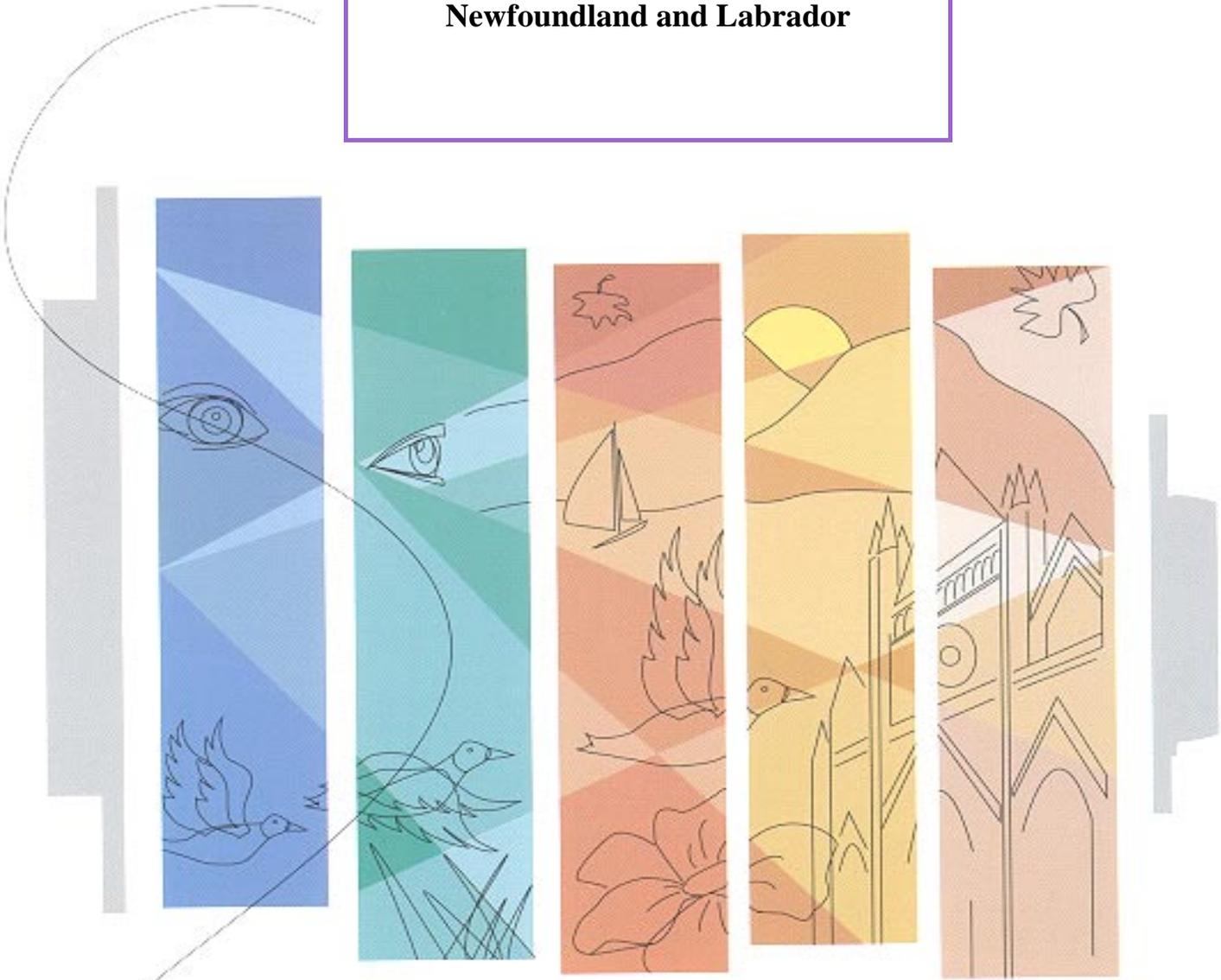




Research Branch
Direction de la recherche

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**Validation of an Adult Offender
Classification System for
Newfoundland and Labrador**



Validation of an Adult Offender Classification System for Newfoundland and Labrador

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The points of view expressed in this research report are those of the authors and do not necessarily reflect the views of the Correctional Service of Canada. This report is also available in French. Ce rapport est également disponible en Français. It is available from Correctional Research and Development, Correctional Service of Canada, 340 Laurier Avenue West, Ottawa (Ontario), K1A 0P9.

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Executive Summary

The Community Corrections Branch of the Department of Justice of Newfoundland and Labrador introduced the Wisconsin Case Classification System in October 1984. The system combines several recidivism risk indicators, including criminal history and psycho-social functioning, to classify probationers into high, medium, and low risk levels. The classification procedures provide an objective method of matching probationer risk levels with supervision standards. Frequency of contact with probation officers and casework time is allotted to individual cases in proportion to the risk level identified by the classification system. Hence, probationers at highest risk of becoming reinvolved in criminal activity automatically receive the highest levels of supervision.

The implementation of the system included a research component aimed at evaluating the effectiveness of the Wisconsin system in Newfoundland and Labrador. Reconvictions for offences committed during probation were monitored for 200 probationers who had been classified using the Wisconsin system. The recidivism rate, including reconvictions and absconsions, was 10.5 % (21/200).

The Wisconsin system showed a good measure of success in identifying probationers who would reoffend during supervision. The recidivism rate for cases classified as low risk was 3%, while the rate for medium and high risk cases was 17%. Statistical tests revealed that the difference in recidivism observed for "low" versus "medium and high" risk groups was greater than would be expected by chance. The success of the system can be measured in terms of the fact that close to 50% of the 200 cases had been defined as low risk probationers, and members of this group subsequently recidivated at a very low rate.

The classification levels also predicted regular versus early terminations of supervision. Fifty percent of low risk cases received early terminations compared to 13% among medium and high risk cases. This difference was also statistically significant.

A shortcoming of the system was that it failed to differentiate between the recidivism rates of medium and high risk cases. However, exploratory analyses indicated that changes to the scoring of the Wisconsin Risk/Need device would not result in improvements to the classification system currently in use.

Reassessments conducted using the Wisconsin system were also completed for a sub-sample of 108 cases. On average, reclassifications were completed 8 months after initial classification. The results indicated a high degree of predictive validity for reclassifications. Recidivism rates of 1.5%, 37.9% and 54.5% were recorded for cases reclassified low, medium and high risk, respectively. Thus, the initial inability of the system to discriminate between medium and high risk cases was no longer observed when reclassifications were examined.

Although no experimental data were available to adequately explore the question, it is possible that the low recidivism rate of 10.5% reported for this sample of probationers was partially a function of the effectiveness of the classification system. According to this argument, a large proportion of probationers at high risk of reoffending were successfully classified and assigned appropriate levels of supervision.

The major conclusion of the research is that the Wisconsin system demonstrated very adequate levels of predictive validity. There was ample evidence in the findings to justify continued use of the system in Newfoundland and Labrador. It is recommended that reclassification of cases be conducted more routinely in order to derive maximum benefits from the system.

Introduction

Classification systems based on the quantitative assessment of offender risk and need are widely used in probation and parole services as methods for determining levels of supervision (Clear and Gallagher, 1985). In October of 1984, an adult offender classification system was introduced in probation agencies in Newfoundland and Labrador (Government of Newfoundland and Labrador, Department of Justice, 1985). Components of a system designed by the Wisconsin Bureau of Community Corrections (Baird, Heinz, and Bemus, 1979) were adopted. The Wisconsin Case Classification System has come to be regarded as a "model" system in the United States (Wright, Clear and Dickson, 1984). The system provides for the assessment of offender risk and needs at probation intake as well as reassessments at six-month intervals during the course of the supervision period.

In the language of classification, "risk" refers to the relative likelihood of unsuccessful correctional outcomes. Indicators of risk are usually comprised of static characteristics of offenders such as criminal history. While "need" also pertains to assessments of the probability of negative outcomes, normally this category of risk denotes client needs for services that address particular problems or skill deficits. Information regarding risk and need levels is used by correctional staff to select the most appropriate levels of service to be extended to offenders. Most classification systems operate on the assumption that in order to reduce the chances of recidivism, offenders exhibiting high levels of risk and need should be assigned correspondingly high levels of service.

Although the primary goal of case classification systems is to control recidivism through improved case management decision making, other functions include information for budget planning, officer workload assignments, client information systems, and other administrative functions (Baird, Heinz, and Bemus, 1979).

A concern raised in the correctional literature is that the classification instruments introduced by many community supervision agencies remain in use without empirical validation. Clear and Gallagher (1983; 1985) have cautioned that a pre-existing classification instrument developed and tested for a specific agency should not be adopted by another agency without careful attention to the possibility that it may lack validity in the new setting. They also suggest that risk/need cut-off scores used to establish supervision levels must be tailored to accommodate local variations in supervision objectives and characteristics of communities. For example, the type of offender identified as a medium risk in one jurisdiction might be at high risk of reoffending in another region. Wright, Clear and Dickson (1984) have also demonstrated that scoring procedures (e.g., item weights) found to be effective in one region may produce inefficient predictions of correctional outcomes in an alternative setting.

At the time classification was introduced in Newfoundland and Labrador, an evaluation of the utility of the system was planned. The purpose of the present

report is to assess the validity of the Wisconsin risk/needs model for use in probation agencies in Newfoundland and Labrador. The validation was conducted using a sample of 200 closed probation cases for which classification and in-program recidivism data were available. The following issues are addressed in the report: the ability of risk and need scores to forecast outcome; the predictive validity of individual components of the risk/need scales, the usefulness of risk/need reassessments; and whether or not the scoring procedures and classification cut-off points developed in Wisconsin are appropriate for Newfoundland probation agencies.

The Wisconsin Case Classification System

The Wisconsin system yields risk and need scores based on information derived from official records and interviews conducted by correctional case management staff. The assessment is generally completed within thirty days of an offender's assignment to an officer. Total risk scores are calculated by simple summation of scores on the following eleven risk items: address changes in last 12 months; employment in last 12 months; alcohol use problems; other drug use problems; attitude; age at first conviction; prior probation/ parole; probation/parole breaches or revocations; prior convictions for indictable offences; prior/current offence types; prior/current convictions for assaultive offences. Each item is weighted to reflect the magnitude of its association with recidivism. In the case of assaultive offences a higher weight was selected to acknowledge the importance of public protection concerns associated with this offence.

The total need score is composed of twelve weighted items: academic/vocational skills; employment problems; financial management; marital/family relationships; companions; emotional stability; alcohol use; other drug use; mental ability; health; sexual behaviour; officer's impression of offender need. The need items are weighted to correspond to the average amount of time officers may need to devote in managing or dealing with each type of offender need. The weighting schemes used to arrive at total risk and need scores are presented in Appendix A.

The procedure for determining classification levels involves categorizing total risk and need scores into high, medium and low categories using the cut-off scores of 8 and 15 for risk and 14 and 29 for need. For individual cases, the highest level of classification observed for either risk or needs decides the offender's assignment to low, medium or high levels of supervision. An override option is exercised when court^aordered conditions specify levels of supervision or when particular information about an offender suggests a higher or lower assignment than the level identified by the classification system. Normally, the use of overrides does not exceed 10% of cases.

Reassessments of risk and need are conducted every six months so that classification levels can be appropriately adjusted to reflect the supervision progress of offenders. In addition to the components that comprise initial risk scores, reassessment incorporates the following items: current living situation; social identification; response to court ordered conditions; and use of community resources. The items, attitude, prior probation/parole periods, and prior

convictions for assault, are excluded from the reassessment. This scoring procedure is designed to shift the emphasis from criminal history, to factors that assess the offender's response to community supervision. The items and weighting scheme for reassessment of risk are displayed in Appendix B.

Need reassessment employs the same components and weights that are used to define initial levels of need. As in the initial classification, reclassification is achieved by assigning offenders to the highest level observed on either risk or need.

Baird, Heinz and Bemus (1979) have elaborated on the development of the Wisconsin model and presented some information respecting its validity. Using the three level categorization based on total risk scores, Baird and his associates were able to predict rates of probation and parole revocations for a Wisconsin sample of over 4000 cases. The overall base rate for revocations was 11% with 2%, 9%, and 26% rates for low, medium, and high risk cases respectively.

Wright, Clear and Dickson (1984) reported less favourable results for a New York sample of 366 probationers for which in-program information on a variety of indices of recidivism were available: new arrests for non-trivial offences; revocation; absconsions; death during criminal act. The in-program "failure" rate, as defined by the above indicators, was 30%. The New York study found no significant relationship between overall risk scores and recidivism and only three of the eleven components of risk predicted failures at levels above chance. However, Wright, Clear and Dickson (1984) noted that when the weighting of risk items was replaced with simple dichotomies, the relationship between risk level and probation failure attained significant levels.

Andrews, Kiessling, Mickus and Robinson (1985) reported similar findings in a sample of Ontario offenders. They noted that risk scores based on binary scores were consistently superior to scores based on the Wisconsin weights. Using a sample of 124 offenders with jail sentences of less than two years, the binary form of the Wisconsin risk scale correlated .31 with recidivism after an average follow-up of 707 days. In a subsample of 87 incarcerates the binary version correlated .35 with institutional custody level, .17 with early versus regular release, and -.17 with transfers to community-based residential centres.

Baird, Heinz and Bemus, (1979) have presented inter-rater reliability estimates for need scores, and have shown that need scores are positively correlated with average number of hours of supervision time. However, the relationship between need scores and correctional outcome has not been reported by the Wisconsin group.

Motiuk and Porporino (1988) employed dichotomous versions of seven Wisconsin need items in a study of 221 Canadian offenders released on parole and mandatory supervision. They also measured risk with the Statistical Information on Recidivism Scale (Nuffield, 1982), an instrument designed for use in parole. Appropriately, all of the Wisconsin need factors were significantly higher for mandatory supervision cases than for cases granted parole. Three need factors, living arrangements, companions, alcohol/drug usage were

significantly related to the outcome of revocations. When the total need scores were divided into four levels, the following failure rates were observed: High Needs - 78%; Medium - 57%; Low - 41%; None - 26%. Moreover, Motiuk and Porporino showed that needs scores possessed higher predictive validity than scores on the risk scale that was employed.

The Wisconsin group (Baird, Heinz and Bemus, 1979) have also reported on the validity of supervision level assignments based on combined risk/need scores. In a quasi-experimental investigation they compared matched samples of 242 probation and parole cases from two regions in Wisconsin. The experimental group received levels of service that corresponded to their risk/needs classification, while the comparison group were reclassified but received only routine supervision. They found that high risk/need cases belonging to the experimental group had significantly fewer in-program arrests for new offences, most serious misdemeanors reported, absconsions, and revocations, than the comparison group. Overall, 17.7% of the high risk group receiving high levels of supervision had committed new offences while on probation, compared to 37.2% of the cases for which no special supervision standards were enforced.

Implementation of the Wisconsin System in Newfoundland

The Wisconsin system was introduced throughout the Community Corrections Branch of the Department of Justice of Newfoundland and Labrador beginning 15 October 1984.”• The system was used for all new probation intakes receiving sentences of 3 months supervision or more. The scoring procedures and classification cut-off scores recommended by the Wisconsin research group were adopted without modification. The levels of supervision contact established for Newfoundland probation were as follows: High Risk/Needs - 2.5 hours per month including two personal contacts with a probation officer; Medium - 1 hour per month with one personal contact; Low - .5 hours per month with one personal contact every two months.

Prior to implementation, probation office staff received a three day workshop which outlined the purpose of classification and provided training in the use of the Wisconsin system. A detailed manual was compiled (Government of Newfoundland and Labrador, Department of Justice, 1985) that described the development of the Wisconsin system, scoring and classification procedures, override usage, supervision contact standards, and instructions for recording information to be used in evaluating the effectiveness of the system. Overall, the quality of the implementation of the system in Newfoundland, including accompanying manuals and the training program, was judged to be very high.

We turn now to an examination of the research component of the implementation of the Wisconsin system in Newfoundland.

Method

Sample

The present sample is comprised of 200 Newfoundland and Labrador probationers. Following the implementation of the Wisconsin system in October 1984, risk/need assessments were completed for all new probation intake cases. The current sample represents the first 200 probation cases that were closed following the introduction of the Wisconsin system. The probationers were predominantly male (87.5%) and the mean age at supervision commencement was 26.6 years (s.d. = 9.53). Twenty^aeight percent of the offenders were under the age of twenty years.

The average length of the probation sentences was 10 months (s.d. = 3.53). Only 2% of the cases received sentences of less than six months duration, 30.5% received 6 months, 5.5% more than six months but less than one year, 58% one year, and 4%, more than one year. The longest probation sentence, two years, was received by only 3 probationers in the sample. In addition to probation, 23.5% of the offenders had also received a fine and 17% had received jail sentences (mean jail days = 68.38, s.d. = 122.3). Since probationers were excluded who had not completed their sentences at the time data collection was terminated, longer probation sentences may be underrepresented in this sample.

Table 1 presents frequencies of offence types associated with the index probation sentences. The modal offence category was property offences (43%), however, violent offences and spousal assault together accounted for almost 20% of the offences.

Table 1
Frequency of Offence Types for Index Probation Offence

Offence Type	n	%
Property	86	43.0
Violence	25	12.5
Spousal Assault	14	7.0
False Pretense/Fraud	13	6.5
Drug Offences	10	5.0
Mischief/Disturbance	31	15.5
Provincial Statutes	3	1.5
Other	18	9.0

Measures

Risk/Needs.

Risk and need scores were calculated according to the guidelines of the Wisconsin Classification system (Baird, Heinz and Bemus, 1979), already described. The measures include the eleven components of risk and total risk scores and the thirteen components of need and total need scores (See Appendix A.). Total scores were tri-chotomized to represent low, medium, and high risk and need cases, and a combined risk/need classification was constructed. In addition, the initial classification level, on which level of supervision decisions were based, was recorded to take into account the occurrence of overrides. Risk and need reassessment scores were also computed and a three level classification index was defined.

Outcome.

In-program recidivism constituted the principle outcome measure in this study. Evidence of recidivism included convictions for new offences committed during the probation period, as well as absconsions.

An overall outcome measure was constructed to include evidence of supervision progress and recidivism. The lowest level was used to represent the most favourable outcomes including court-ordered early terminations and cases declared administratively inactive before supervision expiry. The middle level was used for cases that completed the full supervision period without recidivating and the highest level was reserved for cases exhibiting in-program recidivism.

A third recidivism measure refers to the amount of time between probation commencement and the reoccurrence of offences for which there were convictions. This variable was measured in days. A fourth outcome index was designed to measure the relative severity of recidivistic offences. The following ordinal coding system was employed for the most serious offence committed: '0' no recidivism; '1' convictions for summary offences; '2' indictable offences including absconsions; '3' violent offences. This scale was modeled after the outcome measure employed by researchers in the development of the Wisconsin system, although the present measure was not weighted.

Results

Risk/Needs

Risk scores for the sample of 200 probationers ranged from 0 to 43 with a mean of 10.64 (s.d. = 9.01). Using the Wisconsin cut-off scores (Baird, Heinz and Bemus, 1979), 20% (40) fell in the highest risk category, 32% (64) in the medium, and 48% (96) in the low category. Need scores ranged from -8 to 40 with a mean of 8.25 (s.d. = 8.90). Only 2.5% (5) of the cases were classified as high need, with the majority of cases falling into the medium (22%, 44) and low

(75.5%, 151) need categories. Frequencies for the individual components of risk and need are presented in Appendix C.

The distributions for risk, need, and combined risk/need levels are displayed in Table 2. The actual supervision level to which cases were assigned is also tabulated. The differences in the distributions between combined risk/need levels and actual supervision levels reflect assignments that were based on over-rides. Overrides were used to place 18 cases (9%); 28% of the overrides were assigned to levels higher than indicated by the Wisconsin scores, and 72% were assigned to lower levels.

Figure 1 presents the percentage of cases across the three levels of risk that fell within each level of need. The figure shows that the vast majority of low risk cases were also defined as low need cases. However, there is less concordance between risk and need levels for the medium and high risk cases. For example, 45% of the highest risk cases were defined as low need cases using the Wisconsin cut-off scores. The disproportionately low number of cases scoring in the medium and high need range make it difficult to compare the two classification measures.

Table 2
Percentage Distributions for Combined Risk/Need Levels and Level of Supervision Assignments

	Low	Medium	High
Risk	48.0% 96	32.0% 64	20.0% 40
Need	75.5% 151	22.0% 44	2.5% 5
Risk/Needs	45.5% 91	33.5% 67	21.0% 42
Actual Level of Supervision Assigned	46.5% 93	33.0% 66	20.5% 41

At least one risk/need reassessment was recorded for 108 of the 200 cases (54%). Only data on the final reassessment will be presented. On average, the final recorded reassessment was completed 7.7 (s.d. = 2.92) months after the intake assessment.

In 27% of the reclassified cases, reassessments had been conducted at approximately the same time as the termination of the probation period, or after a first reconviction had been officially recorded. The risk and need reassessment levels and combined risk/need levels are shown in Table 3. The most notable feature in these distributions is the large proportion of cases that were assigned

to the lowest levels of risk and need. Only 10% of the cases were defined as high risk/need cases after reclassification.

Initial classifications and reclassifications based on combined risk/needs scores are crosstabulated in Table 4. In 34% of the 108 cases, reassessment resulted in assignments to lower supervision levels, while only 11% were reassigned to higher levels.

Outcome

Only 10.5% (21) of the cases exhibited evidence of recidivism during the probation supervision period. Three of the recidivists were convicted for more than one in-program offence. Early terminations were given in 30.5% (61) of the cases prior to their official sentence expiration dates. Only one case received a court-ordered termination with the remaining cases designated as administratively inactive. The majority of cases (59%, 118) involved probationers who completed their full probation term without becoming reinvolved in criminal activity.

The average number of days between supervision commencement and the commission of a first new offence was 272 days (s.d. = 101), although data were not complete on 6 of the 21 recidivists. In 60% of the cases for which data were available, the first reoffence took place at least ten months after the beginning of the supervision period.

Figure 2 on the following page summarizes the outcomes that were observed for this sample of Newfoundland probationers.

Figure 1
Risk Levels by Need Levels

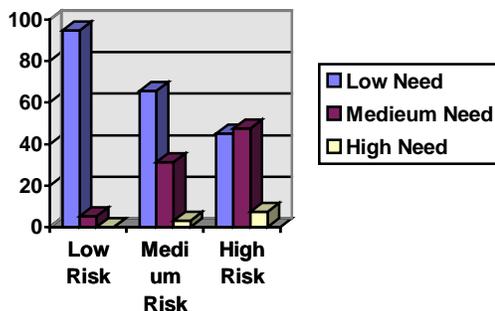


Figure 2
Breakdown of Probation Outcomes

Non-Recidivists 89.5% (179)	Recidivists 10.5% (21)
34% Early Terminations 66% Regular Terminations	40% Summary Offences 55% Indictable Offences 5% Violent Offences

Table 3
Percentage Distributions for Risk/Need Reassessments

	Low	Medium	High
Reassessments			
Risk	65.7% 71	24.1% 26	10.2% 11
Need	82.0% 91	17.1% 19	0.9% 1
Risk/Needs	63.0% 68	26.9% 29	10.2% 11

Table 4
Intake Supervision Levels by Supervision Levels at Reassessment

	Intake		
	Low	Medium	High
Reassessment			
Low	88.0% 44	48.5% 16	32.0% 8
Medium	10.0% 5	33.3% 11	52.0% 13
High	2.0% 1	18.2% 6	16.0% 4
	100.0% 50	100.0% 33	100.0% 25

The distribution for severity of the most serious in-program offence indicated that only one of the 21 probationers was convicted for a violent offence. Eleven of the reoffenders (55%) committed indictable offences, including five cases of absconson. Forty percent (8) of the reoffences were classified as summary offences. Information on offence type was unavailable for one of the recidivists.

Table 5
Recidivism Rates (%) by Wisconsin Risk and Need Levels

	Low	Medium	High
Risk	3.1% 3/96	17.2% 11/64	17.5%*** 7/40
Need	7.3% 11/151	20.5% 9/44	20.0%** 1/5
Risk/Needs	2.2% 2/91	16.4% 11/67	19.0%*** 8/42
Actual Level of Supervision Assigned*	3.2% 3/93	16.7% 11/66	17.1%*** 7/41

*Level of Supervision Assigned includes overrides.

**p < .05

***p < .01

Validity of the Wisconsin Classifications

Recidivism rates across levels of risk, need, combined risk/needs and actual levels of supervision assigned are presented in Table 5. In all of the comparisons, differences in recidivism rates across the levels of risk and need were larger than would be expected by chance. However, the figures in Table 5 reveal that the differences in recidivism are mainly attributable to the difference between low risk and needs cases versus cases classified at the medium and high levels. A separate set of analyses showed no significant differences when the medium and high risk groups were compared for each of the risk and need measures presented in Table 5. While it appears that the scales are very effective in predicting success for low risk cases, no discrimination between medium and high risk cases was achieved.

Table 6
Level of Supervision Assigned by Overall Outcome

	Low	Medium	High
Early Terminations	50.5% 47	10.6% 7	17.1% 7
Regular Terminations	46.2% 43	72.7% 48	65.9% 27
Recidivists	3.2% 3	16.7% 11	17.1% 7
	100.0% 93	100.0% 66	100.0% 41

Initial level of supervision assignment was also examined in relation to overall outcome, the measure which ranks outcome on a three-level continuum ranging from early termination to the commission of a new offence. This analysis is summarized in Table 6. While the figures show similar distributions on the three outcome categories for the medium and high risk groups, low risk cases were less likely to reoffend and much more likely to be granted early terminations. Seventy-seven percent of the 61 early terminations were granted to cases initially assigned low levels of supervision. The figures in Table 6 demonstrate that in addition to predicting recidivism, the Wisconsin Risk/Needs classification system predicts cases that are likely to make sufficient progress during supervision to warrant early terminations.

The possibility existed that the relationship between the risk/need classification indices and recidivism may have been confounded by the relationship between length of probation sentence and risk/need scores. For example, higher risk cases may have been exposed to longer follow-up periods, and therefore, may have had more opportunity to become reengaged in criminal behaviour during their periods of supervision. Further statistical analyses led to the conclusion that the relationship between risk/need classification and recidivism could not be explained by the variation in follow-up times. The absence of this confounding influence was also observed when the three-level overall outcome measure was used as the criterion.

Risk and need were also examined in relation to the two remaining outcome measures, severity of first reoffence and time to first reoffence. For these analyses correlation coefficients were computed within the subsample of 21 recidivists. Data on days to first offence were only available for 15 cases, and the severity of the reoffence was not known for one of the recidivists. For the most part, the correlations between the reoffence measures and risk, need, and combined risk/need levels were statistically insignificant and of low magnitude.”• The only significant correlation involved number of days to first in-program offence, which was negatively correlated with need level (-.61).

Table 7
Recidivism Rates (%) by Risk and Need Reassessment Levels

	Low	Medium	High
Reassessment			
Risk	2.8% 2/71	38.5% 10/26	54.6%* 6/11
Need	11.0% 10/91	36.8% 7/19	100.0%* 1/1
Final Risk/Need Supervision Level Assigned	1.5% 1/68	37.9% 11/29	54.5%* 6/11

* p < .01

This suggests that higher need recidivists reoffended earlier in their probation terms than lower need recidivists. Given the small sub-sample of recidivists, findings from these analyses should be regarded as tentative

Validity of Reclassifications

The predictive validity estimates for risk/need reclassifications were superior to those reported for the intake classifications. Table 7 displays recidivism rates across the levels of reassessed risk and need. The recidivism rate for this sub-sample of reassessed probationers was 16.7% (18/108). Inspection of Table 7 shows a linear pattern of relationship between risk/need reassessment levels and recidivism. The figures reveal that medium and high risk cases could be differentiated when risk/need reclassifications were used to predict recidivism.

It is possible that the predictive validity of the reclassifications may have been inflated because some of the reassessments occurred at the same time or after an outcome had been determined. As noted earlier, in 27% of the cases reassessment was conducted at the time active supervision was terminated, or after an offence had been recorded. Statistical analyses were carried out to assess the degree of reactivity operating in these reassessments. Results suggested that while the relationship between risk/need reassessments and recidivism may have been somewhat inflated for those cases that were reassessed at the time an outcome had been recorded, the link between reassessment scores and recidivism remained strong.¹

Validity of the Individual Risk/Need Components and Total Scores

Up to this point our analyses have focused on the validity of the risk/need classification system. However, the validity of the elements used to derive risk/need classification levels also deserve attention. Here we examine the relationships between recidivism and the individual risk and need components, as well as the total risk and need scores. These analyses address questions concerning the relative importance of the various components of the classification system.

A series of analyses were conducted to determine whether or not the individual components of risk and need were predictive of recidivism.² Recidivists and non-recidivists differed on 5 of the 11 risk items. Recidivists had more prior indictable offences, previous periods of probation or parole, and prior breaches. In addition, non-recidivists had been employed for longer periods and were older at the time of their first convictions. Companions and drug involvement were the only need

¹The coefficient between risk/need reclassification level and recidivism was .53 for the larger sample of 108 reassessed probationers. When we recomputed the coefficient based on the smaller sub-sample of probationers for which reassessments had been completed prior to the recording of an outcome (n = 78), it decreased only slightly to .47.

²The Chi-square test was employed for these analyses.

items on which the two groups differed. Recidivists were reported to have more negative influences from companions and experienced greater disruption in functioning as a result of drug involvement. A summary of the item analyses are included with Appendix C.

Further analyses were aimed at examining the correlations between recidivism and the total risk and need scores. Recidivism was significantly correlated with both risk ($r = .21$) and need ($r = .14$), although the magnitude of the correlations was low. Overall outcome, which includes the category of early termination, was also significantly related to the total risk and need scores. The coefficients were .27 for risk and .30 for need. Recidivism was more highly correlated with the total reassessment scores; .48 with risk and .33 with need. The highest correlations were observed when overall outcome was used as the criterion with risk and need reassessment scores. These coefficients reached levels of .56 and .55 for risk and need respectively.

An important question concerns the degree of overlap between total risk and need scores. We have already seen that cases defined as low risk using the Wisconsin cut-off scores also tend to be defined as low in need. However, the cut-off scores for need resulted in very few cases assigned to the high need level. The correlation between total risk and need scores provides an alternative method of assessing the association between the two indices. The correlation coefficient for total risk and need scores was .59, indicating considerable overlap in the scales.

To summarize, total risk and need scores were correlated with recidivism at comparable levels, although it appears that risk contains slightly more predictive information. Total risk and need scores were also found to be correlated. Not surprisingly, reassessments were more predictive of outcome than intake assessments of risk and need.

Alternative Scoring Procedures

An issue raised by previous research concerns the importance of evaluating the appropriateness of cut-off scores and item weighting schemes when an instrument is introduced in a new setting. Therefore, we conducted exploratory analyses to determine whether or not the recommended scoring procedures maximized the predictive potential of the scales for use in Newfoundland probation. Particular concerns raised by the data presented thus far are that very few cases were defined as high in need, and that cases assigned to medium and high levels of supervision at intake exhibited the same recidivism rates.

An attempt was made to select new cut-off scores in a manner that would limit any changes to caseload time requirements. In other words, a classification scheme that assigned a large proportion of low risk/need cases was considered more desirable than a scheme that would assign the majority of cases to intensive supervision. New cut-off scores were chosen after the cross-tabulation between total risk and need scores was examined. The new cut-off scores yielded a two-level classification scheme ("low" versus "high" risk/needs). Low risk cases were defined by scores of 13 and below and high risk cases were defined

by scores of 14 and above. For need levels, probationers scoring below 14 were defined as low need and those scoring 15 and above were defined as high need.

Table 8
Recidivism Rates (%) by Recoded Risk and Need Levels

	Low	High
Risk	8.7% 13/150	16.0% 8/50
Need	7.3% 11/151	20.4%** 10/49
Risk/Need	7.0% 9/128	16.7%* 12/72

* $p < .05$

** $p < .01$

Recidivism rates for recoded levels of risk, need, and risk/ need combined are presented in Table 8. The classification scheme based on the new cut-offs did not yield improvements in the prediction of recidivism. Increasing the number of assignments to the low risk/need category resulted in an increase in recidivism for this group. This constitutes a rise of close to 5% over the recidivism rate predicted by the actual level of supervision assigned by probation officers using the original Wisconsin cut-offs. Estimates of changes in workload time indicated that a slight increase in the average number of hours of supervision per month could be expected if the new cut-off scores were implemented.³ It appears that the original Wisconsin cut-off scores are suitable for this Newfoundland and Labrador sample.⁴

³The estimates were based on the assumption that all 200 probationers would be actively supervised for the full length of their probation sentences. It was further assumed that cases assigned to "low" supervision would require .5 hours of probation officer time per month, and "high" supervision cases would require 2.5 hours per month. A total of 2275 probation officer hours would be devoted for this sample of 200 cases if the original Wisconsin cut-off points were employed, compared to 2585.5 hours using the new cut-offs.

⁴Alternative three-level cut-off points were also explored. While this method yielded more efficient predictions, a disproportionately low number of cases were assigned to the "low" supervision category. Using the cut-offs of 8 and 10 for risk and 3 and 14 for need, the combined risk/need classification assigned only 39 cases to the low category, 75 cases to the medium category and 86 to the high category. The recidivism rates for the three levels were 0%, 6.7%, and 19% respectively. Unfortunately, one of the implications of

A second scoring issue that was explored pertains to the usefulness of the item weights used to calculate total risk and need scores. The Wisconsin weights were replaced with “yes/no” or “binary” items. Each item was scored ‘1’ or ‘0’ to indicate the presence or absence of offender characteristics and problems along the various dimensions of risk and need. The binary items were added to form total risk and need scores and the totals were divided into two levels in a manner that produced assignments of at least half of the cases to the low risk/need categories.

The binary risk and need items are examined in relation to recidivism in Appendix C, where comparisons are also made with the original items using the Wisconsin weights. The two patterns of results did not vary remarkably.

Table 9
Recidivism Rates (%) by Binary and Weighted Versions of Risk and Need Levels

	Low	High
Risk	5.5% (8/146)	24.1% (13/54)
Need	7.3% (10/137)	17.5% (11/63)
Risk/Need	4.2% (5/118)	19.5% (16/82)

*p < .05

**p < .01

***p < .001

Recidivism rates for the risk and need classification levels based on the binary items are tabulated in Table 9. The most notable finding was that the classification based on binary items resulted in an increase in the number of low risk/need cases with reoffences. Generally, there was little evidence to suggest that the binary weighting scheme was an improvement over the original Wisconsin weighting system. Workload projections also implied an increase in total supervision time per month if the unweighted coding scheme was introduced.⁵

Discussion

this improvement in predictive efficiency would be a substantial increase in average workload time.

⁵ Experimentation with three-level risk/need cut-off points for the binary version totals produced more efficient predictions but also implied a dramatic increase in supervision time.

The Wisconsin risk/need classification measures demonstrated adequate predictive validity for this sample of Newfoundland and Labrador probationers. Recidivism was predicted at statistically significant levels despite the low base rate observed for this small sample. The Wisconsin system performed particularly well at correctly identifying low risk probationers who would not reoffend during their terms of probation. The accuracy of prediction for low risk cases is even more impressive when it is considered that almost 50% of the cases were assigned to low levels of supervision. While it had been predicted that cases assigned to medium levels of supervision would recidivate at lower rates than cases designated as high risk, differences between the two groups did not emerge.

The classification instrument forecasted supervision progress and confirmed that early terminations of probation supervision were being reserved for cases exhibiting low risk and needs. There was less conclusive evidence of predictive validity when days to first in-program offence, and the severity of the most serious in-program offence were employed as outcome criteria.

As expected, risk and need reassessments were superior predictors of recidivism than intake assessments. Recidivism rates increased in a linear fashion with final supervision level assignments based on reassessments. In contrast to the results reported for the intake risk and need indices, recidivism rates differed for medium and high levels of supervision at reassessment. The magnitude of the correlations between total reassessment scores and recidivism was also considerably larger than those observed for intake scores. The evidence points very clearly to the value of conducting reassessments on a routine basis during the management of the probation sentence. It is possible that reassessments will help compensate for the poorer discriminations made between medium and high risk cases at intake. Therefore, to reap the full benefits of the classification system, reassessments should become more routine in practice.

Assessments of the predictive validity of individual risk and need items indicated that a third of the items were significantly related to recidivism. Five risk items predicted recidivism. However, of the fourteen need items, companions and drug involvement were the only items that significantly differentiated between recidivists and non-recidivists. Nevertheless, it should be recalled that aggregated risk and need scores did forecast recidivism. Unless cross-validation based on new data indicated otherwise, it would not be advisable to delete any of the items from the total risk and need scores. The statistically insignificant items may have more predictive validity in relation to post-program recidivism or other correctional outcome criteria not investigated here. A major strength of risk assessment using multiple predictors is that allocation of supervision levels can be based on a broad sampling of potential predictors of outcome.

Contrary to expectations, risk and need did not differ in their contributions to the prediction of recidivism. Earlier evidence (Motiuk and Porporino, 1988) suggested that need accounts for a larger proportion of the variability in

recidivism, and therefore should be given more weight in level of supervision decisions and formulations of treatment plans. However, this finding did not receive support from the present data analyses. In most of the analyses, need and risk scores showed similar levels of association with the outcome criteria. In some of the comparisons, need scores displayed slightly less predictive power than risk scores. Furthermore, as noted above, only two of the individual components of total need scores were significantly related to recidivism.

Another problem that was identified involved the relative distribution of cases across the three levels of need. Intake need levels showed that three quarters of the cases fell into the low need category, while less than three per cent of the cases were defined as high in needs. The need reassessment distribution indicated an even greater degree of disproportionality.

Adjustments to the risk and need cut-off scores failed to provide improvements in the forecasting of recidivism. Analyses aimed at exploring alternative weighting of the risk and need items also suggested that the Wisconsin weighting scheme provided the best classification system for the Newfoundland and Labrador sample of probationers. Although it would be possible to increase the predictive efficiency of classifications by manipulating item weights and cut-off scores, the practical implications of such modifications would not be positive. Regardless of the method employed, workload projections implied an increase in probation officer supervision time if adjustments to scoring were instituted.

The recidivism base rate of 10.5% appears to be quite low and it cannot be determined with certainty whether this is due to sampling variability or the actual characteristics of the population. Although the current sample size was adequate for making an assessment of the predictive validity of the classification device, the sample size was less than ideal for exploring new scoring methods. Hence, in some of the explorations, reclassification of only small numbers of cases resulted in changes in the predictability of the scale. The collection of follow-up data on post-program offences for this sample would, of course, aid in further evaluating the effectiveness of the system.

A final issue, and one that may help explain the low base rate of recidivism that was observed, is that the actual supervision level assignments that were made on the basis of Wisconsin scores almost certainly have had some impact on the pattern of results reported here. The major assumption in adopting a risk/needs classification system is that supervision levels can be more efficiently assigned to reduce the chances of recidivism. There is evidence from research carried out in Wisconsin (Baird, Heinz and Bemus, 1979) and in studies by Andrews et al (1986), that cases identified as high on risk and need for service benefit from higher levels of supervision. We can speculate that if routine service had been extended to all probationers in this Newfoundland sample, higher reconviction rates may have been recorded. Hence, the low recidivism rate discovered in the present sample may be a positive sign of the effectiveness of the Wisconsin system for Newfoundland and Labrador.

References

- Andrews, D. A., Kiessling, J. J., Mickus, S. G., & Robinson, D. (1985). The Level of Supervision Inventory: Risk/Needs Assessment in Community Corrections. Unpublished Paper, Department of Psychology, Carleton University, Ottawa.
- Andrews, D. A., Kiessling, J. J., Robinson, D., & Mickus, S. G. (1986). The risk principle of case classification: An outcome evaluation with young adult probationers. Canadian Journal of Criminology, 28, 377-384.
- Baird, S. C., Heinz, R. C., & Bemus, B. J. (1979). The Wisconsin Case Classification/Staff Development Project: A Two-Year Follow-up Report. Madison: Wisconsin Bureau of Community Corrections.
- Clear, T.R., & Gallagher, K. W. (1985). Probation and parole supervision: A review of current classification practices. Crime and Delinquency, 31, 423-443.
- Clear, T.R., & Gallagher, K. W. (1983). Screening devices in probation and parole: Management problems. Evaluation Review, 7, 217-234.
- Government of Newfoundland Labrador, Department of Justice (1985). Adult Offender Classification in Newfoundland and Labrador. Project Report No. 1. Community Corrections Branch, Saint John's, Newfoundland.
- Motiuk, L. L., & Porporino, F. J. (1988). Offender Risk/Need Assessment: A Study of Conditional Releases. A Research Report, Correctional Service Canada, Ottawa.
- Wright, K. N., Clear, T. R., & Dickson, P. (1984). Universal applicability of probation risk-assessment instruments: A critique. Criminology, 22, 113-134.

Appendixes

Appendix A
Risk and Need Items

Appendix B
Risk and Reassessment Items

Appendix C

Frequencies for Individual Risk and need Components*

Individual Risk Items	Score	Frequencies n	Weight -ed	Relationship to Recidivism (pvalues) Binaries
		%		
1. Address changes				
None	0	140	70.0	
One	2	42	21.0	
Two or More	3	18	9.0	
2. Time Employed			0.1	.05
60% or More or N.A.	0	105	52.5	
40% to 59%	1	33	16.5	
Under 40%	2	62	31.0	
3. Alcohol Usage				
No Problems	0	119	59.5	
Some Problems	2	57	28.5	
Serious Problems	4	24	12.0	
4. Other Drugs			.05	
No Problems	0	174	87.0	
Some Problems	1	22	11.0	
Serious Problems	2	4	2.0	
5. Attitude				
Positively Motivated	0	153	76.5	
No Responsibility	3	40	20.0	
Negatively Motivated	5	7	3.5	
6. Age at 1st Conviction			.01	.01
24 or Older	0	73	36.5	
20 to 23	2	37	18.5	
19 or Younger	4	90	45.0	
7. Number Prior Probations / Paroles			.01	.01
None	0	153	76.5	
One or more	4	47	23.5	
8. Number Prior Breaches			.05	.05
None	0	192	96.0	
One or More	4	8	4.0	
9. Number of Prior Indictable Convictions			.05	
None	0	159	79.5	
One	2	22	11.0	
Two or More	4	19	9.5	

cont'd

10. Types of Convictions

No Property or No Convictions	0	102	51.0
B&E, Theft	2	83	41.5
Fraud, Forgery	3	15	7.5

11. Assault Conviction within last 5 years

No	0	72	86.0
Yes	15	28	14.0

Individual Need Items

1. Skills	-1	42	21.0		
Adequate	0	122	61.0		
Minor Problems	2	30	15.0		
Major Problems	4	6	3.0		
2. Employment					0.05
Continuous employment	-1	28	14.0		
Secure	0	75	37.5		
Underemployed	3	7	39.0		
Unemployable	6	19	9.5		
3. Financial Management					
Long standing Self-sufficiency	-1	5	2.5		
No Current Problems	0	144	72.0		
Minor Problems	3	47	23.5		
Severe Problems	5	4	2.0		
4. Interpersonal Relationships					0.05
Strong Support	-1	5	2.5		
Stable	0	1188	59		
Some Disorganization	3	62	31.0		
Major Stress	5	1	7.		
5. Companions				.05	.05
Good Support/Influence	-1	6	3.0		
Nothing Adverse	0	116	58.0		
Some Bad Associates	2	73	36.5		
All Bad Associates	5	5	2.5		
6. Emotional Stability					
Exceptionally Well-Adjusted	-2	20	10.0		
No Symptoms	0	157	78.5		
Some Symptoms	4	19	9.5		
Barely Functioning	7	4	2.0		
7. Alcohol Usage					

No Problems	0	123	61.5	
Some problems	3	57	28.5	
Serious Problems	6	20	10.0	
8. Other Drug Involvement				.05
No Problems	0	182	91.0	
Some Problems	3	17	8.5	
Serious Problems	5	1	0.5	
9. Mental Ability				
Functions Well	0	185	92.5	
Needs Assistance	3	14	7.5	
Severe Deficiencies	6	1	0.5	
10. Health				
Sound Health	0	181	90.5	
Minor Interference	1	15	7.5	
Serious Problems	2	4	2.0	
11. Sexual Behavior				
No Dysfunction	0	193	96.5	
Minor Problems	3	6	3.05	
Severe Problems	5	1	.5	
12. Officers Impression of Need				
Minimum	-1	16	8.0	
Low	0	115	57.5	
Medium	3	57	28.5	
Maximum	5	12	6.0	
13. Required to Complete CSO				
No	0	196	98.0	
Yes	5	4	2.0	

* Only p values for statistically significant items are displayed. The p values correspond to Chi-square tests.
