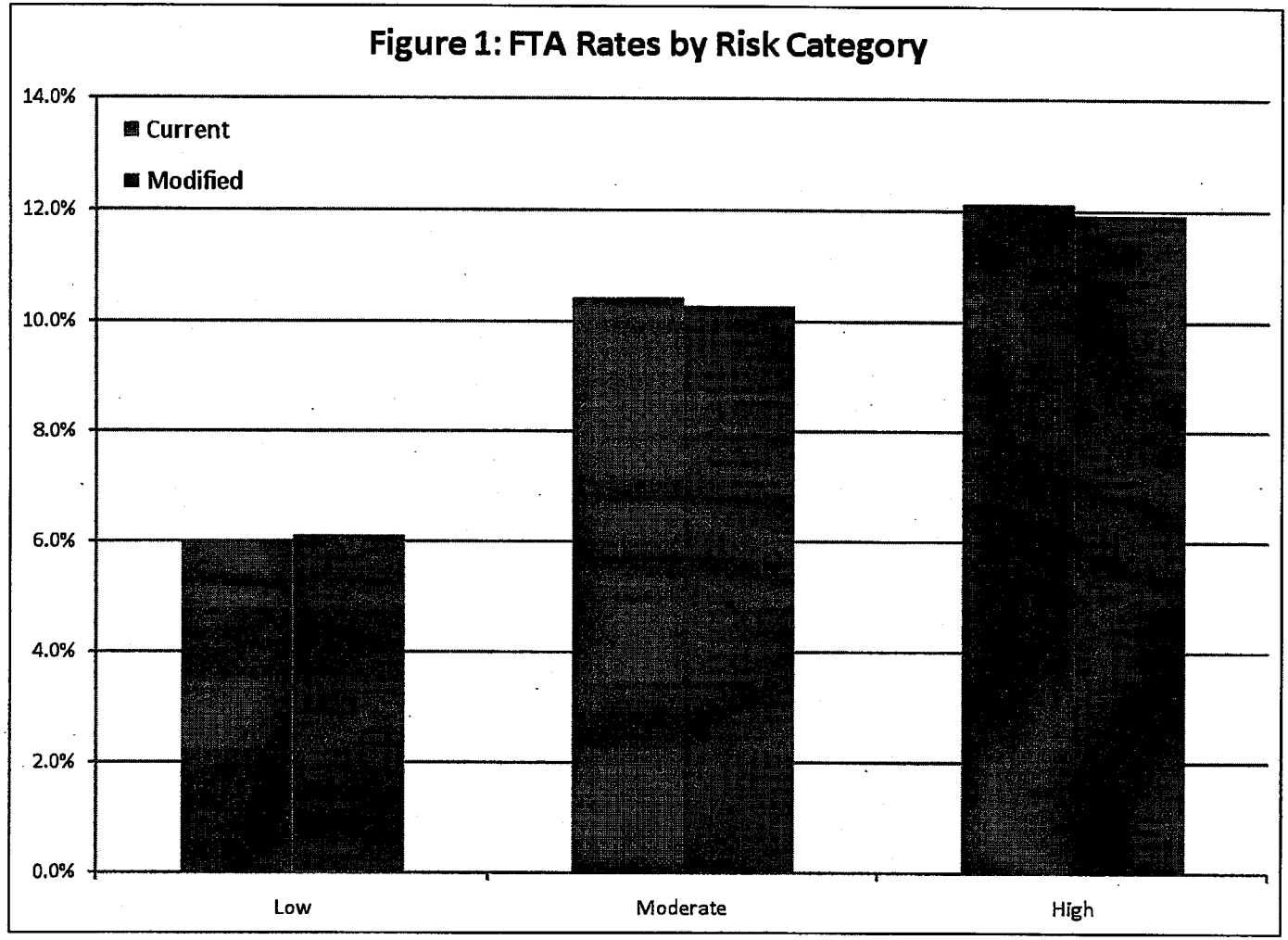


Figure 1: FTA Rates by Risk Category
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
Current
Modified
Low
Moderate
High

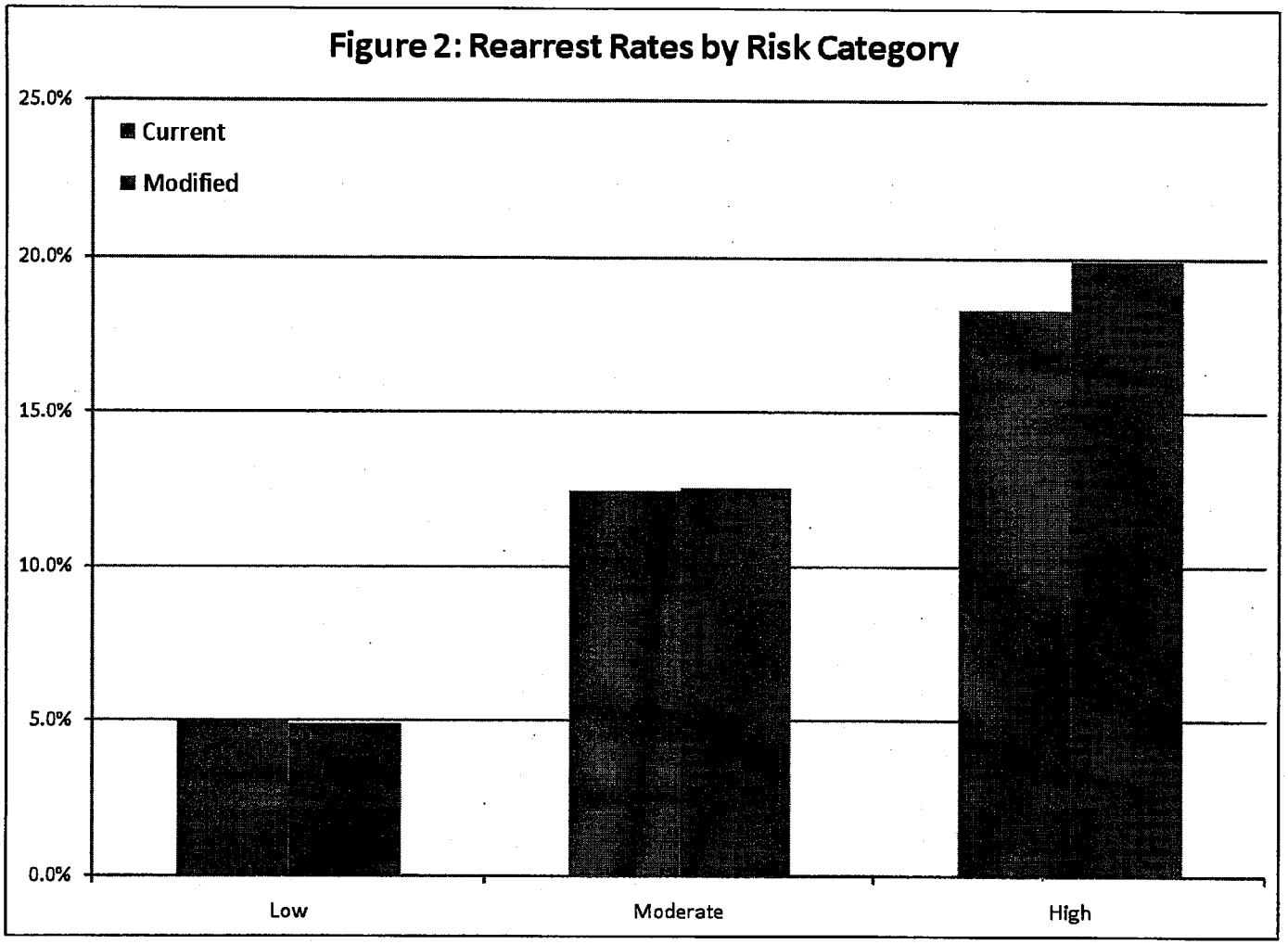


Figure 2: Rearrest Rates by Risk Category
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Current
Modified
Low
Moderate
High

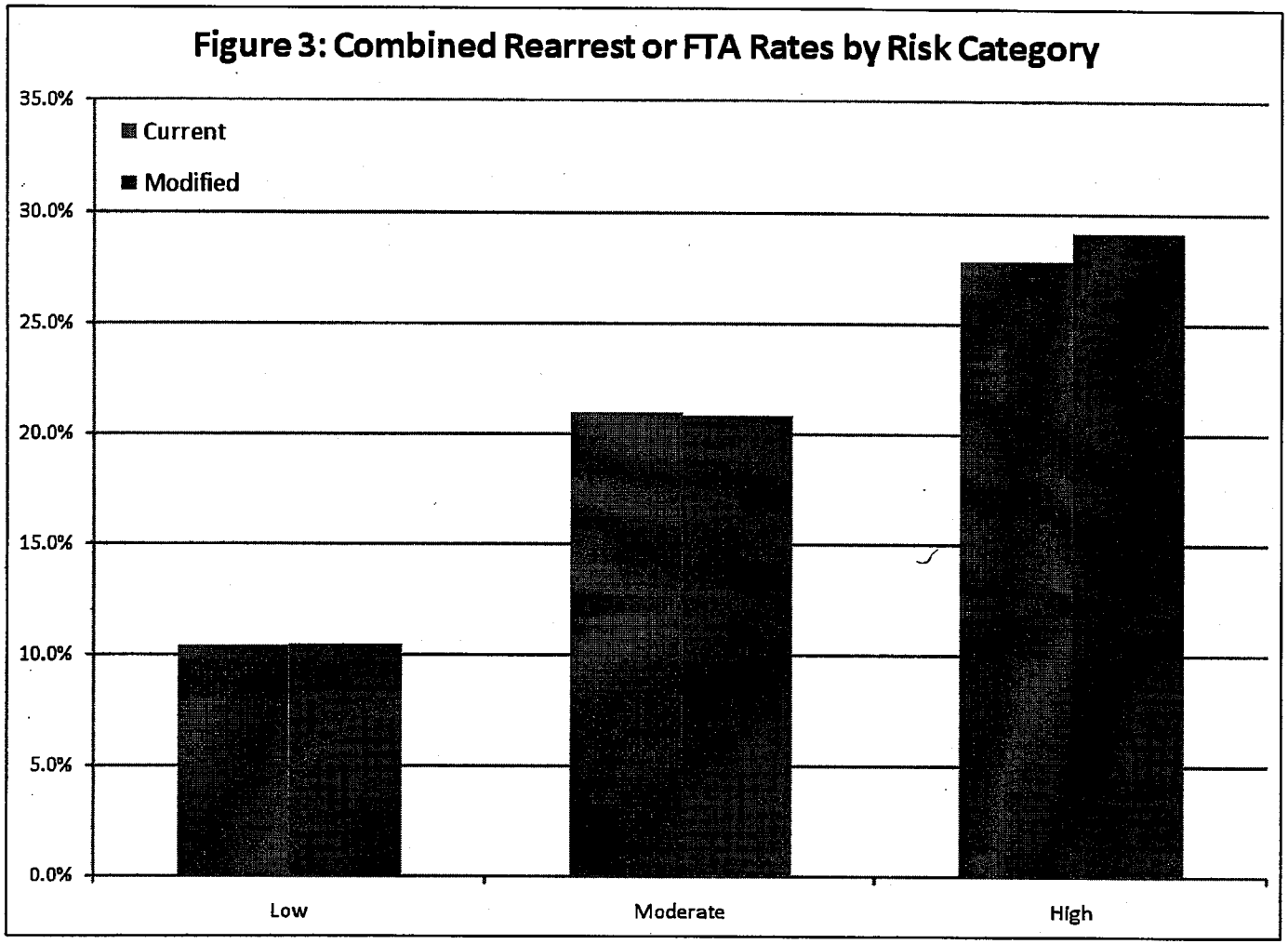


Figure 3: Combined Rearrest or FTA Rates by Risk Category
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Current
Modified
Low
Moderate
High

TAB 6

Appendix C

REVISED VIRGINIA PRETRIAL RISK ASSESSMENT TOOL

Risk Factor	Criteria	Assigned Points	Score
1. Charge Type	If the current offense is a drug offense (MCS, DCS, PCS, including attempts) or is an offense charged under ORS Chapter 166 or 181.	1 Point	
2. Pending Charges	If the defendant had one or more charge(s) pending in court at the time of arrest.	1 Point	
3. Outstanding Warrant(s)	If the defendant had one or more warrant(s) outstanding in another locality for charges unrelated to the current arrest.	1 Point	
4. Criminal History	If the defendant had one or more misdemeanor or felony convictions.	1 Point	
5. Two or more Failure to Appear Events	If the defendant had two or more failure to appear events.	2 Points	
6. Current Residence	If the defendant has had three or more address changes in the past 12 months.	1 Point	
7. Employment	If the defendant is employed, in school, or otherwise engaged as a primary caregiver for a child for less than 20 hours per week.	1 Point	
8. History of Drug Abuse	If the defendant has a history of drug abuse.	1 Point	
SCORE			

Risk Score	[illegible]	[illegible]	5 - 6	[illegible]
Appearance Rate	[illegible]	[illegible]	75%	[illegible]
Safety Rate	[illegible]	[illegible]	93%	[illegible]
Success Rate	[illegible]	[illegible]	59%	[illegible]
Presumptive Release Decision	Release on Recognizance	Release to PRS	Refer to PRS	Detain
Risk Level	Low	Medium	High	
Supervision	None	Basic Monitoring	Pretrial Supervision	
		-Phone Reporting -Check-in physically after court appearances -LEDS Monitoring -Case management meetings as needed	Phone Reporting weekly -Check-in physically after court appearances -LEDS Monitoring -Case management meetings as needed -Substance testing if ordered -Electronic monitoring -Home/field visits	

ASSESSMENT:
The defendant's risk score of ___ is consistent with defendants with a success rate of _____ and safety rate of _____. The defendant's criminal history includes ___ (similar, varied, unrelated) offenses in the past 3 years and _____ lifetime. The defendant has ___ prior FTA's in the past 3 years, and _____ lifetime.

Factors to consider indicating the possibility of violations if released:

RECOMMENDATION:

☐ Defendant be released on their own Recognizance

☐ Defendant be released to Pretrial Release Services, with the following special conditions:

- o _____
- o _____
- o _____

☐ Defendant be referred to PRS for further investigation, e.g., establish victim safety plan, verify alternate housing and/or treatment resources,

☐ Release be denied. It does not appear any conditions of supervision would be adequate to assure that the defendant would comply with the terms of pretrial release.

_____ _____

Pretrial Case Manager **Date**

Appendix G

Virginia Pretrial Risk Assessment Instrument

Instrument Completion Date _____

First Name _____ Last Name _____ Race _____

SSN _____ Sex _____ DOB _____

Arrest Date _____ Court Date _____

Charge(s) _____

Bond Type _____ Bond Amount _____

Risk Factors

1. Charge Type	Felony or Misdemeanor
2. Pending Charge(s)	Yes or No
3. Outstanding Warrant(s)	Yes or No
4. Criminal History	Yes or No
5. Two or More Failure to Appear Convictions	Yes or No
6. Two or More Violent Convictions	Yes or No
7. Length at Current Residence	Less than 1 Year or 1 Year or More
8. Employed/ Primary Child Caregiver	Yes or No
9. History of Drug Abuse	Yes or No

Risk Level

1 2 3 4 5

LOW AVERAGE HIGH

Risk Factor(s) _____

_____

_____

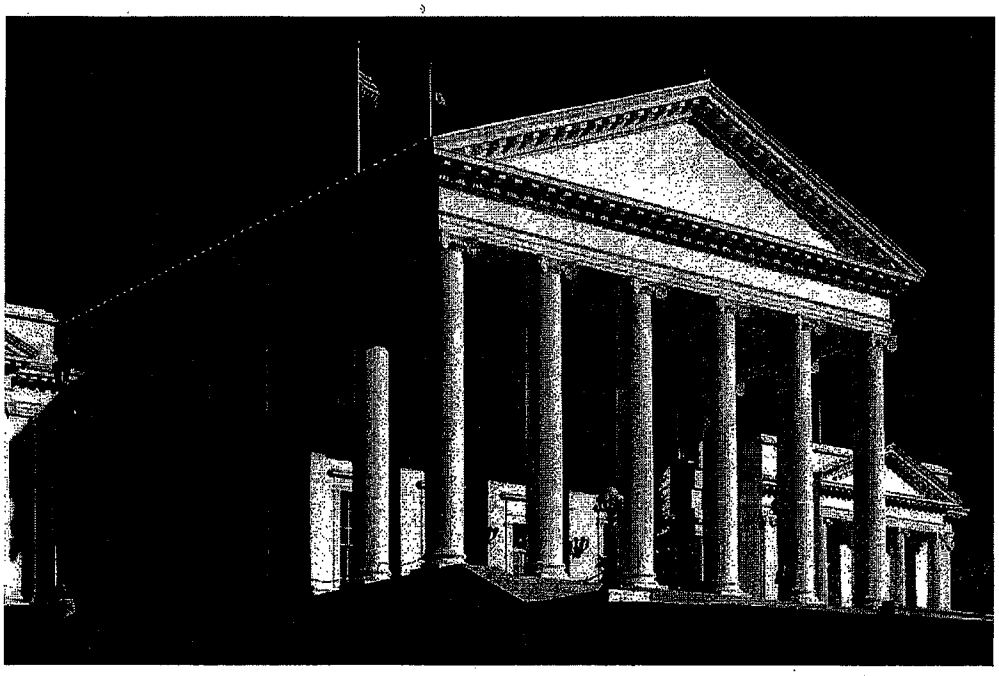
Comments/Recommendations _____

_____

_____

Risk Factor	Criteria	Assigned Point(s)
Charge Type	If the most serious charge for the current arrest was a felony	1 point
Pending Charge(s)	If the defendant had one or more charge(s) pending in court at the time of the arrest	1 point
Outstanding Warrant(s)	If the defendant had one or more warrant(s) outstanding in another locality for charges unrelated to the current arrest	1 point
Criminal History	If the defendant had one or more misdemeanor or felony convictions	1 point
Two or more Failure to Appear Convictions	If the defendant had two or more failure to appear convictions	2 points
Two or more Violent Convictions	If the defendant had two or more violent convictions	1 point
Length at Current Residence	If the defendant had lived at the current residence for less than one year prior to arrest	1 point
Employed/ Primary Child Caregiver	If the defendant had not been employed continuously for the past two years and was not the primary caregiver for a child at the time of arrest	1 point
History of Drug Abuse	If the defendant had a history of drug abuse	1 point

PRETRIAL RISK ASSESSMENT IN VIRGINIA



May 1, 2009

The Virginia Pretrial Risk Assessment Instrument

Sponsored by the Virginia Department of Criminal Justice Services in Partnership with the Virginia Community Criminal Justice Association

Research Conducted and Report Provided by Luminosity, Inc.

Marie VanNostrand, Ph.D.
Kenneth J. Rose

Luminosity, Inc. wishes to acknowledge the leadership of the Department of Criminal Justice Services (DCJS) and the Virginia Community Criminal Justice Association (VCCJA) in advancing the research and practices of pretrial services in the Commonwealth of Virginia and for serving as a model for other localities and states across the country. The success of this project is a direct result of the hard work and expertise of the many individuals who participated in the validation study and revised the Virginia Pretrial Risk Assessment Instrument (VPRAI). We apologize in advance for any omission in the list of those individuals acknowledged below.

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Pretrial Risk Assessment in Virginia

THE VIRGINIA PRETRIAL RISK ASSESSMENT INSTRUMENT (VPRAI)

BACKGROUND

There are currently 29 pretrial services agencies serving 80 of Virginia's 134 cities and counties. All Virginia pretrial services agencies operate under the authority of the Pretrial Services Act[1] and are funded in whole or part by the Virginia Department of Criminal Justice Services (DCJS). DCJS administers general appropriation funds designated for the purpose of supporting the Pretrial Services Act (PSA) as discretionary grants to local units of government.

The field of pretrial services contains two primary sub-fields; pretrial release and pretrial diversion. Pretrial release generally involves the provision of information to judicial officers to assist them in making the pretrial release/detention decision, as well as the monitoring and supervision of persons released from custody while awaiting disposition of criminal charges. Pretrial diversion is a dispositional alternative for pretrial defendants. Defendants voluntarily enter into a diversion program in lieu of standard prosecution and court proceedings. Virginia pretrial services agencies provide pretrial release related services and do not provide pretrial diversion related services.[2]

The Pretrial Services Act was enacted into law with the purpose of providing more effective protection of society by establishing pretrial services agencies that will assist judicial officers in discharging their duties related to determining bail. The Act states that "such agencies are intended to provide better information and services for use by judicial officers in determining the risk to public safety and the assurance of appearance of persons ... other than an offense punishable by death, who are pending trial or hearing." In addition, in accordance with Virginia Code § 19.2-152.3 the Department of Criminal Justice Services was required to develop risk assessment and other instruments to be used by pretrial services agencies in assisting judicial officers in discharging their duties relating to determining bail for pretrial defendants.

The duties and responsibilities of pretrial services agencies are detailed in Virginia Code § 19.2-152.4:3 - Duties and responsibilities of local pretrial services officers. Pretrial services agencies are required to supervise and assist all defendants placed on pretrial supervision by any judicial officer to ensure compliance with the terms and conditions of bail. In order to assist judicial officers in discharging their duties related to determining bail for pretrial defendants, pretrial services officers are required to provide the following services:

---

[1] Article 5 (§19.2-152.2 et seq.) of Chapter 9 of Title 19.2

[2] The primary distinction between pretrial release and diversion is the nature of participation on the defendant's part. Participation in pretrial diversion is voluntary whereas the pretrial release decision and the setting of terms and conditions of release are a result of a judicial decision regarding the defendant. Pretrial release allows for the defendant to be monitored in the community while following the standard court process pending trial, whereas pretrial diversion allows the defendant to voluntarily enter into a diversion program and avoid standard prosecution. Should a defendant fail diversion, however, he will be returned to the court process for prosecution. See Marie VanNostrand, Ph.D. *Legal and Evidence-based Practices: Application of Legal Principles, Laws, and Research to the Field of Pretrial Services* (National Institute of Corrections and Crime and Justice Institute, 2007)

1. Investigate and interview defendants arrested on state and local warrants and who are detained in jails located in jurisdictions served by the agency while awaiting a hearing before any court that is considering or reconsidering bail, at initial appearance, advisement or arraignment, or at other subsequent hearings; and

2. Present a pretrial investigation report with recommendations to assist courts in discharging their duties related to granting or reconsidering bail.

Consistent with the Code of Virginia, the Virginia Department of Criminal Justice Services in partnership with the Virginia Community Criminal Justice Association and Luminosity, Inc., developed, implemented, and validated the Virginia Pretrial Risk Assessment Instrument (VPRAI) for use by pretrial services agencies. An overview of pretrial risk assessment generally, the development and validation of the VPRAI, and instructions for instrument completion are provided in this report.

PRETRIAL RISK ASSESSMENT

The purpose of a pretrial risk assessment instrument is to identify the likelihood of failure to appear in court and the danger to the community posed by a defendant pending trial. A pretrial risk assessment instrument should use research-based objective criteria to identify the likelihood of failure to appear in court and danger to the community pending trial.[3]

The use of an objective and research-based risk assessment instrument by pretrial services agencies to assist judicial officers in making bail decisions is strongly recommended by both American Bar Association[4] and National Association of Pretrial Services Agencies[5] Standards. Additionally, pretrial risk assessment instruments should be consistent with the concept of Pretrial Justice.[6]

> ***Pretrial Justice***
> *The honoring of the presumption of innocence, the right to bail that is not excessive, and all other legal and constitutional rights afforded to accused persons awaiting trial while balancing these individual rights with the need to protect the community, maintain the integrity of the judicial process, and assure court appearance*

Pretrial risk assessment research conducted over the past 30 years has identified common factors that are predictive of failure to appear in court and/or danger to the community including the following:

- Current Charge(s)
- Pending Charges at Time of Arrest
- History of Criminal Arrests and Convictions
- Active Community Supervision at Time of Arrest (e.g. Pretrial, Probation, Parole)
- History of Failure to Appear
- History of Violence
- Residence Stability
- Employment Stability
- Community Ties
- Substance Abuse

In fact, the largest study on pretrial risk assessment was recently completed for the federal court system. An analysis of over 500,000 cases processed through the federal pretrial services system between fiscal years 2001 and 2007 revealed the best predictors of pretrial failure (failure to appear and/or being a danger to the community pending trial) included primary charge, pending charges, prior misdemeanor arrests, prior felony arrests, prior failures to appear, employment status, residence status, and substance abuse.[7]

---

[3] National Institute of Justice, *Pretrial Services Programs: Responsibilities and Potential* (Washington, D.C.: U.S. Department of Justice, U.S. Government Printing Office, 2001) pg.46 "Programs that assess risks of pretrial misconduct in an exclusively subjective manner are more than twice as likely to have a jail population that exceeds its capacity than those programs that assess risk exclusively through an objective risk assessment instrument—56 percent, compared to 27 percent. Forty-seven percent of programs that add subjective input to an objective instrument are in jurisdictions with overcrowded jails."

[4] American Bar Association Standards for Criminal Justice *Standards on Pretrial Release, Third Edition* (2002)

[5] National Association of Pretrial Services Agencies *Standards on Pretrial Release, Third Edition* (2004)

[6] VanNostrand, Marie and Gena Keebler. *Our Journey Toward Pretrial Justice* in *Federal Probation*, Volume 71, Number 2, (September 2007) pp. 20-25

[7] VanNostrand, Marie and Gena Keebler. *Pretrial Risk Assessment in the Federal Court: For the Purpose of Expanding the Use of Alternatives to Detention* (Department of Justice, Office of Federal Detention Trustee, 2009)

Pretrial risk assessment instruments must be guided by Pretrial Services Legal and Evidence-based Practices.[8] Pretrial Services Legal and Evidence-based Practices are interventions and practices that are consistent with the legal and constitutional rights afforded to accused persons awaiting trial and methods research have proven to be effective in reducing unnecessary detention while assuring court appearance and the safety of the community during the pretrial stage. There are guiding practices for pretrial risk assessment development according to LEBP.

1. *A pretrial risk assessment instrument should be proven through research to predict risk of failure to appear and danger to the community pending trial* – An appropriate risk assessment instrument for pretrial services is one that is developed using generally accepted research methods to predict the likelihood of failure to appear and danger to the community pending trial. A pretrial risk assessment instrument should be validated to ensure it is an accurate predictor of pretrial risk in the community or communities in which it is being applied.

2. *The instrument should equitably classify defendants regardless of their race, ethnicity, gender, or financial status* – An instrument that is proven through research to effectively predict the likelihood of failure to appear and danger to the community for an entire population may also be found to result in disparate classification and treatment of certain defendants. For example, an instrument may accurately categorize defendants generally, but may also over-classify defendants of a particular race or socioeconomic status. Over-classification involves the classification of a group of defendants into higher risk levels than the actual risk level of the group. The result of such over-classification is the unequal and unfair treatment of certain defendants; frequently minorities and the poor. A risk assessment instrument should be proven through research methods to equitably classify defendants regardless of their race, ethnicity, gender or financial status.[9]

> ***Pretrial Services Legal and Evidence-based Practices*** *are interventions and practices that are consistent with the legal and constitutional rights afforded to accused persons awaiting trial and methods research have proven to be effective in reducing unnecessary detention while assuring court appearance and the safety of the community during the pretrial stage*

3. *Factors utilized in the instrument should be consistent with applicable state statutes* – Bail statutes and pretrial services acts, if applicable, should be consulted to ensure that factors included in a pretrial risk assessment instrument are allowable for the purposes of bail consideration.

An objective and research-based risk assessment instrument is intended to identify (1) "low risk" defendants who can be safely released into the community with limited or no conditions pending trial; (2) "moderate" and "higher" risk defendants whose risk can be minimized by utilizing appropriate release conditions, community resources, and/or interventions upon release; and (3) the "highest risk"

[8] Marie VanNostrand, Ph.D. *Legal and Evidence-based Practices: Application of Legal Principles, Laws, and Research to the Field of Pretrial Services* (National Institute of Corrections and Crime and Justice Institute, 2007)

[9] See Marie VanNostrand, Ph.D. *Assessing Risk Among Pretrial Defendants in Virginia: The Virginia Pretrial Risk Assessment Instrument* (Richmond, VA: Virginia Department of Criminal Justice Services, 2003) pp. 11-14 for a research methods model of ensuring equitable classification of groups

defendants, those for whom no condition or combination of conditions can reasonably assure the safety of the community or appearance in court, so they can be detained pending trial.

The intended use of an objective and research-based pretrial risk assessment instrument is consistent with the evidence-based practice "risk principle." As it relates to the post-conviction field, research has demonstrated that evidence-based interventions directed towards offenders with a moderate to high risk of committing new crimes will result in better outcomes for both offenders and the community. Conversely, treatment resources targeted to low-risk offenders produce little, if any, positive effect. In fact, despite the appealing logic of involving low-risk individuals in intensive programming to prevent them from graduating to more serious behavior, numerous studies show that certain programs may actually worsen their outcomes. By limiting supervision and services for low-risk offenders and focusing on those who present greater risk, probation and parole agencies can devote limited treatment and supervision resources where they will provide the most benefit to public safety.[10]

Recent research conducted specifically for pretrial defendants confirms the applicability of this principle to the pretrial services field. The pretrial risk assessment study for the federal court referenced above also examined the use of alternatives to pretrial detention including, but not limited to, the following: third-party custodian, substance abuse testing, substance abuse treatment, location monitoring, halfway house, community housing or shelter, mental health treatment, sex offender treatment, and computer monitoring. The research examined the effectiveness of the alternatives to pretrial detention while considering risk and the most significant findings are provided below.

- Release conditions that include alternatives to pretrial detention – with the exception of mental health treatment, when appropriate – generally decrease the likelihood of success pending trial for lower risk defendants and should be required sparingly.
- Alternatives to pretrial detention are most appropriate for moderate and higher risk defendants as it allows for pretrial release while generally increasing pretrial success. Alternatives to pretrial detention should be imposed for this population when a defendant presents a specific risk of pretrial failure that can be addressed by a specific alternative.
- Defendants identified as moderate and higher risk are the most suited for pretrial release – both programmatically and economically – with conditions of alternatives to pretrial detention. The pretrial release of these defendants can be maximized by minimizing the likelihood of pretrial failure through participation in alternatives to detention.

Lower risk defendants who were required to participate in alternatives to detention pending trial were more likely to fail pending trial

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Moderate and higher risk defendants who were required to participate in alternatives to detention pending trial were more likely to succeed pending trial

[10] *Putting Public Safety First: 13 Strategies for Successful Supervision and Reentry* (The Pew Center on the States, 2008).

A pretrial risk assessment serves as the foundation for a recommendation regarding bail. Pretrial services agencies are tasked with identifying the least restrictive terms and conditions of bail that will reasonably assure a defendant will appear for court and not present a danger to the community pending trial. Recommendations regarding bail are guided by statute (Virginia Code §19.2-123), pretrial services legal and evidence-based practices, and the evidence-based practice "risk principle."

ORIGINAL VIRGINIA PRETRIAL RISK ASSESSMENT INSTRUMENT (VPRAI)

The Virginia Pretrial Risk Assessment Instrument was developed in accordance with the statutory requirement for the Department of Criminal Justice Services to develop risk assessment and other instruments to be used by pretrial services agencies in assisting judicial officers in discharging their duties relating to determining bail for pretrial defendants. The purpose of the VPRAI is to identify the likelihood of failure to appear in court and the danger to the community posed by a defendant pending trial and to assist pretrial officers in making a bail recommendation.

A brief summary of the VPRAI development and implementation is provided here. See the document *Assessing Risk among Pretrial Defendants in Virginia: the Virginia Pretrial Risk Assessment Instrument* for a complete description of the instrument development.[11]

Dataset

The dataset used to conduct the research was collected from a sample of defendants arrested in select Virginia localities between July 1, 1998 and June 30, 1999. The defendants were arrested in one of seven localities: Hampton, Fredericksburg, Spotsylvania, Emporia, Brunswick, Sussex, and Greensville. The localities included in the dataset varied substantially in community characteristics including: community type (urban, rural, and suburban); number of persons, households, and families; sex; race; median family income; percentage of people below poverty level; and education level.

Data were collected from a number of sources including those listed below.

1. Personal interviews were conducted with defendants, either face-to-face or by video teleconference, after arrest and prior to the initial bail hearing with a judicial officer.
2. Arrest warrants, criminal history records (i.e., National Criminal Information Center [NCIC], Virginia Criminal Information Network [VCIN], Department of Motor Vehicles [DMV], Virginia Court Automated Information System [CAIS], local police records), and court records were reviewed.
3. References provided by the defendant were contacted to verify certain information.
4. Current and prior adult criminal justice supervision records were consulted as needed.

The final sample used for the analysis included 1,971 adults (18 years or older or juveniles previously certified as adults by the Court) arrested for one or more jailable offense(s) (Class I and II misdemeanors, unclassified misdemeanors that carry a penalty of jail time, and all felonies), who were released pending trial. The cases were tracked until final disposition through the use of court and other official records to determine the pretrial outcome. The dataset was finalized in 2001.

Variables

Pretrial outcome – success or failure pending trial – was the dependent variable. Consistent with the intent of bail, pretrial failure was defined as failing to appear for court and/or being a danger to the community pending trial. Failure to appear was measured by a defendant's failure to appear for a scheduled court appearance pending trial which resulted in the issuance of a capias. Danger to the

[11] Marie VanNostrand, Ph.D. *Assessing Risk Among Pretrial Defendants in Virginia: The Virginia Pretrial Risk Assessment Instrument* (Richmond, VA: Virginia Department of Criminal Justice Services, 2003)

community was measured by the presence of a new arrest for a crime that was allegedly committed while the defendant was released pending trial. Defendants who were deemed to have failed to appear and/or to have been a danger to the community pending trial were classified "failure" and those defendants who experienced neither and remained in the community during the entire time pending trial were classified "successful."

There were 50 variables classified as independent variables (risk factors), which were measures of the following: demographic characteristics, physical and mental health, substance abuse, residence, transportation, employment and school status, income, the charge(s) against the defendant, and criminal history.

Methodology and Results

The analysis consisted of univariate, bivariate, and multivariate analysis. The univariate analysis including descriptive statistics of the dependent variable (pretrial outcome – success or failure pending trial) and each independent variable (risk factor). The bivariate analysis included an examination of the relationship between each risk factor and pretrial outcome. The risk factors found to be statistically significantly related to pretrial outcome were identified and used to conduct the multivariate analysis. The multivariate technique logistic regression was used to identify nine statistically significant predictors of pretrial outcome.

1. ***Primary Charge Type*** – Defendants charged with a felony are more likely to fail pending trial than defendants charged with a misdemeanor.
2. ***Pending Charge(s)*** – Defendants who have pending charge(s) at the time of their arrest are more likely to fail pending trial.
3. ***Outstanding Warrant(s)*** – Defendants who have outstanding warrant(s) in another locality for charges unrelated to the current arrest are more likely to fail pending trial.
4. ***Criminal History*** – Defendants with at least one prior misdemeanor or felony conviction are more likely to fail pending trial.
5. ***Two or More Failure to Appear Convictions*** – Defendants with two or more failure to appear convictions are more likely to fail pending trial.
6. ***Two or More Violent Convictions*** – Defendants with two or more violent convictions are more likely to fail pending trial.
7. ***Length at Current Residence*** – Defendants who have lived at their current residence for less than one year are more likely to fail pending trial.
8. ***Employed/Primary Child Caregiver*** – Defendants who have not been employed continuously at one or more jobs during the two years prior to their arrest or who are not the primary caregiver for a child at the time of their arrest are more likely to fail pending trial.
9. ***History of Drug Abuse*** – Defendants with a history of drug abuse are more likely to fail pending trial.

The statistically significant predictors of pretrial outcome include –

- ✓ *Primary Charge Type*
- ✓ *Pending Charge(s)*
- ✓ *Outstanding Warrant(s)*
- ✓ *Criminal History*
- ✓ *Prior Failures to Appear*
- ✓ *Prior Violent Convictions*
- ✓ *Length at Current Residence*
- ✓ *Employment/Primary Child Caregiver Status*
- ✓ *History of Drug Abuse*

Based on the logistic regression model results the risk factors were assigned weights or "points." The points included 1 point for all factors, with the exception of Two or More Failure to Appear Convictions, which was assigned 2 points due to the predictive strength of the risk factor. The points were totaled to create a score from 0 to 10. The scores were then used to create risk levels. As a result, the VPRAI consists of five risk levels including low, below average, average, above average, and high as shown in the following figure.

Figure 1. Risk Levels and Pretrial Outcome

Risk Level	Risk Score	N	% Population	Failure to Appear	New Arrest	Total Failure
Low	0, 1	471	24%	4%	6%	10%
Below Average	2	461	23%	8%	11%	19%
Average	3	412	21%	11%	16%	27%
Above Average	4	332	17%	13%	27%	40%
High	5 – 10	295	15%	16%	37%	53%

Data Source: Virginia Department of Criminal Justice Services, VPRAI access database. Sample of defendants arrested in select Virginia localities between July 1, 1998 and June 30, 1999. The defendants were arrested in one of seven localities: Hampton, Fredericksburg, Spotsylvania, Emporia, Brunswick, Sussex, and Greensville. n= 1,971

Source: Assessing Risk Among Pretrial Defendants in Virginia: The Virginia Pretrial Risk Assessment Instrument (Richmond, VA: Virginia Department of Criminal Justice Services, 2003)

Implementation

The instrument was completed in 2002 and automated in the statewide Pretrial and Community Corrections Case Management System (PTCC). The VPRAI was implemented by all Virginia pretrial services agencies using a phased in approach between July 2003 and December 2004. Implementation included pilot testing, onsite training to all agency staff and local community criminal justice boards, and post-implementation technical assistance and support. An instruction manual, investigation guide and training and resource manual were developed to assist the agencies in the successful implementation of the pretrial risk assessment instrument.[12]

[12] See the Virginia Pretrial Investigation Guide, Virginia Pretrial Training and Resource Manual, and Virginia Pretrial Risk Assessment Instruction Manual - http://www.dcjs.virginia.gov/corrections/resources.cfm?menuLevel=5&mID=13

VPRAI VALIDATION

By January 2005 all pretrial services agencies in Virginia were using the VPRAI to identify the likelihood of failure to appear in court and the danger to the community posed by a defendant pending trial and to assist pretrial officers in making a bail recommendation. After two years of statewide use the Virginia Department of Criminal Justice Services and the Virginia Community Criminal Justice Association partnered with Luminosity, Inc. to conduct a validation study. The primary purpose of validation is to confirm predictive validity – in this case that the instrument is able to predict future failure to appear for court and danger to the community pending trial for defendants in Virginia. Although the original instrument was research based, it remains desirable to confirm the predictive validity and ensure that circumstances that can change over time (e.g. crime patterns, law enforcement practices, drug usage, population demographics) have not impacted the accuracy of the instrument.

A VPRAI Validation Advisory Committee was formed to spearhead this initiative. The committee was composed of DCJS staff members and representatives from 10 pretrial services agencies. The committee worked together for nine months between March and October 2007 to conduct the VPRAI validation - an overview of the study is provided here.

Datasets

Primary and secondary datasets were used for analysis. The primary dataset consisted of a random sample of up to 500[13] cases from each of the 10 participating pretrial services agency (n=4,378). The sample was selected from the population of defendants who were arrested January 1 – December 30, 2005 who had both a pretrial investigation and VPRAI completed. A final sample containing pretrial outcomes of at least 2500 cases was desired for the study. Acknowledging that some defendants are not released pending trial and would need to be excluded from the study, an over sampling was conducted to ensure the minimum number of cases for the study. Each agency was provided the information relating to their respective sample so that they could identify the cases in the Pretrial and Community Corrections Case Management System (PTCC), determine the case dispositions and pretrial outcomes (success or failure by type), and enter the results into PTCC. Case dispositions and pretrial outcomes could not be identified for 106 cases which left a sample of 4,272. Of the remaining defendants, 65% were released pending trial while 35% were detained the entire time pending trial. For this reason, the final dataset used for analysis consisted of 2,778 defendants who were arrested between January 1 and December 30, 2005 who had both a pretrial investigation and VPRAI completed, were released pending trial, and a case disposition and pretrial outcome was determined. For this dataset pretrial failure included failing to appear for court and/or new arrest pending trial.

The secondary dataset consisted of all defendants released to the supervision of a pretrial services agency between January 1 and December 30, 2005. The sample included 7,174 defendants and consisted of persons released with a condition of pretrial supervision to any of the 29 pretrial services agencies serving 80 Virginia localities. The case dispositions and pretrial outcomes were known for these defendants; therefore, the existing data was simply extracted from PTCC. For this dataset pretrial failure was determined based on the reason a case was closed and included failing to appear for court, new arrest pending trial and bail revocation due to technical violations of supervision.

[13] Two of the ten agencies had less than 500 cases for 2005; therefore, all cases were included in the analysis.

Methodology and Results

The first step in the validation process was to examine the accuracy of the VPRAI as a whole. Both datasets were used individually to determine how well the instrument classified defendants likelihood of pretrial failure (see figures 2 and 3).

Figure 2. Original VPRAI Pretrial Outcome by Risk Level – 10 Agency Random Sample

Risk Level	Success	Failure
Low	86.1%	13.9%
Below Average	82.1%	17.9%
Average	72.6%	27.4%
Above Average	66.8%	33.2%
High	63.0%	37.0%
Total Success/Failure Rates	72.5%	27.5%

Data Source: Virginia Department of Criminal Justice Services, PTCC (Pretrial and Community Corrections Case Management System). Random sample of defendants arrested in 10 Virginia localities January 1 – December 30, 2005 who had both a pretrial investigation and VPRAI completed. n= 2,778

Note: For this dataset pretrial failure included failing to appear for court and/or new arrest pending trial.

Figure 3. Original VPRAI Pretrial Outcome by Risk Level – All Defendants Released with Pretrial Supervision

Risk Level	Success	Failure
Low	92.8%	7.2%
Below Average	87.4%	12.6%
Average	82.0%	18.0%
Above Average	75.7%	24.3%
High	67.7%	32.3%
Total Success/Failure Rates	82.0%	18.0%

Data Source: Virginia Department of Criminal Justice Services, PTCC (Pretrial and Community Corrections Case Management System). All defendants arrested January 1 – December 30, 2005 and released with a condition of pretrial supervision to any of the 29 pretrial services agencies serving 80 Virginia localities. n= 7,174

Note: For this dataset pretrial failure included failing to appear for court, new arrest pending trial and bail revocations due to technical violations of supervision.

As can be seen in figures 2 and 3, as the pretrial risk level increased (as classified by the VPRAI during the pretrial investigation) the failure rates increased. The VPRAI, as originally developed, accurately classifies defendants according to their likelihood of pretrial failure. A closer examination of both datasets reveals that the VPRAI also accurately classifies defendants by the type of pretrial

failure. Although the VPRAI was found to be a valid predictor of pretrial outcome, additional analysis was conducted to determine if the accuracy of the instrument could be improved. Individual bivariate analysis of the risk factors revealed that Outstanding Warrants was not a statistically significant predictor of pretrial outcome while the remaining 8 risk factors remained good predictors. Multivariate analysis further revealed that a revised instrument consisting of 8 risk factors (excluding Outstanding Warrants) was a slightly better predictor of pretrial outcome when compared to the original 9 factor model.

Figure 4. Revised VPRAI Pretrial Outcome Type by Risk Level – 10 Agency Random Sample

Risk Level	Success	FTA	New Arrest
Low	86.7%	1.6%	11.7%
Below Average	81.9%	4.1%	14.0%
Average	72.5%	5.8%	21.7%
Above Average	67.2%	6.6%	26.2%
High	63.5%	7.0%	29.5%
Total Success/Failure Rates	72.5%	5.5%	21.5%

Data Source: Virginia Department of Criminal Justice Services, PTCC (Pretrial and Community Corrections Case Management System). Random sample of defendants arrested in 10 Virginia localities January 1 – December 30, 2005 who had both a pretrial investigation and VPRAI completed. n= 2,778

Although the purpose of a pretrial risk assessment is to predict the risk of failure to appear and danger to the community pending trial, additional analysis was conducted to determine if the revised VPRAI (excluding Outstanding Warrants) also accurately predicted risk of technical violations. As can be seen in figure 5, the revised VPRAI also accurately classified defendants in five levels of risk based on the likelihood of pretrial failure including technical violations.

Figure 5. Revised VPRAI Pretrial Outcome by Risk Level – All Defendants Released with Pretrial Supervision

Risk Level	Success	FTA	New Arrest	Technical Violation
Low	92.5%	2.7%	1.9%	2.9%
Below Average	87.5%	5.6%	1.6%	5.3%
Average	82.2%	6.2%	2.6%	8.9%
Above Average	76.3%	7.0%	4.2%	12.5%
High	68.6%	7.8%	5.4%	18.0%
Total Success/Failure Rates	82.0%	6.2%	2.9%	8.9%

Data Source: Virginia Department of Criminal Justice Services, PTCC (Pretrial and Community Corrections Case Management System). All defendants arrested January 1 – December 30, 2005 and released with a condition of pretrial supervision to any of the 29 pretrial services agencies serving 80 Virginia localities. n= 7,174

Revised Validated VPRAI

The revised and validated VPRAI consists of eight risk factors. Minor revisions to the descriptions of the risk factors were made during the validation study based on the advisory committee's experience with implementation and use of the VPRAI and to improve understanding of the risk factors. The eight risk factors are provided below (see next section *VPRAI Completion Instructions* for detailed definitions of each factor).

1. ***Primary Charge Type*** – Defendants charged with a felony are more likely to fail pending trial than defendants charged with a misdemeanor.
2. ***Pending Charge(s)*** – Defendants who have pending charge(s) at the time of their arrest are more likely to fail pending trial.
3. ***Criminal History*** – Defendants with at least one prior misdemeanor or felony conviction are more likely to fail pending trial.
4. ***Two or More Failures to Appear***– Defendants with two or more failures to appear are more likely to fail pending trial.
5. ***Two or More Violent Convictions*** – Defendants with two or more violent convictions are more likely to fail pending trial.
6. ***Length at Current Residence*** – Defendants who live at their current residence for less than one year are more likely to fail pending trial.
7. ***Employed/Primary Caregiver*** – Defendants who have not been employed continuously at one or more jobs during the two years prior to their arrest or who are not a primary caregiver are more likely to fail pending trial.
8. ***History of Drug Abuse*** – Defendants with a history of drug abuse are more likely to fail pending trial.

The weights and scoring, including 1 point for all factors with the exception of Two or More Failures to Appear which is assigned 2 points, remains unchanged. The points are totaled to create a score from 0 to 9 and are used to create five risk levels including low, below average, average, above average, and high as shown in figure 6. The risk levels represent the likelihood of pretrial failure including failing to appear in court and danger to the community pending trial.

Figure 6. Revised VPRAI Risk Levels

Risk Level	Risk Score
Low	0, 1
Below Average	2
Average	3
Above Average	4
High	5 – 9

VPRAI COMPLETION INSTRUCTIONS

Eligibility

A VPRAI examines a defendant's status at the time of the arrest as it relates to the current charges, pending charges, criminal history, residence, employment, primary caregiver, and history of drug abuse. For this reason, the instrument is primarily intended to be completed after arrest and presented to the Court at first appearance. Completing the instrument soon after arrest increases the likelihood of capturing the most accurate information as it relates to the defendant's status at the time of his/her arrest and should be done so within 7 days.

A pretrial investigation must be conducted prior to completing the VPRAI (see Virginia Pretrial Investigation Guide). Defendants who do not meet all of the criteria listed below are not eligible for instrument completion as part of the pretrial investigation. Additionally, a VPRAI is required for all eligible defendants and should be completed by following the instructions provided herein.

1. The defendant must be an adult – 18 years or older or a juvenile previously certified as an adult by the court.

2. The defendant must not be incarcerated at the time of the arrest or when the warrants were served. Defendants who were incarcerated for unrelated charges at the time the new warrants were served are not eligible.

3. The defendant must have been arrested for one or more jailable offense(s) – Class 1 and 2 misdemeanors (M1 and M2), unclassified misdemeanor (M9) that carry a penalty of jail time, or any felony. Class 3 misdemeanors, Class 4 misdemeanors, and any Class 9 misdemeanors, which carry a maximum penalty of a fine, are not eligible for instrument completion.

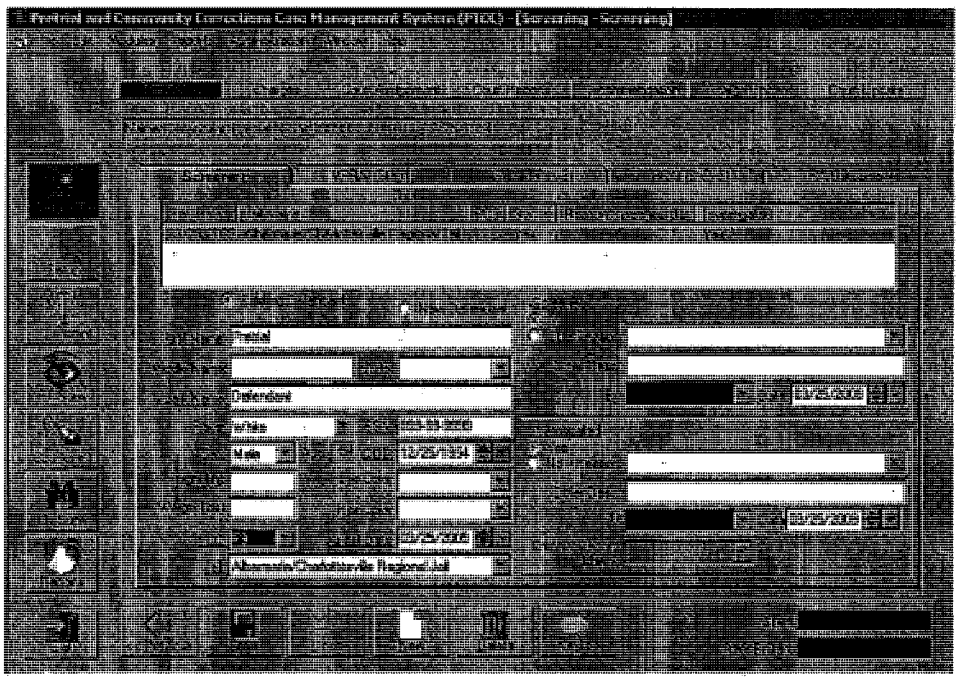
4. The defendant must have been arrested for a criminal offense (includes criminal traffic charges but NOT traffic infractions). Defendants charged solely with the following are not eligible:
    a. civil offense
    b. FTA or capias due to an underlying charge from a civil court
    c. fugitive warrant/warrant of extradition

The VPRAI is automated and contained in the Pretrial and Community Corrections Case Management System (PTCC). The appendix contains an example of a completed instrument created from sample data. The VPRAI can be created after completing four tabs contained in the Screening sub-module of the Screening module of PTCC. The four tabs include the following: Screening, VPRAI (Step 1), VPRAI (Step 2), and VPRAI (Step 3).

Screening

The following information required for the VPRAI is entered into the Screening tab: First Name, Last Name, Race, Social Security Number (SSN), Sex, Date of Birth (DOB), Primary Charge Classification (PCC), Arrest Date, Jail, Screened In, and Investigated Yes (see figure 7).

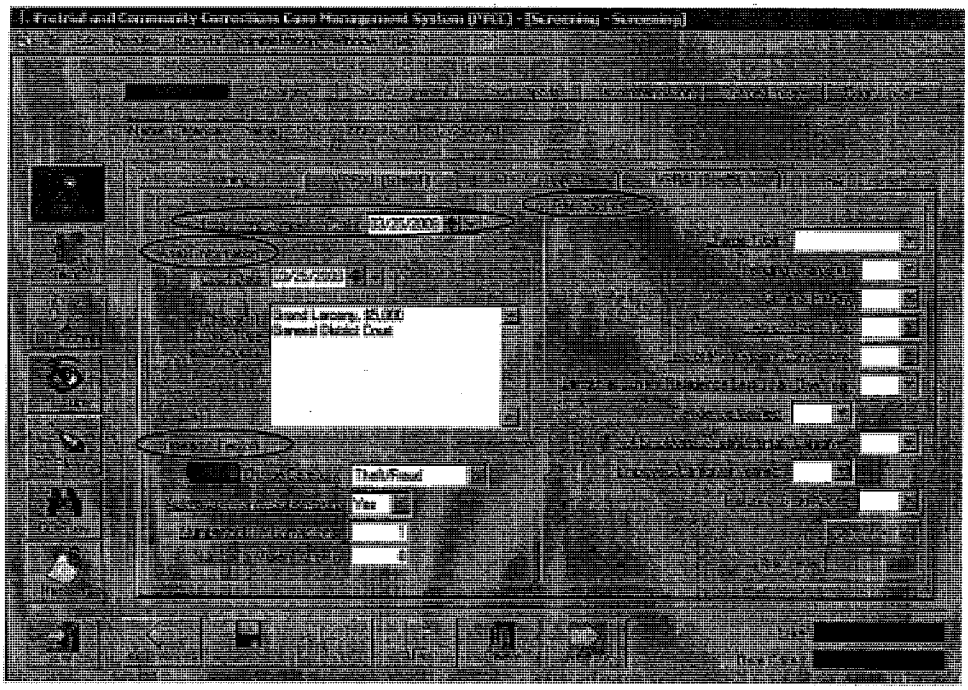
Figure 7. Screening Tab in Screening Module



VPRAI (STEP 1)

The following information required for the VPRAI is entered into the VPRAI (Step 1) tab: Instrument Completion Date, Arrest Information, Research Factors, and Risk Factors. The Risk Level is a calculated field which resides on this tab (see figure 8).

Figure 8. VPRAI (Step 1) Tab in Screening Module



Research Factors

Four research factors are collected for future VPRAI validation and research initiatives. Guidance for selecting accurate responses to the factors is provided below.

1. *Charge Category* – There are 8 options for charge category including Violent, Firearm, Drug, Theft/Fraud, Failure to Appear, DUI, Traffic/Non-DUI, and Other. To identify the charge category follow the steps below.

    a. Violent – Determine if any of the charges are a violent offense - violent offenses include the following: Murder, Manslaughter, Mob-related felonies, Kidnapping, Abduction, Malicious Wounding, Robbery, Carjacking, Arson, Assault (simple assault or assault & battery/misdemeanor or felony), and Sex Offenses (Rape, Sexual Assault/Battery, Carnal Knowledge of a Child, Forcible Sodomy).

    Charges of burglary and possession or brandishing a firearm are **not** counted as violent. A charge of attempt or being an accessory *before the fact* to commit any of the offenses **is** counted. A charge of conspiring or being an accessory *after the fact* to commit any of the offenses **is not** counted.

    If any of the charges are violent select Violent for this factor and continue to the next research factor; otherwise, continue to step b.

    b. Firearm – Determine if any of the charges are a firearm offense - firearm offenses include any charge relating to possession, use, or manufacturing a firearm. Examples

include shooting at a vehicle, discharging a weapon in a public place, brandishing, illegally carrying a concealed weapon, or removing or altering the serial number or other identification number on a firearm. If any of the charges are a firearm offense select Firearm for this factor and continue to the next research factor; otherwise, continue to step c.

c. Drug – Determine if any of the charges are a drug related offense – drug related offenses include schedules I, II, III, IV, V and VI drugs, imitation controlled substances, counterfeit controlled substances, and drug paraphernalia. Note: Drug related offense does not include an alcohol related offense. If any of the charges are drug related select Drug for this factor and continue to the next research factor; otherwise, continue to step d.

d. Theft/Fraud – Determine if any of the charges are a theft/fraud offense – theft/fraud offenses include the following: any charge related to larceny, burglary, fraud, concealment, embezzlement, forgery, uttering, and bad check. If any of the charges are theft/fraud related select Theft/Fraud for this factor and continue to the next research factor; otherwise, continue to step e.

e. Failure to Appear – If any of the charges are a failure to appear select Failure to Appear for this factor and continue to the next research factor; otherwise, continue to step f.

f. Driving Under the Influence (DUI) – If any of the charges are a Driving Under the Influence select DUI for this factor and continue to the next research factor; otherwise, continue to step g.

g. Traffic/Non-DUI – If any of the charges are a traffic offense other than a DUI select Traffic/Non-DUI for this factor and continue to the next research factor; otherwise, continue to step h.

h. Other – If none of the charges meet the criteria above select Other for this factor and continue to the next research factor.

2. *Active Community Supervision*

   - **Select Yes** if the defendant was under any active community criminal justice supervision including state or local probation, parole, pretrial services, alcohol safety action program (ASAP), drug court, day reporting, or any other form of active criminal justice supervision at the time of the arrest. Active supervision does NOT include unsupervised probation, a term of good behavior, or release on bail without pretrial supervision.

   - **Select No** if the defendant was not on active community criminal justice supervision at the time of the arrest.

3. *Number of FTA Convictions* – Enter the number of convictions as an adult for Failure to Appear or Contempt of Court that was a result of failure to appear.

4. *Number of Violent Arrests* – Enter the number of arrests (count each charge) for a violent offense as an adult; regardless of the case disposition (guilty, not guilty, nolle prosequi, dismissed). Violent offenses include the following: Murder, Manslaughter, Mob-related felonies, Kidnapping, Abduction, Malicious Wounding, Robbery, Carjacking, Arson, Assault

(simple assault or assault & battery/misdemeanor or felony), and Sex Offenses (Rape, Sexual Assault/Battery, Carnal Knowledge of a Child, Forcible Sodomy).

Arrests for burglary and possession or brandishing a firearm are **not** counted as violent arrests. An arrest for attempt or being an accessory *before the fact* to commit any of the offenses **is** counted. An arrest for conspiring or being an accessory *after the fact* to commit any of the offenses is **not** counted.

Risk Factors

The VPRAI calculates a defendant's level of risk based on the eight (8) risk factors listed below. Responses to these risk factors are entered in the appropriate sections on this tab (see Figure 8: VPRAI (Step 1) Tab in Screening Module, p.16). Guidance for selecting accurate responses to the factors is provided below.

1. *Charge Type* – **Select *Misdemeanor* or *Felony*** to indicate whether the most serious charge classification for the arrest event is a misdemeanor or a felony.
    - If there is only one charge - select the classification for that charge (***Misdemeanor* or *Felony***).
    - For a capias or FTA warrant count the charge type of the most serious underlying charge.
    - **Select *Misdemeanor*** when there are multiple charges and all of the charges have a charge classification of misdemeanor.
    - **Select *Felony*** when there are multiple charges and one or more of the charges is a felony.
2. *Pending Charge(s)* – Pending charge(s) require: 1) that the defendant was previously arrested for one or more charges for jailable offenses that have not been "disposed of"; 2) was arrested for a new crime that was allegedly committed while released on bail pending trial; and 3) that a future court date has been set or that a warrant has been issued for failure to appear. A charge with a disposition of "deferred" is NOT counted as a pending charge.
    - **Select *Yes*** if the defendant had one or more charges for jailable offenses pending in a criminal or traffic (not civil) court at the time of arrest.
    - **Select *No*** if the defendant had no pending charge(s) at the time of arrest.
    - **Exception:** If the current arrest is solely for a failure to appear, the underlying charge related to the failure to appear does not constitute a pending charge.
    - The following scenarios **DO NOT** constitute a pending charge:
        - A defendant is arrested, remains incarcerated pending trial, and is served with new warrants; or
        - A defendant is arrested, released pending trial, and is arrested for a charge with an alleged offense date that is prior to the first arrest.
3. *Criminal History* – A conviction for a jailable offense is counted as a prior criminal history. Note: A charge with a disposition of "deferred" is NOT counted as a conviction.
    - **Select *Yes*** if the defendant has at least one adult misdemeanor or felony conviction in the past.

- **Select *No*** if the defendant has no misdemeanor or felony conviction in the past.

4. *Two or More Failures to Appear* – An arrest for failure to appear, bail jumping, or contempt of court that was a result of failing to appear is counted. A failure to appear for a single court appearance is counted once regardless of the number of FTA charges related to the one court appearance. An arrest for failure to appear is not counted if there is confirmation that the defendant was in custody (jail or prison) when the failure to appear occurred.

   - **Select *Yes*** if the defendant has failed to appear in court two or more times as an adult.
   - **Select *No*** if the defendant has not failed to appear two or more times as an adult.

5. *Two or More Violent Convictions* – Violent convictions are defined for the purposes of risk assessment to include the following: Murder, Manslaughter, Kidnapping, Abduction, Malicious Wounding, Robbery, Carjacking, Arson, Assault (simple assault or assault & battery/misdemeanor or felony), and Sex Offenses (Rape, Sexual Assault/Battery, Carnal Knowledge of a Child, Forcible Sodomy.

   Convictions for burglary and possession or brandishing a firearm are **not** counted as violent convictions. A conviction for attempt or being an accessory *before the fact* to commit any of the offenses is counted. A conviction for conspiring or being an accessory *after the fact* to commit any of the offenses is **not** counted.

   - **Select *Yes*** if the defendant has two or more prior violent convictions as an adult.
   - **Select *No*** if the defendant does not have two or more prior violent convictions.

6. (A) *Length at Current Residence Less than One Year* – A residence is where the defendant currently lives and does not include non-residences such as a jail, prison, halfway house, hospital, or shelter.

   - **Select *Yes*** to indicate if the defendant has lived at his residence for less than one year, is homeless, or does not have a stable residence.
   - **Select *No*** if the defendant has lived at his current residence for one year or more.

   (B) *Residence Verified* – Select ***Yes*** or ***No*** to indicate whether the residence information was verified by a reference or other secondary source.

7. (A) *Not Employed 2 Years/Primary Caregiver* – Employment includes part or full time as long as the defendant worked regularly and consistently for a minimum of 20 hours per week. A defendant is considered a primary caregiver if he or she is responsible for, and consistently cares for, at least one dependent child (under the age of 18) or disabled or elderly family member, living with the defendant at the time of the arrest.

   - **Select *Yes*** if the defendant was unemployed at the time of the arrest, had a significant gap in employment over the two years prior to the arrest, is retired, disabled or a student and was not a primary caregiver at the time of arrest.
   - **Select *No*** if the defendant has been employed relatively consistently at one or more jobs during the two years prior to the arrest.
   - **Select *No*** if the defendant was a primary caregiver at the time of the arrest.

(B) *Employed/Caregiver Verified* – Select **Yes or No** to indicate whether the employed/primary caregiver information was verified by a reference or other secondary source.

8. *History of Drug Abuse* – For the purposes of risk assessment drug abuse includes any illegal or prescription drugs and **does not include alcohol.** Consideration should be given to the information provided by the defendant, criminal history, information contained in supervision records, and any information provided by references regarding drug use (**excluding alcohol**).

   Examples: Indications of a history of drug abuse: 1) previously used illegal substance(s) repeatedly (this is to be distinguished from short-term experimental use); 2) defendant admits to previously abusing illegal or prescription drugs; 3) the criminal history contains drug related convictions; and 4) the defendant received drug treatment in the past.

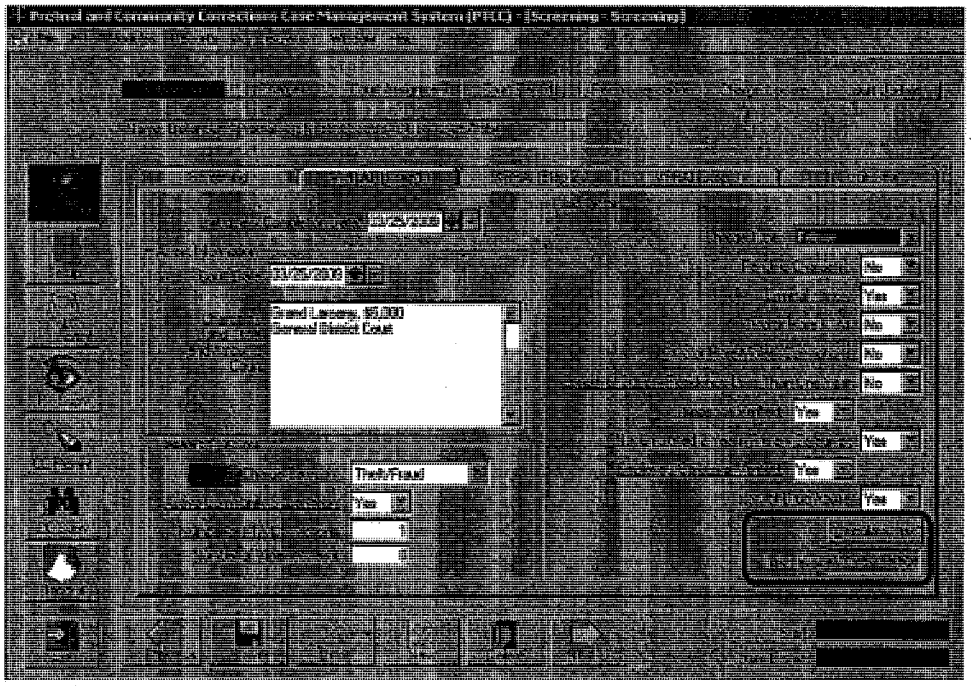
   Any one or a combination of the factors above can be used to determine whether or not the defendant has a history of drug abuse.

   - **Select *Yes*** to indicate the defendant has a history of drug abuse.
   - **Select *No*** if the defendant does not have a history of drug abuse.

Risk Level

After selecting responses to the eight risk factors the risk level is automatically calculated in PTCC by selecting the *Calculate Risk* button. The defendant's level of risk is identified as one of the following: Low, Below Average, Average, Above Average, or High (see figure 9).

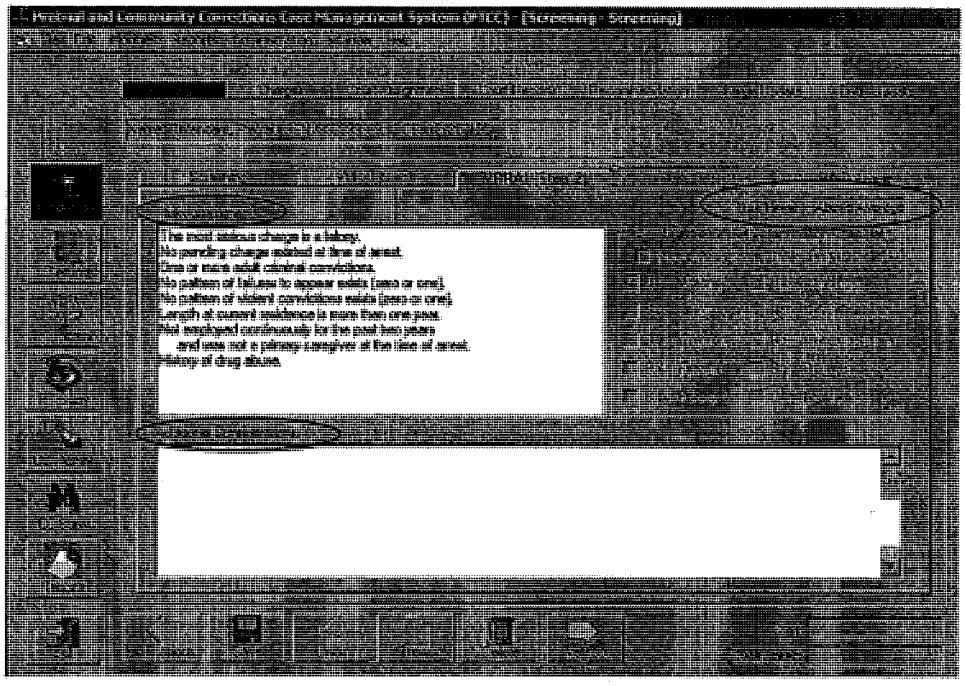
Figure 9. VPRAI (Step 1) Tab in Screening Module: Risk Level Calculated



VPRAI (STEP 2)

The VPRAI (Step 2) tab shows the results of the risk factors by displaying a statement related to each risk factor in the *Risk Assessment* section. The risk level is also displayed in the *Risk Level* section. The section regarding Meets Presumption of No Bail §19.2-120 contained in the *From Magistrate's Bail Determination Checklist* section has been disabled and is no longer used. Additional considerations related to risk are entered in the *Additional Considerations* section (see figure 10).

Figure 10. VPRAI (Step 2) Tab in Screening Module

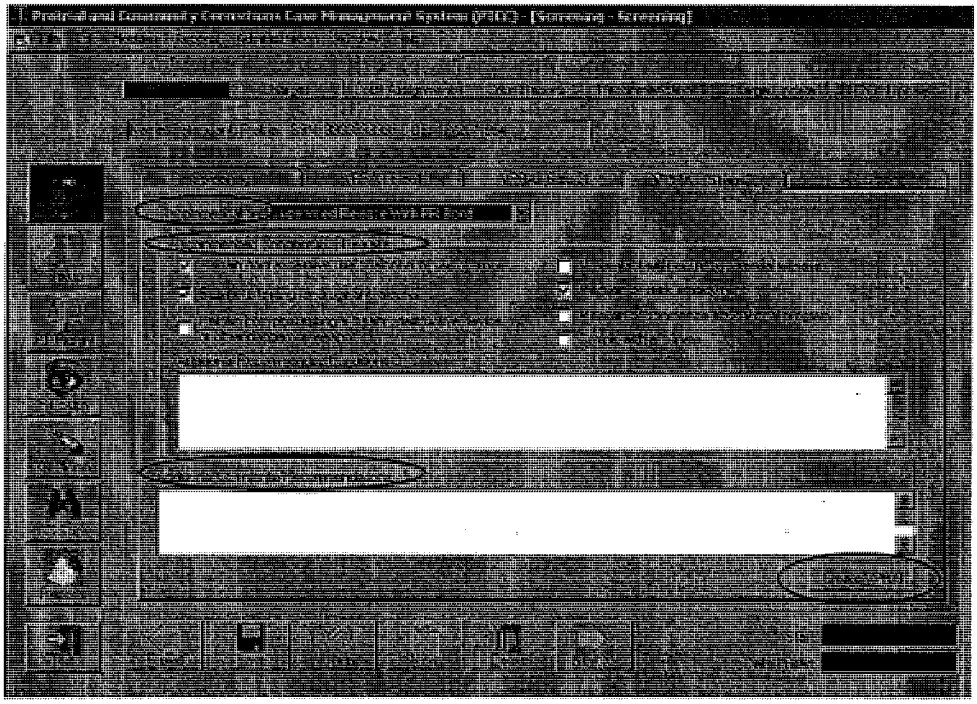


Additional considerations include information deemed important for the judicial officer to consider when making the bail decision. Additional considerations should include areas of risk that have been identified during the pretrial investigation that are not accounted for in the eight (8) primary risk factors detailed previously as well as mitigating factors (factors that may mitigate the seriousness of any of the eight (8) primary risk factors that were identified for the defendant) and positive factors that are relevant to the bail decision.

VPRAI (STEP 3)

The following information for the VPRAI is entered into the VPRAI (Step 3) tab: Recommendation, Recommended Conditions of Release, and Additional Comments/Recommendations. The VPRAI report is also created from this tab (see figure 11).

Figure 11. VPRAI (Step 3) Tab in Screening Module



Recommendation

The *Recommendation* section contains eight (8) options for a bail recommendation and includes the following:

1. Personal Recognizance;
2. Reduced Bond;
3. Same Bond;
4. Supervised Release with PR Bond;
5. Supervised Release with Secure Bond;
6. Increased Bond;
7. No Bond; and
8. No Recommendation.

One of the eight options must be selected.

Recommended Conditions of Release

Conditions of release can be recommended if the bail recommendation entered in the *Recommendation* section is either Supervised Release with PR Bond or Supervised Release with Secure Bond. There are seven (7) common conditions that can be recommended by selecting the box next to recommended condition (see Figure 11: VPRAI (Step 3) Tab in Screening Module, p. 22). The common conditions include:

1. Refrain from excessive use of alcohol or use of drugs;
2. Submit to testing for drugs and alcohol;
3. Refrain from possessing a firearm, destructive device, or other dangerous weapon;
4. No contact with victim or potential witness;
5. Maintain or seek employment;
6. Maintain or commence educational program; and
7. Comply with a curfew.

Other conditions of release permitted by the Code of Virginia can be entered in the *Additional Recommended Conditions of Release* section.

Additional Comments/Recommendations

Information related to the bail recommendation that is not included in the *Recommendation* and *Recommended Conditions of Release* sections can be entered here.

Create VPRAI

The VPRAI report is created by the PTCC software and uses information entered into the four tabs contained in the screening module of PTCC including the Screening, VPRAI (Step 1), VPRAI (Step 2), and VPRAI (Step 3) tabs. Select the *Create VPRAI* button to view and print the VPRAI report.

APPENDIX – EXAMPLE VPRAI REPORT USING SAMPLE DATA

Virginia Pretrial Risk Assessment Instrument

Instrument Completion Date: 05/02/2009 **Court Date:** 05/02/2009

First Name: VPRAI **Last Name:** Test **Race:** Other

SSN: 999-99-9999 **Sex:** Male **DOB:** 05/02/1971

Charge(s): Grand Larceny $5,000, General District Court

Recommendation

Conditions of Release

- Refrain from excessive use of alcohol or use of drugs
- Submit to testing for drugs and alcohol
- Maintain or seek employment
- Complete substance screening and assessment by the CSB

Additional Comments/Recommendations

The combination of the recommended conditions of release with pretrial supervision will address the risk concerns identified by our assessment. Financial conditions are not needed in this case to address the potential for failure to appear in court.

Risk Assessment

Factors Considered

- No pending charge existed at time of arrest
- No pattern of failures to appear exists (zero or one)
- No pattern of violent convictions exists (zero or one)
- Length at current residence is more than one year
- The most serious charge is a felony
- One or more adult criminal convictions
- Not employed continuously for the past two years and was not a primary caregiver at the time of arrest
- History of drug abuse
- The pretrial risk assessment identifies the defendant's risk level as above average

Additional Considerations

Although the defendant has not been employed continuously for the past two years, he recently obtained employment at American Auto Repair. This information was verified through the defendant's employer, John Sullivan.

Confidential - Further disclosure prohibited by law pursuant to §2.2-3706 and §19.2-152.4:2 of the Code of Virginia.

TAB 7

OHIO RISK ASSESSMENT SYSTEM: PRETRIAL ASSESSMENT TOOL (ORAS-PAT)

Name: _____ Date of Assessment: _____

Case#: _____ Name of Assessor: _____

Pretrial Items		Verified
1. Age at First Arrest 0=33 or older 1=Under 33		
2. Number of Failure-to-Appear Warrants Past 24 Months 0=None 1=One Warrant for FTA 2=Two or More FTA Warrants		
3. Three or more Prior Jail Incarcerations 0=No 1=Yes		
4. Employed at the Time of Arrest 0= Yes, Full-time 1= Yes, Part-time 2= Not Employed		
5. Residential Stability 0=Lived at Current Residence Past Six Months 1=Not Lived at Same Residence		
6. Illegal Drug Use During Past Six Months 0=No 1=Yes		
7. Severe Drug Use Problem 0=No 1=Yes		
Total Score:		

Scores	Rating	% of Failures	% of Failure to Appear	% of New Arrest
0-2	Low	5%	5%	0%
3-5	Moderate	18%	12%	7%
6+	High	29%	15%	17%

Please State Reason if Professional Override:

Reason for Override (note: overrides should not be based solely on offense):

Other Areas of Concern. Check all that Apply:

_____Low Intelligence*
_____Physical Handicap
_____Reading and Writing Limitations*
_____Mental Health Issues*
_____No Desire to Change/Participate in Programs*
_____Transportation
_____Child Care
_____Language
_____Ethnicity
_____Cultural Barriers
_____History of Abuse/Neglect
_____Interpersonal Anxiety
_____Other _____

*If these items are checked it is strongly recommended that further assessment be conducted to determine level or severity.

Pretrial Tool

- Assess at time of arrest/jail
- Aids in bail, release, formal supervision decisions
- Sources of information
  - Face-to-face interview
  - File review
  - Collateral info
- 5-10 minutes
- Re-assessment
  - No re-assessment

Pretrial Assessment Tool (ORAS-PAT)

- Seven Items
- Classifies based on
  - Failure To Appear
  - Risk of Reoffending

OHIO RISK ASSESSMENT SYSTEM: MISDEMEANOR SCREENING TOOL (ORAS-MST)

Name: _____ Date of Assessment: _____

Case#: _____ Name of Assessor: _____

1. Most Serious Arrest Under Age 18 ☐
   - 0 = None
   - 1 = Yes, Misdemeanor
   - 2 = Yes, Felony

2. Number of Prior Adult Felony Convictions ☐
   - 0 = None
   - 1 = One or Two
   - 2 = Three or More

3. Currently Employed/School ☐
   - 0 = Yes, Full-time, Disabled, or Retired
   - 1 = Not Employed or Employed Part-time

4. Drug Use Caused Problems ☐
   - 0 = None
   - 1 = Past
   - 2 = Current

5. Current Offense Heroin Related ☐
   - 0 = No
   - 4 = Yes

6. Criminal Attitudes ☐
   - 0 = No/Limited Criminal Attitudes
   - 1 = Some Criminal Attitudes
   - 2 = Significant Criminal Attitudes

TOTAL SCORE: ☐

Risk Categories for MALES			Risk Categories for FEMALES		
Rating	Rating	Re-arrest Rate	Rating	Score	Re-arrest Rate
Low	0 – 1	25%	Low	0 – 3	31%
Moderate / High	2 – 13	48%	Moderate / High	4 – 13	42%

OHIO RISK ASSESSMENT SYSTEM:
MISDEMEANOR ASSESSMENT TOOL (ORAS-MAT)

Name: _____ Date of Assessment: _____

Case#: _____ Name of Assessor: _____

1. Most Serious Arrest Under Age 18 ☐
   - 0 = None
   - 1 = Yes, Misdemeanor
   - 2 = Yes, Felony

2. Number of Prior Adult Felony Convictions ☐
   - 0 = None
   - 1 = One or Two
   - 2 = Three or More

3. Highest Education ☐
   - 0 = High School Graduate or Higher
   - 1 = Less than High School or GED

4. Ever Suspended or Expelled from School ☐
   - 0 = No
   - 1 = Yes

5. Currently Employed/School ☐
   - 0 = Yes, Full-time, Disabled, or Retired
   - 1 = Not Employed or Employed Part-time

6. Better Use of Time ☐
   - 0 = No, Most Time Structured
   - 1 = Yes, Lots of Free Time

7. Drug Use Caused Problems ☐
   - 0 = None
   - 1 = Past
   - 2 = Current

8. Drug Use Caused Problems with Employment ☐
   - 0 = No
   - 1 = Yes

9. Current Offense Heroin Related ☐
   0 = No
   4 = Yes

10. Criminal Friends ☐
   0 = None
   1 = Some
   2 = Majority

11. Contact with Past Criminal Peers ☐
   0 = No contact with Criminal Peers
   1 = At Risk of Contacting Criminal Peers
   2 = Contact or Actively Seeks out Criminal Peers

12. Criminal Attitudes ☐
   0 = No/Limited Criminal Attitudes
   1 = Some Criminal Attitudes
   2 = Significant Criminal Attitudes

TOTAL SCORE: ☐

Risk Categories for MALES			Risk Categories for FEMALES		
Rating	Rating	Re-arrest Rate	Rating	Score	Re-arrest Rate
Low	0 – 2	19%	Low	0 – 3	31%
Moderate	3 – 7	38%	Moderate	4 – 8	42%
Low	8 – 21	53%	High	9 – 21	55%

Professional Override: YES NO

Reason for Override (note: overrides should not be based solely on offense):

Final Level: LOW MODERATE HIGH

Recommendations:

LOW	Minimum supervision or non-reporting supervision
MODERATE	Regular supervision; programming should be provided for moderate and high need areas
HIGH	Enhanced supervision; programming should be provided for moderate and high need areas

Other Areas of Concern. Check all that Apply:

_____Low Intelligence*
_____Physical Handicap
_____Reading and Writing Limitations*
_____Mental Health Issues*
_____No Desire to Change/Participate in Programs*
_____Transportation
_____Child Care
_____Language
_____Ethnicity
_____Cultural Barriers
_____History of Abuse/Neglect
_____Interpersonal Anxiety
_____Other _____

*If these items are checked it is strongly recommended that further assessment be conducted to determine level or severity.

The Ohio Risk Assessment System (ORAS)

In 2006, the Department of Rehabilitation and Corrections (DRC) contracted with the University of Cincinnati, Center for Criminal Justice Research, to create a set of research-driven tools that would provide risk assessments at multiple points in the criminal justice system validated on an Ohio offender population. Not all offenders are equal in their risk to reoffend, or their need for treatment and programming. Informed by a commitment to the principles of evidence-based practice, the intent was to separate adult offenders into risk groups determined by their likelihood of recidivating, and to identify dynamic risk factors (or criminogenic needs) to guide and prioritize appropriate and effective programmatic intervention.

The Ohio Risk Assessment System (ORAS) has since been created using a research design that involved conducting in-depth structured interviews of over 1,800 offenders at different stages in the justice system: pretrial, community supervision, prison intake, and community reentry. After the interviews were conducted, offenders were tracked for approximately one year to gather follow-up information on recidivism. Six assessment instruments have since been created: the Pretrial Assessment Tool (PAT), the Community Supervision Tool (CST), the Community Supervision Screening Tool (CSST), the Prison Intake Tool (PIT), the Prison Screening Intake Tool (PSIT), and a Reentry Tool (RT). (See the chart on the next page summarizing the variables associated with the four primary assessment instruments and the principal stages to which they apply.)

Counties in Ohio presently rely on a wide array of predictive tools creating a great deal of variation in the assessment of offenders' risks and needs. The launching of ORAS which will occur in April 2011 is designed to facilitate greater objectivity and consistency in the assessment of offender risk across jurisdictions. The tools developed under ORAS are non-proprietary, and will be made available to authorized users (those certified in the application of the tools) at no cost. Training of staff on the various ORAS instruments is already underway supported by the Corrections Training Academy (DRC).

ORAS identifies risk levels and points practitioners towards needs areas that must be addressed to reduce recidivism. However, ORAS, in and of itself, is not a case planning / management tool. To assist criminal justice agencies, ORAS will be integrated with case planning / management within a structure that identifies and targets specific treatment domains.

The individualized assessments under ORAS are not intended to dictate to decision-makers what to do, or to remove professional judgment. Rather, the results are designed to better inform the decisions that are made at different stages of criminal justice processing. The tools provide for professional overrides and for making sentencing or placement decisions that depart from the ORAS-associated recommendations.

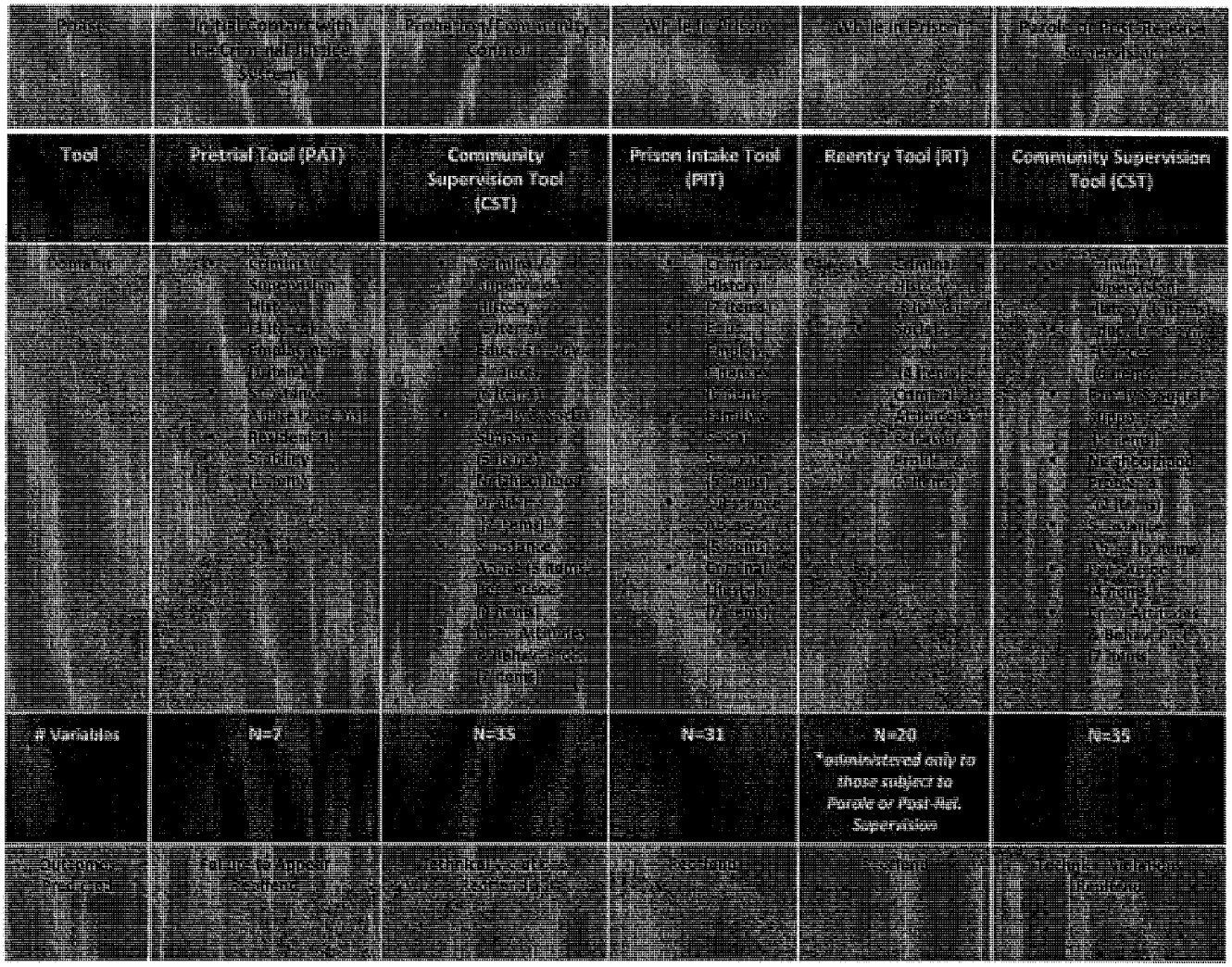
An ORAS Oversight Committee has been established to guide the implementation of this important initiative, and to ensure ongoing cross system communication. Its membership consists of key stakeholders from the Department of Rehabilitation and Correction, the Attorney General's Office, the Office of the Ohio Public Defender, the Ohio Supreme Court, the Ohio Judicial Conference, the Department of Youth Services, and external community correctional agencies representing probation departments, halfway houses and community-based correctional facilities.

There are numerous benefits to be gained by the adoption of ORAS statewide. The assessment of risk and needs will permit the sorting of outcomes and the placement of offenders into different risk levels for the first time by gender. The use of the tools will provide recommended levels of community supervision, and suggest programmatic and placement options. Over time with proper implementation

state, regional, and site-specific county profiles will be available offering offender descriptions, and identifying gaps in services and local resources. Finally, ORAS will also assist in the more efficient allocation of staff support and supervision activities.

This is an exciting time for Ohio. No other state or adult criminal justice agency has developed such a system with interconnected assessment tools that can be deployed at various stages in the justice system. Once ORAS is in place, it will enhance the effectiveness of the criminal justice system, thereby contributing to greater public safety, reduced recidivism, and successful offender reintegration.

Ohio Risk Assessment System (ORAS)
University of Cincinnati – Center for Criminal Justice Research



ORAS Locations (Current and Upcoming)

- Alabama
- California:
  - Monterey County
  - Ventura County
  - Yolo County
  - Calaveras Co
- Colorado
- Connecticut
- Florida:
  - Alachua County
  - Orange County
  - Osceola County
  - Seminole County
- Kansas City
- Indiana
- Montana
- Pennsylvania
  - Dauphin County
  - York County
- Ohio
- Oklahoma
- Texas (they have conducted a validation study)
- Vermont
- New Hampshire

CREATION AND VALIDATION OF THE OHIO RISK ASSESSMENT SYSTEM

FINAL REPORT

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Principle Investigator

Paula Smith, Ph.D.
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Richard Lemke, M.A.
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July, 2009

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ACKNOWLEDGEMENTS

A large scale research project such as this could not have been conducted with the help of many individuals and agencies. First and foremost, thanks are due to the Ohio Department of Rehabilitation and Correction and the Office of Criminal Justice Research for providing the funding. Thanks are also due to the following people and agencies:

The project owes thanks to a large group of people who conducted the structured interviews: Rebecca Schnupp, Katie Meholick, Kristin Ostrowski, Jackie Spade, Tessa Crites, Dan Lytle, Melissa Meltzer, Jordan Mansour, Doshie Piper, Lori Hilliard, Sally Miller, Kristen Swartz, Jacqueline Rohrbach, Jessica Warner, Will Stadler, Amy Latessa, Jennifer Latessa, Amanda Feola, Ashley Fritz, Chris Smith, Ben Smith, Darlene Wilder, Mirlinda Ndrecka, Autumn Morris, Ashley Ballard, Ryan Randa, James McCafferty, Bobbi Ticknor, Sherry Tillinghast, Lindsay Morrow, and Rohit Kukreti.

Additionally, thanks are extended to the staff and administration of the following agencies:

Warren County Pretrial Services, Cuyahoga County Pretrial Services, Summit County Pretrial Services, Butler County Pretrial Services, Hamilton County Pretrial Services, Franklin County Pretrial Services, Richland County Pretrial Services, Summit County Pretrial Services.

Lorain Correctional Institution, Correctional Reception Center, Belmont Correctional Institution, Pickaway Correctional Institution, Trumbull Correctional Institution, Ross Correctional Institution, Ohio Reformatory for Women, Southeastern Correctional Institution, North Central Correctional Institution, London Correctional Institution, Lebanon Correctional Institution, and Warren Correctional Institution.

River City Community Based Correctional Center, Community Correctional Center of Butler, Clermont, and Warren Counties, Franklin County Community Based Correctional Facility, Western Ohio Regional Treatment and Habilitation Center, NorthWest Community Corrections Center, Summit County Community Based Correctional Facility, Community Corrections Association, Inc., Eastern Ohio Correction Center, Turtle Creek Center Halfway House, and Oriana House operated facilities.

Columbiana County Probation Services, Franklin County Probation, Cuyahoga County Probation Services, Hamilton County Probation Services, Warren County Probation Services, Montgomery County Probation Services, Clermont County Probation Services, Butler County Probation Services, and Wood County Probation Services.

EXECUTIVE SUMMARY

This report outlines the development and validation of the Ohio Risk Assessment System. The Ohio Department of Rehabilitation and Corrections contracted with the University of Cincinnati, Center for Criminal Justice Research to create a risk assessment system that would provide assessments at multiple points in the criminal justice system and that was validated on an Ohio population. A major goal of the project was to develop assessments that abided by the principles of effective classification by constructing assessments that 1) separated Ohio offenders into risk groups based on their likelihood to recidivate, 2) identified dynamic risk factors that can be used to prioritize programmatic needs, and 3) identify potential barriers to treatment.

The Ohio Risk Assessment System was created using a prospective design that involved conducting in-depth structured interviews of over 1,800 offenders at the following stages in Ohio's justice system: pretrial, community supervision, prison intake, and community reentry. After interviews were conducted, offenders were tracked for approximately one year to gather follow-up information on recidivism. Five assessment instruments were created using items that were related to recidivism: The Pretrial Assessment Tool, The Community Supervision Tool, The Community Supervision Screening Tool, The Prison Intake Tool, and the Reentry Tool.

Validation involved examining the predictive power of the assessment instruments. The results reveal that all assessment instruments are able to significantly distinguish between risk levels. Moreover, r values are relatively large and, depending upon the assessment instrument, range from .22 to .44. Concurrent validity also was examined by comparing the predictive power of each assessment tool to the LSI-R and the Wisconsin Risk/Needs instruments. These results revealed that the instruments for the Ohio Risk Assessment System performed as well if not better than both of the other instruments.

TABLE OF CONTENTS

The Ohio Risk Assessment System (ORAS)

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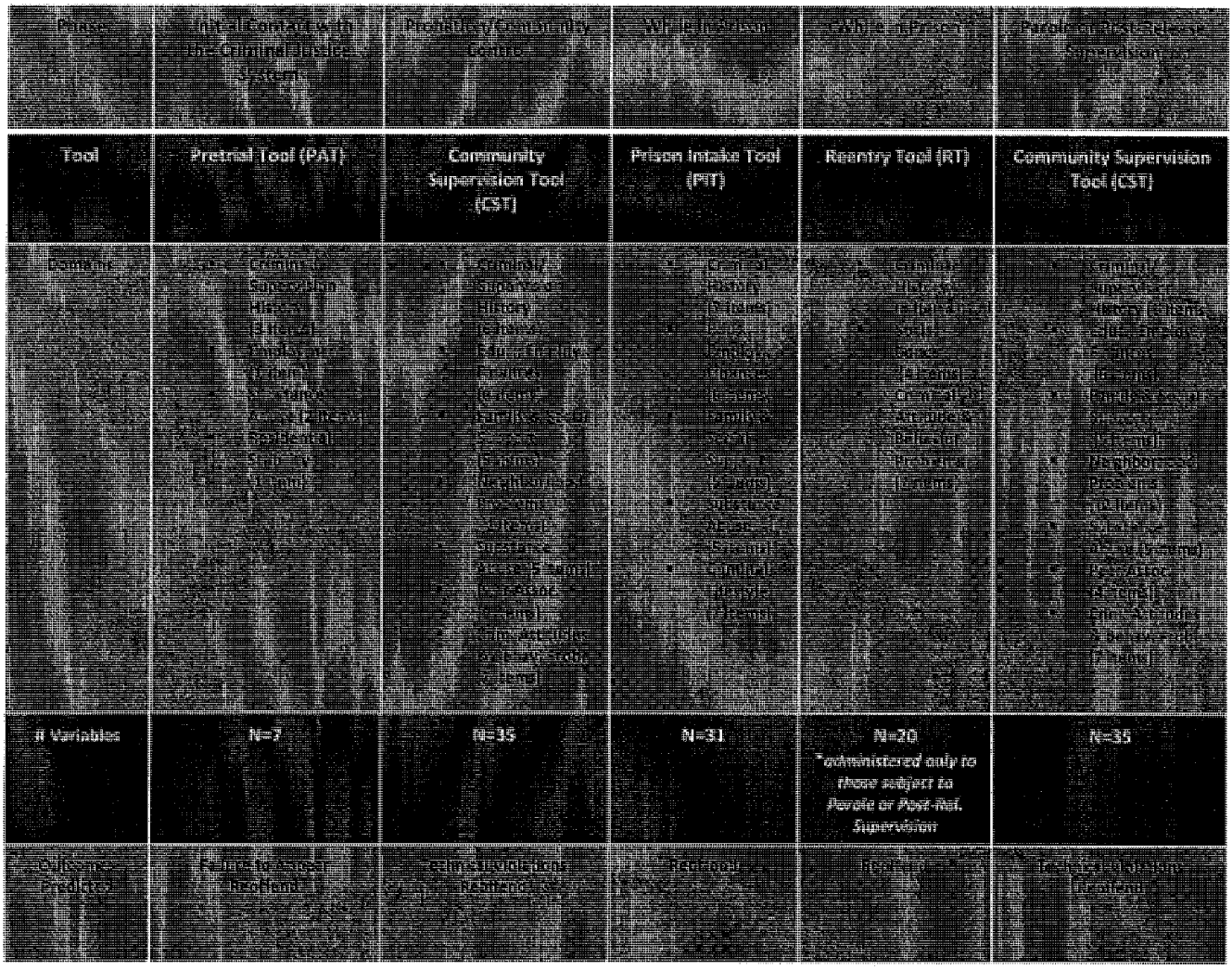
Ohio Risk Assessment System (ORAS)
University of Cincinnati – Center for Criminal Justice Research



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  - Ventura County
  - Yolo County
  - Calaveras Co
- Colorado
- Connecticut
- Florida:
  - Alachua County
  - Orange County
  - Osceola County
  - Seminole County
- Kansas City
- Indiana
- Montana
- Pennsylvania
  - Dauphin County
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EXECUTIVE SUMMARY

This report outlines the development and validation of the Ohio Risk Assessment System. The Ohio Department of Rehabilitation and Corrections contracted with the University of Cincinnati, Center for Criminal Justice Research to create a risk assessment system that would provide assessments at multiple points in the criminal justice system and that was validated on an Ohio population. A major goal of the project was to develop assessments that abided by the principles of effective classification by constructing assessments that 1) separated Ohio offenders into risk groups based on their likelihood to recidivate, 2) identified dynamic risk factors that can be used to prioritize programmatic needs, and 3) identify potential barriers to treatment.

The Ohio Risk Assessment System was created using a prospective design that involved conducting in-depth structured interviews of over 1,800 offenders at the following stages in Ohio's justice system: pretrial, community supervision, prison intake, and community reentry. After interviews were conducted, offenders were tracked for approximately one year to gather follow-up information on recidivism. Five assessment instruments were created using items that were related to recidivism: The Pretrial Assessment Tool, The Community Supervision Tool, The Community Supervision Screening Tool, The Prison Intake Tool, and the Reentry Tool.

Validation involved examining the predictive power of the assessment instruments. The results reveal that all assessment instruments are able to significantly distinguish between risk levels. Moreover, r values are relatively large and, depending upon the assessment instrument, range from .22 to .44. Concurrent validity also was examined by comparing the predictive power of each assessment tool to the LSI-R and the Wisconsin Risk/Needs instruments. These results revealed that the instruments for the Ohio Risk Assessment System performed as well if not better than both of the other instruments.

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INTRODUCTION

In 2006, the Ohio Department of Rehabilitation and Corrections (ODRC) contracted with the University of Cincinnati, Center for Criminal Justice Research to develop a risk and needs assessment system that improved consistency and facilitated communication across criminal justice agencies. The goal was to develop risk/needs assessment tools that were predictive of recidivism at multiple points in the criminal justice system. Specifically,asse ssment instruments were to be developed at the following stages: 1) pretrial, 2) community supervision, 4) institutional intake, and 4) community reentry.

A major goal of the assessment system was to conform to the principles of effective classification. In doing so, ODRC hoped to efficiently allocate supervision resources and structure decision-making in a manner that reduces the likelihood of recidivism. As a result, the Ohio Risk Assessment System (ORAS) was developed to classify the risk level of offenders in the system while also identifying both criminogenic needs and barriers to programming.

The Principles of Effective Classification

The principles of effective classification have been developed to guide criminal justice agencies in the use of risk assessment systems. In short, the principles of effective classification suggest that programs should use actuarial assessment tools to identify dynamic risk factors, especially in high risk offenders,whil e also identifying potential barriers to treatment. There are four major principles of effective classification are: the risk principle, the needs principle, the responsivity principle, the professional discretion principle (Andrews, Bonta, & Hoge, 1990).

The risk principle suggests that correctional interventions and programs are most effective when their intensity is matched to the risk level of the clientele (Andrews, Bonta, & Hoge, 1990; Van Voorhis, 2007). That is, the most intensive programs should be allocated to

moderate and high risk cases, while low risk cases be allocated little if any programming. Practically, the risk principle suggests that the majority of supervision and treatment resources be reserved for the highest risk cases. In fact, some research indicates that when low risk cases are targeted with intensive programs they actually perform worse than those who were left alone. This is because programming can expose offenders to higher risk cases and disrupt prosocial networks (see Lowenkamp & Latessa, 2004; Lowenkamp & Latessa, 2005b).

Several recent studies of correctional programming in Ohio suggest that the effectiveness of both residential and community based programs are mitigated by the risk of level of the clientele that they serve. For example, in 2002, Lowenkamp and Latessa evaluated the effects of Halfway Houses and Community Based Correctional Facilities and found consistently higher effect sizes for offenders who were moderate to high risk. Similar results were found for Community Corrections Act funded programs that suggested that programs that targeted higher risk offenders produced significantly lower rates of recidivism than programs that did not (Lowenkamp & Latessa, 2005a). These Ohio studies reiterate the notion that it is important to utilize risk assessment instruments in order to efficiently allocate resources in a manner that reduces recidivism.

A consistent finding in correctional programming is that the most effective programs target dynamic risk factors (Andrews et al., 1990, Lowenkamp, Latessa, & Smith, 2005; Lowenkamp & Latessa, 2004). Dynamic risk factors (also called criminogenic needs) are factors that, when changed, have been shown to result in a reduction in recidivism. Dynamic risk factors can include substance abuse, personality characteristics, antisocial associates, and antisocial attitudes (for a review, see Gendreau, Little, & Goggin, 1996). The needs principle

suggests that effective classification systems should identify dynamic risk factors directly related to recidivism so that they can be used to target programmatic needs.

The responsivity principle focuses on identifying barriers to treatment (Van Voorhis, 2007). Although dynamic risk factors are directly related to recidivism, there are other issues that are likely to keep individuals from engaging in treatment. Some examples of responsivity factors include intelligence, reading ability, language barriers, and cultural barriers. If left unaddressed, it is likely that these influences can interfere with the completion of treatment and, as a result, indirectly prevent a reduction in recidivism from occurring.

Although risk assessment instruments remove a degree of professional discretion from criminal justice actors, it is important to emphasize that the judgment of practitioners should not be overlooked (Andrews, Bonta, & Hoge, 1990). The principle of professional discretion recognizes that case managers and counselors are responsible for processing the risk, need, and responsivity information and making decisions based on the information provided (Andrews, Bonta, & Hoge, 1990). Further, actuarial tools are designed to treat offenders in the aggregate and cannot be structured to anticipate every possible case or scenario. As a result, it is important to allow criminal justice personnel the ability to override the assessment instruments in specific circumstances. Nevertheless, it is also important that overrides be used on a limited percentage of cases and that measure be taken to oversee the override process.

The Advantages of a Risk Assessment System

For over a decade, many criminal justice agencies have been implementing standardized risk classification instruments in order to efficiently and effectively manage their target populations. Because assessment instruments are expensive to construct and validate, resource constraints often limit the development of risk assessment instruments for specific jurisdictions

and populations (Jones, 1996). As a result, many criminal justice agencies often use empirically derived tools that have been developed on samples from a different population. Although this is less cost restrictive, it assumes that the instrument is a valid predictor of recidivism for each agency's specific population (Wright, Clear, & Dickerson, 1984; Jones, 1996; Gottfredson & Moriarty, 2006). Also, it is likely that there are different populations of offenders within jurisdictions. For example, the population of defendants on pretrial supervision is likely different that the population of individuals who are released from prison. Given that it is unlikely for a single instrument to have universal applicability across various offending populations, there is a clear necessity to validate risk assessment instrumentsto each specific target population (Wright, Clear, & Dickerson, 1984). The Ohio Risk Assessment System was thus designed to predict recidivism at different points in the Ohio criminal justice system. In all, five instruments were constructed: The Pretrial Assessment Tool (PAT), the Community Supervision Tool (CST), the Community Supervision Screening Tool (CSST), the Prison Intake Tool (PIT), and the Reentry Tool (RT).

The use of a standardized assessment tool in Ohio allows consistency in the assessment of risk across jurisdictions. Prior to the creation of the ORAS, counties in Ohio were using different methods of assessment, creating a great deal of variation in the practices for assessing the risk and needs of offenders. Therefore, one of the purposes of ORAS was to promote consistent and objective assessment of the risk of recidivism for offenders in Ohio.

Another advantage of using a risk assessment system that follows offenders through the criminal justice systems is that it improves communication and avoids duplication of information. In fact, many of the items in the individual assessments carry over into assessments at later dates. The total number of risk items that are collected from all assessment instruments

is 63. Of these, 24 items are used on at least two, if not more assessment instruments. Further, since ORAS will be automated, items that are assessed at earlier stages have the potential to auto-populate into assessments at future dates.

METHODS

A prospective design was utilized in the creation and validation of ORAS. To accomplish this, offenders across the Ohio criminal justice system were given extensive interviews for potential risk factors and were subsequently followed for one year to gather official measures of recidivism. The creation and validation of ORAS had three phases: planning, data collection, and validation. The planning phase involved planning meetings with research and ODRC staff regarding the logistic obstacles to gaining access to cases and data collection sites. It also involved the creation of the structured tools used in data collection and training of data collectors in the administration of the semi-structured interview. The planning phase occurred throughout the beginning of 2006.

The data collection phase involved site visits to all pilot counties and locations and the extensive interviews of offenders. In all, data for 1,834 cases was gathered from 29 locations. This process occurred from September 2006 to October 2007. Outcome measures were gathered between May 2008 and April 2009, providing an average of a one year follow-up for recidivism.

The validation phase began in winter 2008. The first part of this phase involved data cleaning and analyses to determine which items were predictive of recidivism. After this, the assessment instruments were constructed using factors that were related to recidivism. Once constructed, the instruments were validated by examining the ability of each instrument to predict recidivism.

After construction and validation,int erview manuals and scoring guides were constructed for each tool. Both instruments provide detailed instructions regarding the use of each risk assessment tool. Once the interview guides and manuals were completed, the instruments were piloted using a group of personnel at locations in accordance with each risk assessment (i.e., local court officials for the CST, cases managers at ODRC correctional facilities for the PIT, etc.). Piloting the assessment tools involved familiarizing the personnel on the use of the scoring guides and manuals and allowing them to assess offenders for several weeks. Focus groups for each assessment instrument were then conducted with UC research staff and the pilot assessors. The focus groups were asked to comment on the ease of use of the instruments, wording of questions, the time it took to complete assessments, and the reliability of the self-report questionnaire. After the focus groups were conducted, changes were made to specific questions in the manuals, items on the scoring guides, and wording on the self-report questionnaires.

Data Collection

In order to construct a risk assessment instrument, data collection tools were designed that gathered information on potential predictors of recidivism. To create these tools, research staff at the University of Cincinnati reviewed previous scholarly work on the correlates of recidivism. Based on a review of the research, variables that were previously found to be related to recidivism were incorporated into the data collection tools.

The data collection tools were designed to gather information using self-report questionnaires, semi-structured interviews, and file reviews. The purpose of the data collection tools was to provide a large number of potential risk factors that could be used to construct each assessment instrument. The interview guide consisted of a 26 page semi-structured interview. The instrument was comprised of 113 questions on a variety of criminogenic risk topics,

including: criminal history, substance use, criminal peers, criminal thinking, employment and education, mental health, emotional control, personality, and residential stability. The self-report instrument was a two-page document that used 96 questions to gather information on: criminal thinking, perspective taking, aggression, coping, empathy, emotionality, problem solving, involvement in pro-social activities, financial stress, and employment. The overall interview and self-report process took approximately 45-90 minutes to complete per offender.

Due to differences in access, interview availability, due process issues, and ethical considerations, pretrial defendants were assessed using different interview protocols and data collection tools. The initial pretrial structured interview tool was a two-page form that gathered information on 35 items. The self-report questionnaire was a four-page document that covered multiple domains, including: criminal thinking, drug use, medical and mental health, pro-criminal peers and family, residential stability, and employment. Completion of both the self-report and the structured interview took approximately 13-20 minutes to complete.

Data collection teams were comprised of trained research assistants from the University of Cincinnati. Depending on the size of the pilot site and the availability of spare rooms, the research staff size varied from three to 13 staff members. Each staff member was trained on the data collection instrument, ethics involved research with human subjects under correctional control, the interview procedure, and interview skills. In addition to training, each interviewer was supervised for the first four interviews, and interviews were randomly observed by team leaders throughout the project.

The pilot sites for the project were selected with the considerations of geographic representation across the state, recommendations from DRC staff, and whether the site was available and willing to participate during the data collection process. To facilitate participation

from the numerous pilot sites, letters were sent that informed the selected sites of the project goals. Potential sites were also asked to both facilitate access to the cases and provide a physical location to conduct the interviews. Although there were some logistical and scheduling issues that arose at several sites, no site declined to participate in the project.

Table 1 presents the counties and institutions where data were collected. Seven Ohio counties provided data for the Pretrial Assessment Tool. Fourteen counties participated in data collection for the Community Supervision Tool, and eight correctional facilities participated in data collection for the Prison Intake Tool and the Reentry Tool. Overall, data collection occurred between September 2006 and April 2009.

Table 1. Pilot Counties/Institutions that Participated in the Development of ORAS

Pretrial	Community Supervision	Prison Intake and Release
Butler	Cleveland	Grafton Correctional Institution
Cuyahoga	Franklin	Correctional Reception Center
Summit	Montgomery	Belmont Correctional Institution
Franklin	Clermont	Pickaway Correctional Institution
Hamilton	Butler	Trumbull Correctional Institution
Richland	Wood	Ross Correctional Institution
Warren	Columbiana	Ohio Reformatory for Women
	Hamilton	Southeastern Correctional Institution
	Warren	
	Summit	
	Hancock	
	Mahoning	
	Columbiana	
	Wood	

Participants

Four independent samples of offenders were gathered at different stages in the criminal justice system: at pretrial, on community supervision, at prison intake, and just prior to community reentry. Table 2 presents the number of cases in each sample. There were a total of 1,837 cases in all four samples, 452 in the pretrial sample, 681 in the community supervision sample, 427 in the prison intake sample, and 279 in the community reentry sample.

Pretrial interviews were conducted during two time periods: September 2006 – June 2007 and October 2008 – March 2009. Assessments for the pretrial sample required two data collection periods because the initial period did not provide enough Ohio cases to construct and validate an assessment instrument. As a result, an eight item draft assessment tool was constructed by combining cases from another state. Once the shortened assessment instrument was constructed, staff from the University of Cincinnati trained personnel from the pilot counties, and data collection resumed with the goal of increasing the pretrial sample size and validating the draft assessment instrument on Ohio offenders. County personnel who conducted the interviews were trained by researchers from the University of Cincinnati to use a draft interview guide as well as administer a self-report survey. In order to be included in either of the data collection samples, individuals had to be an adult charged with a criminal offense that was recently referred to pretrial services during the period of data collection.

Table 2: Number of Cases in Each Sample

Sample	N
Pretrial	452
Community Supervision	681
Prison Intake	427
Community Reentry	279
Total	1837

Community supervision interviews were conducted between September 2006 and February 2007. To be included into the community supervision sample, individuals had to be an adult charged with a criminal offense that was recently referred to probation services during the period of data collection. Possible participants were identified at each site, and these individuals were approached by site staff and asked if they would be willing to meet with the research staff.

Once the individual met with the research staff and the project was explained, individuals were asked to participate in the research process and to sign informed consent documents.

Interviews were conducted for the prison intake sample between June and October 2007. Individuals were selected for the prison intake sample if they: a) were admitted to an intake correctional facility within the last six months, b) were unrestricted by security concerns (e.g., solitary), c) agreed to be interviewed, and d) were within six months of release. The limited sentence length was necessary in order to provide an adequate follow-up time for recidivism in the community. Due to the restrictive nature of a secure correctional facility, individuals were issued movement passes prior to the arrival of the research staff. However, since the research was voluntary, the pass may not have been granted if it interrupted school or job duties, if the inmate declined the pass, or for security reasons. Once the research staff and inmates met, the project was explained, participation was requested, and informed consent obtained.

Interviews were conducted for the community reentry sample between June and October 2007. The community reentry sample consisted of individuals who: a) were within six months of their release/discharge date, b) were unrestricted by security concerns, and c) agreed to participate. Similar to the intake sample, these interviews were conducted within the confines of a secured correctional facility, so individuals were issued movement passes prior to the arrival of the research staff. Once the offenders arrived to the room designated for interviews, the project was explained, participation was requested, and informed consent was obtained.

Recidivism

The primary measure of recidivism for this study was arrest for a new crime. Although data were gathered regarding a variety of other potential outcome measures (e.g., conviction, probation violation, institutional rule infraction), arrest was used for two major reasons. First,

measures that gather information later in the criminal justice process, such as convictions, require a longer follow-up period than twelve months utilized in this study. Second, using arrests in the community as an outcome allows the assessment tools to identify criminogenic needs that are likely to result in danger to the community. Although factors that are predictive of rule violations (e.g., probation violations or institutional violations) are of concern to criminal justice personnel, of most concern is targeting factors that are related to criminal behavior.

Unlike the other assessment tools, the outcome used in the construction of the Pretrial Assessment Tool was either a new arrest or failure-to-appear. Failure-to-appear was included as an outcome because one of the major goals of the pretrial tool was to assist court actors in the decision to release or hold the defendant prior trial. This information was gathered by the counties from public records searches and searches of the cases file. For the community supervision sample, county agencies gathered the arrest data on offenders under their supervision through public records searches and file reviews. This information was verified through the Ohio Law Enforcement Gateway (OHLEG). OHLEG is advantageous because the information it provides is not specific to the county of supervision. Because not all inmates who were released from correctional facilities were placed on community supervision, OHLEG was the primary source of information for regarding new arrests for these samples.

Collection of the follow-up data for all samples was completed approximately one year following the conclusion of the structured interviews. Collection of follow-up information for the pretrial cases was completed in April 2008 and May 2009. For the community supervision sample, follow-up was completed in April 2008. The follow-up for the prison intake and reentry samples was completed in December 2008.

Assessment Construction

For each assessment, items gathered from the structured interviews and self-report surveys that were associated with recidivism were used to create each tool. Cases were excluded if they had missing information on four of more items.[1] After the items that were associated with recidivism were identified, these items were scored to create scales that indicated increases in the likelihood of recidivism. A modified Burgess method was used to assign point values to each item. The Burgess method assigns a point (a score of 1) to the presence of the risk factor, and assigns a score of zero when it is false or not present. Some items have multiple increasing values and as a result were scored with increasing values (i.e., 0, 1, 2). The items were then combined to create risk scales for each assessment tool. Once the risk scales were created, cutoffs were created that divided cases into different risk categories.

Priorities in Case Management

To assist Ohio criminal justice agencies with case management, another goal of the development of ORAS was to provide agencies with tools that identify and prioritize specific treatment domains. To do so, each assessment instrument is broken down by domain (e.g., criminal associates, criminal attitudes, substance abuse, etc.) and specific categories were identified that divide offenders into groups based on their likelihood to reoffend. Stated differently, the assessment process not only provides an overall risk level, but also provides risk levels by case management domains. Presenting risk levels by domain provides practitioners specific information regarding the likelihood of recidivism based on individual criminogenic needs in order to encourage a more efficient allocation of treatment resources.

[1] The number of cases excluded for each tool because they have more than four items missing were: pretrial sample = 0, community supervision sample = 3, prison intake sample = 10, reentry sample = 2.

Responsivity Assessments

Keeping with principles of effective classification, a goal in the development of the ORAS was to gather information regarding potential barriers to treatment. As a result, additional case planning items are incorporated into the final assessment. Table 3 provides a list of areas that are gathered for responsivity. As indicated in the table, responsivity items range from factors such as intelligence and literacy to child care and transportation. These items are not directly related to recidivism, but instead have the potential to restrict the efficacy of treatment. Responsivity items are not used in the final calculation of risk, but instead are used as case planning factors that should be addressed to improve likelihood that programming will reduce recidivism.

Table 3: Areas Assessed for Responsivity

Treatment Barriers	
Low intelligence	Physical handicap
Reading and writing limitations	Mental health issues
History of abuse/neglect	Treatment motivation
Transportation	Child care
Language	Ethnicity and cultural barriers

VALIDATION RESULTS

This section describes the samples and validation results by assessment instrument: the Pretrial Tool, the Community Supervision Tool (and Community Supervision Screening Tool), the Prison Intake Tool, and the Reentry Tool. Also presented for each tool is information regarding priorities in case management by presenting risk levels by domain.

The Pretrial Assessment Tool (PAT)

The PAT is designed to inform court actors of the risk of a defendant to either fail-to-appear at a future court date or be arrested for a new crime. The pretrial sample consisted of

individuals who received pretrial services from participating counties in Ohio. This sample provided data for 452 defendants who were on pretrial supervision during the data collection periods. Table 4 presents descriptive statistics for the PAT. The sample has an average follow-up of 12 months, and 16 percent experienced either an arrest or failure to appear.

The original pretrial data collection instruments provided over 100 potential predictors of recidivism. Of these, seven items from four domains were found to be related to recidivism: three items for criminal history, one item measuring employment, one item measuring residential stability, and two items measuring substance abuse. Table 5 presents the domains included in the PAT.[2]

Table 4: Descriptive Statistics for the Pretrial Assessment Sample (n =450)

Variable	N	Percent
Sex		
Male	345	79.3
Female	107	23.7
Race		
White	227	50.2
African American	210	46.5
Other	15	3.3
Arrest or FTA		
Yes	379	83.8
No	73	16.2
	Average	Range
Months at Risk	11.9 (5.6 SD)	4 – 24
Age	32.7 (10.1)	18 – 64

[2] See the pretrial score sheet in Appendix A for a list of all items included in the Pretrial Assessment Tool.

Table 5: Domains of the Pretrial Assessment Tool

Domain	Number of Items
Criminal History	3
Employment	1
Residential Stability	1
Substance Abuse	2
Total	7

The PAT has a potential range from zero to 9. Appendix B presents a graph of the distribution of the pretrial sample on the pretrial assessment score. The graph reveals that there is a slight skew in the distribution with more cases with scores on lower values of the tool.

Table 6 presents the percentage of cases that recidivated for each risk score. The table reveals that as scores on the PAT increase, the percentage of individuals who were arrested increases. Further, the significant r value of .23 indicates that the pretrial assessment score is positively correlated with recidivism.

Table 6: Recidivism by Pretrial Risk Score (n = 450)*

Risk Score	Total Cases	Percent with Violation
0	16	0
1	49	0
2	68	10
3	83	18
4	100	17
5	59	19
6	47	28
7	27	33
8	2	0
9	2	100

* r = .23, p<.00

Table 7 presents the distribution of the pretrial sample on risk levels of the PAT. Scores of zero to two were categorized as low risk, three to five moderate risk, and six to nine as high

risk. Of the total sample, 29 percent of cases were categorized as low risk, 54 were categorized as moderate risk, and 17 percent as high risk.

Table 7: Distribution of Cases for each Risk Level for the Pretrial Assessment Tool

Level	N	Percent
Low (0-2)	130	29
Moderate (3-5)	248	54
High (6+)	78	17
Total	450	100

Figure 1 presents information regarding the predictive validity of the PAT. The chart illustrates that each risk level is associated progressively higher rates of recidivism. Specifically, five percent of low risk cases were arrested, 18 percent of moderate risk cases were arrested, and 30 percent of high risk cases were arrested. The r value of .22 provides further indication that the assigned levels of risk are able to significantly distinguish between groups that have progressively higher rates of recidivism.

Figure 1: Predictive Validity of the Pretrial Assessment Tool (n = 450)*

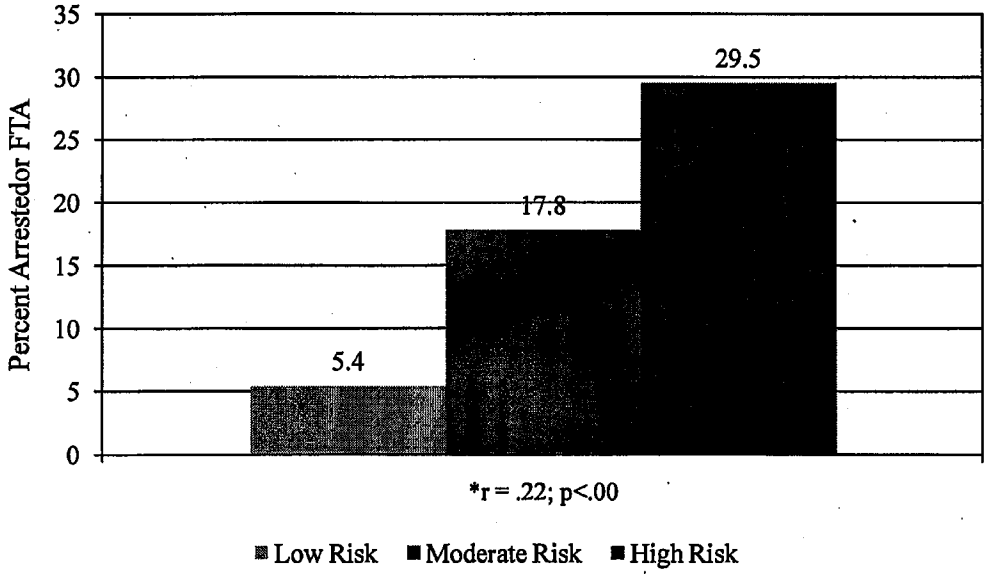


Table 8 presents statistics for each of the case management domains of the PAT. Criminal history and residential mobility provide groups that are associated with increasing higher rates of recidivism. The domains of substance abuse and employment provide groups that have increasing recidivism rates, although the differences between the rates are relatively low. For example, the domain of employment produces low, moderate, and high risk groups that with the following respective recidivism rates: 12 percent, 16 percent, and 20 percent. As a result,the r values for these domains are below .10. On the other hand, within the domain of residential mobility, 25 percent of individuals who were at risk recidivated compared to only 11 percent of those that were not at risk (r = .19). The domain of criminal history also produces increasing rates of recidivism for low (11%), moderate, (24%) and high (29%) risk cases (r = .19).

Table 8. Priorities in Case Management for the Pretrial Assessment Tool

Criminal History		Employment		Residential Mobility		Substance Abuse	
# of Items	3	# of Items	1	# of Items	1	# of Items	2
Range	0 - 4	Range	0 - 2	Range	0 - 1	Range	0 - 3
Risk	Violation	Risk	Violation	Risk	Violation	Risk	Violation
Low (0-1)	11%	Low (0)	12%	Low (0)	11%	Low (0)	14%
Mod. (2)	24%	Mod. (1)	16%	High (1)	25%	High (1-2)	18%
High (3+)	29%	High (2)	20%	r = .19		r = .05	
r = .19		r = .09					

The Community Supervision Tool (CST)

Initial data for the community supervision sample was gathered through site visits to local county probation offices and community based corrections facilities. The CST is designed to assist in both designation of supervision level, as well as to guide case management for offenders in the community. The community supervision sample consisted of 678 individuals

who were on community supervision in Ohio. Table 9 presents descriptive statistics for the community supervision sample. The table indicates that 38 percent were rearrested during an average of 17 months at risk.

Table 9: Descriptive Statistics for the Community Supervision Sample (n = 678)

Variable	N	Percent
Sex		
Male	513	75.7
Female	165	24.3
Race		
White	471	70.0
African American	186	27.0
Other	21	3.0
Any New Arrest		
Yes	259	38.2
No	419	61.8
	Average	Range
Months at Risk	16.9	12 – 20
	(0.8 SD)	
Age	32.2	18 – 65
	(12.26)	

The self-report survey and structured interview guide provided a total of 200 potential predictors of recidivism. Table 10 presents the domains assessed using the CST and the number of items from each domain that were included in the CST.[3] In all, the CST consisted of a total of 35 items within 7 domains, and had potential scores that ranged from zero to 49.

Appendix B presents a visual display of the distribution of cases on scores for the CST. The figure reveals that the scores range from one to 43, with the majority falling near the center of the distribution, indicating a normal distribution. Table 11 presents failure rates by CST risk score for the community supervision sample. The table indicates that as scores on the CST

[3] See the CST scoring form in Appendix A for list of all variables included in the ORAS-CST.

increase, the percentage of individuals that were rearrested increases as well. Further, the r value of .37 in Table 11 indicates a relatively strong relationship between risk score and recidivism.

Table 10: Domains for the Community Supervision Tool

Domain	Number of Items
Criminal History	6
Education, Employment, and Finances	6
Family and Social Support	5
Neighborhood Problems	2
Substance Abuse	5
Antisocial Associations	4
Antisocial Attitudes and Behavioral Problems	7
Total	35

Table 11: Percentage of Failure by Risk Score for the Community Supervision Tool (n=678)*

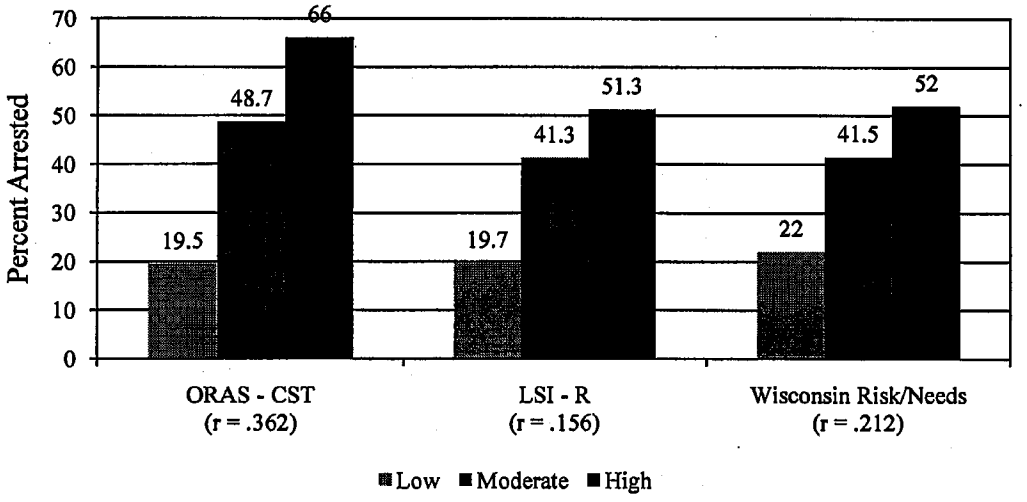
Risk Score	Total Cases	Percent Arrested	Risk Score	Total Cases	Percent Arrested
0	0	–	26	24	57
1	1	0	27	29	48
2	0	–	28	21	29
3	0	–	29	26	50
4	2	0	30	17	59
5	3	0	31	19	58
6	5	0	32	20	65
7	6	0	33	8	38
8	7	14	34	6	100
9	9	11	35	14	64
10	14	0	36	9	56
11	15	13	37	4	75
12	16	19	38	9	67
13	21	10	39	3	67
14	24	8	40	1	100
15	23	44	41	2	100
16	25	16	42	1	0
17	34	30	43	2	100
18	39	26	44	0	–
19	36	25	45	0	–
20	30	50	46	0	–
21	33	33	47	0	–
22	38	29	48	0	–
23	23	30	49	0	–
24	28	64	48	0	–
25	36	44	49	0	–

* r value = .37, p<.000

In risk/needs assessment, concurrent validity involves comparing the validity of an assessment tool to other known and established instruments. To assess concurrent validity of the ORAS, individuals in each sample were assessed on the Level of Service Inventory – Revised (LSI-R) and the Wisconsin Risk/Needs instrument. For consistency, scores were divided into low, moderate, and high risk groups based on each instruments' specified requirements.

Figure 2 reveals that the CST has relatively strong concurrent validity, which is evidenced from the larger r value and larger differences in recidivism between groups. All three instruments are significantly related to recidivism (CST r = .362, p<.05; LSI-R r = .156, p<.05; Wisconsin Risk/Needs r = .212, p<.05), but the LSI-R and Wisconsin Risk/Needs failed to provide large differences in recidivism between moderate and high risk groups. On the other hand, the CST provideslarg e differences in recidivism between groups, 29 percentage points between low (20%) and moderate (49%) risk groups and 17 percentage points between moderate (49%) and high (66%) risk groups. These results suggest that the CST has strong concurrent validity, performing better than the LSI-R and the Wisconsin Risk/Needs Assessment.

Figure 2: Concurrent Validity of the Community Supervision Tool (n = 672)*



*All r values p <.05

To provide optimal risk levels and cutoff scores,p reliminary analyses revealed that males and females should be given different cutoff scores to categorize risk groups. This is primarily because females tended to have lower scores on the assessment instruments. Table 12 provides the final risk levels, cutoffs, and number of cases falling at each level. For males, cutoffs for risk levels are as follows: low risk = zero- 14; moderate risk, 15 - 23; high risk = 24 33; and very high risk, 34 and higher. Table 12 also provides the distribution of risk levels for females. For females the cutoffs are as follows: low risk = zero - 14; moderate risk = 15 - 21; high risk 22 - 28; and very high risk = 29 and higher.

Table 12: Distribution of Cases by Risk Level for the CST

Level	N	Percent
Males (n = 513)		
Low (0-14)	77	15
Moderate (15-23)	207	40
High (24-33)	190	37
Very High (34-49)	39	8
Females (n = 165)		
Low (0-14)	48	29
Moderate (15-21)	65	40
High (22-28)	47	29
Very High (29-49)	10	6

Figure 3 presents the failure rates for each risk level of the CST for male offenders in the community supervision sample. The table clearly illustrates incremental increases in the rates of recidivism for each group. Failure rates are nine percent for low risk males, 34 percent for moderate risk males, 59 percent for high risk males, and 70 percent for very high risk male offenders. The r value of .37 reveals that the relationship between risk level and recidivism is relatively strong.

Figure 3: Predictive Validity of the Community Supervision Tool for Males (n = 513)*

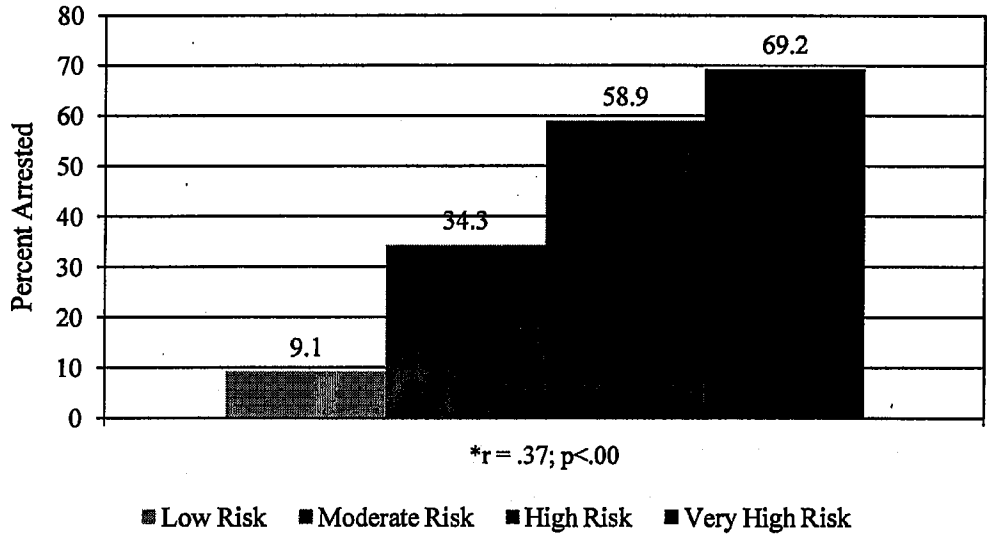
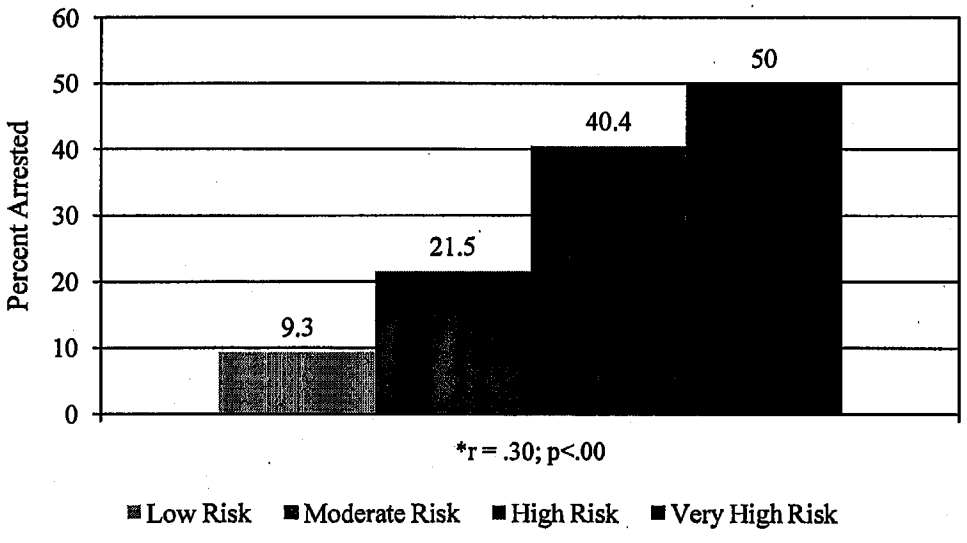


Figure 4 presents the recidivism rates for the CST by risk level for females in the community supervision sample. The figure illustrates that each risk level provides groups with distinctly higher rates of recidivism. The r value of .30 reveals a considerably strong relationship between risk level and recidivism.

Figure 4: Predictive Validity of the Community Supervision Tool for Females (n = 165)*



Another major goal that emerged during the development of ORAS was to provide decision makers with the ability to establish priorities in the management of dynamic risk factors that were based on the likelihood of recidivism. The priorities essentially disaggregate overall risk level into risk levels by domain, placing each offender at low, moderate, or high risk to reoffend for each domain. Table 12 provides statistics for the priorities in case management for the CST. All but two of the domains (social support and substance abuse) have r values above .20, and the domain of antisocial associates exceeds .30.

Although the domains of social support and substance abuse have r values below .20, they still produce groups with increasing higher rates of recidivism. For the domain of social support, 32 percent of low risk cases recidivate, while 41 and 48 percent of moderate and high risk recidivate, respectively. On the other hand, domains with larger r values produce groups with larger differences between groups. For example, the domain of Antisocial Associates

Table 12: Priorities in Case Management for the Community Supervision Tool

Criminal History		Education and Finances		Social Support		Neighborhood Problems	
# of Items	6	# of Items	6	# of Items	5	# of Items	2
Range	0 – 8	Range	0 – 6	Range	0 – 5	Range	0 – 3
Risk	Arrested	Risk	Arrested	Risk	Arrested	Risk	Arrested
Low (0-3)	27%	Low (0-1)	21%	Low (0-1)	32%	Low (0)	17%
High (7-8)	53%	High (5-6)	55%	High (4-5)	48%	High (2-3)	45%

Substance Abuse		Antisocial Associates		Antisocial Attitudes	
# of Items	5	# of Items	8	# of Items	7
Range	0 – 6	Range	0 – 8	Range	0 – 13
Risk	**Arrested**	**Risk**	**Arrested**	**Risk**	**Arrested**
Low (0-2)	27%	Low (0-1)	21%	Low (0-3)	29%
Mod. (3-4)	40%	Mod. (2-4)	43%	Mod. (4-8)	44%
High (5-8)	48%	High (6-8)	64%	High (9-13)	59%
r = .14		r = .32		r = .24	

produces low moderate and high risk groups that recidivate at 21 percent, 43 percent, and 64 percent respectively.

The Community Supervision Screening Tool (CSST)

Since the CST was designed to be used on a potentially large number of offenders across the state of Ohio, the Community Supervision Screening Tool was developed in order to provide counties the ability to more quickly identify moderate to high risk cases. Once identified as moderate to high risk, counties could provide these cases with the full assessment of criminogenic needs (i.e., administer the CST) while avoiding the extra resources involved with assessing lower risk cases that were not likely to need intensive treatment services.

The four items included in the CSST were chosen because of their individual relationship with recidivism and because they provided information from four different domains. Table 13 presents the items that were included in the CSST. The items gather information on the number of prior felonies, current employment, the availability of drugs, and the number of criminal friends.

Table 13: Items in the Community Supervision Screening Tool

Item	Score
[illegible]	[illegible]
Currently Employed Full Time	0=Yes 1=No
[illegible]	[illegible]
Criminal Friends	0=None 1=Some 2=Majority

The CSST has a range of scores from zero to seven. Appendix B presents a bar chart that illustrates the distribution of cases on scores for the CSST from the community supervision sample. The figure indicates that although there is a slight skew to the distribution, the majority of cases fall between three and five, with fewer cases falling at the tails of the distribution. Table 14 presents the percentage of offenders arrested at each risk score for the CSST. The failure rates range from nearly four percent at the lowest score to 80 percent at the highest score. The table indicates that as each score increases, the percentage of offenders that recidivated increases. Further, the r value of .38 indicates a relatively strong relationship between the CSST risk score and recidivism.

Table 14: Percentage of Failures by Risk Score on the Community Supervision Screening Tool (n = 678)*

Risk Score	Total Cases	Percent Arrested
0	26	3.8
1	49	10.2
2	90	17.8
3	115	28.7
4	137	40.1
5	144	49.3
6	92	68.0
7	25	80.0

*r = .28, p<.00

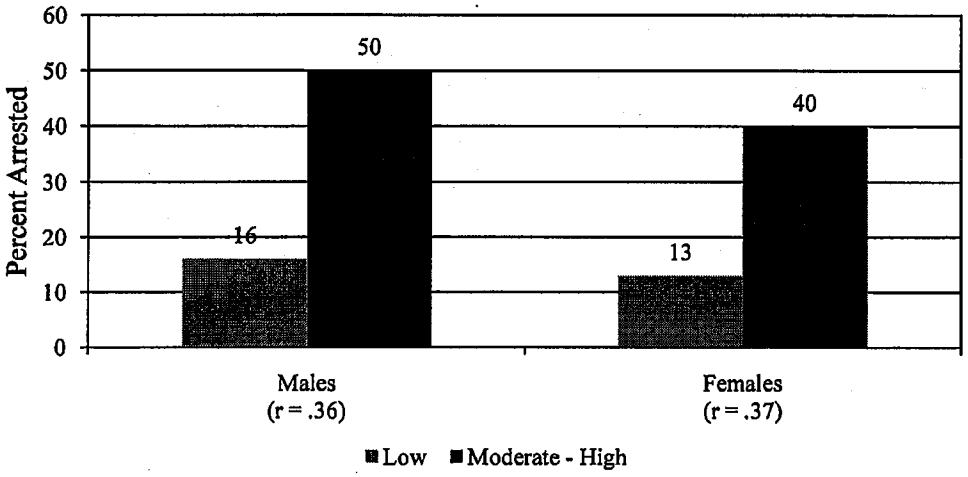
Since the CSST was designed to screen out low risk cases, cutoffs were identified that separated offenders into two groups: low risk or moderate/high risk. Preliminary analyses revealed that optimal cutoff scores for the CSST were different between males and females. Table 15 presents the distribution of cases by risk level for the CSST. As the table indicates, 23 percent of males were identified as low risk cases by the CSST, while over 50 percent of females were identified as low risk.

Table 15: Distribution of Cases by Risk Level for the Community Supervision Screen Tool

Level	N	Percent
Males		
Low (0-2)	119	23.2
Moderate - High (3+)	394	76.8
Total	513	100.0
Females		
Low (0-3)	88	53.3
Moderate - High (4+)	77	46.7
Total	165	100.0

Figure 5 presents the failure rates for risk levels of the CSST by gender. Of males that were identified as low risk, 16 percent were rearrested compared to 50 percent of those identified as moderate/high risk. For females, 13 percent of offenders identified as low risk recidivated, while 40 percent of those identified as moderate/high risk recidivated. The r values of .36 and .37 indicate that the CSST performs well in distinguishing between low and high risk offenders for both males and females.

Figure 5: Predictive Validity of the Community Supervision Screening Tool by Gender



*All r values p <.05

The Prison Intake Tool (PIT)

As mentioned previously, the PIT is designed to provide case managers an assessment instrument that can be used to prioritize prison treatment based on the likelihood of recidivism. Table 16 presents descriptive statistics for the prison intake sample. The sample was 63 percent male, 54 percent white, and had an average age of 33. The average follow-up was 13 months, and 40 percent experienced a new arrest during the follow-up period.

The self-report survey and structured interview guide provided a total of 200 potential predictors of recidivism. Of these, only items that were related to recidivism were included in the final PIT instrument. Table 17 presents the number of items in each of the domains assessed using the PIT[4]. In all, the CST consists of a total of 30 items from 5 domains: age, criminal history, education employment and finances, family and social support, substance abuse, and criminal lifestyle.

Table 16: Descriptive Statistics for the Prison Intake Sample (n = 423)

Variable	N	Percent
Sex		
Male	267	63.1
Female	156	36.9
Race		
White	227	53.7
African American	164	38.8
Other	32	7.6
Any New Arrest		
Yes	169	40.0
No	254	60.0
	Average	Range
Months at Risk	13.3 (2.1 SD)	7 - 18
Age	33.2 (9.3 SD)	19 - 64

[4] See the PIT score sheet in Appendix A for list of all variables included in the ORAS-PIT

Table 17: Domains for the Prison Intake Tool

Domain	Number of Items
Age	1
Criminal History	7
Education, Employment, and Finances	6
Family and Social Support	5
Substance Abuse	5
Criminal Lifestyle	7
Total	31

The distribution of cases on scores for the PIT is presented in Appendix A. The figure reveals that the scores range from three to 29, with the majority falling near the center of the distribution,in dicating that the distribution approaches normality. Table 18 presents failure rates by PIT risk score for the prison intake sample. The table reveals that as scores on the PIT increase, the percentage individuals that recidivated also increases (r = .36).

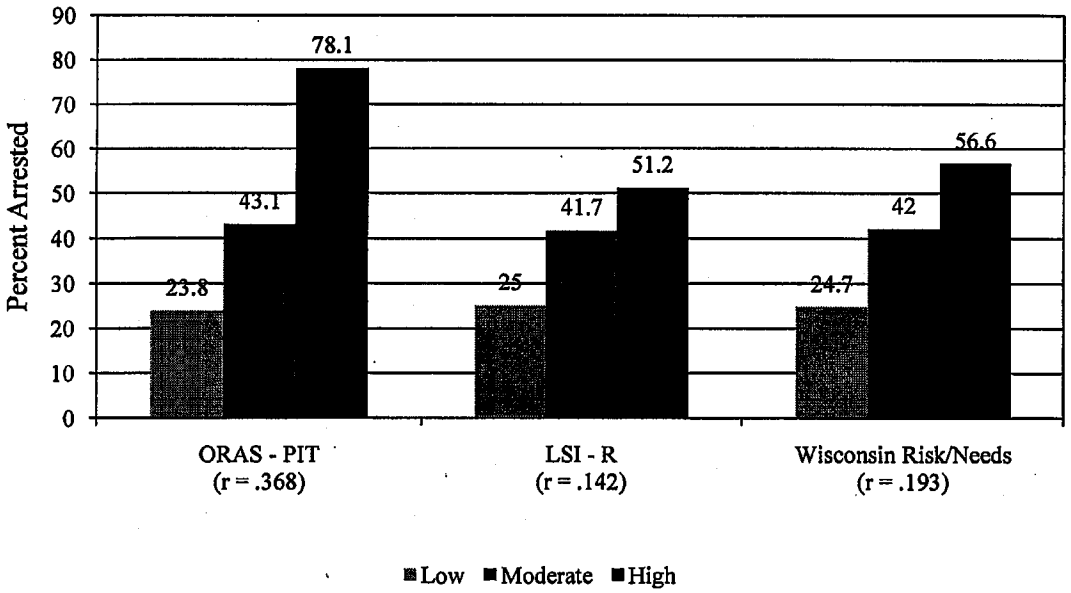
Table 18: Percentage of Failures by Risk Score for the Prison Intake Tool (n=423)*

Risk Score	Total Cases	Percent Arrested	Risk Score	Total Cases	Percent Arrested
0	0	–	21	20	40
1	0	–	22	19	79
2	1	0	23	14	86
3	1	0	24	9	89
4	3	0	25	7	57
5	7	14	26	7	71
6	10	0	27	4	50
7	10	10	28	1	100
8	15	27	29	3	100
9	12	25	30	0	–
10	22	23	31	0	–
11	28	29	32	0	–
12	27	48	33	0	–
13	26	39	34	0	–
14	24	25	35	0	–
15	31	32	36	0	–
16	23	40	37	0	–
17	25	48	38	0	–
18	29	41	39	0	–
19	26	58	40	0	–
20	18	44			

* r value = .36, p<.000

Similar to the Community Supervision Tool, the concurrent validity of the PIT involved comparing the predictive validity of the PIT to the LSI-R and the Wisconsin Risk/Needs assessments. For consistency, offenders were separated into three risk levels for each instrument, low, moderate, and high. Figure 6 compares the recidivism rates for these groups for each assessment instrument. Although the LSI-R and Wisconsin Instrument do provide substantive differences between low and moderate risk offenders, the difference between moderate and high risk offenders is somewhat small. On the other hand, the PIT provides a 20 percentage point difference between low and moderate risk offenders and a 35 percentage point difference between moderate and high risk offenders. The r value of .37 for the PIT also indicates that it outperforms the LSI-R and Wisconsin Risk/Needs Assessment.

Figure 6: Concurrent Validity of the Prison Intake Tool (n = 423)*



*All r values p <.05

Preliminary analyses indicated that the PIT produced four distinct risk levels for male offenders and only three groups for females. Table 19 presents the distribution of risk levels for the PIT by gender. For males, nine percent of the cases are low risk, 41 percent are moderate risk, 43 percent are high risk, and six percent are very high risk. For females, low risk cases account for 42 percent of the sample, moderate risk cases account for 39 percent of the sample, and high risk cases account for 19 percent of the sample. Taken together, this suggests that females have a higher percentage of low and moderate risk cases than males.

Table 19: Distribution of Cases by Risk Level for the Prison Intake Tool

Level	N	Percent
Males (n = 267)		
Low (0-8)	24	9
Moderate (9-16)	111	41
High (17-24)	115	43
Very High (25+)	17	6
Females (n = 165)		
Low (0-12)	65	42
Moderate (13-18)	61	39
High (19+)	30	19

Figure 7 presents percentage of males that were arrested by risk level on the PIT. The chart illustrates that increases in recidivism are seen with increases in risk level. Further, the r value of .32 indicates a relatively strong relationship between the PIT risk levels and recidivism. Seventeen percent of low risk cases recidivated, 32 percent of moderate risk cases recidivated, 58 percent of high risk cases recidivated, and 71 percent of very high risk cases recidivated.

Figure 7: Predictive Validity of the Prison Intake Tool for Males (n = 267)*

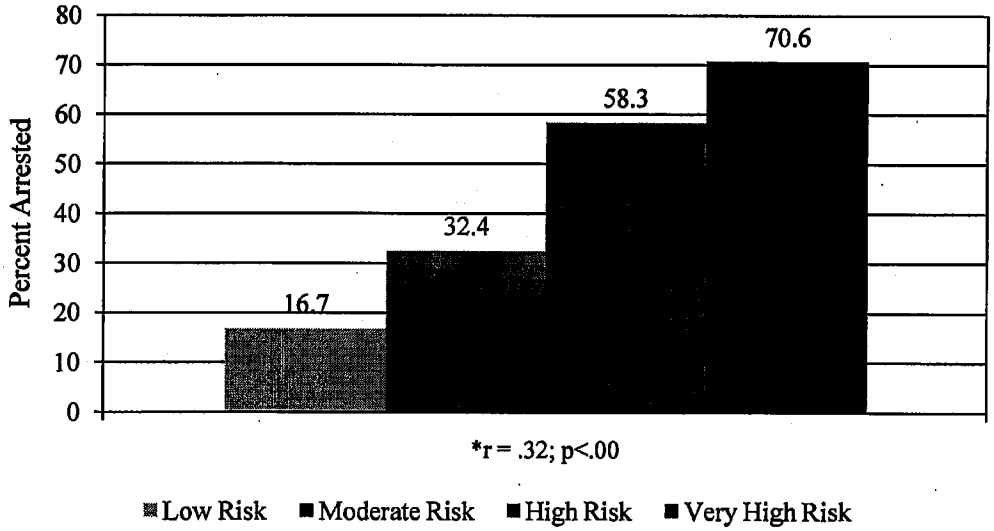
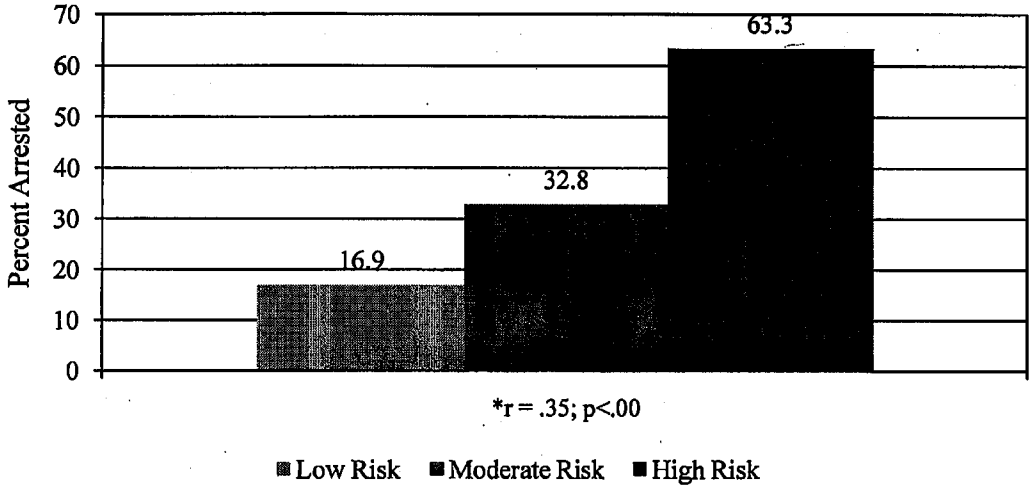


Figure 8 presents the recidivism rates by risk level for females in the prison intake sample. The figure reveals substantial differences in recidivism between risk levels: low risk cases had a recidivism rate of 17 percent, 33 percent of moderate risk cases recidivated, and 63 percent of high risk cases recidivated. These differences were significant and produced a relatively large r value of .35.

Figure 8: Predictive Validity of the Prison Intake Tool for Females (n = 156)*



A major goal that emerged during the development of the PIT was to provide decision makers with the ability to establish priorities in the treatment of offenders that are based on the likelihood of reoffending. Priorities in cases management can be determined by disaggregating risk levels of the PIT by domain. Table 20 presents statistics for each of the case management domains. Although most of the domains reach r values at or near .20, the social support domain has a somewhat low r value of .12. Still, the table indicates that case management domains are individually able to classify offenders into different groups based on the likelihood to recidivate, especially in the domains of criminal history, education and finances, and criminal lifestyle. For example in the education and finances domain, 29 percent of low risk cases were arrested, 44 percent of moderate risk cases were arrested, and 53 percent of high risk cases were rearrested.

Table 20: Priorities in Case Management for the Prison Intake Tool

Criminal History		Education and Finances		Social Support	
# of Items	6	# of Items	6	# of Items	5
Range	0 – 8	Range	0 – 6	Range	0 – 5
Risk	Arrested	Risk	Arrested	Risk	Arrested
Low (0-3)	30%	Low (0-3)	29%	Low (0-2)	28%
Mod. (4-6)	44%	Mod. (4-5)	44%	Mod. (3)	45%
High (7-10)	57%	High (6-7)	53%	High (5-6)	59%
Substance Abuse		**Criminal Lifestyle**			
# of Items	5	# of Items	4		
Range	0 – 6	Range	0 – 8		
Risk	Arrested	Risk	Arrested		
Low (0-1)	33%	Low (0-2)	29%		
Mod. (2-3)	44%	Mod. (3-5)	46%		
High (4-5)	60%	High (6-8)	61%		

The Reentry Tool (RT)

The RT was designed to be administered within 6 months of release from prison. The average length of incarceration for the prison release sample ranged from two to 452 months, with an average of 35 months. After release from prison, arrest records were checked approximately one year after the final interview was conducted. Table 21 presents descriptive statistics for the reentry sample. The sample is 23 percent female, 46 percent African American, and has an average age of 32. During the average of 13 months at risk, 43 percent of the sample was rearrested.

Table 21: Descriptive Statistics for the Reentry Sample (n = 277)

Variable	N	Percent
Sex		
Male	212	76.5
Female	65	23.5
Race		
White	133	48.7
African American	127	45.8
Other	15	5.4
Any New Arrest		
Yes	118	42.6
No	159	57.4
	Average	Range
Months at Risk	12.8	8 – 17
	(2.1 SD)	
Age	31.6	18 – 57
	(8.2 SD)	

The self-report survey and structured interview guide provided a total of 200 potential predictors of recidivism. Table 22 presents the number of items in each of the domains assessed using the RT.[5] In all, the RT consisted of a total of 20 items from four domains and had

[5] See the RT scoring for in Appendix A for list of all variables included in the ORAS-RT.

potential scores that ranged from zero to 28. Domains for the RT are: age, criminal history, social bonds, and criminal attitudes. Appendix B presents a bar chart that displays the distribution of cases on the reentry tool. The graph for the RT illustrates that the distribution approaches normality, with most cases falling at the center of the distribution and fewer cases on the tails.

Table 22: Domains for the Reentry Tool

Domain	Number of Items
Age	1
Criminal History	8
Social Bonds	4
Criminal Attitudes	7
Total	20

Table 23 presents the percentage of offenders that recidivated at each risk score for the RT. The table reveals that there is a general upward trend in the percentage of offenders who were arrested that corresponds with increasing scores on the RT. The r value of .36 indicates that the relationship between RT risk scores and recidivism is relatively strong.

Table 23: Percentage of Failures by Risk Score for the Reentry Tool (n=277)*

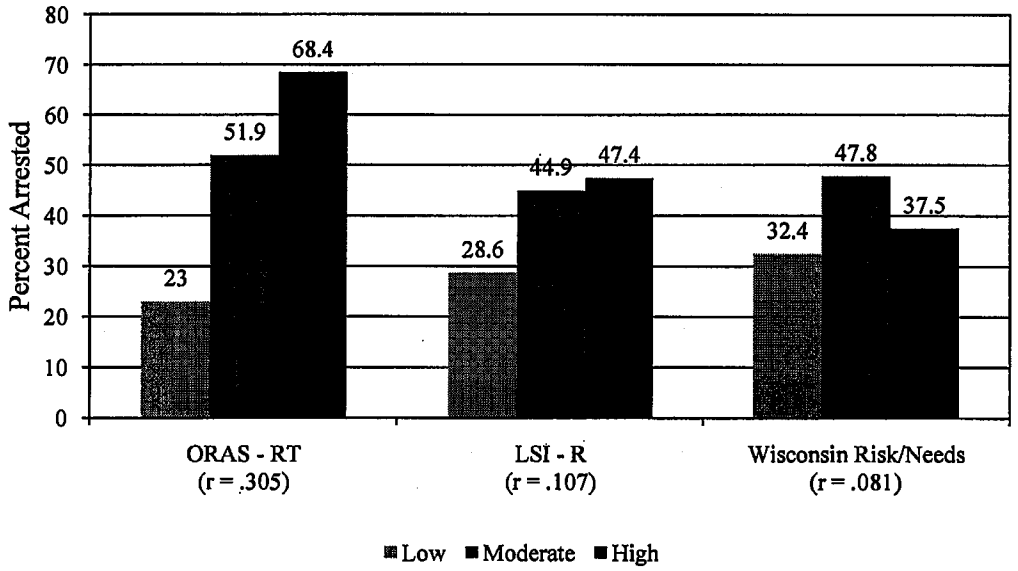
Risk Score	Total Cases	Percent Arrested	Risk Score	Total Cases	Percent Arrested
0	0	–	15	22	68
1	0	–	16	19	63
2	0	–	17	16	62
3	5	0	18	10	6
4	5	20	19	9	78
5	4	0	20	4	100
6	12	0	21	2	50
7	11	18	22	1	0
8	16	12	23	3	33
9	22	32	24	0	–
10	23	44	25	0	–
11	24	29	26	0	–
12	25	48	27	0	–

13	21	48	28	0	–

* r value = .36; p<.000

The concurrent validity for the RT was evaluated by comparing the predictive power of the RT to the LSI-R and the Wisconsin Risk/Needs Assessment. Figure 9 presents statistics for the concurrent validity of the RT. The results reveal that although the RT is able to establish significantly different risk groups, the LSI-R and Wisconsin Risk/Need do not. The Wisconsin Instrument in particular struggled, primarily because the small percentage of high risk cases (8% of the sample) recidivated at lower rates than did moderate risk cases. The RT produced a low risk group with a 23 percent recidivism rate, a moderate risk group with a 53 percent recidivism rate, and a high risk group with a 69 percent recidivism rate. The r value of .30 is substantially stronger than those produced by the LSI-R and the Wisconsin Risk/Need Assessment.

Figure 9: Concurrent Validity of the Reentry Tool (n = 423)*



*All r values p <.05

Preliminary analyses revealed that since females were less likely to recidivate, separate cut off scores should be made for males and females. Table 24 presents the distribution of the

reentry sample on risk levels for the RT. For males, the majority of cases are moderate risk, with similar percentages of cases falling at low and high risk levels. On the other hand, low risk is the modal value for females. These findings are similar to the Prison Intake Tool and indicate that females tend to score at lower risk levels than males on the assessment instruments.

Table 24: Distribution of Cases by Risk Level for the Reentry Tool

Level	N	Percent
Males (n = 212)		
Low (0-9)	47	22.2
Moderate (10-15)	109	51.4
High (16+)	56	26.4
Females (n = 65)		
Low (0-10)	31	47.7
Moderate (11-14)	25	38.5
High (15+)	9	13.8

The graph in Figure 10 presents the percentages of male offenders that recidivated for each risk level of the RT. The results indicate increasing rates of recidivism for each risk level. That is, 21 percent of low risk cases were rearrested, 50 percent of moderate risk cases were rearrested, and 64 percent of high risk cases were rearrested. The r value of .29 indicates that the RT does a good job at distinguishing between low, moderate, and high risk cases.

Figure 10: Predictive Validity of the Reentry Tool for Males (n = 212)*

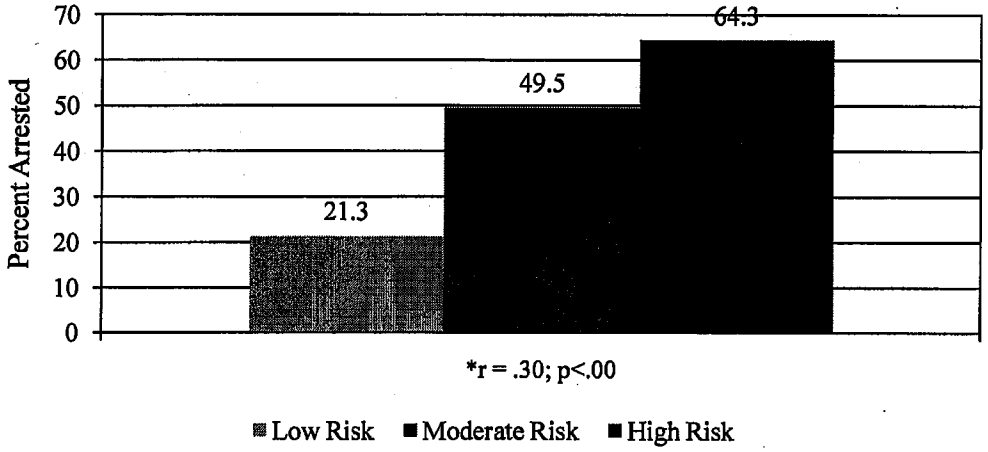


Figure 11 presents the recidivism rates by risk level for females in the reentry sample. The graph reveals that the RT does a very good job of distinguishing between low and moderate risk cases. Only six percent of low risk females were arrested, while 44 percent of moderate risk cases were arrested, and 56 percent of high risk cases were arrested. The large r value of .44 is likely a result of the substantial difference between low and moderate risk females.

Figure 11: Predictive Validity of the Reentry Tool for Females (n = 65)*

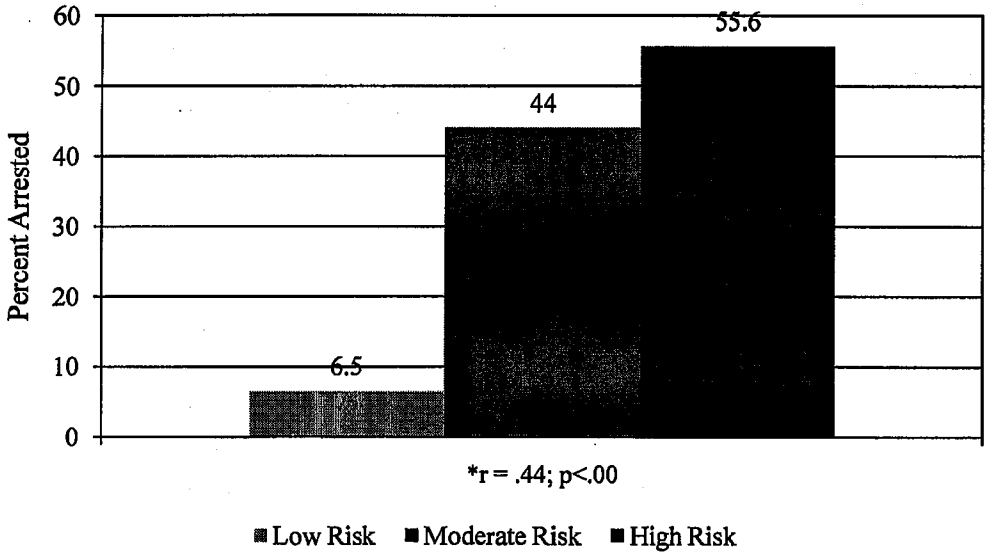


Table 25 presents risk levels for case management domains. These statistics disaggregate the overall risk level by domain so that needs in specific domains can be prioritized. All three domains provide risk levels that are significantly associated with changes in the likelihood of being arrested, although some perform better than others. The domain of social bonds has the lowest r value of .16, although the criminal attitudes domain has an r value of .22 and the criminal history domain has an r value of .28.

Table 25: Priorities in Case Management for the Reentry Tool

Criminal History		Social Bonds		Criminal Attitudes	
# of Items	8	# of Items	4	# of Items	7
Range	0-12	Range	0-4	Range	0-11
Risk	Arrested	Risk	Arrested	Risk	Arrested
Low (0-3)	23%	Low (0-2)	32%	Low (0-3)	30%
Mod. (4-7)	45%	Mod. (3)	45%	Mod. (4-6)	50%
High (8-12)	65%	High (4)	52%	High (7-11)	58%
N = n = 28		n = 16		n = 32	

SUMMARY AND CONCLUSION

This section of the report provides some conclusions based on the findings of the current study. It begins with a summary of the results for the validation of ORAS. Limitations of the current study are also discussed. The report concludes with some recommendations on the future of the ORAS.

Summary of Findings

The pretrial assessment instrument consists of seven items from four domains: criminal history, employment, substance abuse, and residential stability. The data indicate that the PAT

produces risk levels that significantly differed on the likelihood of either rearrest or failure-to-appear. Further, the pretrial instrument maintained an acceptable relationship with recidivism (r = .22).

The Community Supervision Tool consists of 35 items from seven domains: criminal history, education, employment and finances,fa mily and social support,n eighborhood problems, substance abuse, antisocial associations, and antisocial attitudes and behavioral problems. The validation results revealed that the risk levels on the CST displayed increasingly higher rates of recidivism for both male and females. The CST had a correlation of .37 with recidivism for males and .30 for females. The Community Supervision Screening Tool is a four item instrument designed to quickly identify low risk cases that do not need the full assessment. It had a correlation of .36 with recidivism.

The Prison Intake Tool consisted of 31 items from five domains: criminal history, education, employment, and finances, family and social support, substance abuse, and criminal lifestyle. The validation results for the PIT revealed that different cutoff scores and risk levels were optimal for males and females. Although males had four groups and females only had three, the percentages of cases arrested increased as risk level increased for both genders. The correlation between risk level and recidivism was .32 for males and .35 for females.

The Reentry Tool consisted of 20 items from three domains and predicted new arrest. The three domains were criminal history, social bonds, and antisocial attitudes. The validation results revealed that optimal cutoff scores were different for males and females. Still, risk levels are significantly associated with increases in the recidivism rate for both genders. The correlation with recidivism was .30 for males and .44 for females.

Limitations

There were two primary limitations observed in the current study. The first limitation revolves around the generalizability of the sample to all offenders in the Ohio criminal justice system. Although the data collection period gathered information on over 1,800 offenders in Ohio, it would be imprudent to assume that the findings are representative of all offenders in Ohio. First, resource constrains limited the inclusion of cases from all counties and correctional institutions. Second, although the samples were gathered from specific populations, certain types of cases may be underrepresented in the population (e.g., sex offenders, Hispanic offenders, female offenders). The underrepresentation in the population leads to small numbers of these types of offenders in the sample. For example, the findings from the RT were based on a sample size of 65 females. Although the results provide evidence that females have a distribution on the risk levels that is different from men, the findings should be considered preliminary until data can be collected on a larger sample of women who are released from prison.

A second limitation to the current study revolves around measurement error. The major source of data collection for this study was the structured interview, which was undertaken by trained research staff from the University of Cincinnati. Further, the informed consent process identified a sample that offenders who were willing to undergo the interview process. In short, the structured interview process utilized to gather the data will likely be somewhat different than the process used by criminal justice officials to interview cases and assign risk once the ORAS is implemented.

Recommendations

Based on the findings and limitations discussed above, several recommendations can be made. The first major recommendation is that revalidation studies be conducted of ORAS.

Once ORAS becomes automated, the costs and resources involved with data collection should be substantially reduced because assessment scores will be previously recorded by criminal justice personnel. Instead, probability samples can be drawn for each instrument using large data bases that store offender risk scores every time an assessment is entered.

Revalidation studies will provide further evidence that the instruments in ORAS are able to predict recidivism across multiple samples from the same population. Further, the automation and storage of ORAS data will allow researchers to gather stratified probability samples in order to 1) provide a sample that is representative of all counties in Ohio and 2) oversample underrepresented groups. Also, revalidation studies should seek to extend the follow-up time. Although an average of 12 months is adequate, research suggests that 18 to 24 month follow-up times are optimal (Jones, 1996). Finally, revalidation will also address the issues of measurement error. That is, data can be gathered on assessments that are given by personnel within the criminal justice system, examining the predictive validity of ORAS in a real world setting.

Another major recommendation is that ODRC follow the protocol developed by the University of Cincinnati for training personnel on the assessment instruments. Proper training cannot be stressed enough, because the efficacy of every assessment is heavily dependent upon the person who conducts the interview and scores the risk level. This is especially important because, although the interview questions are structured to maximize reliability, scoring some of the items is reliant upon the professional judgment of the interviewer. Training will also help to minimize the differences in measurement between University research staff conducting the interviews and criminal justice personnel. Not only is initial training important, but it is

recommended that a system be developed that lays out the process of training, provides reliability checks for interviewers, and lays out guidelines for retraining.

In sum, the development of ORAS produced five assessment tools designed to predict the likelihood of recidivism at different points in the criminal justice process. These tools not only are used to assign supervision levels, but were also designed to assist case managers in targeting dynamic risk factors and identifying barriers to treatment. Overall, the results from the validation are favorable, indicating that each tool was able to clearly distinguish between groups of offenders with escalating rates of recidivism. Some caution should be taken in generalizing the findings from this sample to all offenders in Ohio, although the automation of ORAS makes future revalidation studies more likely to be generalizable and less expensive to undertake.

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APPENDIX A: SCORING FORMS FOR EACH ASSESSMENT

OHIO RISK ASSESSMENT SYSTEM: PRETRIAL ASSESSMENT TOOL (ORAS-PAT)

Name: _____ Date of Assessment: _____

Case#: _____ Name of Assessor: _____

Pretrial Items		Verified
1.1. Age at First Arrest 0=33 or older 1=Under 33		
1.2. Number of Failure-to-Appear Warrants Past 24 Months 0=None 1=One Warrant for FTA 2=Two or more FTA Warrants		
1.3. Three or more Prior Jail Incarcerations 0=No 1=Yes		
1.4. Employed at the Time of Arrest 0= Yes, Full-time 1= Yes, Part-time 2= Not employed		
1.5. Residential Stability 0=Lived at Current Residence Past Six Months 1=Not Lived at Same Residence		
1.6. Illegal Drug Use during Past Six Month 0=No 1=Yes		
1.7. Severe Drug Use Problem 0=No 1=Yes		
Total Score:		

Scores	Rating	% of Failures	% of Failure to Appear	% of New Arrest
0-2	Low	5%	5%	0%
3-5	Moderate	18%	12%	7%
6+	High	29%	15%	17%

Please State Reason if Professional Override:

Other Areas of Concern. Check all that Apply:

_____Low Intelligence*
_____Physical Handicap
_____Reading and Writing Limitations*
_____Mental Health Issues*
_____No Desire to Change/Participate in Programs*
_____Transportation
_____Child Care
_____Language
_____Ethnicity
_____Cultural Barriers
_____History of Abuse/Neglect
_____Interpersonal Anxiety
_____Other _____

*If these items are checked it is strongly recommended that further assessment be conducted to determine level or severity.

OHIO RISK ASSESSMENT SYSTEM: COMMUNITY SUPERVISION TOOL (ORAS-CST)

Name: _____ Date of Assessment: _____

Case#: _____ Name of Assessor: _____

1.0 CRIMINAL HISTORY:

1.1 Most Serious Arrest Under Age 18 ☐
- 0=None
- 1=Yes, Misdemeanor
- 2=Yes, Felony

1.2 Number of Prior Adult Felony Convictions ☐
- 0=None
- 1=One or Two
- 2=Three or more

1.3 Prior Sentence as Adult to a Jail or Secure Correctional Facility ☐
- 0=No
- 1=Yes

1.4 Received Official Misconduct while Incarcerated as Adult ☐
- 0=No
- 1=Yes

1.5 Prior Sentence to Probation as an Adult ☐
- 0=No
- 1=Yes

1.6 Community Supervision Ever Been Revoked for Technical Violation as Adult ☐
- 0=No
- 1=Yes

Total Score in Criminal History: ☐

2.0 EDUCATION, EMPLOYMENT, AND FINANCIAL SITUATION:

2.1 Highest Education ☐
- 0= High School Graduate or Higher
- 1= Less than High School or GED

2.2 Ever Suspended or Expelled From School ☐
- 0=No
- 1=Yes

2.3 Employed at the Time of Arrest ☐
- 0= Yes
- 1= No

2.4 Currently Employed ☐
- 0=Yes, Full-time, Disabled, or Retired
- 1=Not Employed or Employed Part-time

2.5 Better Use of Time ☐
- 0=No, Most Time Structured
- 1=Yes, Lots of Free Time

2.6 Current Financial Situation ☐
- 0=Good
- 1=Poor

Total Score in Education, Employment, Financial: ☐

3.0 FAMILY AND SOCIAL SUPPORT

3.1 Parents have Criminal Record
- 0= No
- 1=Yes

3.2 Currently Satisfied with Current Marital or Equivalent Situation
- 0=Yes
- 1=No

3.3 Emotional and Personal Support Available from Family or Others
- 0=Strong Support
- 1=None or Weak Support

3.4 Level of Satisfaction with Current Level of Support from Family or Others
- 0=Very Satisfied
- 1=Not Satisfied

3.5 Stability of Residence
- 0=Stable
- 1=Not Stable

Total Score on Family and Social Support:

4.0 NEIGHBORHOOD PROBLEMS

4.1 High Crime Area
- 0=No
- 1=Yes

4.2 Drugs Readily Available in Neighborhood
- 0=No, Generally Not Available
- 1=Yes, Somewhat Available
- 2=Yes, Easily Available

Total Score in Neighborhood Problems:

5.0 SUBSTANCE USE

5.1 Age First Began Regularly Using Alcohol
- 0=17 or older
- 1=Under Age 17

5.2 Longest Period of Abstinence from Alcohol
- 0=Six months or Longer
- 1=Less than Six months

5.3 Offender Ever Used Illegal Drugs
- 0=No
- 1=Yes

5.4 Drug Use Caused Legal Problems
- 0=None
- 1=One Time
- 2=Two or More Times

5.5 Drug Use Caused Problems with Employment
- 0=No
- 1=Yes

Total Score for Substance Use:

6.0 PEER ASSOCIATIONS

6.1 Criminal Friends
- 0=None
- 1=Some
- 2=Majority

6.2 Contact with Criminal Peers
- 0=No Contact with Criminal Peers
- 1=At Risk of Contacting Criminal Peers
- 2=Contact or Actively Seeks Out Criminal Peers

6.3 Gang Membership
- 0=No, Never
- 1=Yes, but Not Current
- 2=Yes, Current

6.4 Criminal Activities
- 0=Strong Identification with Prosocial Activities
- 1=Mixture of Pro- and Antisocial Activities
- 2=Strong Identification with Criminal Activities

Total Score for Peers:

7.0 CRIMINAL ATTITUDES AND BEHAVIORAL PATTERNS

For the Following Items Please Rate the Offender:

7.1 Criminal Pride
- 0=No Pride in Criminal Behavior
- 1=Some Pride
- 2=A Lot of Pride

7.2 Expresses Concern about Others' Misfortunes
- 0=Concerned about Others
- 1=Limited Concern
- 2=No Real Concern for Others

7.3 Feels Lack of Control Over Events
- 0=Controls Events
- 1=Sometimes Lacks Control
- 2=Generally Lacks Control

7.4 Sees No Problem in Telling Lies
- 0=No
- 1=Yes

7.5 Engages in Risk Taking Behavior
- 0=Rarely Takes Risks
- 1=Sometimes Takes Risks
- 2=Generally Takes Risks

7.6 Walks Away from a Fight
- 0=Yes
- 1=Sometimes
- 2=Rarely

7.7 Believes in "Do Unto Others Before They Do Unto You"
- 0=Disagree
- 1=Sometimes
- 2=Agrees

Total Score Criminal Attitudes and Behavioral Patterns:

TOTAL SCORE:

Risk Categories for MALES		
Scores	**Rating**	**Percent of Failures**
0-14	Low	9%
15-23	Moderate	34%
24-33	High	58%
34+	Very High	70%

Risk Categories for FEMALES		
Scores	**Rating**	**Percent of Failures**
0-14	Low	7%
15-21	Moderate	23%
22-28	High	40%
29+	Very High	50%

Domain Levels

1.0 Criminal History

	Score	Failure
_____	Low (0-3)	27%
	Med (4-6)	46%
	High (7-8)	53%

2.0 Education, Employment, and Financial Situation

	Score	Failure
_____	Low (0-1)	21%
	Med (4-6)	37%
	High (7-8)	55%

3.0 Family and Social Support

	Score	Failure
_____	Low (0-1)	32%
	Med (2-3)	41%
	High (4-5)	48%

4.0 Neighborhood Problems

	Score	Failure
_____	Low (0)	17%
	Med (1)	35%
	High (2-3)	45%

5.0 Substance Use

	Score	Failure
_____	Low (0-2)	27%
	Med (3-4)	40%
	High (5-6)	45%

6.0 Peer Associations

	Score	Failure
_____	Low (0-1)	21%
	Med (2-4)	43%
	High (5-8)	64%

7.0 Criminal Attitudes and Behavioral Patterns

	Score	Failure
_____	Low (0-3)	24%
	Med (4-8)	44%
	High (9-13)	59%

Professional Override:

Reason for Override (note overrides should not be based solely on offense):

Other Areas of Concern. Check all that Apply:

_____Low Intelligence*
_____Physical Handicap
_____Reading and Writing Limitations*
_____Mental Health Issues*
_____No Desire to Change/Participate in Programs*
_____Transportation
_____Child Care
_____Language
_____Ethnicity
_____Cultural Barriers
_____History of Abuse/Neglect
_____Interpersonal Anxiety
_____Other _____

*If these items are checked it is strongly recommended that further assessment be conducted to determine level or severity.

OHIO RISK ASSESSMENT SYSTEM - COMMUNITY SUPERVISION SCREENING TOOL (ORAS-CSST)

Name: _____ Date of Assessment: _____

Case#: _____ Name of Assessor: _____

1.0 Number of Prior Adult Felony Convictions ☐
- 0=None
- 1=One or Two
- 2=Three or More

2.0 Currently Employed ☐
- 0=Yes, Full-time, Disabled, or Retired
- 1=Not Employed or Employed Part-time

3.0 Drugs Readily Available in Neighborhood ☐
- 0=No, Generally Not Available
- 1=Yes, Somewhat Available
- 2=Yes, Easily Available

4.0 Criminal Friends ☐
- 0=None
- 1=Some
- 2=Majority

TOTAL SCORE ☐

Risk Categories for MALES		
Scores	**Rating**	**Percent of Failures**
0-2	**Low**	**15%**
3+	**High**	**50%**

Risk Categories for FEMALES		
Scores	**Rating**	**Percent of Failures**
0-3	**Low**	**12%**
4+	**High**	**40%**

OHIO RISK ASSESSMENT SYSTEM – PRISON INTAKE TOOL (ORAS-PIT)

Name: _____ Date of Assessment: _____

Case#: _____ Name of Assessor: _____

Age at Time of Assessment

0=24+
1=18-23 ☐

10 CRIMINAL HISTORY

1.1. Most Serious Arrest Under Age 18 ☐
- 0=None
- 1=Yes, Misdemeanor
- 2=Yes, Felony

1.2. Prior Commitment as a Juvenile to Department of Youth Services ☐
- 0=No
- 1=Yes

1.3. Number of Prior Adult Felony Convictions ☐
- 0=None
- 1=One or Two
- 2=Three or more

1.4. Arrests for Violent Offense as an Adult ☐
- 0=No
- 1=Yes

1.5. Number of Prior Commitments to Prison ☐
- 0=None
- 1=One
- 2=Two or More

1.6. Ever Received Official Misconduct while Incarcerated as an Adult ☐
- 0=No
- 1=Yes

1.7. Ever Had Escape Attempts as Adult ☐
- 0=No
- 1=Yes

Total Score in Criminal History: ☐

2.0 SCHOOL BEHAVIOR AND EMPLOYMENT

2.1. Ever Expelled or Suspended from School
- 0= No
- 1= Yes

2.2. Employed at the Time of Arrest
- 0=Yes
- 1=No

2.3. Employed Just Prior to Incarceration
- 0=Yes Full-time or Disabled
- 1=Not Employed or Employed Part-time

2.4. Attitudes toward Boss/Employer
- 0=Good Relationship
- 1=Poor Relationship

2.5. Longest Length of Employment Past Two Years
- 0=18 Months or More
- 1=1-17 Months
- 1= None

2.6. Better Use of Time
- 0=No, Most Time Structure
- 1=Yes, Lots of Free Time

Total Score in School Behavior and Employment:

3.0 FAMILY AND SOCIAL SUPPORT

3.1. Current Marital Status
- 0= Married or Cohabitating
- 1= Single (Married but Separated), Divorced, Widowed

3.2. Living Situation Prior to Incarceration:
- 0=Significant Other
- 1=Parents, Friends, or Other
- 2=Alone or Shelter

3.3. Stability of Residence Prior to Incarceration
- 0=Stable
- 1=Not Stable

3.4. Emotional and Personal Support Available from Family or Others
- 0=Strong Support
- 1=None or Weak Support

3.5. Level of Satisfaction with Current Level of Support from Family or Others
- 0=Very Satisfied
- 1=Not Satisfied

Total Score for Family and Social Support:

4.0 SUBSTANCE ABUSE AND MENTAL HEALTH

4.1. Longest Period of Abstinence from Alcohol
- 0= Six Months or Longer
- 1= Less than Six Months

4.2. Age at First Illegal Drug Use
- 0=16 or Older
- 1=Under 16

4.3. Problems with Employment due to Drug Use:
- 0=No
- 1=Yes

4.4. Problems with Health due to Drug Use
- 0=No
- 1=Yes

4.5. Ever Diagnosed with Mental Illness/Disorder
- 0=No
- 1=Yes

Substance Abuse and Mental Health:

5.0 CRIMINAL LIFESTYLE

5.1. Criminal Activities
- 0= Prosocial
- 1= Mixture
- 2=Criminal Activities

5.2. Current Gang Membership
- 0= No, Never
- 1= Yes, but Not Current
- 2= Yes, Current

5.3. Ability to Control Anger
- 0= Good Control
- 1= Poor Control

5.4. Uses Anger to Intimidate Others
- 0=No
- 1=Yes

5.5. Acts Impulsively
- 0=No
- 1=Yes

5.6. Feels Lack of Control Over Events
- 0= Controls Events
- 1= Sometimes Lacks Control
- 2= Generally Lacks Control

5.7. Walks Away from a Fight
- 0= Yes
- 1= Sometimes
- 2= Rarely

Total Score for Criminal Lifestyle:

TOTAL SCORE:

Risk Categories for MALES			Risk Categories for FEMALES		
Scores	**Rating**	**Percent of Failures**	**Scores**	**Rating**	**Percent of Failures**
0-8	Low	17%	0-12	Low	17%
9-16	Moderate	32%	13-18	Moderate	33%
17-24	High	58%	19+	High	63%
25+	Very High	71%			

Domain Levels

1.0 Criminal History

	Score	Failure
_____	Low (0-3)	30%
	Med (4-6)	47%
	High (7-10)	57%

2.0 School Behavior and Employment

	Score	Failure
_____	Low (0-3)	29%
	Med (4-5)	44%
	High (6-7)	55%

3.0 Family and Social Support

	Score	Failure
_____	Low (0-2)	28%
	Med (3-4)	45%
	High (5-6)	60%

4.0 Substance Abuse and Mental Health

	Score	Failure
_____	Low (0-1)	33%
	Med (2-3)	44%
	High (4-5)	60%

5.0 Criminal Lifestyle

	Score	Failure
_____	Low (0-2)	29%
	Med (3-5)	46%
	High (6-11)	60%

Professional Override:

Reason for Override
(note overrides should not be based solely on offense)

Other Areas of Concern. Check all that Apply:

_____Low Intelligence*
_____Physical Handicap
_____Reading and Writing Limitations*
_____Mental Health Issues*
_____No Desire to Change/Participate in Programs*
_____Language
_____Ethnicity
_____Cultural Barriers
_____History of Abuse/Neglect
_____Interpersonal Anxiety
_____Other _____

If these items are checked it is strongly recommended that further assessment be conducted to determine level or severity.

OHIO RISK ASSESSMENT SYSTEM – REENTRY TOOL (ORAS-RT)

Name: _____ Date of Assessment: _____

Case#: _____ Name of Assessor: _____

Age at Time of Assessment

0=24+
1=18-23 ☐

1.0 CRIMINAL HISTORY

1.1. Most Serious Arrest Under Age 18 ☐
- 0=None
- 1=Yes, Misdemeanor
- 2=Yes, Felony

1.2. Age at First Arrest or Charge ☐
- 0=26+
- 1=16-25
- 2=15 or younger

1.3. Prior Commitment as a Juvenile to Department of Youth Services ☐
- 0=No
- 1=Yes

1.4. Current Offense Drug Related ☐
- 0=No
- 1=Yes

1.5. Number of Prior Adult Felony Convictions ☐
- 0=None
- 1=One
- 2=Two or More

1.6. Number of Prior Adult Commitments to Prison ☐
- 0=None
- 1=One
- 2=Two or More

1.7. Ever Received Official Infraction for Violence While Incarcerated as an Adult ☐
- 0=No
- 1=Yes

1.8. Ever Absconded from Community Supervision as an Adult ☐
- 0=No
- 1=Yes

Total Score in Criminal History: ☐

2.0 SOCIAL BONDS

2.1. Ever Suspended or Expelled from School
- 0= No
- 1= Yes

2.2. Employed at the Time of Arrest
- 0=Yes
- 1=No

2.3. Ever Quit a Job Prior to Having Another One
- 0=No
- 1=Yes

2.4. Marital Status
- 0=Married or Cohabitating with a Significant Other
- 1=Single, Married but Separated, Divorced, or Widowed

Total Score in Social Bonds: ____

3.0 CRIMINAL ATTITUDES AND BEHAVIORAL PATTERNS

3.1. Criminal Pride
- 0= No Pride in Criminal Behavior
- 1= Some Pride in Criminal Behavior
- 2= A lot of Pride in Criminal Behavior

3.2. Believes that it is possible to Overcome Past
- 0= Yes
- 1= No

3.3. Uses Anger to Intimidate Others
- 0=No
- 1=Yes

3.4. Walks Away from a Fight
- 0= Yes
- 1= Sometimes
- 2= Rarely

3.5. Problem Solving Ability
- 0=Good
- 1=Poor

3.6. Expresses Concern About Other's Misfortunes
- 0= Concerned about Others
- 1= Limited Concern
- 2= No Real Concern for Others

3.7. Believes in "Do Unto Others Before They Do Unto You"
- 0= Disagree
- 1= Sometimes
- 2= Agree

Total Score for Criminal Attitudes and Behavioral Patterns: ____

TOTAL SCORE: ____

Risk Categories for MALES			Risk Categories for FEMALES		
Scores	**Rating**	**Percent of Failures**	**Scores**	**Rating**	**Percent of Failures**
0-9	**Low**	**21%**	**0-10**	**Low**	**6.5%**
10-15	**Moderate**	**50%**	**11-14**	**Moderate**	**44%**
16+	**High**	**64%**	**15+**	**High**	**56%**

Domain Levels

1.0 Criminal History

	Score	Failure
_____	**Low (0-3)**	**23%**
	Med (4-6)	**45%**
	High (7-12)	**65%**

3.0 Criminal Attitudes and Behavioral Patterns

	Score	Failure
_____	**Low (0-2)**	**30%**
	Med (3-5)	**51%**
	High (6-11)	**58%**

2.0 Social Bonds

	Score	Failure
_____	**Low (0-3)**	**32%**
	Med (4-5)	**45%**
	High (6-7)	**62%**

Professional Override:

Reason for Override
(note overrides should not be based solely on offense)

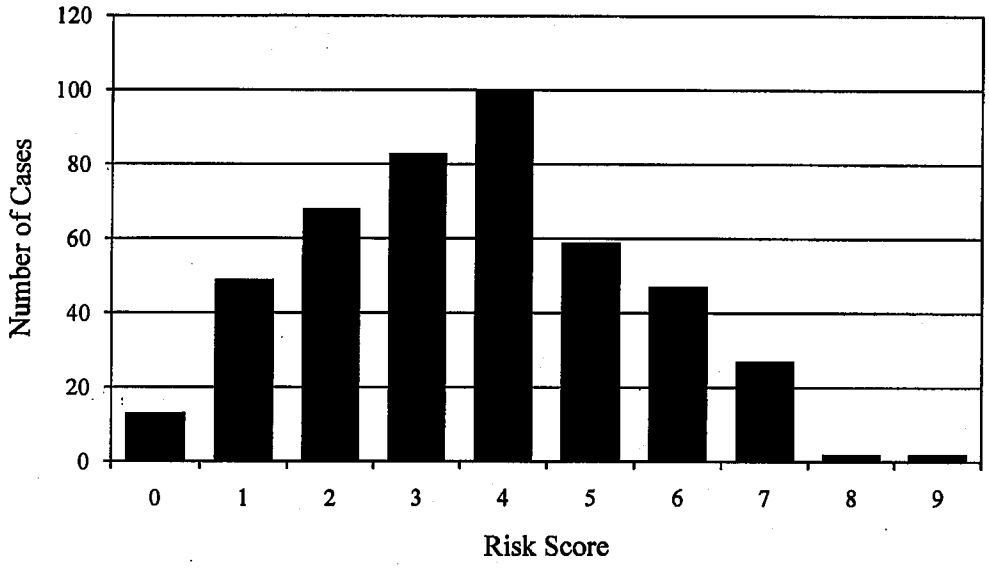
Other Areas of Concern. Check all that Apply:

_____Low Intelligence*
_____Physical Handicap
_____Reading and Writing Limitations*
_____Mental Health Issues*
_____No Desire to Change/Participate in Programs*
_____Language
_____Childcare
_____Transportation
_____Ethnicity
_____Cultural Barriers
_____History of Abuse/Neglect
_____Interpersonal Anxiety
_____Other _____

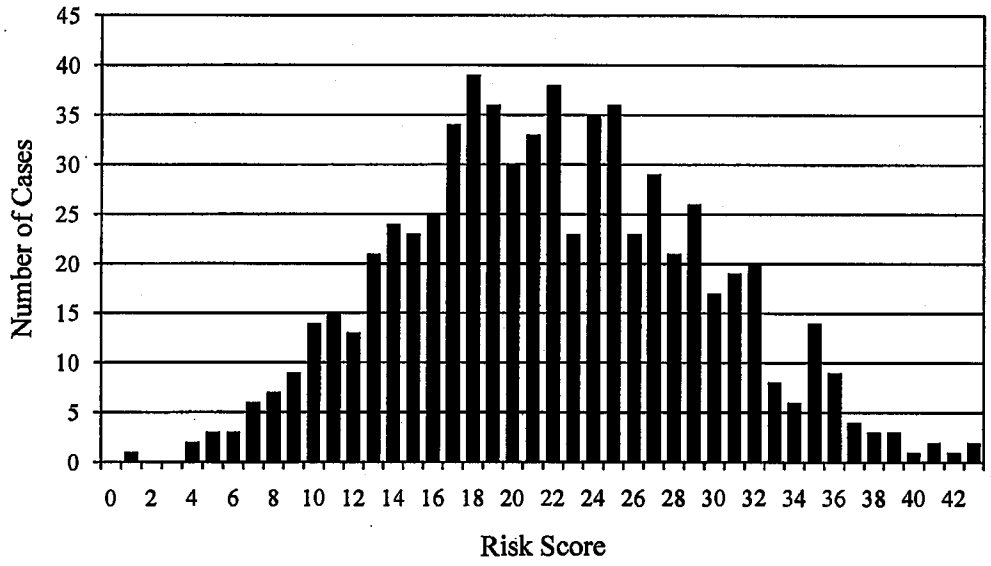
*If these items are checked it is strongly recommended that further assessment be conducted to determine level or severity.

APPENDIX B: THE DISTRIBUTION OF CASES ON EACH ASSESSMENT TOOL

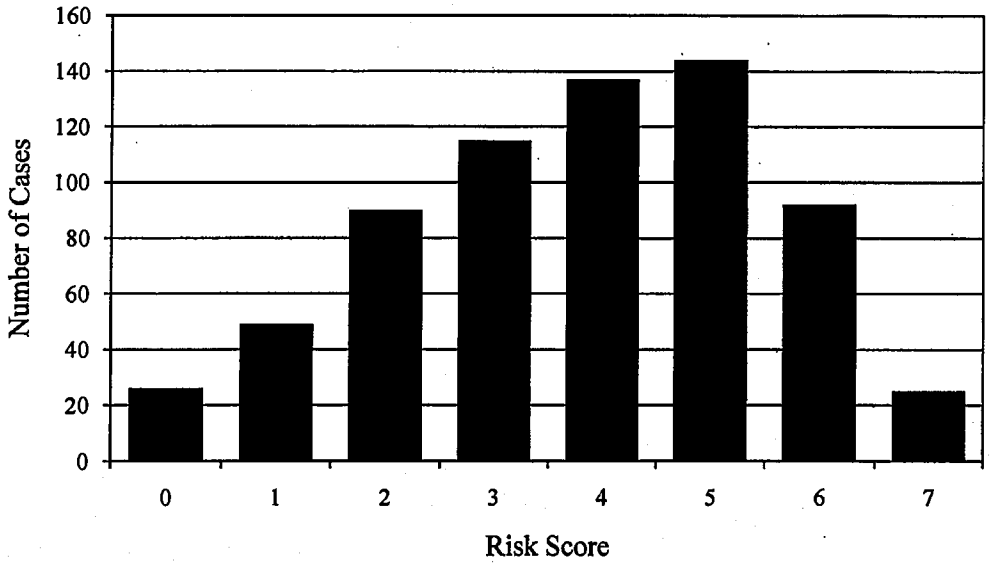
B1: Distribution of Cases on the Pretrial Assessment Tool (n = 450)



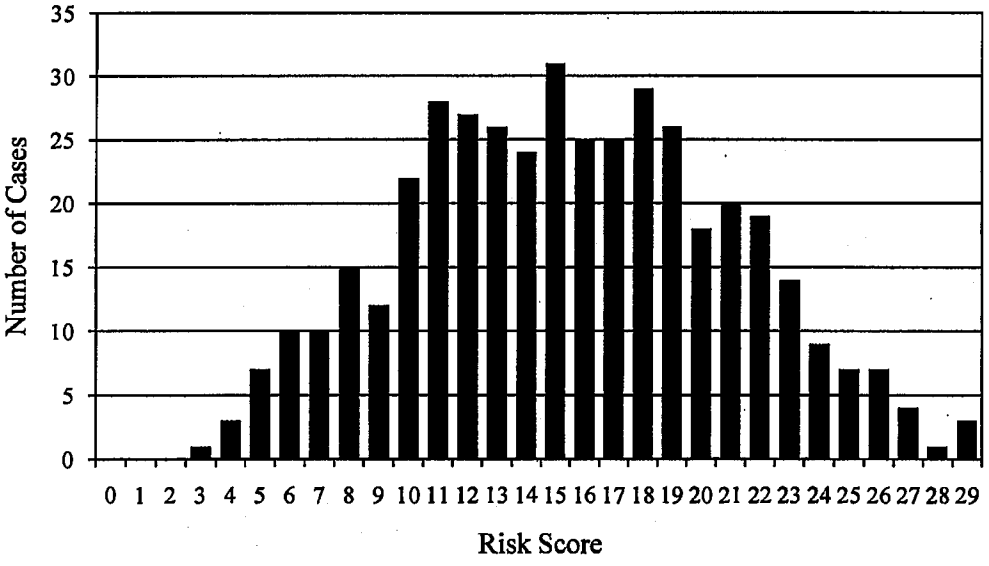
B2: Distribution of Cases on the Community Supervision Tool (n = 678)



B3: Distribution of Case on the Community Supervision Screening Tool (n = 678)



B4: Distribution of Cases on the Prison Intake Tool (n = 423)



TAB 8

CONSTRUCTED COCONINO COUNTY RISK ASSESSMENT CRITERIA

Current Offense

1	Three or more charges
1	Most serious current charge is a level 4-6 offense
2	Most serious current charge is a level 3-2 offense
3	Most serious current charge is a level 1 offense

Criminal History

1	On Probation at time of arrest
1	Pending case at time of arrest
1	Active warrant at time of arrest
1	One to ten misdemeanors (no more than 2 violent)
2	More than ten misdemeanors
1	One to ten felonies
2	More than ten felonies
1	Prior failure to appear

Stability Factors

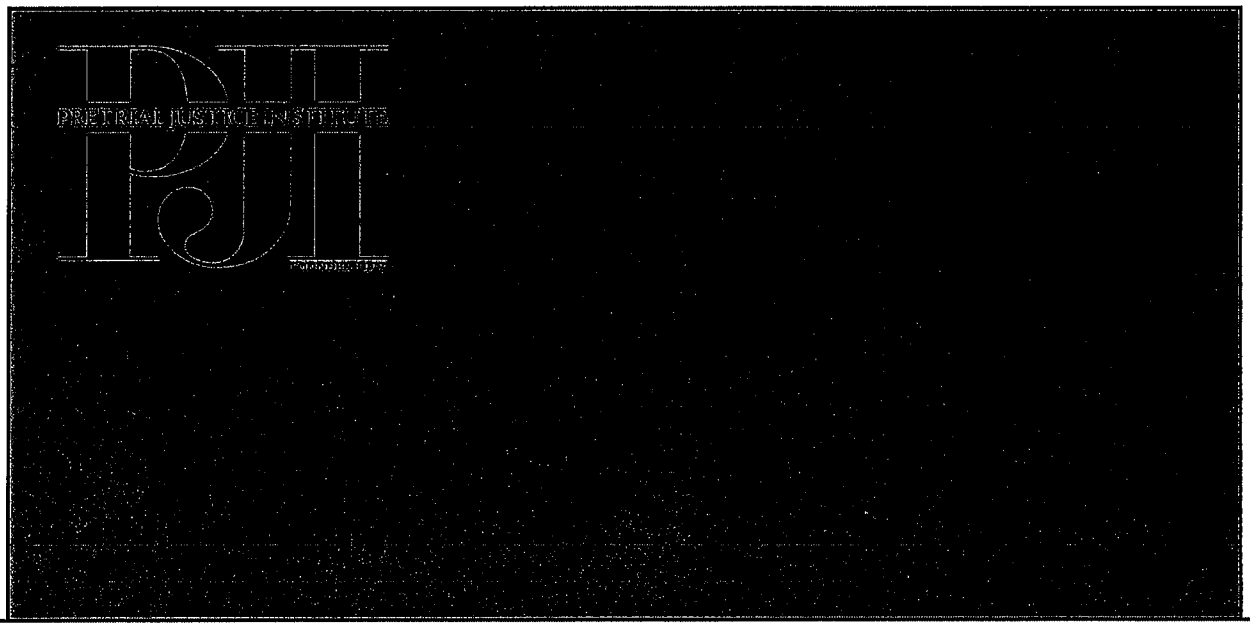
1	Two or more AZ addresses past twelve months
2	No AZ address
1	Transient
1	Less than six months at current job
2	Unemployed
1	Three to five years in community
2	Less than three years in community
1	No assets
1	No phone
1	No vehicle access

Social Factors

1	Abuses drugs
1	Abuses alcohol

Ranges:
0 to 6 = Low (ROR)
7 to 12 = Medium (Supervised Release)
13 to 18 = High (No recommendation for non-financial release)

The classifications are quite successful at creating the step pattern we would wish to see among Coconino County defendants who were released pretrial. The step patterns in charts 12 and 13 suggest that the new risk instrument performs better at predicting failure to appear than rearrest.



VALIDATION OF THE COCONINO COUNTY PRETRIAL RISK ASSESSMENT TOOL

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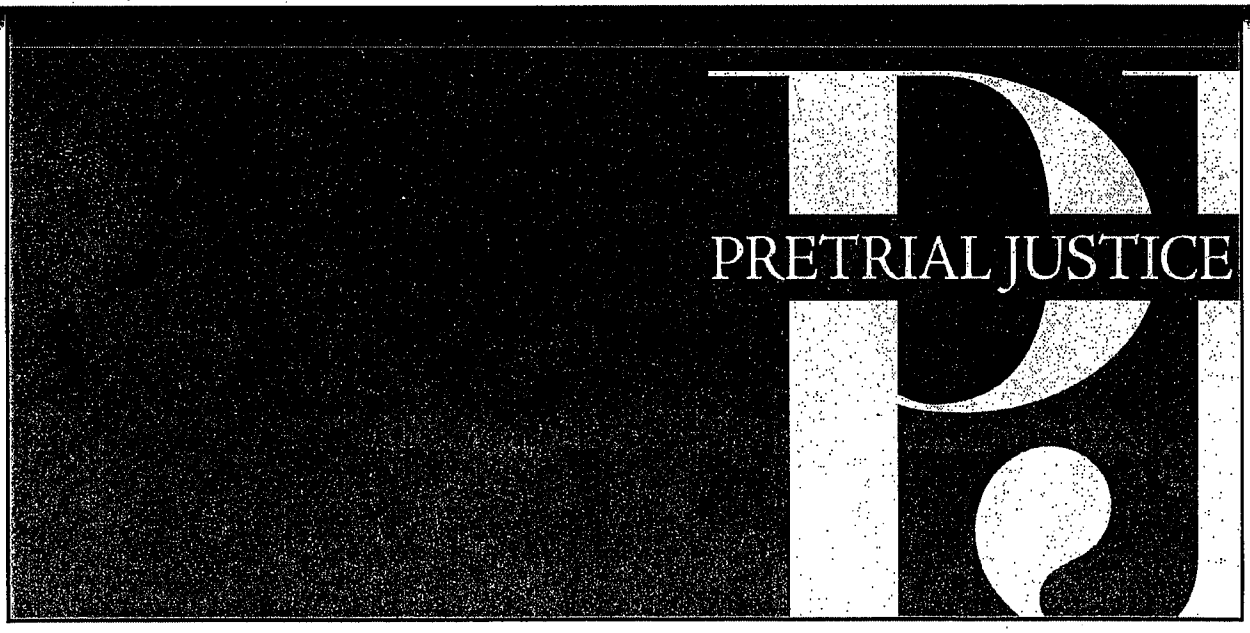
August 2010



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PJI wishes to acknowledge Mary Walsh-Navarro, Director of the Coconino County Pretrial Services, and her staff, for their hard work and dedication in the monumental task of gathering the data required for this analysis, and assuring its accuracy.

ABSTRACT

The goal of this analysis was to determine whether the risk assessment instrument used by the Coconino County Pretrial Services is a valid predictor of the likelihood of a defendant on pretrial release failing to appear in court or being rearrested on a new charge while the initial charge was pending. The findings indicate that the instrument is not efficient at predicting either form of pretrial misconduct. No correlation was found between most of the variables included in the instrument and the outcomes of failure to appear or rearrest. Efforts to identify which variables were related using multivariate models proved untenable given problems with selection bias, resulting from the fact that only about half the defendants in the study sample were released during the pretrial period. When release rates are so low, it is not possible to identify the variation between low, medium, and high risk defendants. As a result of these selection bias problems, a new risk assessment instrument was constructed based upon research-based findings from other jurisdictions. Simulations run on the new instrument show that it is successful in sorting out Coconino County defendants by risk level. The simulations also show that no significant additional risk would be incurred by releasing defendants currently not released who resemble defendants who currently are released.

INTRODUCTION

Pretrial risk assessment instruments have been in existence for 50 years. For many years, these instruments were implemented in jurisdictions with simply the assumption that they were effective in sorting defendants into categories of risk of failure to appear (FTA) in court and rearrest on new charges. Generally, they were based upon intuition, not research. In more recent years, calls for evidence-based practices in a wide range of criminal justice endeavors has put pressure on pretrial services programs to establish, through good science, whether the tools they use to assess risks are valid, and, if not, to identify the factors that are.

The Coconino County Criminal Justice Coordinating Council identified as a high priority the validation of the risk assessment matrix used by the Coconino County Pretrial Services. The program has been using the existing risk assessment matrix for over a decade. The instrument takes into account two types of risk: danger to the community (rearrest for a new offense) and flight risk/failure to appear in court for the next hearing in the current case (FTA). The current risk assessment matrix takes over 30 factors into consideration.

This report presents the findings of an analysis of that instrument, testing to see if it is a valid measure of the risks posed by Coconino County pretrial defendants. The report is divided into several sections. The first describes the sample that was used to conduct the study. The second compares the characteristics of the Coconino County sample with defendants from other recent studies. The third section presents the analysis of the validity of the current Coconino County pretrial risk assessment study. The fourth presents a new, research-based risk assessment instrument for Coconino County Pretrial Services. The final section has some concluding thoughts.

THE SAMPLE

Sampling Method

PJI requested a list from the Coconino County pretrial services agency of all felony and misdemeanor defendants who had their first court appearance between February 9, 2009 and February 3, 2010. This time period was selected because it would allow about six months for the most recent cases – those filed in the first week of February 2010 – to reach final disposition before analysis would begin. Over 91% of the sampled cases reached final adjudication at the time that Pretrial Services submitted the final data base to PJI. This is more than adequate to ensure that we will not have findings tainted by censoring effects where some defendants have incomplete exposure to the treatment (i.e., the release).

Coconino County Pretrial Services supplied a list of 387 defendants to PJI. The list was comprised of the automated data collected in MS Excel by Pretrial Services during its regular screening process, plus additional variables on substance abuse and pretrial release outcomes that were agreed upon by PJI and Pretrial Services as supplements to the data. Upon receipt, PJI converted the MS Excel file to a Statistical Package for the Social Sciences (SPSS) datafile and a STATA datafile for analyses.

Descriptive Statistics

Table 1 shows the demographic characteristics of the sample. Nearly three-quarters of the defendants are over the age of 25. Over two-thirds have a GED or high school diploma, but no postsecondary education. The majority is employed at arrest. Approximately 20% are from out of state. Just over 10% are transients. The preponderance of defendants has resided in the same state for more than 5 years. Defendants tend not to be property owners, with the most likely form of ownership being a vehicle. Just fewer than three-quarters of defendants have a phone.

Table 1
Socio-Demographic Characteristics of Risk Assessment Validation Study Sample

	N	%
Age		
20 or Younger	36	9.3
21 to 24	63	16.3
25 to 35	143	37.0
More than 35	144	37.3
Education		
Non High School Graduate	90	23.4
High School or GED	256	66.5
College AA or Partial College	28	7.3
Four Year College Degree	11	2.9
Employment		
6 Mo. at Same Job	111	28.8
Less than 6 Mo.	114	29.5
Unemployed	161	41.7
Residential Stability		
1 Address Past 12 Mo.	180	46.8
2 or more Addresses Past 12 Mo.	124	32.2
No AZ Address	81	21.0
Living Arrangements		
Lives with Family Past 12 Mo.	73	18.9
Other Living Arrangement	271	70.2
Transient	42	10.9
Time in Geographical Area		
Less than 3 Years	48	12.4
3 to 5 Years	24	6.2
5 to 20 Years	79	20.4
20 Years or More	236	61.0
Property Ownership (Only "Yes" Responses Shown)		
Owns or is buying home/business (Danger Scale)	47	12.1
Owns or is buying home/business (Flight Scale)	54	14.0
Owns Vehicle	140	36.2
Has Access to Vehicle	147	38.0
Phone Access		
Phone in Defendant's Name	209	54.0
Pay-Per-Use Mobile	73	18.9
No Phone	105	27.1

Table 2 details the offense characteristics that brought the defendant before the court. No defendants were currently under arrest for a class 1 felony, and the largest fraction of defendants (27.6%) had only a misdemeanor current arrest. Over three-quarters of defendants had no more than three charges in their current arrest. A quarter of defendants had a current arrest where drugs were involved, just over 10% where weapons were involved, and about a third where violence was involved. Approximately one out of every five defendants had a current charge that was a warrant.

Table 2
Current Offense Characteristics

	N	%
Most Serious Charge		
Class 1 Felony	0	0
Class 2 Felony	83	21.4
Class 3 Felony	43	11.1
Class 4 Felony	63	16.3
Class 5 Felony	41	10.6
Class 6 Felony	49	12.7
Misdemeanor	107	27.6
Number of Charge Counts		
1	111	28.8
2	111	28.8
3	68	17.6
4	46	11.9
5 or More	50	13.0
Drugs Involved		
Yes	98	25.3
No	289	74.7
Drug Sale		
Yes	64	16.5
No	323	83.5
Weapon Involved		
Yes	43	11.1
No	344	88.9
Violent Crime		
Yes	121	31.3
No	266	68.7
Victim Injured		
Yes	50	12.9
No	337	87.1
Current Charge is a Warrant		
Yes	81	20.9
No	306	79.1

Table 3 shows the prior criminal history of the sample. The vast majority of defendants have no prior prison time. On the other hand, nearly 4 out of 5 defendants have a prior misdemeanor and 2 out of every 5 defendants have a prior felony. Roughly half of the defendants have a prior failure to appear. Just less than two-thirds of defendants have a prior failure to comply.

Table 3
Prior Criminal History

	N	%
Prior Prison Time		
Yes	85	22.0
No	302	78.0
Prior Misdemeanor Charges		
None	82	21.1
0-3 Nonviolent Misdemeanor or 1 Violent	79	20.4
4-10 Nonviolent Misdemeanor or 2 Violent	91	23.5
Over 10 Misdemeanors	135	34.9
Prior Felony Charges		
None	152	39.3
1-3 Felony Charges	94	24.3
4-10 Felony Charges	75	19.4
Over 10 Felony Charges	66	17.1
Prior Failure to Appear		
Yes	184	47.5
No	203	52.5
Prior Failure to Comply		
Yes	137	64.6
No	250	35.4

Table 4 depicts the current involvement of Coconino County defendants with the criminal justice system. Most defendants have only limited involvement with the criminal justice system. But 36% had a pending case when arrested for the instant charge. Thus, over a third are already exhibiting signs of risks defendants, because they come into the study by being active pretrial rearrests.

Table 4
Current Involvement with the Criminal Justice System

	N	%
On Probation or Parole at Arrest		
Yes	46	11.9
No	341	88.1
Pending Case at Arrest		
Yes	140	36.2
No	237	63.8
Active Warrant at Arrest		
Yes	56	14.5
No	331	85.5
Turned Self in for Arrest		
Yes	5	1.3
No	382	98.7

Table 5 describes the prevalence of substance abuse among Coconino County pretrial defendants. Just under half of defendants reported using alcohol. About one in ten defendants reported using drugs. About one in five defendants said that they have been previously treated for substance abuse.

Table 5
Alcohol/ Drug Treatment

	N	%
Currently Uses Alcohol		
Yes	207	46.5
No	180	53.5
Currently Uses Drugs		
Yes	44	11.4
No	343	88.6
Ever Been Treated for Substance Abuse		
Yes	83	21.4
No	304	78.6

Table 6 depicts the assessments made by the current Coconino County risk assessment matrix. Before discussing the data in the table, however, some discussion about the matrix is needed. The matrix score is not a simple summation of the flight risk and dangerousness risk score. Rather, the total risk score is a location on a matrix grid of two dimensions: flight risk in the vertical and dangerousness in the horizontal. The matrix ranges from

cells/points 1 to 400, with cell 1 having a 0,0 set of flight and dangerousness scores and cell 400 having a 19, 19 set of flight and dangerousness scores.[1] The matrix treats the values for each element of risk in the same manner, with the boundaries for each risk recommendation category forming a diagonal through the matrix.

		RISK OF REARREST																		
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	0	1	3	6	10	15	21	28	36	45	55	66	78	91	105	120	136	153	171	190	
R	1	2	5	9	14	20	27	35	44	54	65	77	90	104	119	135	152	170	189		
I	2	4	8	13	19	26	34	43	53	64	76	89	103	118	134	151	169	188			
S	3	7	12	18	25	33	42	52	63	75	88	102	117	133	150	168	187				
K	4	11	17	24	32	41	51	62	74	87	101	116	132	149	167	186					
	5	16	23	31	40	50	61	73	86	100	115	131	148	166	185						
O	6	22	30	39	49	60	72	85	99	114	130	147	165	184							
F	7	29	38	48	59	71	84	98	113	129	146	164	183								
	8	37	47	58	70	83	97	112	128	145	163	182									
F	9	46	57	69	82	96	111	127	144	162	181										
L	10	56	68	81	95	110	126	143	161	180											
I	11	67	80	94	109	125	142	160	179												
G	12	79	93	108	124	141	159	178													
H	13	92	107	123	140	158	177														
T	14	106	122	139	157	176															
	15	121	138	156	175																
	16	137	155	174																	
	17	154	173	193																	
	18	172	192																		
	19	191																			

Legend:

No Fill = ROR	Orange Fill = LEVEL 2	Pink Fill = LEVEL 4
Yellow Fill = LEVEL 1	Green Fill = LEVEL 3	Blue Fill = NOR

[1] Nearly 36% of defendants exceeded the matrix range cap of 400 and were assigned a score of "500" to denote that their total risk level was so high that they "went off the grid." That over a third of defendants went off the grid is not surprising when one realizes that the grid has rather low caps (19 out of 155) on the highest point value expected for each element of risk.

Level 5-Blue Fill defendants are of special interest as these defendants technically are to have to "no release recommendation made due to high risk." As can be seen in the total risk section of Table 6, 54% of defendants fall into this "no release recommendation" category. This leads one to ask, what element of risk is driving the "no recommendation made due to high risk" assessments? The answer is the dangerousness risk element of the current risk matrix. The potential scores for both the flight risk and the dangerousness risk vary between -6 and 150[2]. However, we see that pretrial defendants are much more likely to score higher on the dangerousness risk element at every level of the total risk score.

Another way to express this is to compute a summative total risk measure and compute the fraction of the total risk contributed by each of the two separate elements of risk. While the summative score is not identical to the matrix score, it behaves similarly[3] and can serve as a good way to demonstrate the magnitude of the contribution of each element of risk to the matrix derived total risk score. As table 6 shows, on average, two-thirds of the summative version total risk is driven by dangerousness. Moreover, the lower the summative total risk, the more it is driven by the dangerousness element. This suggests that what the current Coconino County risk assessment is designed to measure is not failure to appear, but rearrest.

Given the extensive criminal histories and the predominance of felony defendants in the sample, a typical dangerousness risk assessment would not recommend for release many defendants. This is what we see in the results from Coconino County's total risk assessment. It is worth noting that there is a distinct break in both the flight risk and the dangerousness risk scores between defendants who were classified as fit candidates for non-financial release and those for whom the pretrial risk assessment dictates not issuing a recommendation due to these defendants' high level of risk. This suggests that the current risk assessment has discriminant validity - the ability to distinguish between various categories of interest to the analyst/risk assessor.

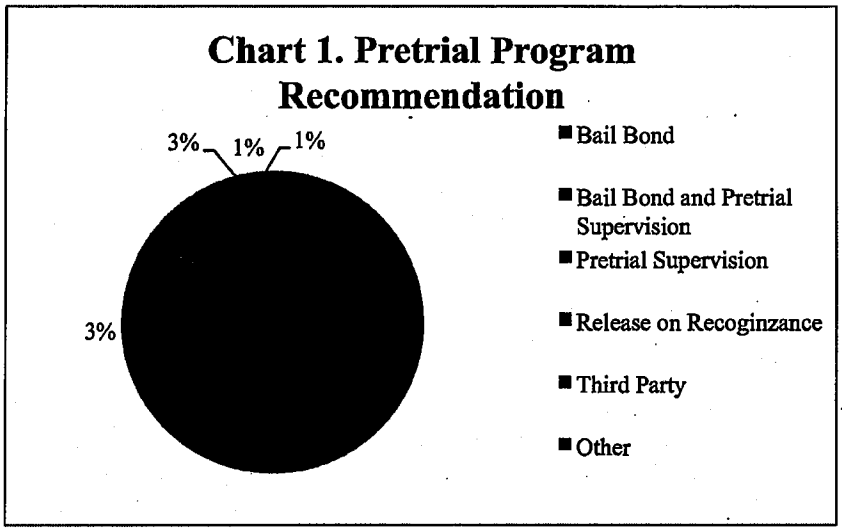
[2] The maximum score for flight risk is 152 and the maximum score for dangerousness risk is 150.

[3] The two total risk scores are correlated at .787 overall, and when one looks at the cases that are not artificially capped with "500" in the matrix total risk score, they are correlated at .984. The maximum correlation possible is 1. Either way one analyzes the relationship, the two total risk scores are statistically significantly correlated - that is, they would be correlated in 95 or more samples of Coconino County defendants out of 100 randomly drawn samples.

Table 6
Pretrial Release Risk Assessment Scores

	N	%
Total Risk (Flight & Dangerousness Combined)		
Release on Recognizance-No Fill (1-45 points)	61	15.8
Level 1-Yellow Fill (46-62 points)	18	4.7
Level 2-Orange Fill (63-120 points)	45	11.3
Level 3-Green Fill (121-193 points)	43	11.1
Level 4-Pink Fill (194-210 points)	11	2.8
Level 5-Blue Fill (211 to 400 points)	209	54.0
	Mean	**Median**
Flight Risk		
Release on Recognizance-No Fill (1-45 points)	1.49	0.0
Level 1-Yellow Fill (46-62 points)	2.28	2.0
Level 2-Orange Fill (63-120 points)	3.38	2.0
Level 3-Green Fill (121-193 points)	5.26	6.0
Level 4-Pink Fill (194-210 points)	8.09	9.0
Level 5-Blue Fill (211 to 400 points)	15.73	10.0
All Levels	10.04	6.0
	Mean	**Median**
Dangerousness Risk		
Release on Recognizance-No Fill (1-45 points)	3.43	4.0
Level 1-Yellow Fill (46-62 points)	6.72	6.5
Level 2-Orange Fill (63-120 points)	8.40	8.0
Level 3-Green Fill (121-193 points)	11.21	11.0
Level 4-Pink Fill (194-210 points)	10.91	10.0
Level 5-Blue Fill (211 to 400 points)	21.44	19.0
All Levels	14.96	13.0
Mean Percentage from Each Component of Risk	**Flight**	**Dangerousness**
Release on Recognizance-No Fill (1-45 points)	28.81	71.19
Level 1-Yellow Fill (46-62 points)	24.57	75.43
Level 2-Orange Fill (63-120 points)	27.99	72.01
Level 3-Green Fill (121-193 points)	32.09	67.91
Level 4-Pink Fill (194-210 points)	42.58	57.42
Level 5-Blue Fill (211 to 400 points)	37.29	62.71
All Levels	33.85	66.15

As we will see in Charts 1 and 2, the risk assessment classification is not identical to the pretrial program's recommendation. Chart 1 indicates that nearly three-quarters of defendants were recommended as candidates for financial release. The next largest group was recommended for pretrial supervision.



Like most pretrial programs across the nation, Coconino County's risk assessment scale does not have a "no release" category for defendants for whom no conditions or combination of conditions can reasonably assure community safety or appearance in court. Without such a category, it is not unreasonable to expect that the pretrial program will choose to recommend a form of financial release as an alternative to not issuing any recommendation at all for high-risk defendants. As we will see in Chart 2, the pretrial program does exactly that.

Chart 2 shows the risk assessment categorization by the recommendation made by the pretrial program. For every level of the risk assessment, the predominant recommendation was financial release (bail bond). If the pretrial program were making recommendations strictly according to the risk assessment, the financial release category would have the form of an inverted stair, taking an ever smaller fraction of each risk assessment categorization as one progresses from the highest risk to the lowest level of risk. We see a very weak form of this in Chart 2. This shows that the pretrial program was taking additional considerations into account beyond the risk assessment score.

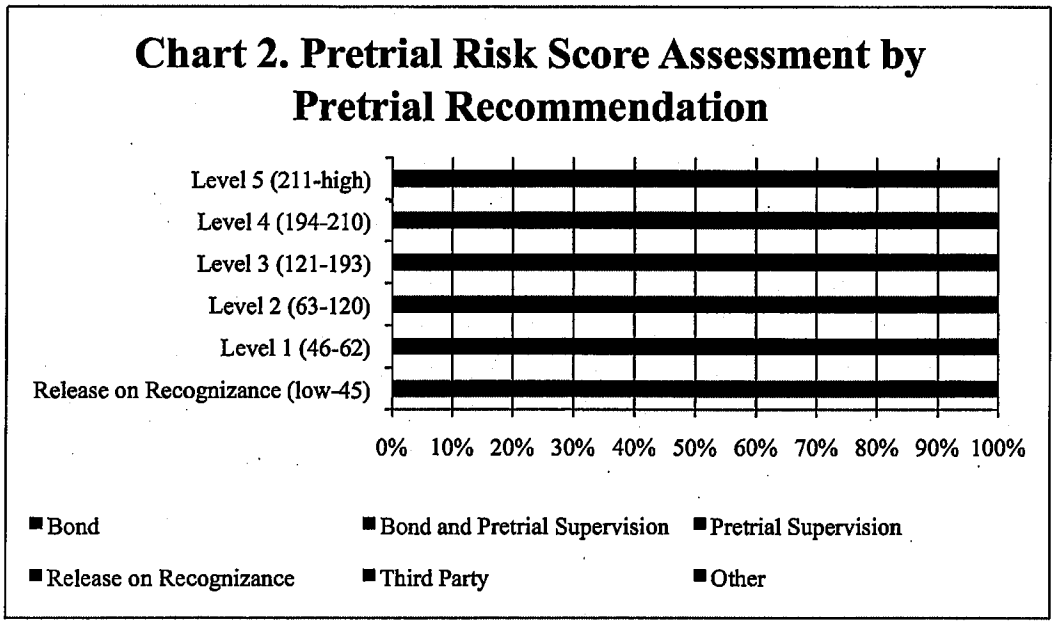


Chart 3 shows the release status of defendants. As the chart shows, almost half the defendants (47%) did not obtain release of any kind – financial or non-financial – during the pretrial period.

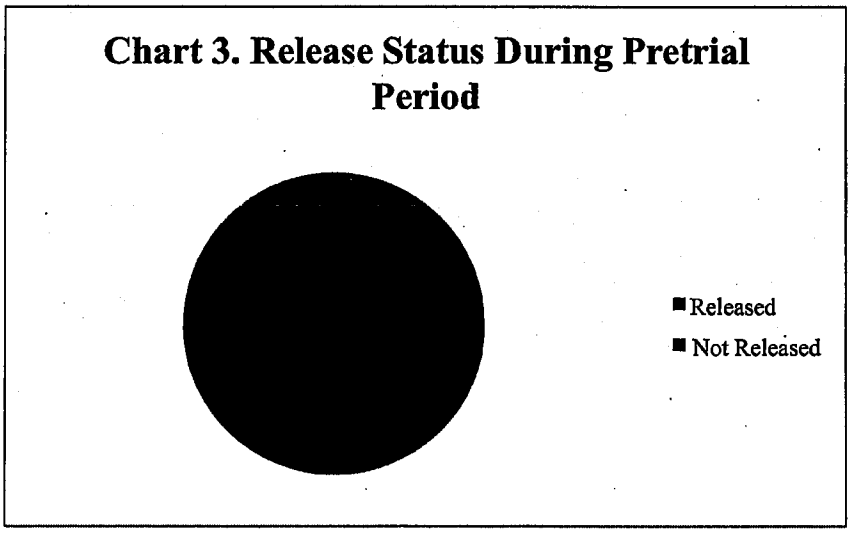


Chart 4 depicts the type of pretrial release for those defendants who were released. Nearly equal amounts of released pretrial defendants were released on recognizance and pretrial

supervision (38% vs. 39%), while only 19% of released pretrial defendants were released on bail bond.

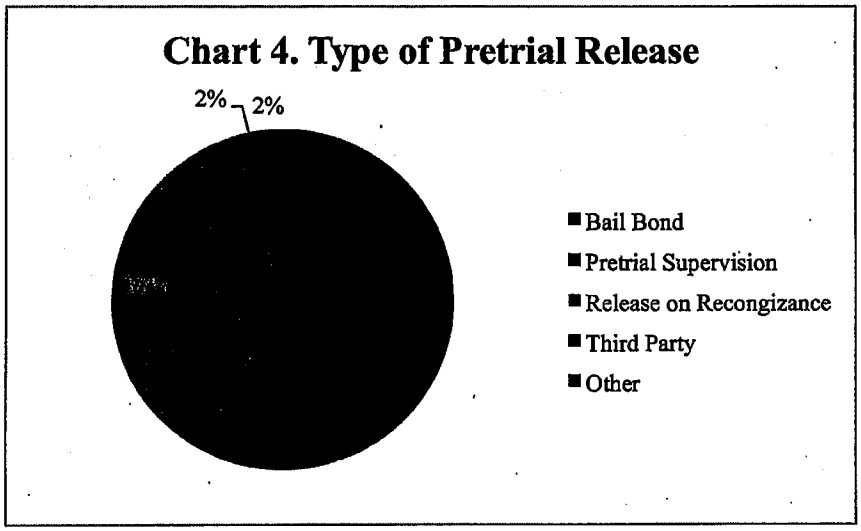


Chart 5 shows how the risk assessment classification and the release status/type compare. Release status and type do follow similar patterns to the risk classification. The highest risk defendants are the least likely to be released and the least likely to be put on release on recognizance. The lowest risk defendants are the defendants most likely to be put on release on recognizance and the least likely to be held without pretrial release. What is problematic is the distribution of release on recognizance and pretrial supervision for "mid-level" (levels 1-4) defendants. If the risk assessment was being strictly implemented, we would see that Level 4 defendants would be more likely than Levels 3, 2, and 1 defendants to be placed on pretrial supervision and less likely to be placed on release on recognizance. The exact opposite of this is occurring.

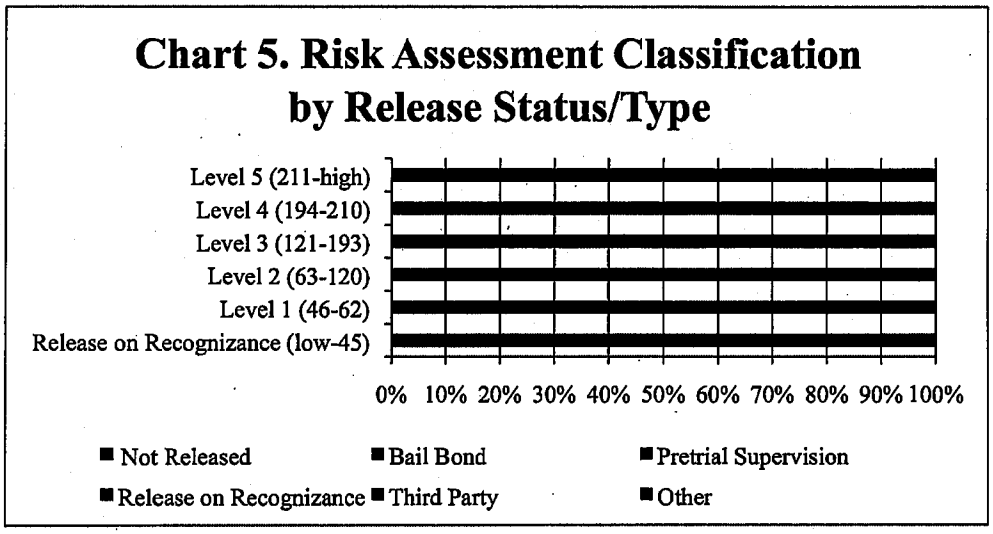


Chart 6 shows how often the pretrial program's recommendation was at variance with the release status of the defendant. Over half of the time when a financial release was recommended, the final release status was a non-release. Eleven percent of those recommended for financial release were placed on financial release. In fact, defendants recommended for financial release were more likely to be placed on pretrial supervision (17%) than financial release.

Defendants recommended for pretrial supervision were just slightly more likely to be placed on pretrial supervision (35%) than they were to be placed on release on recognizance (27%) or not released (27%). Nearly 10% of those recommended for release on recognizance were not released and nearly 20% were placed on pretrial supervision.

We cannot know from the data what precisely the court's decision was, as we are unable to distinguish between a non-release due to inability to make bail versus the court's decision to not release a defendant under any conditions. But we can draw some clear conclusions. Chart 6 shows substantial variation between the court's use of pretrial supervision and the pretrial program's recommendation. Chart 6 also suggests that the courts are not taking the pretrial programs request that a defendant not be placed on financial release as dispositive.

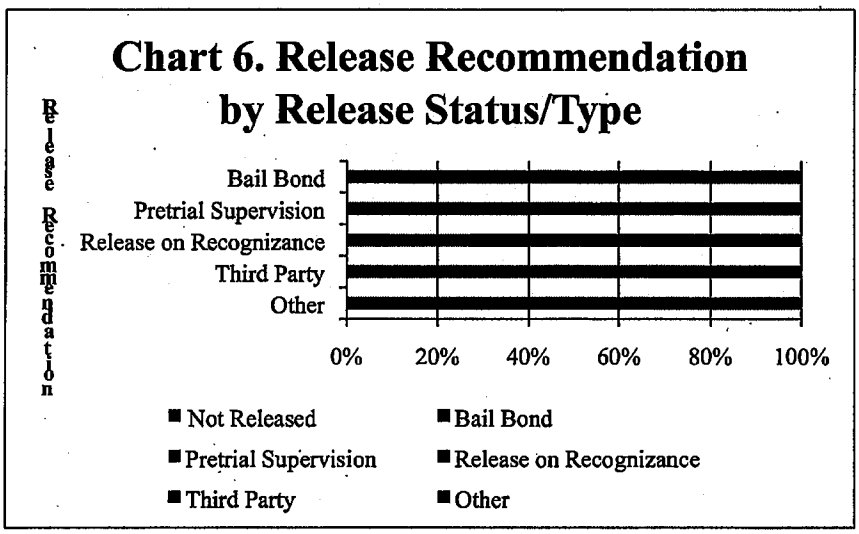


Table 7 indicates that overall, there were low levels of failure to appear (10.7%), rearrest (13.7%) or a composite failure for either type of failure (20.5%).

Table 7
Conduct on Pretrial Release

	N	%
Defendant Failed to Appear		
Yes	22	10.7
No	183	89.3
Defendant was Rearrested		
Yes	28	13.7
No	177	86.3
Any Pretrial Misconduct		
Yes	42	20.5
No	162	79.5

COMPARISON OF THESE FINDINGS WITH DATA FROM OTHER JURISDICTIONS

Previous reviews of the state of the art in pretrial risk assessments (VanNostrand 2007) have decried the tendency to treat each jurisdiction de novo, as if no useful information can be gleaned by comparing defendants in the immediate study to defendants in other studies. In point of fact, comparisons can serve an extremely useful purpose: to determine if the defendants in the current study systematically differ from defendants in other studies which would make them less likely to be predictable according to currently known predictive factors of pretrial misconduct. To this end, this section presents a comparative review of defendants in this sample to defendants in other recent studies, including a review of felony defendants in the nation's 75 largest urban counties and several major pretrial risk assessment validation studies conducted over the last decade for the state of Virginia (2003 & 2009), Hennepin, MN (2006), Maricopa, AZ (1999), New York City, NY (2003) and Allegheny, PA (2008).

A word of caution is necessary before proceeding with the comparisons. Unlike many of the jurisdictions where other risk assessment validation studies have been recently conducted, the Coconino County program targets all felonies, but only selected misdemeanors, such as DV and DUI cases. The program does not deal with most misdemeanors. This makes it distinct from the other jurisdictions such as Allegheny, PA, Hennepin, MN, and New York City, NY where the pretrial program reviews virtually all felony defendants and misdemeanants they can within staffing constraints. The state of Virginia's system takes this approach to a slightly narrower target population by stating that it is charged to conduct reviews for all defendants who are not charged with an offense punishable by death are reviewed for consideration for pretrial release. As a result, we should expect that our comparisons would reveal that the defendants reviewed in Coconino County would be more likely to be charged with felonies than defendants reviewed in other jurisdictions. This is not indicative that Coconino defendants are charged with more severe offenses, but only reflective of the Coconino County pretrial program's decision not to limit its target population.

Age

Coconino County pretrial defendants are sociodemographically similar in many respects to local pretrial defendants nationwide. Thirty-eight percent of felony defendants in the State Court Processing Statistics review of the nations' 75 largest counties are age 35 and older, while in Coconino County 37.3% of defendants are age 35 and older. However, Coconino County defendants are more likely to be between 25 and 35 than the local felony pretrial defendants in the nation's 75 largest counties (37% vs. 29%).

Education and Employment

Coconino County defendants share in common with VA and Allegheny, PA pretrial defendants that most completed high school, although over 60% of Coconino County defendants completed their high school or GED degree, making them slightly more educated than their counterparts in VA and Allegheny, PA. Similar to VA defendants,

Hennepin, MN defendants and New York City (NYC) defendants, around 40% of Coconino County defendants were unemployed (41.7% versus 36% in VA, 39% in Hennepin, MN, and 53% NYC). Coconino County defendants are slightly more likely to be transient than VA defendants (10.9% vs. 5%).

Community Ties

Coconino County defendants are much less likely than NYC or Allegheny, PA defendants to live with family (18.9% Coconino County, 60% NYC, and 47% Allegheny, PA). Unlike any other study's defendants, over 60% of Coconino County defendants were most likely to be residents of the same geographical area for over 20 years, an unusually long time. In VA the median time for defendants living in the same area is 15 years and in Allegheny, PA only 56% were country residents for more than 5 years. This may be a definitional matter though. Coconino defines "living in the same geographical area" as continuous residency in the same state. No other jurisdiction does this.

Property Ownership/Access

Almost identical to the 12% Allegheny, PA pretrial defendants who owned a home, 12.1 to 14.% of Coconino County pretrial defendants owned a home or business. Identical to VA pretrial defendants, 38% of Coconino County pretrial defendants had access to a vehicle. Like VA and NYC pretrial defendants, over 70% of Coconino County pretrial defendants had a phone (72.9% Coconino County, 76% VA, 74% NYC).

Given the similarities of Coconino County pretrial defendants to those in recent studies in that shaped the state-of-the-art in pretrial risk assessment scales during the last decade, we can reasonably expect to find that similar less complicated risk assessment instruments developed for those jurisdictions should be able to provide substantial leverage in predicting risk of flight and danger to the community in Coconino County.

Current Charge

While we saw that Coconino County defendants in this study are sociodemographically similar to defendants in other pretrial risk assessment studies, they are not similar to defendants in other studies in the nature of the severity of the current offense. This is to be expected, as it reflects the decision of Coconino County's pretrial program not to review (include in this study) a large segment of their misdemeanor defendant population. Overall, Coconino County defendants are appearing before the court on more serious charges than defendants in other studies. Unlike many jurisdictions, more than two-thirds of Coconino County defendants being considered for pretrial release have a felony as their most serious charge. For example, in VA, Hennepin, MN and in Allegheny, PA, only 34% to 36% of defendants were charged with a felony. In NYC, 52% of defendants were charged with a felony. This makes the average Coconino County defendant unusually risky by most pretrial standards.

Similarly, most of the recent risk assessment studies have been conducted in jurisdictions with a majority or a plurality of defendants with one charge and generally less than 10% with more than four charges. Over two-thirds of Coconino County defendants had more than one charge, and 13% had more than four charges. In Allegheny, PA 40% of pretrial defendants had one charge and in VA 68% of pretrial defendants had one charge. In Coconino County, only 28.8% of pretrial defendants had one charge.

The involvement of drugs in the current offense seems slightly lower than many other studies. In Allegheny, PA and NYC the defendant's most serious charge was a drug charge around a quarter of the time (27% Allegheny, PA and 22% NYC). On its face, this seems similar to Coconino County's 25.3% of defendants with drugs involved. However, that drugs are involved in an offense is a much broader definition of a drug crime than was utilized in the Allegheny, PA and NYC studies. Moreover, the Maricopa, AZ study had 39% of defendants with a drug charge.

Another indication of the greater severity of Coconino County defendants is the presence of a weapon. The 11.1% seen in Coconino County is 11 times the .3% seen in the Maricopa, AZ study, and nearly a third greater than the fraction of defendants in the Allegheny, PA study. However, it was similar to the 11.2% seen in Hennepin, MN.

Coconino County pretrial defendants are more likely to be in court for a violent crime than defendants in Allegheny, PA (12%) and VA (23%), but about as likely as NYC pretrial defendants (between 32 and 36%). Most crucially, Coconino County pretrial defendants were nearly twice as likely as Maricopa, AZ pretrial defendants (16% vs. 31.3%) to be charged for a violent crime.

Prior Criminal History

Coconino County defendants tend to have more serious prior criminal histories than defendants in other studies. Coconino County pretrial defendants are more likely than defendants in other studies to have a prior felony. While in Allegheny, PA, Hennepin, MN, NYC, and VA, 31% or less of defendants had a prior felony, in Coconino County over 60% of pretrial defendants had a prior felony. Coconino County pretrial defendants are more likely than defendants in other studies to have a prior misdemeanor. While in Allegheny, PA, Hennepin, MN, NYC, and VA, 69% or less of defendants had a prior misdemeanor, in Coconino County over 79% of pretrial defendants had a prior misdemeanor.

Prior Failure to Appear

Coconino County pretrial defendants are more likely than defendants in other studies to have a prior FTA. While in Allegheny, PA, Hennepin, MN, NYC, and VA, 31% or less of defendants had a prior FTA, in Coconino County over 47% of pretrial defendants had a prior FTA.

Current Involvement with the Criminal Justice System

Compared to other studies, Coconino County defendants are slightly more likely to have a current involvement with the criminal justice system at arrest. Almost 15% of Coconino County defendants had an active warrant, a higher rate than any other study (Allegheny, PA 2%, NYC 7%, and VA 5%). In Coconino County, 36% of defendants had a pending case at arrest, a higher rate than any other study (NYC 22% and VA 23%). However Coconino County defendants were less likely to be on probation or parole than defendants in Allegheny, PA (12% versus at least 15%).

Substance Abuse

Coconino County defendants are somewhat different than defendants in other studies with regard to substance abuse. Compared to VA pretrial defendants, Coconino County pretrial defendants are more likely to report being alcohol abusers (46.5% vs. 23%) and less likely to report being drug abusers (11.4% vs. 22%). Coconino County pretrial defendants were about as likely to be treated for substance abuse as Allegheny, PA pretrial defendants, but much more likely than VA pretrial defendants. This variation may be as much, if not more, due to local availability of treatment than any intrinsic characteristic of a pretrial defendant and any conclusions drawn should be viewed in such a light.

Pretrial Release Rates

Coconino County releases just over half of its defendants. Most comparable risk assessment studies show much higher release rates. Hennepin, MN released approximately 64% of defendants, VA released 84%, and in Allegheny, PA and NYC, over 90% of defendants were released pretrial. Coconino County's release rate is also lower than the release rate for felony defendants in large urban counties.

Pretrial Misconduct

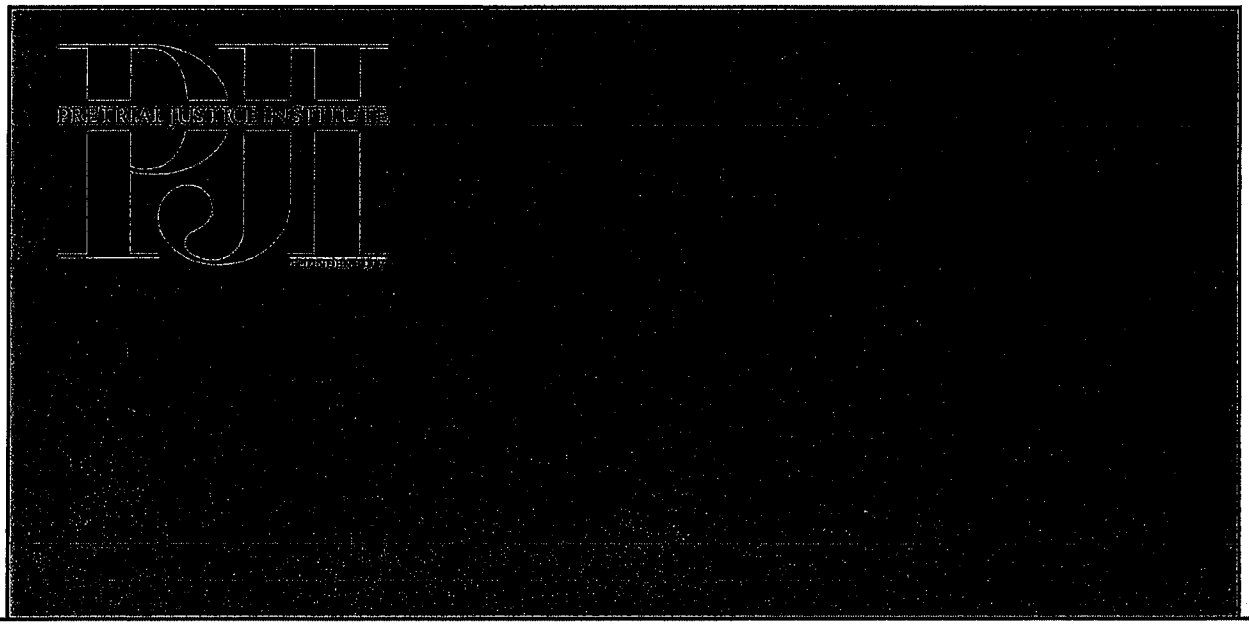
Despite the higher prevalence of known risk factors in the Coconino County's pretrial defendants, we find that Coconino County defendants are slightly less likely to engage in pretrial misconduct than defendants in other studies. Coconino County's "failure rates" – failure to appear (11%), rearrest (14%), and either form of pretrial misconduct (21%) – are slightly lower than the numbers shown for the nation's large urban counties for felony defendants on pretrial release (18%, 18% and 33%, respectively). In fact, they are substantially lower than the known comparable numbers from other risk assessment studies cited. NYC study's failure to appear rate is approximately 16%, and the Allegheny, PA study's failure to appear rate is 22% and rearrest rate is 17%.

Overall, the comparative analysis indicates that Coconino County defendants are:

- Demographically similar to pretrial defendants in many other places around the nation;
- More likely to be charged with a serious offense (felony, violent, in connection with a weapon) than pretrial defendants in other places, which is a reflection of the

pretrial program's decision not to review several types of misdemeanants for pretrial release;

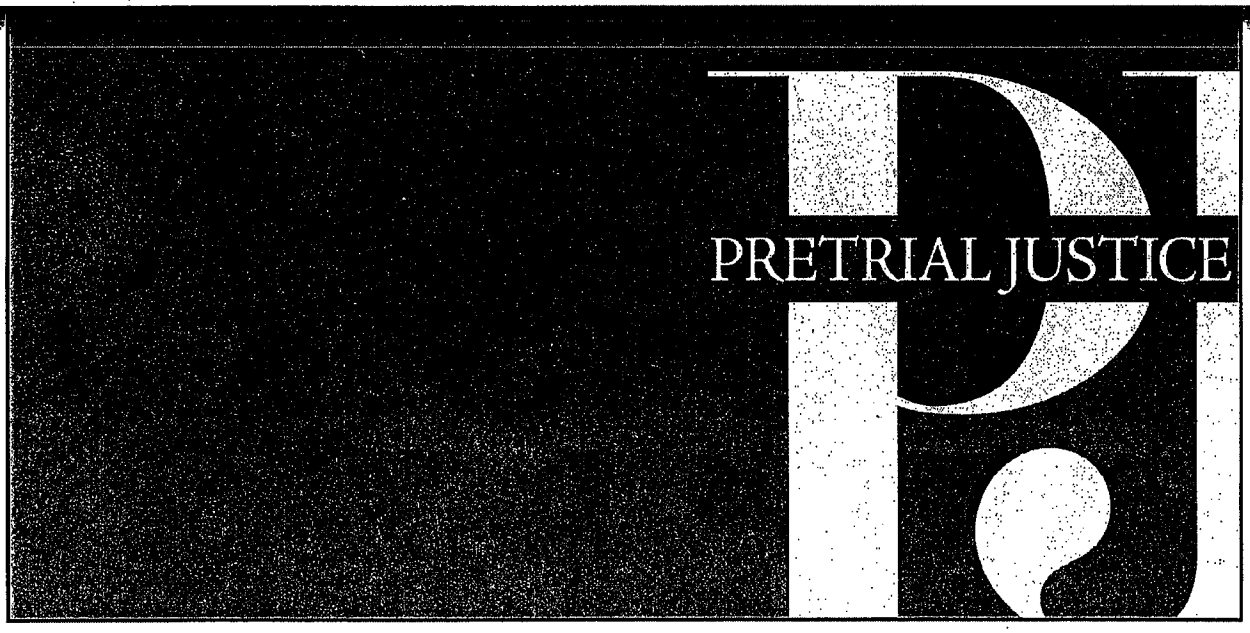
- More likely to have serious criminal histories involving felonies and failure to appear than pretrial defendants in other places;
- More likely to have an active criminal justice status at arrest than pretrial defendants in other places;
- Less likely to be released than pretrial defendants in many other places;
- Yet have similar rates of pretrial failure as compared to pretrial defendants in other places nationwide.



VALIDATION OF THE COCONINO COUNTY PRETRIAL RISK ASSESSMENT TOOL

David J. Levin, Ph.D., Consultant, Pretrial Justice Institute

August 2010



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This study was made possible through a matching grant from the State Justice Institute with the Coconino County Superior Court.

PJI wishes to acknowledge Mary Walsh-Navarro, Director of the Coconino County Pretrial Services, and her staff, for their hard work and dedication in the monumental task of gathering the data required for this analysis, and assuring its accuracy.

ABSTRACT

The goal of this analysis was to determine whether the risk assessment instrument used by the Coconino County Pretrial Services is a valid predictor of the likelihood of a defendant on pretrial release failing to appear in court or being rearrested on a new charge while the initial charge was pending. The findings indicate that the instrument is not efficient at predicting either form of pretrial misconduct. No correlation was found between most of the variables included in the instrument and the outcomes of failure to appear or rearrest. Efforts to identify which variables were related using multivariate models proved untenable given problems with selection bias, resulting from the fact that only about half the defendants in the study sample were released during the pretrial period. When release rates are so low, it is not possible to identify the variation between low, medium, and high risk defendants. As a result of these selection bias problems, a new risk assessment instrument was constructed based upon research-based findings from other jurisdictions. Simulations run on the new instrument show that it is successful in sorting out Coconino County defendants by risk level. The simulations also show that no significant additional risk would be incurred by releasing defendants currently not released who resemble defendants who currently are released.

INTRODUCTION

Pretrial risk assessment instruments have been in existence for 50 years. For many years, these instruments were implemented in jurisdictions with simply the assumption that they were effective in sorting defendants into categories of risk of failure to appear (FTA) in court and rearrest on new charges. Generally, they were based upon intuition, not research. In more recent years, calls for evidence-based practices in a wide range of criminal justice endeavors has put pressure on pretrial services programs to establish, through good science, whether the tools they use to assess risks are valid, and, if not, to identify the factors that are.

The Coconino County Criminal Justice Coordinating Council identified as a high priority the validation of the risk assessment matrix used by the Coconino County Pretrial Services. The program has been using the existing risk assessment matrix for over a decade. The instrument takes into account two types of risk: danger to the community (rearrest for a new offense) and flight risk/failure to appear in court for the next hearing in the current case (FTA). The current risk assessment matrix takes over 30 factors into consideration.

This report presents the findings of an analysis of that instrument, testing to see if it is a valid measure of the risks posed by Coconino County pretrial defendants. The report is divided into several sections. The first describes the sample that was used to conduct the study. The second compares the characteristics of the Coconino County sample with defendants from other recent studies. The third section presents the analysis of the validity of the current Coconino County pretrial risk assessment study. The fourth presents a new, research-based risk assessment instrument for Coconino County Pretrial Services. The final section has some concluding thoughts.

THE SAMPLE

Sampling Method

PJI requested a list from the Coconino County pretrial services agency of all felony and misdemeanor defendants who had their first court appearance between February 9, 2009 and February 3, 2010. This time period was selected because it would allow about six months for the most recent cases – those filed in the first week of February 2010 – to reach final disposition before analysis would begin. Over 91% of the sampled cases reached final adjudication at the time that Pretrial Services submitted the final data base to PJI. This is more than adequate to ensure that we will not have findings tainted by censoring effects where some defendants have incomplete exposure to the treatment (i.e., the release).

Coconino County Pretrial Services supplied a list of 387 defendants to PJI. The list was comprised of the automated data collected in MS Excel by Pretrial Services during its regular screening process, plus additional variables on substance abuse and pretrial release outcomes that were agreed upon by PJI and Pretrial Services as supplements to the data. Upon receipt, PJI converted the MS Excel file to a Statistical Package for the Social Sciences (SPSS) datafile and a STATA datafile for analyses.

Descriptive Statistics

Table 1 shows the demographic characteristics of the sample. Nearly three-quarters of the defendants are over the age of 25. Over two-thirds have a GED or high school diploma, but no postsecondary education. The majority is employed at arrest. Approximately 20% are from out of state. Just over 10% are transients. The preponderance of defendants has resided in the same state for more than 5 years. Defendants tend not to be property owners, with the most likely form of ownership being a vehicle. Just fewer than three-quarters of defendants have a phone.

Table 1
Socio-Demographic Characteristics of Risk Assessment Validation Study Sample

	N	%
Age		
20 or Younger	36	9.3
21 to 24	63	16.3
25 to 35	143	37.0
More than 35	144	37.3
Education		
Non High School Graduate	90	23.4
High School or GED	256	66.5
College AA or Partial College	28	7.3
Four Year College Degree	11	2.9
Employment		
6 Mo. at Same Job	111	28.8
Less than 6 Mo.	114	29.5
Unemployed	161	41.7
Residential Stability		
1 Address Past 12 Mo.	180	46.8
2 or more Addresses Past 12 Mo.	124	32.2
No AZ Address	81	21.0
Living Arrangements		
Lives with Family Past 12 Mo.	73	18.9
Other Living Arrangement	271	70.2
Transient	42	10.9
Time in Geographical Area		
Less than 3 Years	48	12.4
3 to 5 Years	24	6.2
5 to 20 Years	79	20.4
20 Years or More	236	61.0
Property Ownership (Only "Yes" Responses Shown)		
Owns or is buying home/business (Danger Scale)	47	12.1
Owns or is buying home/business (Flight Scale)	54	14.0
Owns Vehicle	140	36.2
Has Access to Vehicle	147	38.0
Phone Access		
Phone in Defendant's Name	209	54.0
Pay-Per-Use Mobile	73	18.9
No Phone	105	27.1

Table 2 details the offense characteristics that brought the defendant before the court. No defendants were currently under arrest for a class 1 felony, and the largest fraction of defendants (27.6%) had only a misdemeanor current arrest. Over three-quarters of defendants had no more than three charges in their current arrest. A quarter of defendants had a current arrest where drugs were involved, just over 10% where weapons were involved, and about a third where violence was involved. Approximately one out of every five defendants had a current charge that was a warrant.

Table 2
Current Offense Characteristics

	N	%
Most Serious Charge		
Class 1 Felony	0	0
Class 2 Felony	83	21.4
Class 3 Felony	43	11.1
Class 4 Felony	63	16.3
Class 5 Felony	41	10.6
Class 6 Felony	49	12.7
Misdemeanor	107	27.6
Number of Charge Counts		
1	111	28.8
2	111	28.8
3	68	17.6
4	46	11.9
5 or More	50	13.0
Drugs Involved		
Yes	98	25.3
No	289	74.7
Drug Sale		
Yes	64	16.5
No	323	83.5
Weapon Involved		
Yes	43	11.1
No	344	88.9
Violent Crime		
Yes	121	31.3
No	266	68.7
Victim Injured		
Yes	50	12.9
No	337	87.1
Current Charge is a Warrant		
Yes	81	20.9
No	306	79.1

Table 3 shows the prior criminal history of the sample. The vast majority of defendants have no prior prison time. On the other hand, nearly 4 out of 5 defendants have a prior misdemeanor and 2 out of every 5 defendants have a prior felony. Roughly half of the defendants have a prior failure to appear. Just less than two-thirds of defendants have a prior failure to comply.

Table 3
Prior Criminal History

	N	%
Prior Prison Time		
Yes	85	22.0
No	302	78.0
Prior Misdemeanor Charges		
None	82	21.1
0-3 Nonviolent Misdemeanor or 1 Violent	79	20.4
4-10 Nonviolent Misdemeanor or 2 Violent	91	23.5
Over 10 Misdemeanors	135	34.9
Prior Felony Charges		
None	152	39.3
1-3 Felony Charges	94	24.3
4-10 Felony Charges	75	19.4
Over 10 Felony Charges	66	17.1
Prior Failure to Appear		
Yes	184	47.5
No	203	52.5
Prior Failure to Comply		
Yes	137	64.6
No	250	35.4

Table 4 depicts the current involvement of Coconino County defendants with the criminal justice system. Most defendants have only limited involvement with the criminal justice system. But 36% had a pending case when arrested for the instant charge. Thus, over a third are already exhibiting signs of risks defendants, because they come into the study by being active pretrial rearrests.

Table 4
Current Involvement with the Criminal Justice System

	N	%
On Probation or Parole at Arrest		
Yes	46	11.9
No	341	88.1
Pending Case at Arrest		
Yes	140	36.2
No	237	63.8
Active Warrant at Arrest		
Yes	56	14.5
No	331	85.5
Turned Self in for Arrest		
Yes	5	1.3
No	382	98.7

Table 5 describes the prevalence of substance abuse among Coconino County pretrial defendants. Just under half of defendants reported using alcohol. About one in ten defendants reported using drugs. About one in five defendants said that they have been previously treated for substance abuse.

Table 5
Alcohol/ Drug Treatment

	N	%
Currently Uses Alcohol		
Yes	207	46.5
No	180	53.5
Currently Uses Drugs		
Yes	44	11.4
No	343	88.6
Ever Been Treated for Substance Abuse		
Yes	83	21.4
No	304	78.6

Table 6 depicts the assessments made by the current Coconino County risk assessment matrix. Before discussing the data in the table, however, some discussion about the matrix is needed. The matrix score is not a simple summation of the flight risk and dangerousness risk score. Rather, the total risk score is a location on a matrix grid of two dimensions: flight risk in the vertical and dangerousness in the horizontal. The matrix ranges from

cells/points 1 to 400, with cell 1 having a 0,0 set of flight and dangerousness scores and cell 400 having a 19, 19 set of flight and dangerousness scores.[1] The matrix treats the values for each element of risk in the same manner, with the boundaries for each risk recommendation category forming a diagonal through the matrix.

		RISK OF READ																		
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	0	1	3	6	10	15	21	28	36	45	55	66	78	91	105	120	136	153	171	190	
R	1	2	5	9	14	20	27	35	44	54	65	77	90	104	119	135	152	170	189		
I	2	4	8	13	19	26	34	43	53	64	76	89	103	118	134	151	169	188			
S	3	7	12	18	25	33	42	52	63	75	88	102	117	133	150	168	187				
K	4	11	17	24	32	41	51	62	74	87	101	116	132	149	167	186					
	5	16	23	31	40	50	61	73	86	100	115	131	148	166	185						
O	6	22	30	39	49	60	72	85	99	114	130	147	165	184							
F	7	29	38	48	59	71	84	98	113	129	146	164	183								
	8	37	47	58	70	83	97	112	128	145	163	182									
F	9	46	57	69	82	96	111	127	144	162	181										
L	10	56	68	81	95	110	126	143	161	180											
I	11	67	80	94	109	125	142	160	179												
G	12	79	93	108	124	141	159	178													
H	13	92	107	123	140	158	177														
T	14	106	122	139	157	176															
	15	121	138	156	175																
	16	137	155	174																	
	17	154	173	193																	
	18	172	192																		
	19	191																			

Legend:

No Fill = ROR	Orange Fill = LEVEL 2
Yellow Fill = LEVEL 1	Green Fill = LEVEL 3

[1] Nearly 36% of defendants exceeded the matrix range cap of 400 and were assigned a score of "500" to denote that their total risk level was so high that they "went off the grid." That over a third of defendants went off the grid is not surprising when one realizes that the grid has rather low caps (19 out of 155) on the highest point value expected for each element of risk.

Level 5-Blue Fill defendants are of special interest as these defendants technically are to have to "no release recommendation made due to high risk." As can be seen in the total risk section of Table 6, 54% of defendants fall into this "no release recommendation" category. This leads one to ask, what element of risk is driving the "no recommendation made due to high risk" assessments? The answer is the dangerousness risk element of the current risk matrix. The potential scores for both the flight risk and the dangerousness risk vary between -6 and 150[2]. However, we see that pretrial defendants are much more likely to score higher on the dangerousness risk element at every level of the total risk score.

Another way to express this is to compute a summative total risk measure and compute the fraction of the total risk contributed by each of the two separate elements of risk. While the summative score is not identical to the matrix score, it behaves similarly[3] and can serve as a good way to demonstrate the magnitude of the contribution of each element of risk to the matrix derived total risk score. As table 6 shows, on average, two-thirds of the summative version total risk is driven by dangerousness. Moreover, the lower the summative total risk, the more it is driven by the dangerousness element. This suggests that what the current Coconino County risk assessment is designed to measure is not failure to appear, but rearrest.

Given the extensive criminal histories and the predominance of felony defendants in the sample, a typical dangerousness risk assessment would not recommend for release many defendants. This is what we see in the results from Coconino County's total risk assessment. It is worth noting that there is a distinct break in both the flight risk and the dangerousness risk scores between defendants who were classified as fit candidates for non-financial release and those for whom the pretrial risk assessment dictates not issuing a recommendation due to these defendants' high level of risk. This suggests that the current risk assessment has discriminant validity - the ability to distinguish between various categories of interest to the analyst/risk assessor.

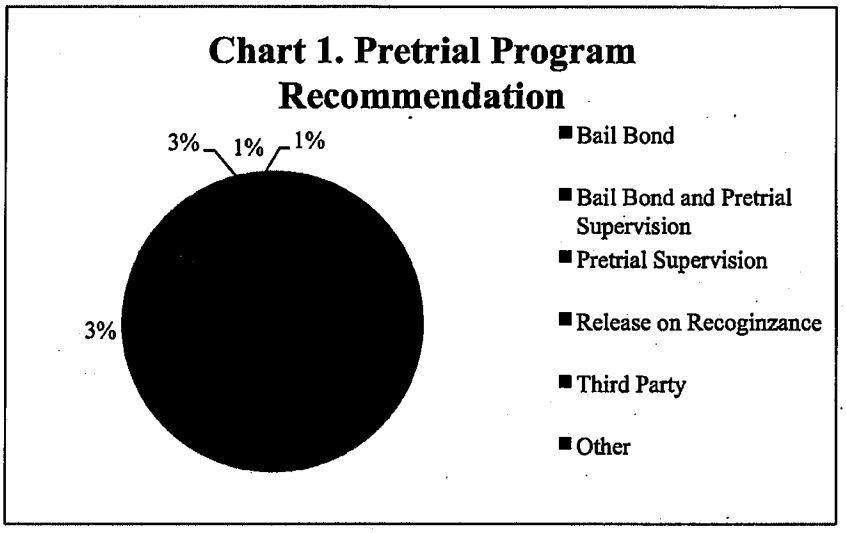
[2] The maximum score for flight risk is 152 and the maximum score for dangerousness risk is 150.

[3] The two total risk scores are correlated at .787 overall, and when one looks at the cases that are not artificially capped with "500" in the matrix total risk score, they are correlated at .984. The maximum correlation possible is 1. Either way one analyzes the relationship, the two total risk scores are statistically significantly correlated - that is, they would be correlated in 95 or more samples of Coconino County defendants out of 100 randomly drawn samples.

Table 6
Pretrial Release Risk Assessment Scores

	N	%
Total Risk (Flight & Dangerousness Combined)		
Release on Recognizance-No Fill (1-45 points)	61	15.8
Level 1-Yellow Fill (46-62 points)	18	4.7
Level 2-Orange Fill (63-120 points)	45	11.3
Level 3-Green Fill (121-193 points)	43	11.1
Level 4-Pink Fill (194-210 points)	11	2.8
Level 5-Blue Fill (211 to 400 points)	209	54.0
	Mean	**Median**
Flight Risk		
Release on Recognizance-No Fill (1-45 points)	1.49	0.0
Level 1-Yellow Fill (46-62 points)	2.28	2.0
Level 2-Orange Fill (63-120 points)	3.38	2.0
Level 3-Green Fill (121-193 points)	5.26	6.0
Level 4-Pink Fill (194-210 points)	8.09	9.0
Level 5-Blue Fill (211 to 400 points)	15.73	10.0
All Levels	10.04	6.0
	Mean	**Median**
Dangerousness Risk		
Release on Recognizance-No Fill (1-45 points)	3.43	4.0
Level 1-Yellow Fill (46-62 points)	6.72	6.5
Level 2-Orange Fill (63-120 points)	8.40	8.0
Level 3-Green Fill (121-193 points)	11.21	11.0
Level 4-Pink Fill (194-210 points)	10.91	10.0
Level 5-Blue Fill (211 to 400 points)	21.44	19.0
All Levels	14.96	13.0
Mean Percentage from Each Component of Risk	**Flight**	**Dangerousness**
Release on Recognizance-No Fill (1-45 points)	28.81	71.19
Level 1-Yellow Fill (46-62 points)	24.57	75.43
Level 2-Orange Fill (63-120 points)	27.99	72.01
Level 3-Green Fill (121-193 points)	32.09	67.91
Level 4-Pink Fill (194-210 points)	42.58	57.42
Level 5-Blue Fill (211 to 400 points)	37.29	62.71
All Levels	33.85	66.15

As we will see in Charts 1 and 2, the risk assessment classification is not identical to the pretrial program's recommendation. Chart 1 indicates that nearly three-quarters of defendants were recommended as candidates for financial release. The next largest group was recommended for pretrial supervision.



Like most pretrial programs across the nation, Coconino County's risk assessment scale does not have a "no release" category for defendants for whom no conditions or combination of conditions can reasonably assure community safety or appearance in court. Without such a category, it is not unreasonable to expect that the pretrial program will choose to recommend a form of financial release as an alternative to not issuing any recommendation at all for high-risk defendants. As we will see in Chart 2, the pretrial program does exactly that.

Chart 2 shows the risk assessment categorization by the recommendation made by the pretrial program. For every level of the risk assessment, the predominant recommendation was financial release (bail bond). If the pretrial program were making recommendations strictly according to the risk assessment, the financial release category would have the form of an inverted stair, taking an ever smaller fraction of each risk assessment categorization as one progresses from the highest risk to the lowest level of risk. We see a very weak form of this in Chart 2. This shows that the pretrial program was taking additional considerations into account beyond the risk assessment score.

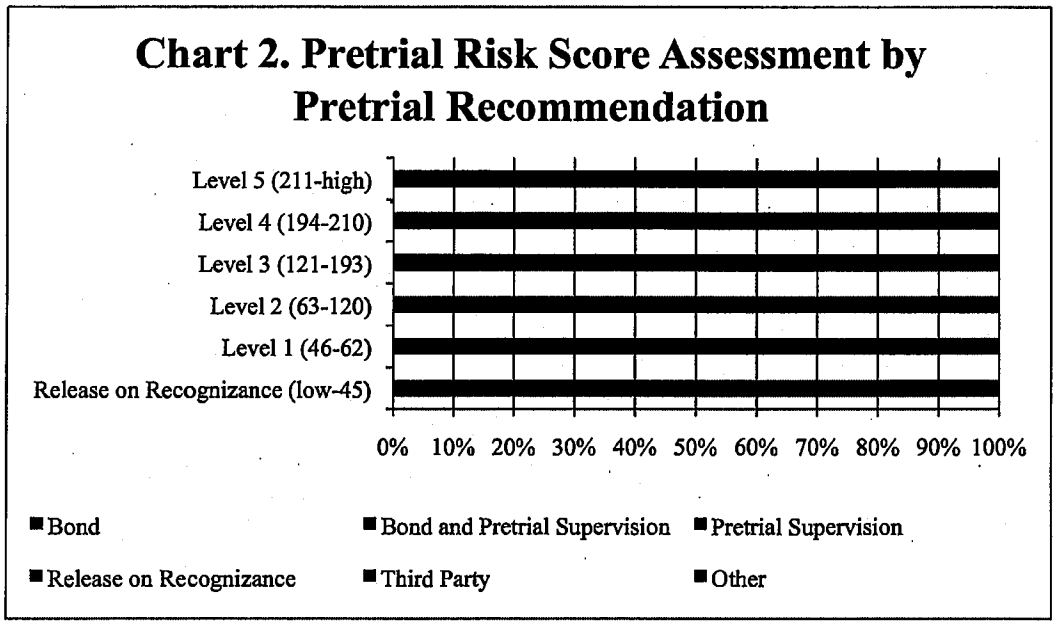


Chart 3 shows the release status of defendants. As the chart shows, almost half the defendants (47%) did not obtain release of any kind – financial or non-financial – during the pretrial period.

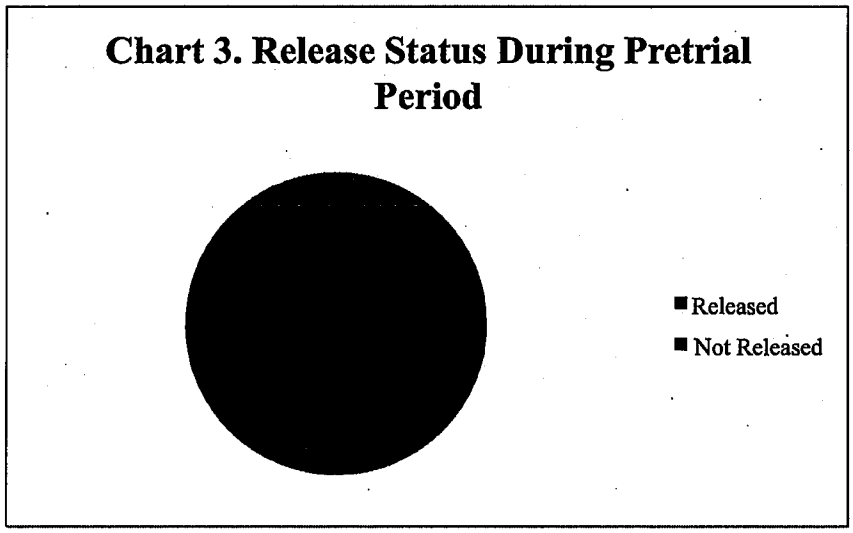


Chart 4 depicts the type of pretrial release for those defendants who were released. Nearly equal amounts of released pretrial defendants were released on recognizance and pretrial

supervision (38% vs. 39%), while only 19% of released pretrial defendants were released on bail bond.

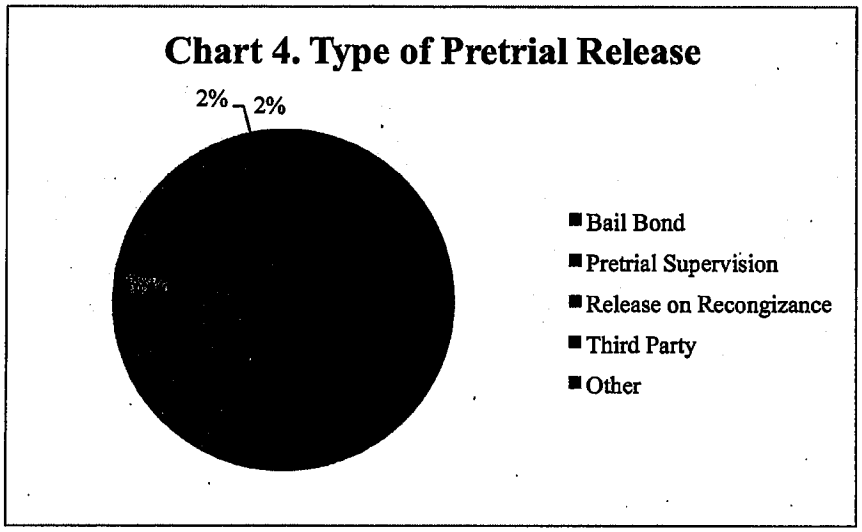


Chart 5 shows how the risk assessment classification and the release status/type compare. Release status and type do follow similar patterns to the risk classification. The highest risk defendants are the least likely to be released and the least likely to be put on release on recognizance. The lowest risk defendants are the defendants most likely to be put on release on recognizance and the least likely to be held without pretrial release. What is problematic is the distribution of release on recognizance and pretrial supervision for "mid-level" (levels 1-4) defendants. If the risk assessment was being strictly implemented, we would see that Level 4 defendants would be more likely than Levels 3, 2, and 1 defendants to be placed on pretrial supervision and less likely to be placed on release on recognizance. The exact opposite of this is occurring.

Chart 5. Risk Assessment Classification by Release Status/Type

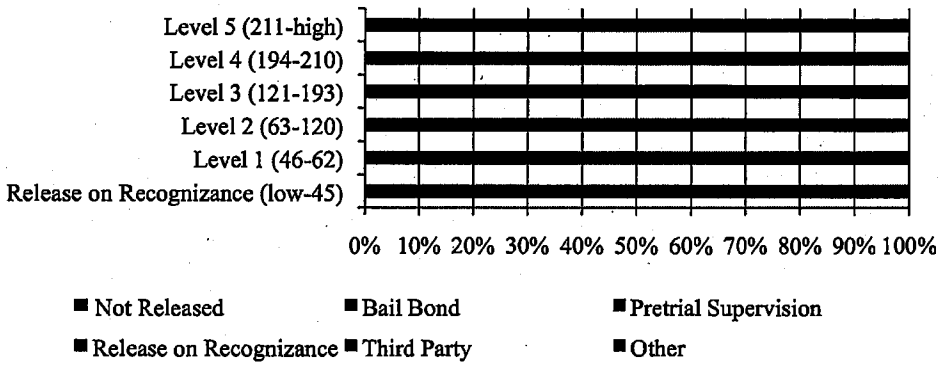


Chart 6 shows how often the pretrial program's recommendation was at variance with the release status of the defendant. Over half of the time when a financial release was recommended, the final release status was a non-release. Eleven percent of those recommended for financial release were placed on financial release. In fact, defendants recommended for financial release were more likely to be placed on pretrial supervision (17%) than financial release.

Defendants recommended for pretrial supervision were just slightly more likely to be placed on pretrial supervision (35%) than they were to be placed on release on recognizance (27%) or not released (27%). Nearly 10% of those recommended for release on recognizance were not released and nearly 20% were placed on pretrial supervision.

We cannot know from the data what precisely the court's decision was, as we are unable to distinguish between a non-release due to inability to make bail versus the court's decision to not release a defendant under any conditions. But we can draw some clear conclusions. Chart 6 shows substantial variation between the court's use of pretrial supervision and the pretrial program's recommendation. Chart 6 also suggests that the courts are not taking the pretrial programs request that a defendant not be placed on financial release as dispositive.

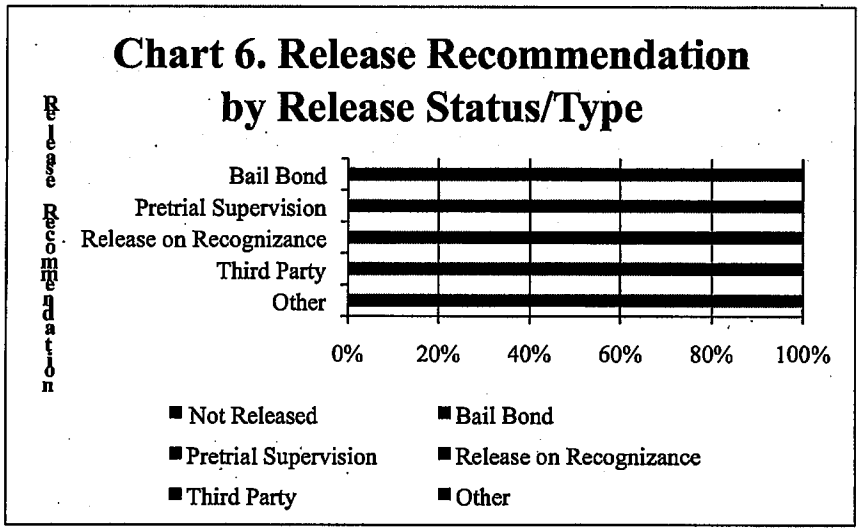


Table 7 indicates that overall, there were low levels of failure to appear (10.7%), rearrest (13.7%) or a composite failure for either type of failure (20.5%).

Table 7
Conduct on Pretrial Release

	N	%
Defendant Failed to Appear		
Yes	22	10.7
No	183	89.3
Defendant was Rearrested		
Yes	28	13.7
No	177	86.3
Any Pretrial Misconduct		
Yes	42	20.5
No	162	79.5

COMPARISON OF THESE FINDINGS WITH DATA FROM OTHER JURISDICTIONS

Previous reviews of the state of the art in pretrial risk assessments (VanNostrand 2007) have decried the tendency to treat each jurisdiction de novo, as if no useful information can be gleaned by comparing defendants in the immediate study to defendants in other studies. In point of fact, comparisons can serve an extremely useful purpose: to determine if the defendants in the current study systematically differ from defendants in other studies which would make them less likely to be predictable according to currently known predictive factors of pretrial misconduct. To this end, this section presents a comparative review of defendants in this sample to defendants in other recent studies, including a review of felony defendants in the nation's 75 largest urban counties and several major pretrial risk assessment validation studies conducted over the last decade for the state of Virginia (2003 & 2009), Hennepin, MN (2006), Maricopa, AZ (1999), New York City, NY (2003) and Allegheny, PA (2008).

A word of caution is necessary before proceeding with the comparisons. Unlike many of the jurisdictions where other risk assessment validation studies have been recently conducted, the Coconino County program targets all felonies, but only selected misdemeanors, such as DV and DUI cases. The program does not deal with most misdemeanors. This makes it distinct from the other jurisdictions such as Allegheny, PA, Hennepin, MN, and New York City, NY where the pretrial program reviews virtually all felony defendants and misdemeanants they can within staffing constraints. The state of Virginia's system takes this approach to a slightly narrower target population by stating that it is charged to conduct reviews for all defendants who are not charged with an offense punishable by death are reviewed for consideration for pretrial release. As a result, we should expect that our comparisons would reveal that the defendants reviewed in Coconino County would be more likely to be charged with felonies than defendants reviewed in other jurisdictions. This is not indicative that Coconino defendants are charged with more severe offenses, but only reflective of the Coconino County pretrial program's decision not to limit its target population.

Age

Coconino County pretrial defendants are sociodemographically similar in many respects to local pretrial defendants nationwide. Thirty-eight percent of felony defendants in the State Court Processing Statistics review of the nations' 75 largest counties are age 35 and older, while in Coconino County 37.3% of defendants are age 35 and older. However, Coconino County defendants are more likely to be between 25 and 35 than the local felony pretrial defendants in the nation's 75 largest counties (37% vs. 29%).

Education and Employment

Coconino County defendants share in common with VA and Allegheny, PA pretrial defendants that most completed high school, although over 60% of Coconino County defendants completed their high school or GED degree, making them slightly more educated than their counterparts in VA and Allegheny, PA. Similar to VA defendants,

Hennepin, MN defendants and New York City (NYC) defendants, around 40% of Coconino County defendants were unemployed (41.7% versus 36% in VA, 39% in Hennepin, MN, and 53% NYC). Coconino County defendants are slightly more likely to be transient than VA defendants (10.9% vs. 5%).

Community Ties

Coconino County defendants are much less likely than NYC or Allegheny, PA defendants to live with family (18.9% Coconino County, 60% NYC, and 47% Allegheny, PA). Unlike any other study's defendants, over 60% of Coconino County defendants were most likely to be residents of the same geographical area for over 20 years, an unusually long time. In VA the median time for defendants living in the same area is 15 years and in Allegheny, PA only 56% were country residents for more than 5 years. This may be a definitional matter though. Coconino defines "living in the same geographical area" as continuous residency in the same state. No other jurisdiction does this.

Property Ownership/Access

Almost identical to the 12% Allegheny, PA pretrial defendants who owned a home, 12.1 to 14.% of Coconino County pretrial defendants owned a home or business. Identical to VA pretrial defendants, 38% of Coconino County pretrial defendants had access to a vehicle. Like VA and NYC pretrial defendants, over 70% of Coconino County pretrial defendants had a phone (72.9% Coconino County, 76% VA, 74% NYC).

Given the similarities of Coconino County pretrial defendants to those in recent studies in that shaped the state-of-the-art in pretrial risk assessment scales during the last decade, we can reasonably expect to find that similar less complicated risk assessment instruments developed for those jurisdictions should be able to provide substantial leverage in predicting risk of flight and danger to the community in Coconino County.

Current Charge

While we saw that Coconino County defendants in this study are sociodemographically similar to defendants in other pretrial risk assessment studies, they are not similar to defendants in other studies in the nature of the severity of the current offense. This is to be expected, as it reflects the decision of Coconino County's pretrial program not to review (include in this study) a large segment of their misdemeanor defendant population. Overall, Coconino County defendants are appearing before the court on more serious charges than defendants in other studies. Unlike many jurisdictions, more than two-thirds of Coconino County defendants being considered for pretrial release have a felony as their most serious charge. For example, in VA, Hennepin, MN and in Allegheny, PA, only 34% to 36% of defendants were charged with a felony. In NYC, 52% of defendants were charged with a felony. This makes the average Coconino County defendant unusually risky by most pretrial standards.

Similarly, most of the recent risk assessment studies have been conducted in jurisdictions with a majority or a plurality of defendants with one charge and generally less than 10% with more than four charges. Over two-thirds of Coconino County defendants had more than one charge, and 13% had more than four charges. In Allegheny, PA 40% of pretrial defendants had one charge and in VA 68% of pretrial defendants had one charge. In Coconino County, only 28.8% of pretrial defendants had one charge.

The involvement of drugs in the current offense seems slightly lower than many other studies. In Allegheny, PA and NYC the defendant's most serious charge was a drug charge around a quarter of the time (27% Allegheny, PA and 22% NYC). On its face, this seems similar to Coconino County's 25.3% of defendants with drugs involved. However, that drugs are involved in an offense is a much broader definition of a drug crime than was utilized in the Allegheny, PA and NYC studies. Moreover, the Maricopa, AZ study had 39% of defendants with a drug charge.

Another indication of the greater severity of Coconino County defendants is the presence of a weapon. The 11.1% seen in Coconino County is 11 times the .3% seen in the Maricopa, AZ study, and nearly a third greater than the fraction of defendants in the Allegheny, PA study. However, it was similar to the 11.2% seen in Hennepin, MN.

Coconino County pretrial defendants are more likely to be in court for a violent crime than defendants in Allegheny, PA (12%) and VA (23%), but about as likely as NYC pretrial defendants (between 32 and 36%). Most crucially, Coconino County pretrial defendants were nearly twice as likely as Maricopa, AZ pretrial defendants (16% vs. 31.3%) to be charged for a violent crime.

Prior Criminal History

Coconino County defendants tend to have more serious prior criminal histories than defendants in other studies. Coconino County pretrial defendants are more likely than defendants in other studies to have a prior felony. While in Allegheny, PA, Hennepin, MN, NYC, and VA, 31% or less of defendants had a prior felony, in Coconino County over 60% of pretrial defendants had a prior felony. Coconino County pretrial defendants are more likely than defendants in other studies to have a prior misdemeanor. While in Allegheny, PA, Hennepin, MN, NYC, and VA, 69% or less of defendants had a prior misdemeanor, in Coconino County over 79% of pretrial defendants had a prior misdemeanor.

Prior Failure to Appear

Coconino County pretrial defendants are more likely than defendants in other studies to have a prior FTA. While in Allegheny, PA, Hennepin, MN, NYC, and VA, 31% or less of defendants had a prior FTA, in Coconino County over 47% of pretrial defendants had a prior FTA.

Current Involvement with the Criminal Justice System

Compared to other studies, Coconino County defendants are slightly more likely to have a current involvement with the criminal justice system at arrest. Almost 15% of Coconino County defendants had an active warrant, a higher rate than any other study (Allegheny, PA 2%, NYC 7%, and VA 5%). In Coconino County, 36% of defendants had a pending case at arrest, a higher rate than any other study (NYC 22% and VA 23%). However Coconino County defendants were less likely to be on probation or parole than defendants in Allegheny, PA (12% versus at least 15%).

Substance Abuse

Coconino County defendants are somewhat different than defendants in other studies with regard to substance abuse. Compared to VA pretrial defendants, Coconino County pretrial defendants are more likely to report being alcohol abusers (46.5% vs. 23%) and less likely to report being drug abusers (11.4% vs. 22%). Coconino County pretrial defendants were about as likely to be treated for substance abuse as Allegheny, PA pretrial defendants, but much more likely than VA pretrial defendants. This variation may be as much, if not more, due to local availability of treatment than any intrinsic characteristic of a pretrial defendant and any conclusions drawn should be viewed in such a light.

Pretrial Release Rates

Coconino County releases just over half of its defendants. Most comparable risk assessment studies show much higher release rates. Hennepin, MN released approximately 64% of defendants, VA released 84%, and in Allegheny, PA and NYC, over 90% of defendants were released pretrial. Coconino County's release rate is also lower than the release rate for felony defendants in large urban counties.

Pretrial Misconduct

Despite the higher prevalence of known risk factors in the Coconino County's pretrial defendants, we find that Coconino County defendants are slightly less likely to engage in pretrial misconduct than defendants in other studies. Coconino County's "failure rates" – failure to appear (11%), rearrest (14%), and either form of pretrial misconduct (21%) – are slightly lower than the numbers shown for the nation's large urban counties for felony defendants on pretrial release (18%, 18% and 33%, respectively). In fact, they are substantially lower than the known comparable numbers from other risk assessment studies cited. NYC study's failure to appear rate is approximately 16%, and the Allegheny, PA study's failure to appear rate is 22% and rearrest rate is 17%.

Overall, the comparative analysis indicates that Coconino County defendants are:

- Demographically similar to pretrial defendants in many other places around the nation;
- More likely to be charged with a serious offense (felony, violent, in connection with a weapon) than pretrial defendants in other places, which is a reflection of the

pretrial program's decision not to review several types of misdemeanants for pretrial release;

- More likely to have serious criminal histories involving felonies and failure to appear than pretrial defendants in other places;
- More likely to have an active criminal justice status at arrest than pretrial defendants in other places;
- Less likely to be released than pretrial defendants in many other places;
- Yet have similar rates of pretrial failure as compared to pretrial defendants in other places nationwide.

ANALYSIS OF THE VALIDITY OF THE COCONINO COUNTY RISK ASSESSMENT INSTRUMENT

This next section attempts to determine what components of the Coconino County risk assessment are associated with pretrial release status and pretrial misconduct. In Tables 8 and 9, all investigated relationships are coded for the direction of any statistically significant relationship found or the absence of a statistically significant relationship. A statistically significant relationship is a correlation sufficiently large enough that we can say it would be a nonzero correlation in 95 samples out of 100 samples drawn from Coconino County's pretrial defendants. A "+" indicates a significant positive correlation (as X goes up, Y goes up). A "-" indicates a significant negative correlation (as X goes up, Y goes down). "No" indicates no statistically significant relation was detected.

As Table 8 shows, several variables had a positive or negative correlation with the defendant being released during the pretrial period, but only a few variables that were positively or negatively correlated with pretrial misconduct.

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Table 8
Bivariate Analysis of Variables Associated with Release and Pretrial Misconduct

+ Means Significantly More Likely - Means Significantly Less Likely, No Means No Significant Difference		
	Dependent Variables	
Independent Variables	Release	Misconduct
Socio-Demographics		
Age		
20 or Younger	No	No
21 to 24	No	No
25 to 35	No	No
More than 35	No	No
Education		
Non High School Graduate	-	No
High School or GED	No	No
College AA or Partial College	+	No
Four Year College Degree	No	No
Employment		
6 Mo. at Same Job	No	No
Less than 6 Mo.	+	No
Unemployed	-	No
Residential Stability		
1 Address Past 12 Mo.	+	No
2 or more Addresses Past 12 Mo	-	No
No AZ Address	+	No
Living Arrangements		
Lives with Family	No	No
Other Living Arrangement	No	No
Transient or No Permanent Address	-	No
Time in Geographical Area		
Less than 3 Years	No	No
3 to 5 Years	No	+
5 to 20 Years	No	No
20 Years or More	No	No
Property Ownership -- Danger Scale		
Owns or is buying home/business	+	-
Property Ownership -- Flight Scale		
Owns or is buying home/business	+	No
Owns Vehicle	+	-
No Assets	-	No
Has Access to Vehicle	No	No
Phone Access		
Phone in Defendant's Name	+	No

Pay-Per-Use Mobile	-	No
No Phone	No	+
Current Offense Characteristics		
Most Serious Charge		
Level 2 Felony	No	-
Level 3 Felony	-	No
Level 4 Felony	-	No
Level 5 Felony	-	No
Level 6 Felony	+	No
Misdemeanor	+	No
Number of Charge Counts		
1	No	No
2	No	No
3	No	No
4	No	No
5 or More	No	No
Drugs Involved	+	-
Drug Sale	No	-
Weapon Involved	-	No
Violent Crime	No	No
Victim Injured	No	-
Current Charge is a Warrant	-	No
Prior Criminal History		
Prior Prison Time	-	+
Prior Misdemeanor Charges		
None	+	-
0-3 Nonviolent Misdemeanor or 1 Violent	No	No
4-10 Nonviolent Misdemeanor or 2 Violent	No	No
Over 10 Misdemeanors	-	+
Prior Felony Charges		
None	+	No
1-3 Felony Charges	No	No
4-10 Felony Charges	-	No
Over 10 Felony Charges	-	+
Prior Failure to Appear	-	+
Prior Failure to Comply	-	No
Current Involvement with the Criminal Justice System		
On Probation or Parole at Arrest	-	No
Pending Case at Arrest	-	No
Active Warrant at Arrest	-	+
Turned Self in for Arrest	No	No
Alcohol/Drug Treatment		
Currently Uses Alcohol	No	No
Currently Uses Drugs	No	No

Ever Been Treated for Substance Abuse	No	No

Table 9 separates the two types of pretrial misconduct, FTA and rearrest. Again, no correlation, either positive or negative, was found for most of the variables.

Table 9
Bivariate Analysis of Variables Associated with Failure to Appear (FTA) and Rearrest

+ Means Significantly More Likely - Means Significantly Less Likely, No Means No Significant Difference		
	Dependent Variables	
	FTA	Rearrest
Independent Variables		
Socio-Demographics		
Employment		
6 Mo. at Same Job	No	-
Less than 6 Mo.	No	No
Unemployed	No	No
Residential Stability		
1 Address Past 12 Mo.	No	No
2 or more Addresses Past 12 Mo	No	No
No AZ Address	No	+
Time in Geographical Area		
Less than 3 Years	No	No
3 to 5 Years	No	+
5 to 20 Years	No	No
20 Years or More	No	No
Property Ownership -- Danger Scale		
Owns or is buying home/business (Danger Scale)	No	+
Property Ownership -- Flight Scale		
Owns or is buying home/business (Flight Scale)	No	+
Owns Vehicle	-	No
No Assets	+	No
Has Access to Vehicle	-	No
Phone Access		
Phone in Defendant's Name	-	No
Pay-Per-Use Mobile	No	No
No Phone	+	No
Current Offense Characteristics		
Most Serious Charge		
Level 2 Felony	No	-
Level 3 Felony	No	No
Level 4 Felony	No	No
Level 5 Felony	No	No
Level 6 Felony	No	No

Misdemeanor	No	No
Drugs Involved	No	-
Drug Sale	-	-
Prior Criminal History		
Prior Prison Time	No	+
Prior Misdemeanor Charges		
None	No	No
0-3 Nonviolent Misdemeanor or 1 Violent	No	No
4-10 Nonviolent Misdemeanor or 2 Violent	No	No
Over 10 Misdemeanors	No	+
Prior Felony Charges		
None	No	No
1-3 Felony Charges	No	No
4-10 Felony Charges	No	No
Over 10 Felony Charges	No	+
Prior Failure to Appear	+	+
Prior Failure to Comply	No	+
Current Involvement with the Criminal Justice System		
Pending Case at Arrest	+	No
Active Warrant at Arrest	+	+
For variables with no significant differences among values, results not shown (Age, Education, Living Arrangements, Number of Charges, Weapon Involved, Violent Crime, Victim Injured, Current Charge is a Warrant, On Probation or Parole at Arrest, Turned Self in for Arrest, and Alcohol or Drug Treatment).		

Chart 7 reviews the types of adverse release outcomes that exist with various types of pretrial release. Defendants released on bail bond are the most likely to be rearrested, and those released on recognizance the least. Defendants placed under pretrial program supervision are the most likely to fail to appear, while defendants released on bail bond are the least likely to fail to appear.

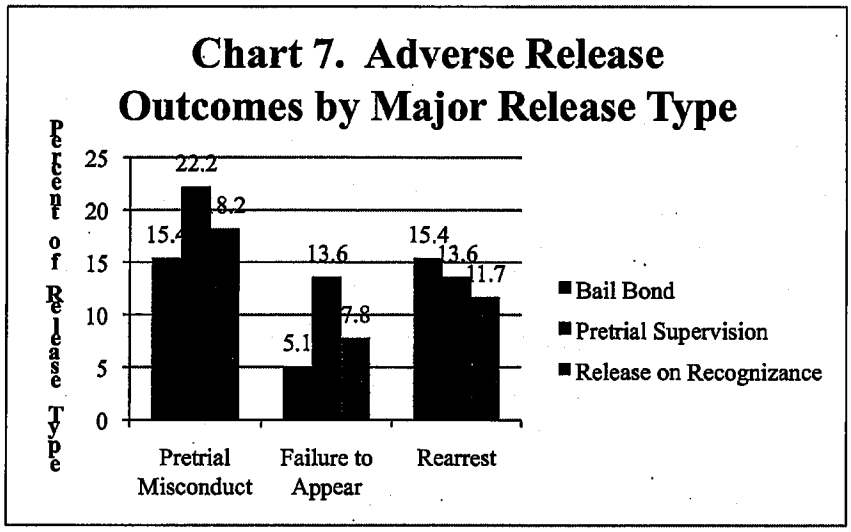


Chart 8 shows that the current risk instrument parallels release status outcomes, but is not dispositive. Well over a third of defendants in the highest risk category who are classified as too risky for a recommendation to be issued by the pretrial program are nevertheless released (see Chart 5). At the other extreme, nearly 10% of pretrial defendants the risk assessment classifies as candidates for release on recognizance are not released under any conditions.

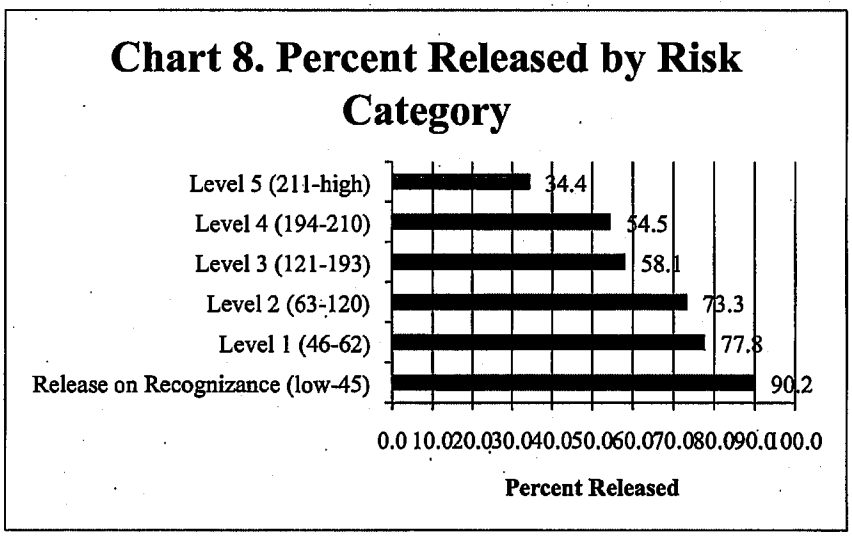


Chart 9 examines the discriminant validity of the risk assessment instrument for predicting either type of pretrial misconduct, i.e., failure to appear or rearrest. If the risk assessment instrument were predictive, the highest risk categories ought to have the highest rates of pretrial misconduct. An "inverted stair shape" ought to appear in chart 9. What we see is that this inverted stair shape does not exist.

Chart 9. Percent of Releases Engaging in Pretrial Misconduct by Risk Category

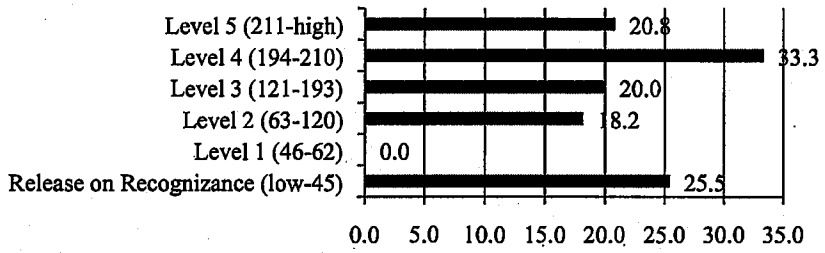


Chart 10 takes this same procedure and applies it to predicting just failure to appear. While a partial stair shape appears, it is quite distorted, with the highest levels of risk and lowest levels of risk simply not conforming to an inverted stair shape.

Chart 10. Percent Failing to Appear by Risk Category

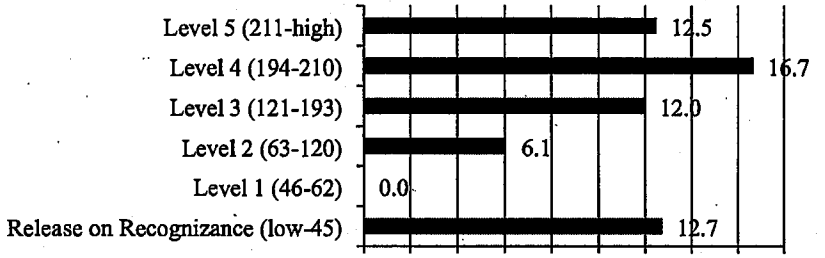
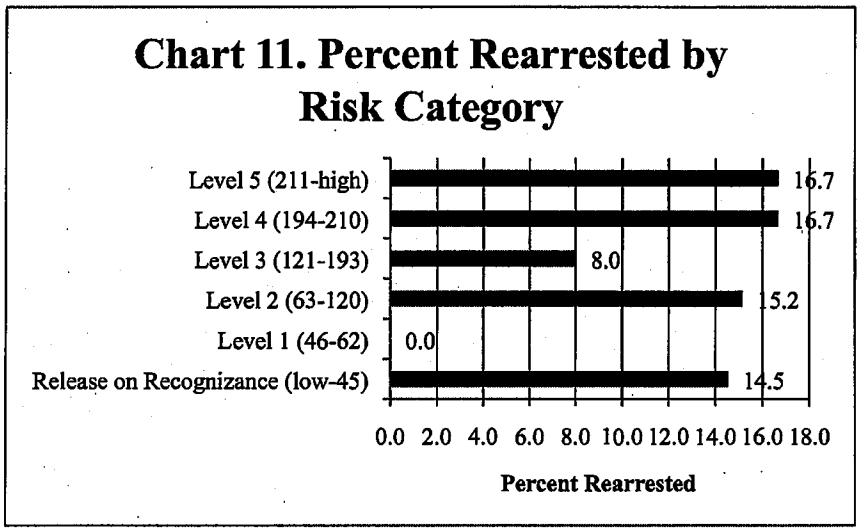


Chart 11 takes this same procedure and applies it to predicting rearrest. While stair shape appears, it is quite distorted, with levels one and three of risk not conforming to an inverted stair shape.



In sum, the current risk assessment instrument is modestly predictive of defendants' pretrial release status, but not very efficient at predicting any form of pretrial misconduct. This actually fits a well-known statistical phenomenon called selection bias. When a study is conducted under conditions where a known screening instrument is employed to select candidates for treatment (i.e., release), the factors that go into the screening instrument will serve to reduce the variation among the selected candidates for treatment on those factors. This is because if the predictors of release are the predictors of risk, and Coconino County courts only release defendants who have low risk scores, there will be limited variation in scores among released defendants on the variables normally thought to predict pretrial risk (both flight and dangerousness). When there is limited variation, there will be attenuated predictive capacity of these variables, if not the complete elimination of the predictive capacity of these variables. When the impact of such a selection process (the selection of defendants for release) is not too severe (removes only 30% or less of the sample), there are statistical corrections available for multivariate analysis: Heckman Selection Bias Correction, Two-Stage Least Squares, and Propensity Score Matching.

In the case of Coconino County, nearly 50% of defendants are not released.[4] This means that the selection bias is too severe for multivariate models to handle to enable the successful estimation of coefficients for establishing a risk assessment instrument based upon the coefficients as is typical in pretrial risk assessment studies. Evidence for this is presented in tables 8 and 9. We see factors known to predict risk of pretrial misconduct predicting pretrial release in Coconino County, but often do not predict pretrial misconduct in Coconino County. Since many of these known factors are demographic and we know that Coconino County defendants are actually typical on demographic characteristics, the inability of known demographics to predict pretrial misconduct yet predict release (e.g., education, employment, residential stability, living arrangements) is strong evidence that

[4] Bear in mind that since the Coconino County Pretrial Services does not interview most misdemeanor defendants – a population that usually has higher release rates than felony defendants – the actual pretrial release rate for the jurisdiction is likely much higher.

severe selection processes are occurring in Coconino which will render normal logistic regression and even statistical adjustments like Heckman selection bias correction predictions of pretrial misconduct ineffective.

CONSTRUCTION OF NEW RISK ASSESSMENT INSTRUMENT

Since we cannot efficiently utilize multivariate analysis to generate an improved risk assessment instrument, we turn to simulations. Starting from the current risk assessment instrument, we will pare out factors that have not been found to be predictive of either flight risk or dangerousness risk according to state of the art pretrial risk studies from other jurisdictions cited earlier in this analysis. We will also add a few known predictive factors from a review of evidence-based practices. As one final adjustment, we will simplify the weighting of predictive factors to a weight of one point per factor, with a base value of 0 for an absence for a factor. Failure rate classifications from this pared down instrument will be compared to the current instrument. If we see a more inverted stair shape with the pared instrument than with the current instrument, we can consider the pared down instrument to be an improvement over the current instrument.

According to a 2007 review of best practices in pretrial risk assessment, the following are considered "good predictors of court appearance and/or danger to the community":

- Current Charge(s)
- Outstanding Warrants at Time of Arrest
- Pending Charges at Time of Arrest
- Active Community Supervision at Time of Arrest (e.g., Pretrial, Probation, Parole)
- History of Criminal Convictions
- History of Failure to Appear
- History of Violence
- Residence Stability
- Employment Stability
- Community Ties
- History of Substance Abuse

To further elaborate, drug offenders are not known to be a greater flight risk than violent or property offenders (PJI 2007; Austin and Murray, 2008) nor are they known to consistently be a greater community safety risk than property offenders (PJI 2007). That a history of violence has been associated with pretrial misconduct should not be interpreted as having a violent charge is associated with pretrial misconduct. Evidence suggests that it is not.

This review suggests that current age should be dropped from the flight risk scale.[5] This review suggest that the drug trafficking factors, weapons involved, victim injury, child injury, victim deceased, combative/aggressive behavior, gang-related charges, turned self in and education should be dropped from the dangerousness scale.

The state-of-the-art in pretrial risk assessments currently holds that substance abuse is a risk factor for rearrest. In addition, current risk assessments weight the import of the volume of prior criminal history and current offense charges far less than the Coconino

[5] The original flight scale had a behavioral characteristics component. The dataset PJI received had no information on behavioral characteristics, so we assume that it was dropped from the scale.

County's current risk instrument. Recent studies indicate that it is the presence or absence of a prior criminal record, and the fact that there are more than ten prior criminal events (i.e., a clear case of a career criminal) that matters most for predicting dangerousness. Similarly, the fact that defendants have multiple charges, rather than how many charges beyond two matters most for dangerousness. An additional point can be added for a case with over ten charges for a case of extreme severity. Other alterations in Coconino County's risk assessment instrument also need to be examined. The instrument counts property ownership in both the flight risk and dangerousness risk scores. The weights of these factors appear to have been generated with respect to each type of risk individually. However, when placed in the current combined formulation the combined weight will overemphasize the role of these factors, rendering the instrument predictive of neither type of risk.

The resulting risk scale is:
charge count+offense charge level+on probation+pending case+active warrant+prior misdemeanor count+prior felony count+failure to appear at earlier point in current case+transient+duration of address residency+duration of employment+duration of residence in community+lack of assets+lack of phone+no vehicle access+use of drugs+use of alcohol.

Where offense charge level, prior misdemeanor count, prior felony count, duration of address residency, duration of employment, duration of residence in community all take on a trichotomous categorization (0, 1, 2), where 0 indicates the lowest risk. All other variables take on a 0,1 categorization where 0 indicates the lowest risk.

The resulting risk scale runs from 0 to 18, and is divided into 3 categories of six points apiece to create low risk (0-6), medium risk (7-12) and high risk (13-18) classifications. This results in 26.4% of defendants being classified as low risk, 61.8% of defendants being classified as medium risk, and of 11.1% of defendants being classified as high risk.

CONSTRUCTED COCONINO COUNTY RISK ASSESSMENT CRITERIA

Current Offense

1	Three or more charges
1	Most serious current charge is a level 4-6 offense
2	Most serious current charge is a level 3-2 offense
3	Most serious current charge is a level 1 offense

Criminal History

1	On Probation at time of arrest
1	Pending case at time of arrest
1	Active warrant at time of arrest
1	One to ten misdemeanors (no more than 2 violent)
2	More than ten misdemeanors
1	One to ten felonies
2	More than ten felonies
1	Prior failure to appear

Stability Factors

1	Two or more AZ addresses past twelve months
2	No AZ address
1	Transient
1	Less than six months at current job
2	Unemployed
1	Three to five years in community
2	Less than three years in community
1	No assets
1	No phone
1	No vehicle access

Social Factors

1	Abuses drugs
1	Abuses alcohol

Ranges:
0 to 6 = Low (ROR)
7 to 12 = Medium (Supervised Release)
13 to 18 = High (No recommendation for non-financial release)

The classifications are quite successful at creating the step pattern we would wish to see among Coconino County defendants who were released pretrial. The step patterns in charts 12 and 13 suggest that the new risk instrument performs better at predicting failure to appear than rearrest.

Chart 12. Percent Failing to Appear by Risk Category

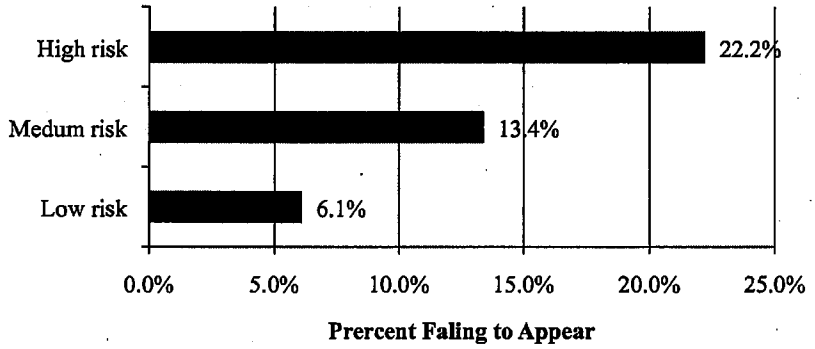
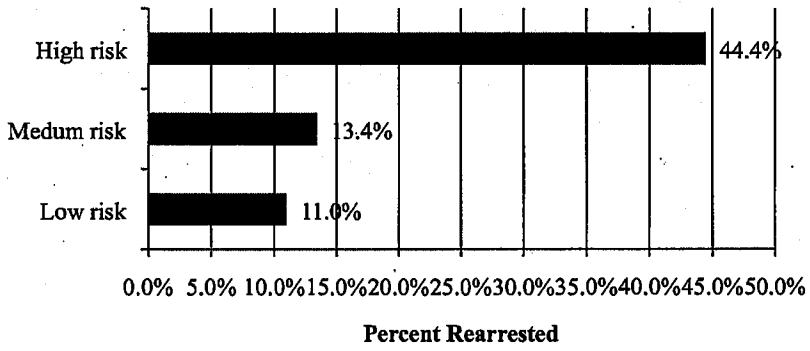


Chart 13. Percent Rearrested by Risk Category

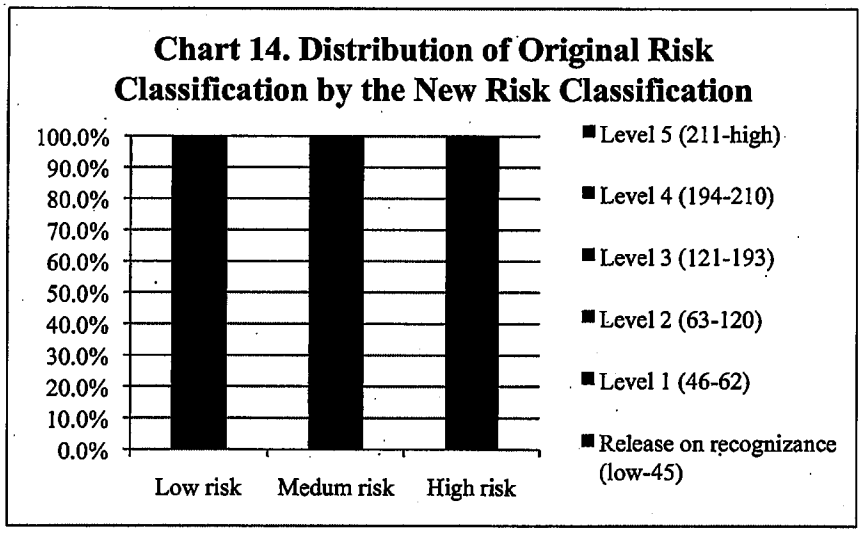


The success at classification would seem to belie the claim that multivariate analysis cannot be done effectively due to selection bias effects. A brief logistic regression analysis in STATA reveals that while the risk classification instruments do have predictive capacity - approximately 23% of the variation in failure to appear and 15% of the variation in rearrest - they are very inefficient, with only 2 or 3 factors having any useful predictive capacity. In the case of failure to appear, the lower the charge level, the more likely the defendant is to fail to appear at the 90 percent confidence level. At the 95 percent confidence level, the lack of a phone is associated with a higher likelihood of failure to appear. Only these two factors have any predictive capacity for failure to appear.

In the case of rearrest, the longer the time at the same address, the greater the likelihood of being rearrested and the shorter the time at the current job/being unemployed, the more likely the defendant is to be rearrested. Only these two factors have any predictive capacity for rearrest at the 90 percent confidence level. As can be seen, some of these multivariate conclusions are not only quite limited in their utility, but in the case of residential stability and rearrest, simply counter to all known work in the area of pretrial risk assessment. Heckman probit selection correction methods cannot be computed due to extreme collapse of variation in most of the predictor variables. This leaves us with the conclusions from the logistic regression models. If we were to recommend instruments based on the logistic regressions' coefficients, Coconino County would be done a disservice.

By utilizing the factors evidence-based practices suggest we incorporate the best of the known research and incorporate most of the few predictive factors that do exist according to an empirical analysis of Coconino County defendants. This approach safeguards Coconino against being misled by the results generated from an analysis of releases from its current limited release patterns of its pretrial system.

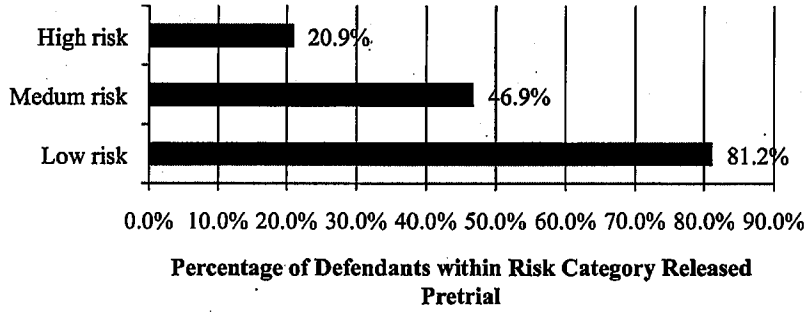
Chart 14 compares the old and new risk classification systems. The new risk classification places in its low risk category defendants from all levels of the old risk classification. Over 85% of defendants in the new low risk category come from the old risk classifications levels release on recognizance through level 2. More than two-thirds of the new medium risk category comes from the old risk classification level 5. Over 95% of the new high-risk category comes from the old risk classification level 5.



For purposes of evaluating the impact of the proposed risk assessment instrument, let us consider the low and medium risk category defendants as recommended for release on recognizance and pretrial supervision, respectively, while the high risk defendants are recommended for financial release. Such a scenario would result in recommending non-financial release for 146 defendants currently not released, and recommending financial release for 9 defendants currently released. This would mean that 81.1% of those currently not released would be recommended for non-financial release and 4.4% of those released would be recommended for financial release.

Chart 15 looks at the potential for change if the new risk classification was fully implemented. Twenty-one percent of high-risk defendants that are currently released would not be recommended for non-financial release. On the other hand, 53% of medium risk category defendants not currently released would be recommended for pretrial supervision, or third party supervision. An additional 19% of low risk defendants not currently released would be recommended for release on recognizance.

Chart 15. Percentage of Defendants Released during Pretrial Period by New Risk Category



CONCLUSION

It is important to keep in mind what a pretrial risk assessment instrument can and cannot do. It can, when backed by science, effectively sort defendants into risk categories – identify which defendants are at low risk for an FTA or rearrest, which are at moderate risk, and which are at high risk. It cannot guarantee that all low risk defendants will show up for all court appearances and not be rearrested. Likewise, it is no guarantee that all high risk defendants will FTA or be rearrested if released.

In the previous section, a new pretrial risk assessment instrument is suggested for Coconino County Pretrial Services. The simulations that were run on the proposed instrument show that Pretrial Services can significantly increase the number of lower risk defendants identified for release recommendation without sacrificing higher rates of FTA and rearrest.

Several steps must now follow to assure the most effective uses of the findings of this study. First, there must be clarity about the findings among key system actors, including judges, prosecutors, defense attorneys, and pretrial program staff. To that end, PJI will work with these officials, presenting the findings in person, answering any questions and addressing any concerns. In the end, the risk assessment instrument is only going to be useful if it is used, and it will not be used if it is not understood. Second, PJI will work with Pretrial Services staff to best assure inter-rater reliability on scoring defendant risk with the new instrument. Third, over the longer term, Pretrial Services should work to enhance its information processing capability so that it can monitor outcomes (FTA and rearrest) of the new instrument and be able to report findings to the court.

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APPENDIX

Logistic Regression Models for Failure to Appear and Rearrest

Appendix Table 1

Risk Factor	Logged Odds Ratio[1]	Standard Error
Current Offense		
Charge count[2]	0.17	0.56
Offense charge level[2]	-0.51+	0.31
Criminal History		
On Probation	-0.14	0.91
Pending Case	0.92	0.62
Active Warrant	1.10	0.73
Prior misdemeanors[2]	-0.08	0.57
Prior felonies[2]	-0.49	0.53
Prior failure to appear	0.74	0.71
Stability Factors		
Transient	-1.30	1.26
Duration of residency at current address[2]	0.41	0.40
Duration of current employment[2]	0.18	0.35
Duration of residence in the community[2]	0.10	0.69
Lack of assets	0.63	0.68
Lack of phone	1.81	0.58
Lack of vehicle access	0.27	0.66
Social Factors		
Abuses drugs	0.09	0.89
Abuses alcohol	0.13	0.62
Intercept/Constant	-3.49**	0.82
Log Likelihood Ratio Model Improvement	31.49**	
R-squared	0.23	
McFadden Adjusted R-squared Model Fit	-0.03	
Sample n	203	

+Difference is statistically significant at p>.05 level.
*Difference is statistically significant at p>.05 level.
** Difference is statistically significant at p>.01 level.

1 STATA utilizes the logged odds ratio to produce unstandardized coefficients.
2 See coding table for values. All residual categories have a value of zero.

TAB 9

FEDERAL PRETRIAL RISK ASSESSMENT INSTRUMENT (PTRA)

DEFENDANT'S NAME: _____ DATE OF ASSESSMENT: _____

PACTS #: _____ OFFICER: _____

DISTRICT: _____

1.0 CRIMINAL HISTORY & CURRENT OFFENSE:

1.1. NUMBER OF FELONY CONVICTIONS

0=NONE
1=ONE TO FOUR
2=FIVE OR MORE

1.2. PRIOR FTAS

0=NONE
1=ONE
2=TWO OR MORE

1.3. PENDING FELONIES OR MISDEMEANORS

0= NONE
1=ONE OR MORE

1.4. CURRENT OFFENSE TYPE

0= THEFT/FRAUD, VIOLENT, OTHER
1=DRUG, FIREARMS, OR IMMIGRATION

1.5. OFFENSE CLASS

0=MISDEMEANOR
1=FELONY

1.6. AGE AT INTERVIEW

0= 47 OR ABOVE
1=27 TO 46
2=26 OR YOUNGER

TOTAL CRIMINAL HISTORY

2.0 OTHER FACTORS:

2.1 HIGHEST EDUCATION

0=COLLEGE DEGREE
1=HIGH SCHOOL DEGREE, VOCATIONAL, SOME COLLEGE
2=LESS THAN HIGH SCHOOL OR GED

2.2 EMPLOYMENT STATUS

CIRCLE APPROPRIATE ITEM BELOW AND RECORD SCORE IN BOX
0=EMPLOYED FULL TIME
0=EMPLOYED PART TIME
0=DISABLED AND RECEIVING BENEFITS
1=STUDENT/HOMEMAKER
1=UNEMPLOYED
1=RETIRED, ABLE TO WORK

2.3 RESIDENCE

0=OWN/PURCHASING
1=RENT, NO CONTRIBUTION, OTHER, NO PLACE TO LIVE

2.4 CURRENT DRUG PROBLEMS

1=YES
0=NO

2.5 CURRENT ALCOHOL PROBLEMS

A=YES
B=NO

2.6 CITIZENSHIP STATUS

0= US CITIZEN
1=LEGAL OR ILLEGAL ALIEN

2.7 FOREIGN TIES

A= YES
B= NO

2.7 (A) DOES THE DEFENDANT HAVE ANY OF THE FOLLOWING TIES TO A FOREIGN COUNTRY?

A= YES
B= NO

CIRCLE ALL THAT APPLY
FAMILY (PARENTS, SIBLINGS, COUSINS, ETC.)
SPOUSE
CHILDREN
SIGNIFICANT OTHER
BUSINESS RELATIONS
FRIENDS
OTHER
NO FOREIGN TIES

IF YES, WHAT COUNTRY OR COUNTRIES?

2.7 (B) DOES THE DEFENDANT MAINTAIN CONTACT WITH ANY INDIVIDUAL IN QUESTION 2.7(A)?

A= YES
B= NO

2.7 (C) IS THE DEFENDANT A CITIZEN OR RESIDENT OF A FOREIGN COUNTRY? IF YES, WHICH COUNTRY OR COUNTRIES? (PLEASE INDICATE WHAT COUNTRY.)

A= YES
B= NO

2.7 (D) DOES THE DEFENDANT POSSESS A VALID OR EXPIRED PASSPORT (EITHER U.S. OR FOREIGN)?

A= YES
B= NO

2.7 (E) DOES THE DEFENDANT HAVE ANY FINANCIAL INTERESTS (SUCH AS, PROPERTY, BANK ACCOUNTS, ETC.) OUTSIDE OF THE U.S.?

A= YES
B= NO

2.7 (F) HAS THE DEFENDANT TRAVELED OUTSIDE OF THE U.S.?

A= YES
B= NO

CIRCLE APPROPRIATE ITEM BELOW:
WITHIN THE PAST 1--5 YEARS
WITHIN THE PAST 6-10 YEARS
NO FOREIGN TRAVEL

2.7 (G) WAS TRAVEL IN 2.7(F) FOR ANY OF THE FOLLOWING?

A= YES
B= NO

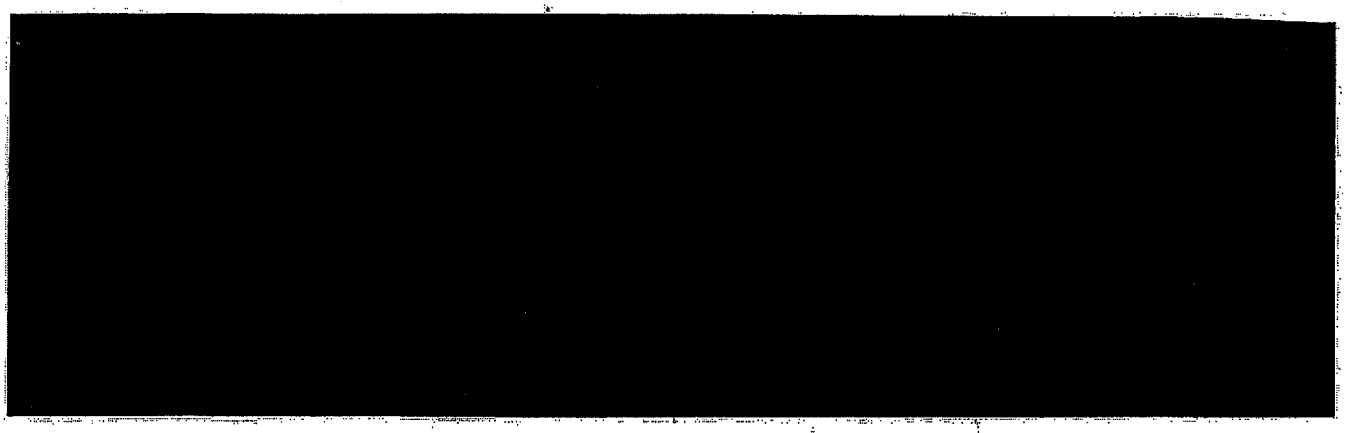
CIRCLE APPROPRIATE ITEM BELOW:
A=PLEASURE
B=BUSINESS
C=BOTH
D=NOT APPLICABLE

TOTAL OTHER

TOTAL SCORE (ITEMS 1.1 – 2.7(G))

Likelihood of outcomes based on event occurring during pretrial period.

Risk Category	N	%	Risk Score	FTA	NCA	FTA/NCA	TV	FTA/NCA/TV
Category 1	52,677	29	0-4	1%	1%	2%	1%	3%
Category 2	52,653	29	5-6	3%	3%	5%	4%	9%
Category 3	49,920	27	7-8	4%	5%	10%	9%	18%
Category 4	21,779	12	9-10	6%	7%	15%	15%	28%
Category 5	4,710	3	11+	6%	10%	20%	19%	35%



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THE UNITED STATES Pretrial Services system was created in 10 demonstration districts by Title II of the Speedy Trial Act of 1974. The Act authorized the Director of the Administrative Office of the U.S. Courts (AO) to establish in 10 judicial districts demonstration pretrial services agencies to help reduce crime by defendants released to the community pending trial and to reduce unnecessary pretrial detention. Five of the pretrial services agencies were to be administered by the Probation Division (now the Office of Probation and Pretrial Services) and five by boards of trustees appointed by the chief judges of the district courts. Title II also instructed the Director to compile a report on the effectiveness of pretrial services in these demonstration districts.

The fourth and final report on the *Implementation of Title II of the Speedy Trial Act of 1974* was published on June 29, 1979. That report concluded that pretrial services should be expanded in the federal system. The report effectively made pretrial services the first implemented evidence-based practice in the federal probation and pretrial services system. The passage of the Pretrial Services Act of 1982 began a process of establishing pretrial services in the remaining 83 federal districts. Pretrial services cases in the District of Columbia are not classified as federal pretrial services cases by the Pretrial Services Act of 1982; thus there are only 93 pretrial services offices.

The federal pretrial services system, like all judiciary units, is highly decentralized. Each district has a great deal of autonomy, with the Administrative Office of the U.S. Courts working through a system of Judicial Conference committees to develop national policies and implement new processes and procedures like a risk assessment tool. This article explains the process used to develop the Pretrial Services Risk Assessment tool (PTRA), beginning with an overview of the literature for pretrial services risk assessments, moving to an explanation of the choice to create a federal risk assessment instrument rather than use an existing one, and concluding with the methodology and results produced in the re-validation of the PTRA.

Literature Review

One area in which pretrial services originally led criminal justice research was actuarial risk assessment, with devices utilized in several of the larger cities, including Washington, D.C. and New York, long before post-conviction assessment devices were utilized in those cities. Unfortunately, use of such tools, while continuing in those cities, did not spread to other agencies as rapidly as they did in post-conviction assessment. Risk assessment is an area with enough significant differences between post-conviction and pretrial services to prevent much sharing between them. For example, pretrial services focuses significantly on failure to appear, which is not a focus of post-conviction; in contrast, post-conviction focuses on long-term recidivism, something which historically does not concern pretrial services. Therefore, at least theoretically, there is little crossover between the two disciplines in the area of risk assessment.

While not a lot of work is being done in the literature on risk assessment in pretrial services when compared to post-conviction risk assessment literature, it is clearly the pretrial services area that has received the greatest research attention, and there are some studies of excellent quality (e.g., Toborg, Yezer, Tseng & Carpenter, 1984; Goldkamp & Gottfredson, 1988; Levin, 2006; VanNostrand, 2007; Goldkamp & Vilcica, 2009; Lowenkamp & Whetzel, 2009).

Toborg, Yezer, Tseng, and Carpenter provide an excellent place to begin the discussion to clearly identify the two types of selectivity bias inherent in the process. First, there is a group of arrested defendants who are detained; because of this detention, their propensity for pretrial arrest and failure-to-appear cannot be observed. This first form of bias is fairly common and is discussed in most research on pretrial services risk assessment initiatives. However, rarely seen is a discussion of the second form of selectivity bias, which involves defendants who are released under different scenarios: some are released without any restriction; others are released on various bond types or with various conditions that are based on individual characteristics (Toborg, Yezer, Tseng, & Carpenter, 1984:102). It is important to recognize possible errors so they can be reduced.

When a risk assessment tool was used, more defendants were released, on less re-

strictive conditions, and with no increase in failure-to-appear or rearrest rates, compared to similar defendants released without use of a risk assessment tool (Toborg, Yezer, Tseng, & Carpenter, 1984:105). The risk prediction tool Toborg, Yezer, Tseng, and Carpenter developed increased release rates by 12 percent, again with no appreciable increase in failure-to-appear or rearrest rates (Toborg, Yezer, Tseng, & Carpenter, 1984:58). Finally, their research concludes that the tool was more accurate for appearance than for safety (Toborg, Yezer, Tseng, & Carpenter, 1984:73). Risk tools, while tremendously useful in improving agency decision-making and ultimately release recommendations, have limitations. For instance, they are good at identifying groups of defendants who present various risks, but they cannot be totally accurate at the individual level (Toborg, Yezer, Tseng, & Carpenter, 1984:111). Low risk is not no risk, and that can be a difficult concept for decision-makers to support, so pretrial tools must do everything possible to limit errors. For example, when implementing a risk assessment tool, agencies need to convey to line staff the important limitation that the tool should not be followed blindly; therefore, permitting an officer to override the tool after staffing with the supervisor or some similar override methodology should be the standard.

Goldkamp and Gottfredson studied three urban jurisdictions and concluded that successful implementation of a risk assessment device requires strong judicial leadership (Goldkamp & Gottfredson, 1988:129). Goldkamp and Gottfredson identified some ways to maximize success when strong judicial leadership was absent, through ongoing training, assessment of the officer's use of the tool, and annual or bi-annual certification of the officer's skills in using the tool. As the experience of the federal system, which lacks judicial involvement in the implementation of the risk assessment, will ultimately demonstrate, failure to involve judges makes acceptance more difficult. In addition, the Goldkamp and Gottfredson study confirmed the major findings of Toborg, Yezer, Tseng, and Carpenter's earlier research.

One of the great strengths of the Goldkamp and Vilcica research is that it squarely takes on some of the most enduring "urban legends" of pretrial services risk assessment research. Most pretrial services agencies, including the federal system, continue to capture data on and analyze the variable of community ties. While some of the fascination with community ties stems from its identification as an important variable in the granddaddy of all pretrial services research, the original Vera project, this variable likely endures because of its tremendous "face validity." Its inclusion in the small number of long-standing important pretrial services variables is certainly not warranted by the research results of the last 20 years. However, most researchers merely ignore the variable of community ties, since the analysis does not bear out its value (e.g., Administrative Office of the United States Courts, 1979; VanNostrand, 2003; VanNostrand & Keebler, 2009; Winterfield, Coggeshall, & Harrell, 2003). Goldkamp and Vilcica take on the lack of value of community ties for pretrial risk assessment in an effort to remove this variable from its lofty perch.

> Goldkamp's analysis of factors influencing judicial decisions at the pretrial release decision, however, found that contrary to the intended effect of Vera-type information-based reform procedures community ties items did not play a significant role in shaping judges' actual pretrial custody decisions–and were not helpful predictors of defendant risk (Goldkamp & Vilcica, 2009: p. 124).

The seemingly "obvious" importance of including judicial officers in the development, implementation, and ongoing use of a risk assessment device is not found in virtually any other research on the topic of pretrial risk assessment. Only Goldkamp and Vilcica's findings discuss the issue of judicial involvement, not to mention endorsing the strong role it played in the Philadelphia research: "As a judicially developed and adopted policy, it stands alone in the nation in the first years of the 21st century–one might argue, in isolation–as an empirically informed approach to the problem of judicial discretion at the bail stage" (Goldkamp & Vilcica, 2009:129-30). This is an important finding for the federal system, as PTRA was implemented without judicial involvement, which has clearly impacted the acceptance and use of the tool in the federal system.

Given Goldkamp and Vilcica's vision of pretrial justice and their desire to improve the pretrial release process and reduce judicial discretion, it is almost shocking that they missed the importance of pretrial detention and made the tool detention neutral (Goldkamp & Vilcica, 2009:134). This is especially true since Philadelphia has operated pretrial services under federal court supervision due to jail overcrowding at various times during the 20-plus years of the guideline project in Philadelphia. Reducing unnecessary pretrial detention needs to be a core principle for pretrial services and judicial officers, given the negative consequences of pretrial detention at subsequent phases of the criminal justice system. The negative impacts on defendants have previously been documented in state, county, and local systems and will be established for the federal system in upcoming research by Oleson, Lowenkamp, and Cadigan.

Given that risk of failure to appear is only relevant in pretrial, we can't rely on post-conviction risk assessment research to establish it. Levin merged data from the Bureau of Justice Statistics State Court Processing Statistics (SCPS) program, which compiles criminal justice data (including pretrial) from the 75 largest counties in the nation, with Bureau of Justice Assistance survey data from 200 of the nation's pretrial programs. The merged datasets enabled him to study over 1,500 defendants on conditional release in 28 counties during 2000 and 2002. That research revealed that a defendant's odds of failing to appear in a county that uses a quantitative risk assessment are .40 times lower than the odds faced by a defendant appearing in a county that uses qualitative risk assessment (Levin, 2006:10). In addition, if the county uses some mix of quantitative and qualitative measures, defendants are still less likely to fail to appear (Levin, 2006:10). This result is particularly relevant to the federal system, because it is the approach now employed. Finally, if the county uses some mix of quantitative and qualitative measures, defendants are also less likely to be rearrested (Levin, 2006:11).

The literature on pretrial services risk assessment clearly establishes several important premises: "objective risk assessment produces more non-cash release recommendations" (Cooprider, 2009:15); "Notwithstanding a broader definition of 'pretrial failure' and cutting field contacts in half, violation rates declined or remained stable since the implementation of objective risk assessment" (Cooprider, 2009:15); and predictive items identified in pretrial services risk assessment research change over time and therefore must be re-validated on an ongoing basis to ensure their integrity and effectiveness (e.g., VanNostrand, 2003; VanNostrand & Keebler, 2009; Siddiqi, 2002).

One example of an established risk assessment finding likely to change is a relatively consistent finding in risk prediction research in the city of New York for the past 20 years: the predictive value of having a telephone in the residence of the defendant. Given the changes in telecommunications in the past decade,

from the dominance of landline technology to increasing reliance on cell phone technology, it seems unlikely that future research will continue to find great predictive value for a landline phone in the defendant's residence (Siddiqi, 2002:2). Fortunately for citizens in New York City, the agency providing pretrial services has an excellent research operation that re-validates their risk prediction tool every three to five years as warranted. Ongoing re-validation is an essential step for all pretrial risk assessments and is the motivation for this research.

Pretrial Services Risk Assessment Tool

Actuarial risk assessments are new to the federal pretrial services system; in fact, this is the first tool developed and implemented in the federal pretrial services system since its inception in the early 1980s. One tool was previously developed for use in the federal pretrial services system by Dr. John Goldkamp and Dr. Barbara Meierhoefer. The tool was effective at identifying cases appropriate for release, tested effectively in 12 districts, and was submitted to the Judicial Conference Committee on Criminal Law for national implementation (Meierhoefer, 1994). Unfortunately, because it was named "Recommendation Guidelines" and was presented to the judges within two years of the implementation of Sentencing Guidelines, the tool was rebuked as too limiting to judicial discretion in the pretrial release decision. It took almost 18 years to overcome issues generated by the name of this tool.

The Administrative Office of the U.S. Courts works closely with the Office of Federal Detention Trustee, a Justice Department agency charged with administering and controlling the costs of pretrial detention in the federal system. That relationship led to a significant piece of research funded by the Office of Federal Detention Trustee using United States Court data and expertise to assist the researcher. The report on that research is titled *Pretrial Risk Assessment in the Federal Court* and has already led to the most significant improvement in the federal pretrial services system since its inception: the development and implementation of an actuarial risk assessment tool.

In addition to recommending a risk assessment tool, the Office of Federal Detention Trustee Report contains a number of interesting findings relevant to the operation of the federal pretrial services system. One of the primary goals of the system, reduction of unnecessary detention, is not being promoted by the staff, as they recommend detention more often than judicial officers actually detain defendants. Similarly, recommendations of detention by pretrial services officers rose each year, from 56 percent in 2001 to 64 percent in 2007. The report also observes that the risk posed by the defendants released increased slightly, from 2.85 in 2001 to 3.1 in 2007, as measured by the Risk Prediction Index (RPI). The Risk Prediction Index is a post-conviction measure of risk that was developed by the Federal Judicial Center and was implemented in federal pretrial services in 2004. However, it was only applied to or required to be completed on defendants who were released and subject to a condition of pretrial services supervision. For cases prior to 2004, the researcher abstracted the Risk Prediction Index score from the post-conviction record.

The study commissioned by the Office of Federal Detention Trustee tested for effectiveness the conditions of release known as alternatives to detention (substance abuse testing and treatment, third-party custody, halfway house placement, location (electronic) monitoring, and mental health treatment); the report contains a number of findings based on that analysis. First, low-risk defendants placed on location monitoring had an increased risk of failure compared to similar defendants who were not placed on location monitoring (VanNostrand & Keebler, 2009:32). In addition, location monitoring was greatly overused on low-risk defendants. The only alternative to detention to positively impact defendants at all levels of risk, provided there was a demonstrated need, was mental health treatment (VanNostrand & Keebler, 2009:32). All four other alternatives to detention negatively impacted low-risk defendants (VanNostrand & Keebler, 2009:31-33).

What impact does over-supervising or over-treating low-risk federal defendants have on their outcomes? For the most part we have operated under the assumption that "it can't hurt" to have conditions in place. Unfortunately the research demonstrates that unnecessary alternatives to detention placed on low-risk federal defendants can and do hurt defendant outcomes by increasing their failure rates.

> First, the lower risk defendants, risk levels 1 and 2, are the most likely to succeed if released pending trial and in most cases release should be recommended. An alternative to detention, with the exception of mental health treatment when appropriate, generally decreases the likelihood of success for this population and should be recommended sparingly (VanNostrand & Keebler, 2009:10).

In some areas, for example location monitoring, level one defendants (the best risks) on location monitoring were 112 percent more likely to fail than if they were not on this type of monitoring (VanNostrand & Keebler, 2009:32). The quick refrain from most pretrial services professionals is: Of course there are more violations, due to the technical violations being counted as failures. However, this analysis did not include technical violations; it included only failure-to-appear and rearrest violations. In addition, the finding is not limited to location monitoring; substance abuse testing and treatment defendants are 41 percent more likely to fail. There are similar results for third-party custodians and halfway house placements. On average defendants released to the alternatives to detention program who were lower risk, risk levels 1 and 2, were less likely to be successful pending trial, while defendants in the moderate to higher risk levels (risk levels 3, 4, & 5) were more likely to be successful if released to the alternatives to detention program (VanNostrand & Keebler, 2009:31). VanNostrand andKeebler establish, apparently for the first time with hard national pretrial services data, the risk principle in federal pretrial services, which states "that the intensity of the program should be modified to match the risk level of the defendant" (Dowden & Andrews, 2004:1).

Federal Risk Assessment

One of the major recommendations of the Office of Federal Detention Trustee research is that the pretrial services system should develop and implement an actuarial risk assessment tool. The Office of Probation and Pretrial Services hired a staff person proficient in the development of actuarial devices and ultimately developed the tool internally. The developed tool was piloted in several districts and the formal implementation of the tool began in January 2009. Currently there are 89 districts "live" using the tool on a majority of cases, 93 districts trained, and 93 with personnel certified in using the Pretrial Services Risk Assessment tool. National implementation was completed in all 93 districts by September 2011. Early results from the implementation show that the tool increases officer recommendations in favor of release, which is the desired goal of the implementation. There has as yet been no identified impact from the tool on release rates.

The Pretrial Services Risk Assessment

tool was constructed using the same archival data employed in the Office of Federal Detention Trustee research. The PTRA tool is an objective, actuarial instrument that provides a consistent and valid method of predicting risk of failure-to-appear, new criminal arrest, and technical violations that lead to revocation while on pretrial release. The instrument contains 11 scored and 9 unscored items. The unscored items are for future revisions to the instrument, and this research addresses the issues raised by the unscored items. The unscored items are rated as either A or B and do not contribute to the current overall risk score. The scored items are given a number of points (0, 1, or 2). The points from the items are then added up to give an overall score. When administered correctly, the Pretrial Services Risk Assessment provides a score that allows for classification into a risk category. Those risk categories are then associated with rates of failure-to-appear, new criminal arrest, and technical violations leading to revocation.

When a defendant or material witness is arrested or summoned to appear before the court for an initial appearance, the magistrate judge typically requires a pretrial services report based on the investigation conducted by the pretrial services officer. The officer interviews the defendant to gather information for the report, the length of which varies somewhat, due to time constraints. The pretrial services report contains defendant case information, including residence, family ties, employment history, financial resources, health (including mental health and substance abuse histories), and criminal history. Based on this information, the officer will provide the court with an assessment of whether or not the defendant is likely to appear for court proceedings in the future or presents a danger to the community. Finally, the last section of the report provides the officer's recommendation to the court for the release or detention of the defendant. The recommendation should be based on the Pretrial Services Risk Assessment, although the officer can depart from the tool's recommendation after staffing the results with his or her supervisor.

The implementation of the tool has generated great debate over the finding, represented in the scores of "0" for defendants charged with violent offenses, that violent defendants in fact performed better than most other defendants in terms of rearrest, failure-to-appear, and technical violations leading to revocation of pretrial release in the construction research. The results found in the federal study are consistent with other similar findings: "defendants charged with more serious offenses do not pose a high risk of rearrest pending trial" (Austin, Krisberg, & Litsky, 1984:30; VanNostrand & Keebler, 2009:21; Toborg, Yezer, Tseng, & Carpenter, 1984:56). However, this validation research further refines that initial finding, showing violent defendants failing at higher rates than other defendant offense categories.

To better assist pretrial services officers in identifying high-risk defendants, the AO chose to develop a risk assessment instrument tailored specifically to its population of defendants. In doing so the AO looked at two existing tools: one operational in the state of Virginia and one used in the District of Columbia. After reviewing them, the AO concluded that its population of defendants differed enough from that of other pretrial services populations (for example, only federal courts address immigration charges) to warrant development of a tool using federal data. The Pretrial Services Risk Assessment (PTRA) is an actuarial risk and needs assessment tool developed from data collected on federal defendants who started a term of supervision between October 1, 2000 and September 30, 2007. This tool is designed to identify and categorize cases by risk of failure-to-appear, rearrest, and technical violations leading to revocation (FTA/NCA/Revocation).

Construction and Validation of the PTRA

Data

The archival data used to construct and validate the PTRA came from the Probation and Pretrial Services Automated Case Tracking System (PACTS).[1] Criminal history records or rap sheets were used to identify any new arrest after the defendant's release. PACTS was the main source of data for scored elements on the PTRA; it included data on 565,178 defendants. The data was extracted from PACTS in June 2008 and consists of all persons charged with criminal offenses in the federal courts between October 1, 2001 and September 20, 2007 (FY 2001- FY 2007) who were processed by the federal pretrial services system. The prospective data for the re-validation was extracted from PACTS in June 2012 and consists of all persons charged with criminal offenses in the federal courts between October 1, 2010 and September 30, 2011 (FY 2011) who were processed by the federal pretrial services system and from the Electronic Reporting System (ERS), which officers use to complete the PTRA.

Data Elements

There are two sets of items included on the PTRA: scored and not scored. The first set of items are rated and scored and thus contribute to a defendant's risk score. Rated and scored items used to develop the PTRA were based on prior research by VanNostrand and the original construction research (Lowenkamp & Whetzel, 2009), and were available in PACTS. Using the extant research as a guide, available data elements models were constructed; the most predictive elements were ultimately included based solely on the data. Those elements are felony conviction (most predictive of available criminal history measures), pending felonies or misdemeanors, prior failures to appear, current charge, seriousness of current charge, employment, substance abuse, age, citizenship, education level, and home ownership. As a result of bivariate analyses, some interval and ratio variables were collapsed into ordinal measures. In the prior construction research, multivariate models and completeness of data were used to identify the most predictive and practical data elements to be included on the instrument.

The second set of data elements are rated but not scored and do not contribute to a defendant's risk score. These items were identified as potentially predictive by the Pretrial Services Work Group (PSWG). One additional rated but not scored item was added based on pretrial services officers' input on what data they felt strongly needed to be added: alcohol abuse. A total of 9 factors were identified as potential predictors and included on the assessment. These potential predictors were included as "test items" and the analysis determined that these items, for the most part, do not warrant becoming rated and scored PTRA items.[2]

Sample

That re-validation file contained 32,455 defendants for whom PTRAs have been completed in 2011, the first full year of operations. The total number of cases with PTRA completed is 32,475, and the number of

[1] PACTS (Probation/Pretrial Services Automated Case Tracking System) is an electronic case management tool used by probation and pretrial services officers in all 94 federal districts to track federal defendants and offenders. At the end of each month, districts submit case data into a national repository that is accessible to the Administrative Office of the U.S. Courts (AO), Office of Probation and Pretrial Services.

[2] This research presents results on the unscored or test items; however, policy decisions concerning ultimate changes to the PTRA will be determined by the appropriate group or committee, not the authors.

TABLE 1.
Test Questions In Relation to FTA/NCA

Question	Failure Rate			
	Yes		No	
	N	%	N	%
Current Alcohol	33/625	5.3	200/4450	4.5
Foreign Ties	5/705	0.7	182/4110	4.4
Foreign Ties Who Contact with Ties	43/744	5.8	169/3719	4.5
Foreign Citizen	27/438	6.2	196/4381	4.5
Passport	60/1547	3.9	170/3431	5.0
Foreign Financial Interests	7/123	5.7	155/4805	3.2
Travelled Outside US	79/1928	4.1	148/3029	4.9
Foreign Travel For Business & Pleasure	13/183	7.0	230/4941	4.7

TABLE 2.
Test Questions In Relation to FTA/NCA /Revocation

Question	Failure Rate			
	Yes		No	
	N	%	N	%
Current Alcohol	132/625	21.1	597/4450	13.4
Foreign Ties	92/705	13.0	636/4110	15.5
Foreign Ties Who Contact with Ties	73/744	9.8	557/3719	15.0
Foreign Citizen	38/438	8.7	650/4381	14.8
Passport	127/1547	8.2	581/3431	16.9
Foreign Financial Interests	12/123	9.8	691/4805	14.4
Travelled Outside US	189/1928	9.8	514/3029	17.0
Foreign Travel For Business & Pleasure	20/183	10.9	713/4941	14.4

TABLE 3.
Descriptive Statistics for Criminal History Sub-score, Other Factors Sub-score, and Total PTRA Score

	N	Mean	SD	Min	Max
Criminal History Score	5077	3.32	1.54	0	9
Other Factor Score	5077	2.82	1.32	0	5
PTRA Score	5077	6.17	2.46	0	14

PTRA cases opened and disposed of is 5,077. The cases were opened between October 1, 2010, and September 30, 2011. Given that PTRA was validated using archival data and officers have now completed assessments prospectively, it is important to ensure that the tool is still valid.

Findings

Table 1 displays the results of the test questions in relation to new criminal activity (NCA) and failure to appear (FTA), while Table 2 displays the results of the test questions in relation to NCA/FTA/Revocation. Adding current alcohol abuse and the various measures of foreign ties to the risk score produced no increase in the predictive ability of the PTRA. Therefore, the authors recommend to the decision-making body that the nine unscored items not be added to the PTRA and the collection of those items be discontinued.

Table 3 presents descriptive statistics and total scores for the two instrument scales contained in the tool: Criminal History and Other.

Table 4 presents descriptive statistics and total scores for both outcomes contained in the tool: FTA/NCA and FTA/NCA/Revocation. As the table shows, the majority of defendants released in the federal system are successful.

The next set of analyses focused on assessing the PTRA's predictive ability. AUC-ROC (Area under the Curve-Receiver Operating Characteristics)[3] was chosen as the measure to assess prediction in large part because it is not impacted by base rates. Another convenient property of the AUC-ROC over a correlation coefficient is that AUC-ROC is a singular measure and does not have differing calculations depending on level of measurement of the variables being evaluated (Rice & Harris, 2005). Table 5 displays the AUC-ROC between risk scores and FTA/NCA/Violation revocation. As Table 5 shows, the AUC for the FTA/NCA outcomes only is .69. The AUC for the validation of all three outcome measures rose to .71. Based on these results, the PTRA appears to have very good predictive validity in terms of accurately classifying defendants' risk level.

Table 5 presents failure rates by risk category and associated AUC-ROC values. The results for the first four categories were expected based on the construction research. To put the AUC values into practical terms, we calculated the failure rates by two sets of outcome measures: FTA/NCA, the statutory standard, and FTA/NCA/Revocation, the standard preferred by judicial officers. These results are presented in Table 5. The uniform increase in failure rates across categories of risk and across the various samples continues to support the validity of the PTRA. However, in Category V the FTA/NCA rate was twice as high in the original sample as it was in this sample. All looks good, except that Category V might not really be different from Category IV, or perhaps we are supervising Category V differently now and driving their failure rates down. It is speculative now, it may hold true, as we do further analysis in the future.

In Table 6 we collapsed Category IV and Category V from Table 5 into one category and reran outcomes and AUC-ROC values. This was done for completeness, since the change in the failure rates could have resulted from a concerted effort to provide more services to the highest-risk defendants, thereby driving their failure rates down. Obviously

[3] The AUC measures the probability that a score drawn at random from one sample or population (e.g., defendants with a re-arrest) is higher than that drawn at random from a second sample or population (e.g., defendants with no re-arrest). The AUC can range from .0 to 1.0 with .5 representing the value associated with chance prediction. Values equal to or greater than .70 are considered good.

TABLE 4.
Descriptive Statistics for Outcomes

	N	Percent Failing	Percent Not Failing
FTA/NCA	5077	4.5	95.5
FTA/NCA/Revocation	5077	14.9	85.1

TABLE 5.
Failure rates by risk category and AUC-ROC values

Risk Category	N	%	% FTA/NCA	% FTA/NCA/Revoke
Category I	1372	27.0	1.3	3.4
Category II	1406	27.7	3.1	8.5
Category III	1401	27.6	6.7	20.5
Category IV	898	17.6	12.5	29.9
Category V	200	3.9	11.6	31.5
AUC-ROC Risk Category	5077		0.68	0.71
AUC-ROC Total Score	5077		0.69	0.71

TABLE 6.
Failure rates by risk category and AUC-ROC values with Category IV and V collapsed

Risk Category	N	%	% FTA/NCA	% FTA/NCA/Revoke
Category I	1372	27.0	1.3	3.4
Category II	1406	27.7	3.1	8.5
Category III	1401	27.6	6.7	20.5
Category IV	1098	21.6	11.3	30.3
AUC-ROC	5077		0.69	0.71

interpretation is key here, and if the plausible is true we should not collapse Category V into Category IV. Therefore, this is a significant decision. It should be noted that the reduction to four categories did not add to AUC-ROC values produced by the existing instrument, which is why we will continue to look at this in future research.

Discussion

As previously stated, the purpose of this article is threefold: (1) to present the methodology and results produced in the re-validation of the PTRA; (2) to discuss the implications of the research on the unscored items currently collected in the PTRA; and (3) to discuss future developments. Overall, the instrument as administered by officers does as well as the construction and validation samples. Even though the foreign ties items did not improve prediction, officers and the court still might want to know about the nature of foreign ties. The sample, though small, was fairly representative of the population served and allowed for re-validation of the existing tool items. Thus the overall results have demonstrated that the PTRA provides adequate predictive validity.

The creation of the risk score and categories allowed for the re-validation of five risk categories: 1 through 5. Practically speaking, the instrument provided categorizations that are associated with the group failure rates that are differentiated and meaningful for meeting the risk principle.

Limitations and Future Research

Although this study was fairly comprehensive in scope, the dataset was small and thus may not be representative of the population served. In addition, there are a number of limitations and areas for future research that deserve mention. First, we have not investigated how scoring algorithms might be adjusted for each district. As with any measure, there is a distribution of AUC values when that test is calculated for each district. We did not generate analysis for individual districts due to small samples of data at the district level. Subsequent analysis could focus on assessing AUC values between risk scores and NCA/FTA/Revocation to ensure appropriateness of fit at the district level.

A second limitation is that the data used in this research came from an administrative dataset. While it proved useful for our initial task of creating and validating a risk assessment instrument, it will be important to conduct similar validation analyses once we have an ample sample of defendants that were actually assessed using the assessment protocol.

The third limitation involves the nature of the outcome measure being predicted. In this research we focused exclusively on the likelihood of NCA measured by re-arrest and not the severity of the offense. We found it important to assess and determine the likelihoods of re-arrest as a first step in the assessment process. Because we do recognize that there is more than one dimension to an assessment in the criminal justice system, future analysis will focus on predicting the dangerousness of a defendant by trying to predict the severity and type of NCA.

Policy Implications

Notwithstanding the limitations discussed above, two major policy implications stem from this research. First, the federal pretrial services system now has a re-validated risk assessment tool for use on defendants under its jurisdiction. The instrument can be used to identify higher-risk defendants for enhanced services (see VanNostrand & Keebler, 2009) and also to reduce services to low-risk defendants, conserving those resources for higher-risk defendants. The second major policy implication is the apparent need to add dynamic factors. Data analyzed in this study focused on static factors associated with changes in NCA/FTA/Revocation rates. Therefore, the addition of dynamic factors would seem to provide officers with an essential tool to monitor and reassess risk in a standardized way to ensure that supervision and services are having intended impacts. If intended impacts are not being achieved, then officers would be able to modify supervision services to reduce the risk and refine supervision methodologies.

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