



RPI Profiles

Descriptive Information About Offenders Grouped by Their RPI Scores

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Introduction

This pamphlet will help probation officers use the Risk Prediction Index (RPI) to assess the risk of recidivism presented by offenders. We present basic demographic, offense, and supervision outcome information for offenders grouped by their RPI scores. This “profile” of offenders with similar scores, in addition to the RPI score itself, will help an officer determine the level of supervision an offender needs.

What is the RPI?

The Risk Prediction Index is a prediction instrument that uses information about an offender to estimate the likelihood that the offender will recidivate during his or her term of supervision. “Recidivism” is broadly defined as any revocation of probation, parole, mandatory release, or supervised release; any arrest under federal, state, or local jurisdiction during the period of supervision; or any instance of absconding from supervision. The RPI was developed by the Federal Judicial Center at the request of the Judicial Conference Committee on Criminal Law. It has been extensively tested and has been shown to be a good predictor of the risk of recidivism for all federal offenders. (See the Appendix for information on the research that was conducted and the offender sample used in the analyses.)

The answers to eight questions (plus the date supervision started) are the only information needed to calculate the RPI score. Officers can make the calculations most easily by using the worksheet in the Risk Prediction Index Training and Calculation Worksheet computer application (see Figure 1). The calculations can also be made by hand (see the attached Hand-Calculation Worksheet).

Interpreting RPI Scores

RPI scores range from 0 to 9. Low scores are associated with low recidivism rates, and high scores are associated with high recidivism rates. The RPI score for a particular offender is not a definitive prediction that the offender will or will not recidivate. However, knowing what the recidivism rates are for other similarly situated offenders should help an officer identify the appropriate level of risk control to use with the offender.

The RPI score represents a broad estimate of the proportion of offenders with that score who will recidivate. For example, in theory, without referring to any specific sample of offenders, we would estimate that about 40% (actually in the range of 35% to 44%) of all offenders who receive a score of 4 will recidivate. Similarly, we would estimate that about 80% (i.e., between 75% and 84%) of the offenders who receive a score of 8 will recidivate.

Now look at the patterns obtained from actual data, such as the information presented on the offenders in our analysis sample (see Table 1 and Figure 2). In Table 1, the observed recidivism rates fell within the expected range for RPI scores 0 through 5 (which account for more than 90% of all offenders). Recidivism rates for offenders with some of the higher RPI scores (e.g., 6, 7, and 9), though, were not as high as we would have expected. Deviations from the expected recidivism rates are most likely to occur

for score categories with a small number of offenders (e.g., fewer than 100) because smaller samples tend to show more variability than larger samples.

Thus, the theoretical score-by-score estimates are helpful in getting a general idea of the recidivism rates that are likely to be associated with each score, but variations from a clear increasing pattern should be expected. In addition, remember that the RPI cannot predict with certainty whether an individual offender will recidivate or not. That is, it cannot pinpoint whether someone who receives a score of 4 will be among the 60% of offenders who succeed or the 40% who recidivate.

Figure 1
Risk Prediction Index Calculation Worksheet

The screenshot shows a software window titled "RPIWORK.RSC" with a subtitle "Calculation Worksheet". The interface includes several input fields and buttons. At the top left are "quit" and "help" buttons. At the top right are "main" and "print" buttons. Below these are input fields for "Offender's Name:", "PO's Name:", "Date Calculated:", and "Date Supervision Started:". The main section contains a series of questions with corresponding input fields or radio buttons:

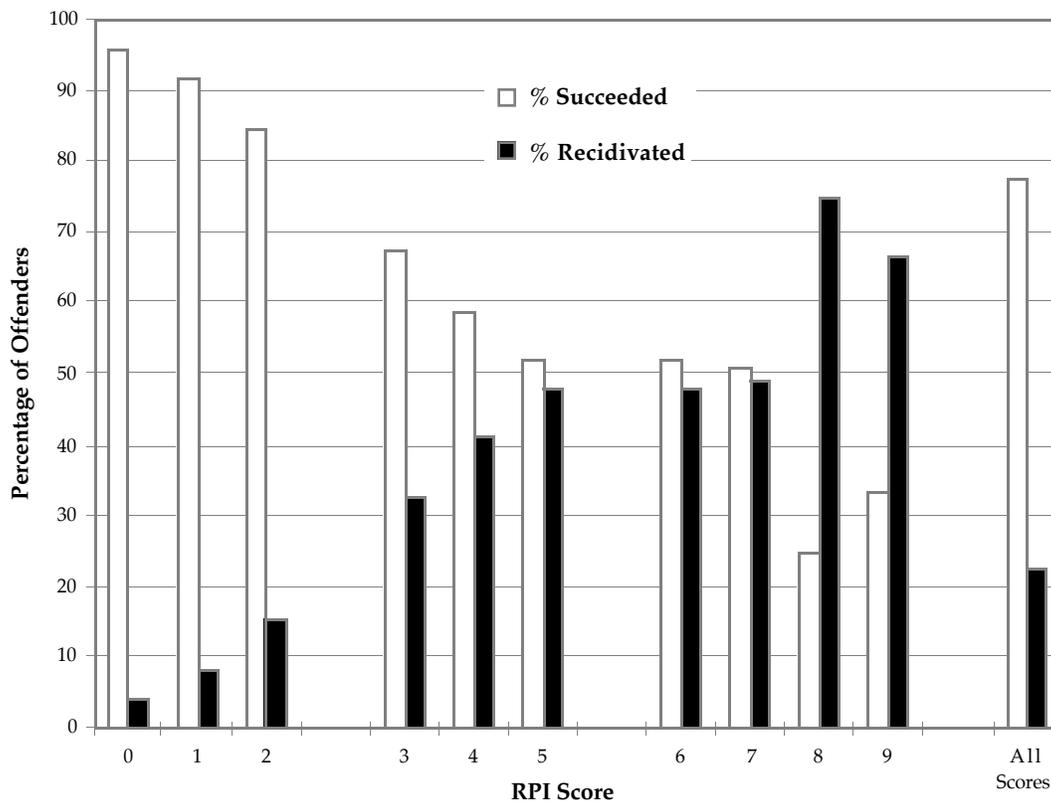
- What was the offender's date of birth? [Text Field]
- How many times was the offender arrested prior to the instant offense (0-15)? [Text Field]
- Was a weapon used in the commission of the instant offense? No Yes
- Was the offender employed at the start of supervision? No Yes
- Does the offender have a history of illegal drug usage or alcohol abuse? No Yes
- Has the offender ever absconded from a previous period of supervision? No Yes
- Does the offender have a college degree? No Yes
- Was the offender living with a spouse and/or children at the start of supervision? No Yes

Below the questions is a "Calculate RPI Score" button and a text field for the result. At the bottom, there is a row of five buttons: "Case Listing", "Case Comments", "New Case", "Delete Case", and "Settings & Preferences". The window has a standard Windows-style title bar and a taskbar at the bottom showing "100" and "Browse".

Table 1
Percentage of Offenders Succeeding and
Percentage Recidivating by RPI Score

RPI Score	Number of Offenders	% Succeeded	% Recidivated
0	199	95.5	4.5
1	584	91.6	8.4
2	521	84.8	15.2
3	380	67.4	32.6
4	225	58.7	41.3
5	127	52.0	48.0
6	79	51.9	48.1
7	51	51.0	49.0
8	24	25.0	75.0
9	9	33.3	66.7
All scores	2,199	77.2	22.8

Figure 2
Percentage of Offenders Succeeding and
Percentage Recidivating by RPI Score



How to Use the Profile Information

The RPI is a tool. It provides the officer with information to help identify the appropriate risk-control measures to include in a supervision plan. There is no prescribed formula linking an RPI score to a specific level of supervision. The RPI score, however, will help officers develop supervision plans that spend less time on recidivism-reducing activities for offenders who have a very low probability of recidivating and spend more time on and use more intensive risk-control measures with offenders who have a higher probability of recidivating.

The RPI score provides a single important piece of information regarding the likelihood that an offender will recidivate by grouping the offender with other offenders who scored similarly. Other characteristics that those offenders share form a profile of the group. The officer can match the characteristics of the current offender with the characteristics in the profile to make even further distinctions when developing a supervision plan.

For example, as a group, offenders who receive an RPI score of 0, 1, or 2 have a recidivism rate of 10.5%, which is lower than the overall recidivism rate of 22.8%. Among the offenders in the 0, 1, or 2 group, however, offenders who had at least one prior arrest had about a 16% recidivism rate; those with no prior arrests had about a 7% rate. Similarly, younger offenders (those under 40) had a higher recidivism rate (about 13%) than older offenders (about 8%). Given this type of information, an officer may want to consider spending more time on risk-control activities for a young offender with a prior history than for an older offender with no priors, even though, overall, fewer risk-control activities might be needed with offenders scoring 0, 1, or 2 than with those who score higher. The additional information helps the officer identify possible gradations within the range of activities appropriate for the group.

We also present information regarding the type and timing of recidivistic activity engaged in by this group of offenders. This information will help the officer evaluate the progress of an individual offender's supervision. For example, 10.5% of offenders scoring 0, 1, or 2 recidivated. Three percent (about one-third of the recidivists) had their supervision revoked for technical reasons with no rearrest. Among the 7.5% who were rearrested, traffic and drug offenses were the most common reasons for arrest. In addition, when compared with all offenders, offenders in the 0, 1, or 2 group tended to be on supervision longer on average before recidivating.

Profile Groups

The next three sections of this pamphlet present the RPI profiles. Each section presents a profile of offender, offense, supervision, and outcome characteristics for offenders who had similar RPI scores. Offenders who received an RPI score of 0, 1, or 2 are described first. The profile for offenders who received a score of 3, 4, or 5 is presented next, followed by the profile for offenders who scored a 6, 7, 8, or 9. In each section the information for that group of offenders is shown in comparison with the information for all offenders as a whole.

The profile sections are structured identically. A brief digest introduces each section and highlights some of the information presented in the tables and figures. The first table presents the number of offenders who obtained each score and the percentage who succeeded on supervision and the percentage who recidivated. The "Outcome

Status of Offenders” table recaps the basic success and recidivism percentages for the group. It also presents a more detailed breakdown of the outcome, specifically identifying the types of recidivism activity. For offenders who were rearrested, percentages are given for the type of rearrest offense.¹

Time-to-failure information is presented next for offenders who recidivated. Recorded in 30-day months, time to failure represents the time from the start of supervision to the date of the first rearrest while on supervision or the date supervision was revoked, whichever occurred first. The graphs illustrate the percentage of all recidivating offenders who had recidivated by the time indicated. For example, Figure 3 shows that 50% of all offenders who recidivated did so within about 14 months of the start of supervision. Among offenders who received a score of 0, 1, or 2, however, more than 22 months passed before 50% of the offenders who would eventually recidivate had done so. The tables present the average time to failure (mean) as well as the points by which 10%, 50% (median), and 90% of the recidivating offenders had recidivated.

The final table in each section presents demographic information for offenders in the profile group and all offenders, such as type of supervision and employment status, broken down into categories. The percentage of offenders falling into each category is given in the table, along with the percentage of those offenders who recidivated. For example, Table 5 shows that, among all offenders, 57.5% were probationers, and 30.0% were parolees. Of the probationers, 16.9% recidivated; 34.5% of the parolees recidivated.

All of these tables and figures indicate the number of offenders (*n*) in the group being described. This number may vary within a group because of missing information for some offenders (e.g., missing dates for the start of supervision, actual rearrest charge unknown) or because the information is only applicable to a subset of the group (e.g., arrest information only for those rearrested). Officers have to be careful when interpreting the recidivism rate when the number of offenders possessing a particular characteristic is small.

1. Several offense groupings for both instant and rearrest offenses are included in the profile tables. “Property offenses” are burglary, larceny, and theft. “White collar offenses” are embezzlement and fraud. “Federal statute offenses” include conservation and gaming law violations, obstruction of mail, and violation of explosives laws. “Traffic offenses” include drunk driving and other serious moving violations; for “instant” offenses these violations would have occurred on federal land, including parkways, parks, reservations, and military facilities; for “rearrest” offenses the violations could have occurred anywhere. “Other” instant offenses include small numbers of counterfeiting, forgery, sex offenses, auto theft, escape, bribery, extortion, racketeering, kidnapping, gambling, perjury, and arson. “Other” rearrest offenses include primarily escape, absconding, and supervision violations; public drunkenness; and disorderly conduct.

Profile for RPI Scores 0, 1, 2

Approximately 60% of all offenders obtained an RPI score of 0, 1, or 2. These offenders were most often probationers (68.5%), with no criminal history (63.3%), and no drug use or alcohol abuse history (74.2%). Almost half were older offenders (49.0% were age 40 or older). More than three-quarters (76.6%) were employed. The most common instant offense types were white-collar offenses (32.3%) and drug offenses (23.5%); assaults (2.0%), weapons offenses (1.8%), and property offenses (7.2%) were lower in this group than in the general sample.

The recidivism rate for these offenders was 10.5%, which is less than half the recidivism rate for the overall sample. Over 70% of the recidivating offenders had an indication of rearrest or additional criminal activity (i.e., 7.5% of all offenders scoring 0, 1, or 2). The remaining recidivists (i.e., 3% of the group) had their supervision revoked for technical reasons. Nearly 28% of the rearrests were for traffic violations, and another 19% were for drug offenses. Recidivating offenders in this group were typically on supervision longer before their arrest or revocation, which is illustrated by a time-to-failure curve to the right of the curve for the overall sample (see Figure 3). **Fifty percent of the recidivating offenders in this group did so within 23 months of the start of supervision.**

Table 2
RPI Scores 0, 1, 2
Percentage of Offenders Succeeding and
Percentage Recidivating by RPI Score

RPI Score	Number of Offenders (% of All Offenders)		% Succeeded	% Recidivated
0	199	(9.1%)	95.5	4.5
1	584	(26.6%)	91.6	8.4
2	521	(23.7%)	84.8	15.2
All 0, 1, 2	1,304	(59.3%)	89.5	10.5

Table 3
RPI Scores 0, 1, 2
Outcome Status of Offenders
(In Percentages)

Outcome	RPI 0, 1, 2 (n = 1,304)	All Cases (n = 2,199)
Basic Outcome		
Successful completion of supervision, no rearrests	89.5	77.2
Recidivated: rearrested or supervision revoked	10.5	22.8
Detailed Outcome		
Successful completion of supervision, no rearrests, no positive drug tests	85.1	69.3
Successful completion of supervision, no rearrests, 1 or more positive drug tests	4.4	7.9
Successful completion of supervision, rearrested	3.3	6.1
Supervision revoked: technical, no rearrest	3.0	6.6
Supervision revoked: technical, rearrested	1.0	2.6
Supervision revoked: additional criminal activity	3.2	7.5
Rearrest Offense		
	(n = 90)	(n = 331)
Assault, homicide, robbery	5.6	7.6
Drug offense	18.9	19.6
Federal statute offense	3.3	1.5
Firearms and weapons offense	0.0	3.0
Immigration offense	1.1	0.9
Property offense	8.9	11.8
Traffic offense	27.8	22.4
White collar offense	4.4	3.0
Other	30.0	30.2

Figure 3
RPI Scores 0, 1, 2
Time to Failure for Recidivating Offenders

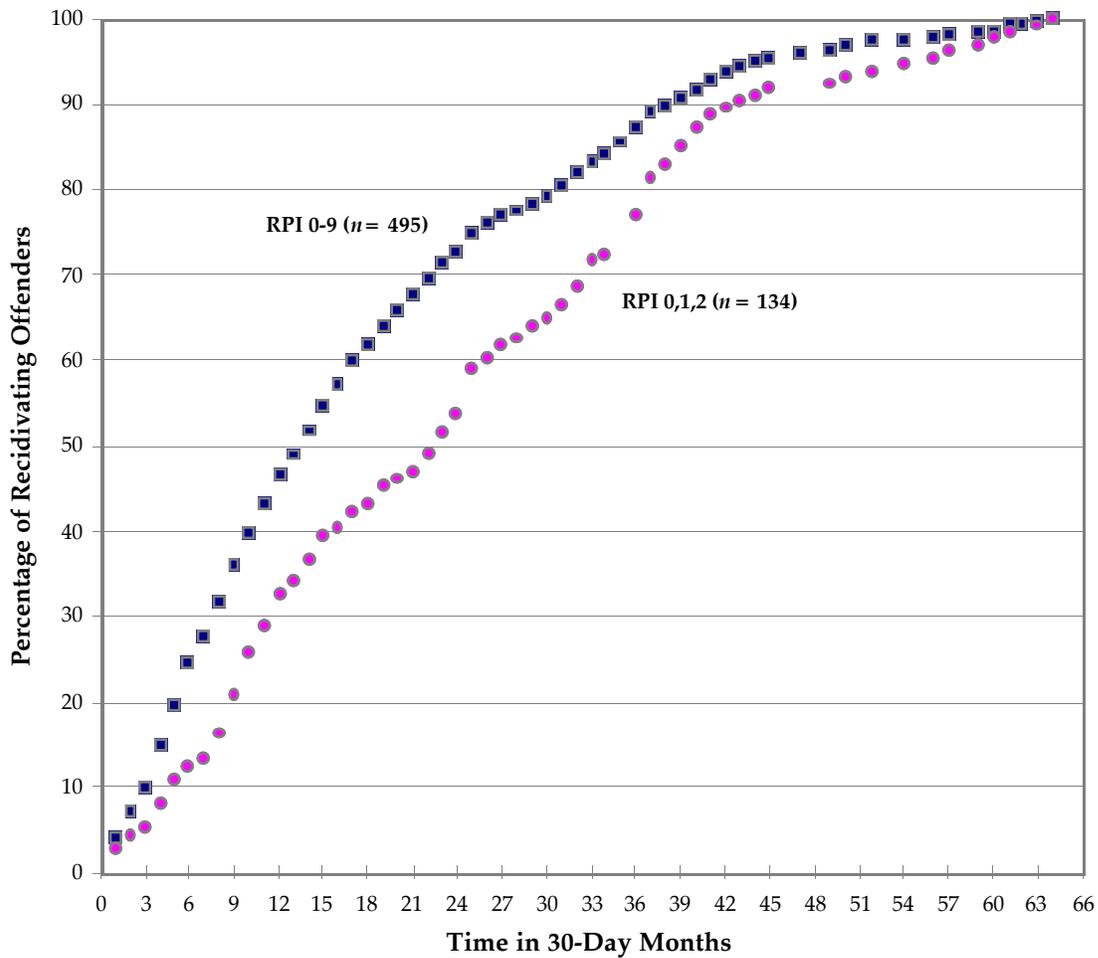


Table 4
RPI Scores 0, 1, 2
Time to Failure for Recidivating Offenders
(In 30-Day Months)

Recidivating Offenders	RPI 0, 1, 2 (n = 134)	All Cases (n = 495)
Mean	23.4	17.4
10%	4.3	3.0
50% (Median)	22.5	13.4
90%	42.5	38.0

Table 5
RPI Scores 0, 1, 2
Comparison of Outcomes for Demographic Categories

Demographic Category	RPI 0, 1, 2 (n = 1,304)		All Cases (n = 2,199)	
	% Offenders	% Recidivated	% Offenders	% Recidivated
Supervision				
Probation	68.5	9.3	57.5	16.9
Parole	22.3	15.1	30.0	34.5
Mandatory release	6.5	5.9	9.7	19.6
Supervised release	2.7	14.3	2.8	32.3
Instant offense				
Assault, homicide, robbery	2.0	11.5	4.4	41.2
Drug offense	23.5	12.1	28.7	26.3
Federal statute offense	10.0	6.2	7.7	15.4
Firearms and weapons offense	1.8	21.7	4.3	39.0
Immigration offense	2.9	7.9	2.3	17.7
Property offense	7.2	16.0	9.1	27.6
Traffic offense	9.4	8.1	8.5	14.4
White collar offense	32.3	10.0	23.6	15.0
Other	10.9	9.9	11.4	25.5
Age at supervision				
19 or younger	1.2	13.3	1.6	25.0
20 to 29	19.3	13.6	28.2	29.0
30 to 39	30.6	12.0	34.0	25.7
40 to 49	27.2	9.6	21.8	18.6
50 to 59	14.0	8.8	9.6	12.9
60 or older	7.8	2.9	4.8	4.8
Prior arrest history				
No prior arrests	63.3	7.3	45.4	10.6
1 or 2 prior arrests	24.4	16.0	23.9	24.9
3–9 prior arrests	11.8	16.9	24.5	38.7
10 or more prior arrests	0.5	0.0	6.2	41.6

Table 5 (continued)
RPI Scores 0, 1, 2
Comparison of Outcomes for Demographic Categories

Demographic Category	RPI 0, 1, 2 (n = 1,304)		All Cases (n = 2,199)	
	% Offenders	% Recidivated	% Offenders	% Recidivated
History of drug use or alcohol abuse				
No	74.2	10.1	49.7	13.9
Yes	25.8	11.6	50.3	31.7
Employment status				
Employed	76.6	10.5	66.9	18.9
Not employed	23.4	10.5	33.2	30.7
Education level				
No degree	31.9	12.8	43.4	31.0
High school diploma/ GED/trade school diploma	52.2	10.4	47.0	18.5
College degree	15.9	5.9	9.5	6.3

Profile for RPI Scores 3, 4, 5

Approximately one-third of all offenders obtained an RPI score of 3, 4, or 5. This group shows a relatively even split of probation offenders (45.8%) and post-incarceration offenders (54.2%). These offenders were primarily younger (84.3% were under age 40) and had a higher level of drug use or alcohol abuse (84.3%) and a greater incidence of at least one prior arrest (76.6%) than the general sample. Forty-four percent were unemployed. In this group, drug offenses predominate (38.1%) the instant offense types, and white collar offenses (11.2%) and federal statute offenses (4.9%) were less frequent than in the general sample.

The recidivism rate for these offenders was 38.0%, which is more than 1.5 times the recidivism rate for the overall sample. Seventy percent of the recidivating offenders (i.e., 26.5% of all the offenders in this category) had an indication of rearrest or additional criminal activity. The remaining recidivating offenders (i.e., 11.5% of the total group) had their supervision revoked for technical reasons. In this group, the most common types of rearrests among the main offense types were drug offenses (20.7%) and traffic offenses (18.5%). For offenders who did recidivate, their time-to-failure values matched very closely those of the overall sample. **Fifty percent of the recidivating offenders in this group did so within 12 months of the start of supervision.**

Table 6
RPI Scores 3, 4, 5
Percentage of Offenders Succeeding and
Percentage Recidivating by RPI Score

RPI Score	Number of Offenders (% of All Offenders)		% Succeeded	% Recidivated
3	380	(17.3%)	67.4	32.6
4	225	(10.2%)	58.7	41.3
5	127	(5.8%)	52.0	48.0
All 3, 4, 5	732	(33.3%)	62.0	38.0

Table 7
RPI Scores 3, 4, 5
Outcome Status of Offenders
(In Percentages)

Outcome	RPI 3,4,5 <i>(n = 732)</i>	All Cases <i>(n = 2,199)</i>
Basic Outcome		
Successful completion of supervision, no rearrests	62.0	77.2
Recidivated: rearrested or supervision revoked	38.0	22.8
Detailed Outcome		
Successful completion of supervision, no rearrests, no positive drug tests	48.4	69.3
Successful completion of supervision, no rearrests, 1 or more positive drug tests	13.7	7.9
Successful completion of supervision, rearrested	10.0	6.1
Supervision revoked: technical, no rearrest	11.5	6.6
Supervision revoked: technical, rearrested	4.5	2.6
Supervision revoked: additional criminal activity	12.0	7.5
Rearrest Offense		
	<i>(n = 184)</i>	<i>(n = 331)</i>
Assault, homicide, robbery	8.7	7.6
Drug offense	20.7	19.6
Federal statute offense	0.5	1.5
Firearms and weapons offense	4.9	3.0
Immigration offense	0.5	0.9
Property offense	11.4	11.8
Traffic offense	18.5	22.4
White collar offense	2.7	3.0
Other	32.1	30.2

Figure 4
RPI Scores 3, 4, 5
Time to Failure for Recidivating Offenders

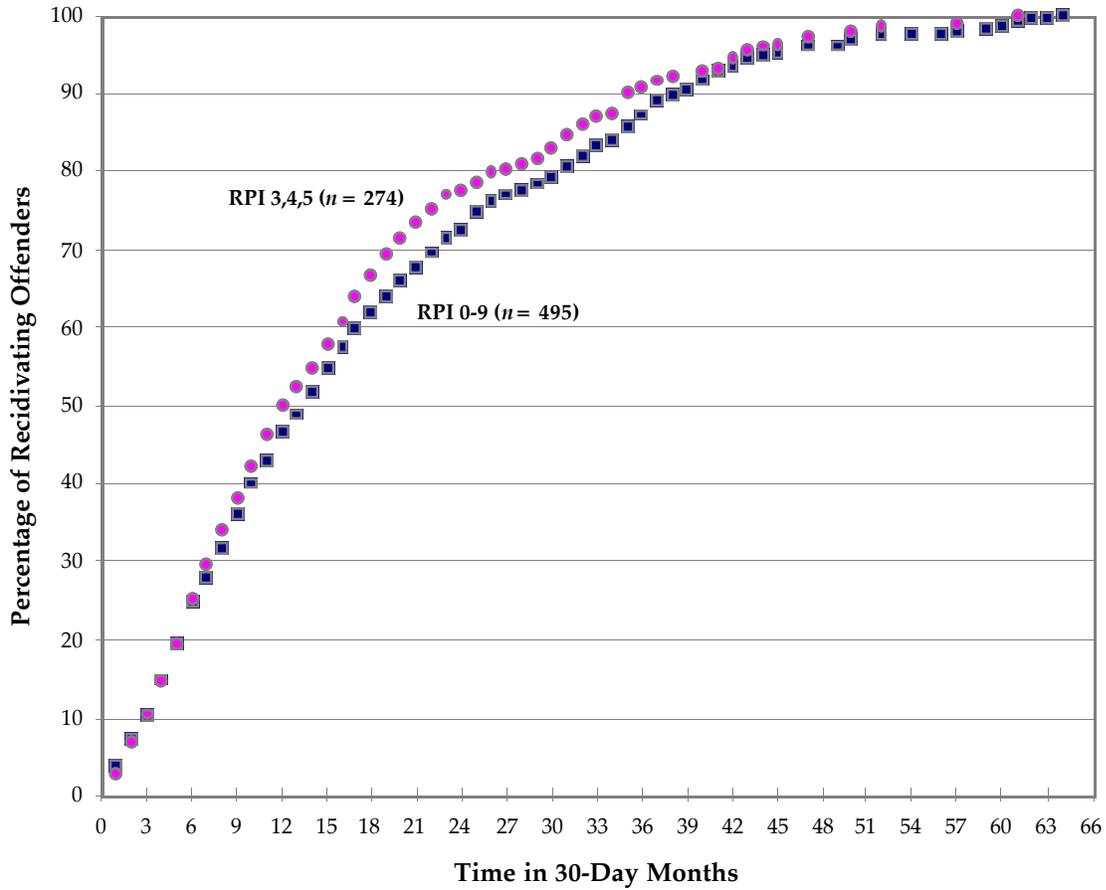


Table 8
RPI Scores 3, 4, 5
Time to Failure for Recidivating Offenders
(In 30-Day Months)

Recidivating Offenders	RPI 3, 4, 5 (n = 274)	All Cases (n = 495)
Mean	16.0	17.4
10%	3.0	3.0
50% Median	12.0	13.4
90%	35.0	38.0

Table 9
RPI Scores 3, 4, 5
Comparison of Outcomes for Demographic Categories

Demographic Category	RPI 3, 4, 5 (n = 732)		All Cases (n = 2,199)	
	% Offenders	% Recidivated	% Offenders	% Recidivated
Supervision				
Probation	45.8	32.2	57.5	16.9
Parole	40.0	47.1	30.0	34.5
Mandatory release	10.8	22.8	9.7	19.6
Supervised release	3.4	56.0	2.8	32.3
Instant Offense				
Assault, homicide, robbery	6.8	50.0	4.4	41.2
Drug offense	38.1	36.9	28.7	26.3
Federal statute offense	4.9	44.4	7.7	15.4
Firearms and weapons offense	7.4	44.4	4.3	39.0
Immigration offense	1.6	41.7	2.3	17.7
Property offense	11.5	34.5	9.1	27.6
Traffic offense	8.6	27.0	8.5	14.4
White collar offense	11.2	31.7	23.6	15.0
Other	9.8	45.8	11.4	25.5
Age at Supervision				
19 or younger	2.6	26.3	1.6	25.0
20 to 29	44.0	37.6	28.2	29.0
30 to 39	37.7	38.8	34.0	25.7
40 to 49	12.4	41.8	21.8	18.6
50 to 59	3.0	27.3	9.6	12.9
60 or older	0.3	50.0	4.8	4.8
Prior Arrest History				
No prior arrests	23.4	26.9	45.4	10.6
1 or 2 prior arrests	28.1	38.8	23.9	24.9
3–9 prior arrests	42.9	44.9	24.5	38.7
10 or more prior arrests	5.6	26.8	6.2	41.6

Table 9 (continued)
RPI Scores 3, 4, 5
Comparison of Outcomes for Demographic Categories

Demographic Category	RPI 3, 4, 5 (n = 732)		All Cases (n = 2,199)	
	% Offenders	% Recidivated	% Offenders	% Recidivated
History of drug use or alcohol abuse				
No	15.7	42.6	49.7	13.9
Yes	84.3	37.1	50.3	31.7
Employment status				
Employed	56.2	34.8	66.9	18.9
Not employed	43.9	42.1	33.2	30.7
Education level				
No degree	55.7	42.1	43.4	31.0
High school diploma/ GED/trade school diploma	43.9	32.4	47.0	18.5
College degree	0.4	33.3	9.5	6.3

Profile for RPI Scores 6, 7, 8, 9

Just over 7% of all offenders obtained an RPI score of 6, 7, 8, or 9. **Because the number of offenders in this group was small, particular care must be taken when interpreting the percentages presented here.** Post-incarceration offenders predominated (77.9%) in this group. Offenders fell primarily in the 30–39 age group (44.8%); few (4.3%) were age 50 or older. There was a high level of drug use or alcohol abuse in this group (93.9%), and virtually all offenders had at least one prior arrest (99.3%). Sixty-three percent were unemployed. Although there were a large number of drug offenses (27.6%), what stands out among the instant offense types is an assault rate (12.9%) almost triple the rate in the general sample, a more than double firearms and weapons offense rate (11.0%), and a higher than average property offense rate (12.9%). White collar offenses (9.8%), federal statute offenses (1.8%), and traffic offenses (0.6%) were much lower than in the general sample.

The recidivism rate for these offenders was 53.4%, which is more than twice the recidivism rate for the overall sample. The recidivism rate for this group is higher than the rates for the previous groups, but the score-by-score recidivism rates are lower than might have been expected, especially for offenders scoring 6 or 7, and don't show a clear increasing pattern.

Three-quarters of the recidivating offenders showed some indication of rearrest or additional criminal activity (39.8% of all offenders in this group). The remaining recidivists (i.e., 13.5% of the group) had their supervision revoked for technical reasons. The most common types of rearrests among the main offense types were traffic offenses (26.3%), drug offenses (17.5%), and property offenses (17.5%). Recidivating offenders had time-to-failure values shorter than those of the overall sample, which is illustrated by a time-to-failure curve to the left of that for the overall sample (see Figure 5). **Fifty percent of the recidivating offenders in this group did so within nine months of the start of supervision.**

Table 10
RPI Scores 6, 7, 8, 9
Percentage of Offenders Succeeding and
Percentage Recidivating by RPI Score

RPI Score	Number of Offenders (% of All Offenders)		% Succeeded	% Recidivated
6	79	(3.6%)	51.9	48.1
7	51	(2.3%)	51.0	49.0
8	24	(1.1%)	25.0	75.0
9	9	(0.4%)	33.3	66.7
All 6, 7, 8, 9	163	(7.4%)	46.6	53.4

Table 11
RPI Scores 6, 7, 8, 9
Outcome Status of Offenders
(In Percentages)

Outcome	RPI 6, 7, 8, 9 (n = 163)	All Cases (n = 2,199)
Basic Outcome		
Successful completion of supervision, no rearrests	46.6	77.2
Recidivated: rearrested or supervision revoked	53.4	22.8
Detailed Outcome		
Successful completion of supervision, no rearrests, no positive drug tests	36.2	69.3
Successful completion of supervision, no rearrests, 1 or more positive drug tests	10.4	7.9
Successful completion of supervision, rearrested	11.0	6.1
Supervision revoked: technical, no rearrest	13.5	6.6
Supervision revoked: technical, rearrested	6.7	2.6
Supervision revoked: additional criminal activity	22.1	7.5
Rearrest Offense		
	(n = 57)	(n = 331)
Assault, homicide, robbery	7.0	7.6
Drug offense	17.5	19.6
Federal statute offense	1.8	1.5
Firearms and weapons offense	1.8	3.0
Immigration offense	1.8	0.9
Property offense	17.5	11.8
Traffic offense	26.3	22.4
White collar offense	1.8	3.0
Other	24.6	30.2

Figure 5
RPI Scores 6, 7, 8, 9
Time to Failure for Recidivating Offenders

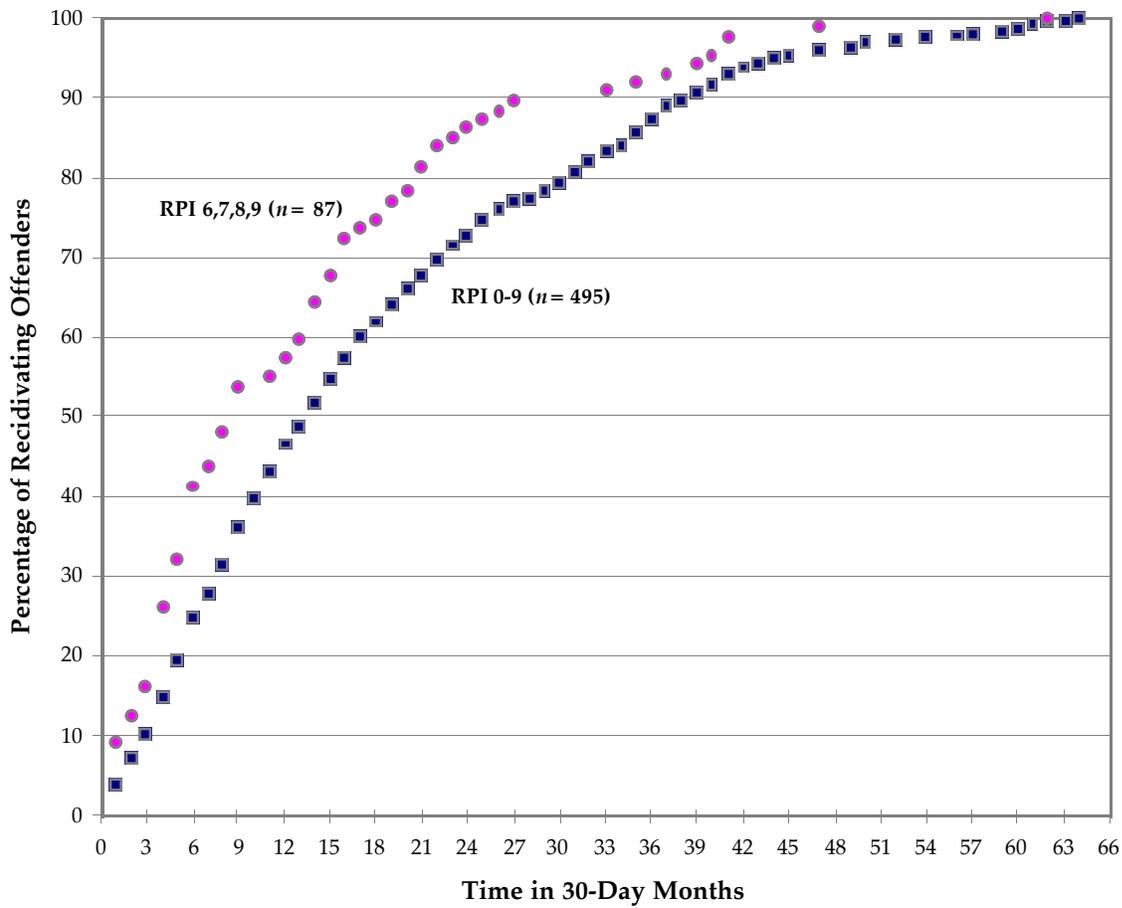


Table 12
RPI Scores 6, 7, 8, 9
Time to Failure for Recidivating Offenders
(In 30-Day Months)

Recidivating Offenders	RPI 6, 7, 8, 9 (n = 87)	All Cases (n = 495)
Mean	12.7	17.4
10%	1.0	3.0
50% (Median)	8.4	13.4
90%	33.0	38.0

Table 13
RPI Scores 6, 7, 8, 9
Comparison of Outcomes for Demographic Categories

Demographic Category	RPI 6, 7, 8, 9 (n = 163)		All Cases (n = 2,199)	
	% Offenders	% Recidivated	% Offenders	% Recidivated
Supervision				
Probation	22.1	61.1	57.5	16.9
Parole	46.0	60.0	30.0	34.5
Mandatory release	30.7	38.0	9.7	19.6
Supervised release	1.2	50.0	2.8	32.3
Instant Offense				
Assault, homicide, robbery	12.9	57.1	4.4	41.2
Drug offense	27.6	57.8	28.7	26.3
Federal statute offense	1.8	66.7	7.7	15.4
Firearms and weapons offense	11.0	44.4	4.3	39.0
Immigration offense	0.6	100.0	2.3	17.7
Property offense	12.9	52.4	9.1	27.6
Traffic offense	0.6	0.0	8.5	14.4
White collar offense	9.8	62.5	23.6	15.0
Other	22.7	46.0	11.4	25.5
Age at Supervision				
19 or younger	1.2	100.0	1.6	25.0
20 to 29	29.5	52.1	28.2	29.0
30 to 39	44.8	50.7	34.0	25.7
40 to 49	20.3	51.5	21.8	18.6
50 to 59	3.7	83.3	9.6	12.9
60 or older	0.6	100.0	4.8	4.8
Prior Arrest History				
No prior arrests	0.6	0.0	45.4	10.6
1 or 2 prior arrests	1.2	0.0	23.9	24.9
3–9 prior arrests	42.9	58.6	24.5	38.7
10 or more prior arrests	55.2	51.1	6.2	41.6

Table 13 (continued)
RPI Scores 6, 7, 8, 9
Comparison of Outcomes for Demographic Categories

Demographic Category	RPI 6, 7, 8, 9 (n = 163)		All Cases (n = 2,199)	
	<i>%</i> Offenders	<i>%</i> Recidivated	<i>%</i> Offenders	<i>%</i> Recidivated
History of drug use or alcohol abuse				
No	6.1	50.0	49.7	13.9
Yes	93.9	53.6	50.3	31.7
Employment status				
Employed	36.8	50.0	66.9	18.9
Not employed	63.2	55.3	33.2	30.7
Education level				
No degree	80.5	53.9	43.4	31.0
High school diploma/GED/ trade school diploma/	19.5	51.6	47.0	18.5
College degree	0.0	—	9.5	6.3

Appendix: Description of the Research

In December 1991, the Committee on Criminal Law of the Judicial Conference asked the Federal Judicial Center to revisit the issue of risk assessment in the federal probation system and create a new management tool to help federal probation officers better assess the recidivism risk posed by the offenders they supervise. In response to this request, the Center's Research Division undertook a large-scale recidivism study with the full cooperation and assistance of the Federal Corrections and Supervision Division of the Administrative Office, the Federal Bureau of Prisons (BOP), and the United States Parole Commission.²

The Center identified a national sample of 3,009 offenders who, in 1989, were accepted for active supervision after release from a BOP institution, or upon the imposition of court-ordered probation or other nonincarcerative judicial sanction. These offenders constitute an 8% systematic random sample of all offenders received for supervision in 1989. The Center also added to the sample all Native American offenders (502) and all sex offenders (238) who were received for supervision in 1989 but were not included in the systematic sample. This resulted in a total research sample of 3,749 offenders. Extensive data were collected on more than 3,300 of these offenders directly from case files. However, only offenders from the systematic sample, which similarly included 8% of the Native American and sex offender populations, were used to do the model-building analyses; full data were collected on 2,651 of those offenders (see Table 14).

The Center conducted a detailed statistical analysis and developed the new Risk Prediction Index (RPI) based on a logistic regression model of the recidivism rate presented by the analysis sample of 2,651 offenders.³ After the model was developed, it was internally validated and shown to provide more useful assessments of the recidivism risk posed by newly released federal offenders than the recidivism prediction instruments currently used in the federal system.

With the Committee on Criminal Law's approval, in early 1996, the Center conducted a field test in eleven federal probation districts (New Hampshire, Eastern Pennsylvania, Arizona, Utah, New Jersey, Northern California, Central California,

2. We used a very broad definition of "recidivism." Based on information from probation office case files and federal databases that report arrest information, our definition of recidivism included any revocation of probation, parole, supervised release, or mandatory release; any arrest, under federal, state, or local jurisdiction; or any occurrence of absconding from supervision. Cases were followed only during the term of supervision or until the end of calendar year 95 if supervision was still active at that time. Death resulting from illegal conduct or activity (e.g., drug overdose, killed by law enforcement officers during a robbery) counted as a recidivistic event. Deportation or death unrelated to criminal activity, without an intervening arrest or revocation, was considered successful completion of supervision.

3. To investigate the effect of the loss of some sample cases as a result of difficulties in obtaining or coding the case files, we compared the original population of offenders received for supervision in 1989 and the offenders included in the analysis sample on several demographic characteristics (see Table 15). In all of the subcategories, the percentage breakdowns for the two groups were very similar. The largest observed difference, 2.6% in the ethnicity category, reflects a slightly higher representation of Hispanic offenders in the analysis sample than in the population.

Wyoming, Northern Texas, Southern Alabama, and Southern Florida). The results of the field test indicated that the new risk prediction instrument maintained its predictive accuracy when used to assess a new sample of offenders who had recently completed active federal supervision (see Table 16). The Center believes that its research demonstrates that the Risk Prediction Index is reliable, valid, and easy to use and interpret.

Table 14
Status of Data Collection for the
1989 Supervision Sample

	8% Systematic Sample Plus Special Offenders^a	8% Systematic Sample Only
Cases selected for the study	3,749	3,009
Cases received	3,540	2,834
Cases coded for inclusion in the analyses (some cases excluded because of coding problems or misidentification as 1989 supervision cases)	3,310	2,651
Sample cases with RPI score and non- missing outcome information	—	2,199

a. "Special offenders" were Native American and sex offenders received for supervision in 1989 but not included in the systematic sample.

Table 15
Comparison of Selected Demographic Characteristics for
Population of Offenders Received in 1989 and RPI Analysis Sample

Characteristic	Population (n = 36,096)	Analysis Sample (n = 2,651)
Race		
African American/Black	26.6	26.4
Asian	1.5	1.4
Caucasian/White	70.4	70.4
Native American	1.5	1.6
Other	0.0	0.1
Ethnicity		
Hispanic	11.7	14.3
Non-Hispanic	88.3	85.7
Gender		
Female	18.4	19.5
Male	81.6	80.5
Type of Supervision		
Probation	55.0	56.4
Parole, mandatory release	42.1	40.9
Supervised release	2.9	2.7
Offense		
Assault	1.1	1.3
Auto theft	1.0	0.9
Drug offense	31.2	29.5
Federal statute offense	6.5	7.4
Forgery and counterfeiting	4.6	4.8
Homicide	0.4	0.4
Miscellaneous	10.8	11.4
Property offense	8.9	8.6
Robbery	3.7	2.9
Sex offense	0.8	0.9
Traffic offense	8.8	9.6
White collar offense	22.0	22.3

Table 16
Percentage of Offenders Succeeding and Percentage Recidivating
in RPI Field Test Verification Sample

RPI Score	Number of Offenders	% Succeeded	% Recidivated
0	24	100.0	0.0
1	63	92.1	7.9
2	60	78.3	21.7
3	38	65.8	34.2
4	35	42.9	57.1
5	18	50.0	50.0
6	16	37.5	62.5
7	7	28.6	71.4
8	12	8.3	91.7
9	5	0.0	100.0
All scores	278	67.3	32.7

Attachment: Directions for Using the Hand-Calculation Worksheet

The hand-calculation version of the Risk Prediction Index Calculation Worksheet included in this pamphlet (detachable last page) provides officers with an alternative method of computing an RPI score. This method is similar to, but not exactly like, the hand-scored worksheets for the Salient Factor Score and RPS-80 that officers have used in the past. See Figure 6 for an example of a completed worksheet.

To compute an RPI score, follow these steps:

1. Determine the offender's age at the start of supervision by subtracting the offender's date of birth from the date supervision started. Do the calculation in years and months only; for example, if supervision started on April 10, 1997, and the offender was born on October 20, 1963, the offender was 33 years and 6 months old at the start of supervision.
2. Since the Age Table you will use in the calculation is scaled in years only, the age you have calculated must be converted to years. If the number of months is 5 or fewer, use the year you have calculated as is (e.g., 24 years 4 months = 24). If the number of months is 6 or more, then add one to the number of years you have calculated (e.g., 24 years 8 months = 25). Enter the age in years in the first "Answer" block of the worksheet.
3. Next find that age in the left-hand column of one of the sections of the Age Table on the back of the Hand-Calculation Worksheet. Look across to the corresponding right-hand column and obtain the point value associated with that age (e.g., an age of 24 corresponds to a point value of 367, and an age of 50 corresponds to a point value of 280). Enter the correct point value in the first "Value" block.
4. Enter the number of prior arrests in the second "Answer" block. Remember that this number should range from 0 to 15; if more than 15 prior arrests have occurred, enter 15. Now multiply the number in the answer block by 13; enter the result in the second "Value" block.
5. Answer the six remaining questions on the worksheet by marking the "Yes" or "No" response as appropriate. Then following the information in the "Directions" column, enter the indicated point values in the "Value" blocks as appropriate. Sometimes a "Yes" answer will cause you to enter points and sometimes a "No" answer will, depending on the question (e.g., if the answer to the employment question is "No" then you should enter 42 in the "Value" block; if the answer to the drug or alcohol history question is "No," you should leave the "Value" block blank).
6. Add up the points in the "Value" column to obtain a preliminary score and enter it in the second to last "Value" block.

7. Look up the preliminary score in the RPI Score Table on the back of the Hand-Calculation Worksheet. The left-hand column of this table consists of a series of value ranges (e.g., “from 547 to 594”). Determine which range the preliminary score falls into and obtain the corresponding RPI score from the right-hand column (e.g., a preliminary score of 400 falls within the range 362 to 482 and thus corresponds to an RPI score of 1).
8. Enter the calculated RPI score in the last block of the “Value” column.

Scores Obtained with the Hand-Calculation Worksheet

The RPI scores obtained with the Hand-Calculation Worksheet occasionally differ from the RPI scores obtained with the computer application. In over 2,000 test calculations the scores never differed by more than 1. The scores were the same 98.5% of the time. In about 1% of the cases, the score derived from the hand calculation was 1 higher than that obtained with the computer program. In about 0.5% of the cases, the hand calculation resulted in an RPI score that was 1 less than the score from the computer program. The differences result from the fact that, for the sake of simplicity, the hand calculation uses a less accurate, rounded value for age, and only two-digit values for the item points. The computer program uses more precise values in its computations.

An officer may want to consider recalculating the RPI with the computer program if the preliminary score was equal to or very close to either the minimum or maximum value of the selected range. In those situations the slight imprecision in the hand calculation is more likely to have caused the preliminary score to fall into one category rather than another. An RPI score calculated with the computer program should always take precedence over a score obtained with the Hand-Calculation Worksheet.

Figure 6
Example of Completed Hand-Calculation Worksheet

Offender's Name: **John Jones**

PO's Name: **Fred Smith**

Date Calculated: **4/23/97**

Date Supervision Started: **4/21/97**

Question	Answer	Directions	Value
What was the offender's age at the start of supervision?	24	Look up value for age on attached worksheet	367
How many times was the offender arrested prior to the instant offense (0-15)?	2	Multiply answer by 13 ----> if 0 leave blank	26
Was a weapon used in the commission of the instant offense?	Yes: _____ No: <u>X</u>	If Yes : enter 51 ----> otherwise leave blank	
Was the offender employed at the start of supervision?	Yes: _____ No: <u>X</u>	If No : enter 42 ----> otherwise leave blank	42
Does the offender have a history of illegal drug usage or alcohol abuse?	Yes: <u>X</u> No: _____	If Yes : enter 58 ----> otherwise leave blank	58
Has the offender ever absconded from a previous period of supervision?	Yes: _____ No: <u>X</u>	If Yes : enter 98 ----> otherwise leave blank	
Does the offender have a college degree?	Yes: _____ No: <u>X</u>	If No : enter 84 ----> otherwise leave blank	84
Was the offender living with a spouse and/or children at the start of supervision?	Yes: <u>X</u> No: _____	If No : enter 51 ----> otherwise leave blank	
Preliminary Score		Add up the numbers in the Value column	577
Calculated RPI Score		Look up value for the RPI Score on the attached worksheet	3

Risk Prediction Index Hand-Calculation Worksheet

Offender's Name:

PO's Name:

Date Calculated:

Date Supervision Started:

Question	Answer	Directions	Value
What was the offender's age at the start of supervision?		Look up value for age on attached worksheet	
How many times was the offender arrested prior to the instant offense (0-15)?		Multiply answer by 13 ----> if 0 leave blank	
Was a weapon used in the commission of the instant offense?	Yes: ____ No: ____	If Yes : enter 51 ----> otherwise leave blank	
Was the offender employed at the start of supervision?	Yes: ____ No: ____	If No : enter 42 ----> otherwise leave blank	
Does the offender have a history of illegal drug usage or alcohol abuse?	Yes: ____ No: ____	If Yes : enter 58 ----> otherwise leave blank	
Has the offender ever absconded from a previous period of supervision?	Yes: ____ No: ____	If Yes : enter 98 ----> otherwise leave blank	
Does the offender have a college degree?	Yes: ____ No: ____	If No : enter 84 ----> otherwise leave blank	
Was the offender living with a spouse and/or children at the start of supervision?	Yes: ____ No: ____	If No : enter 51 ----> otherwise leave blank	
Preliminary Score		Add up the numbers in the Value column	
Calculated RPI Score		Look up value for the RPI Score on the attached worksheet	

**Risk Prediction Index
Hand-Calculation Worksheet Attachments**

Age Table

Age	Value	Age	Value	Age	Value	Age	Value
11 or younger	356	31	358	51	274	71	105
12	358	32	356	52	267	72	94
13	360	33	353	53	261	73	83
14	362	34	351	54	254	74	72
15	363	35	348	55	247	75	60
16	364	36	345	56	240	76	49
17	365	37	341	57	232	77	37
18	366	38	338	58	224	78	25
19	367	39	334	59	216	79	13
20	367	40	331	60	208	80 or older	0
21	368	41	326	61	200		
22	368	42	322	62	191		
23	367	43	318	63	183		
24	367	44	313	64	174		
25	366	45	308	65	164		
26	365	46	303	66	155		
27	364	47	297	67	145		
28	363	48	292	68	135		
29	361	49	286	69	125		
30	360	50	280	70	115		

RPI Score Table

If the Preliminary Score is	the RPI Score is
less than or equal to 361	0
from 362 to 482	1
from 483 to 546	2
from 547 to 594	3
from 595 to 635	4
from 636 to 676	5
from 677 to 717	6
from 718 to 765	7
from 766 to 829	8
greater than or equal to 830	9