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**THE UTILIZATION OF AN INTERVIEW-BASED CLASSIFICATION
INSTRUMENT FOR PAROLE BOARD DECISION MAKING IN ONTARIO**

Robert C. Rowe

A thesis submitted to the Faculty of Graduate Studies
of Carleton University in partial fulfilment
of the requirements for the degree of
Master of Arts in Psychology

Ottawa, Ontario, Canada

September, 1995

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**The Utilization of an Interview-Based Classification
Instrument for Parole Board Decision Making In Ontario**

submitted by Robert C Rowe, B A H.
in partial fulfilment of the requirements for the degree of
Master of Arts

Thesis Supervisor

Chairperson, Department of Psychology

Carleton University

September, 1995

ABSTRACT

A comprehensive file review of all five-hundred and twenty one provincial offenders coming before the Ontario Board of Parole during an eight month period was completed in order to investigate the factors relating to parole release. The efficacy of using simple predictors related to parole board decision making, compared with utilizing actuarial risk estimates, was explored. The Level of Supervision Inventory, an interview based classification instrument, was compared with two file based actuarial risk instruments developed for parole decision making. These file based instruments included the Statistical Information on Recidivism Scale (SIR) and the Salient Factor Score (SFS). Comparative analyses were conducted to determine the relative efficacy of each instrument's utility for prediction of parole outcomes. Overall, the results suggested that the Parole Board relies extensively on professional recommendations and support for parole to guide its decision making. However, these factors were not consistently valid measures of parole success and future recidivism. In contrast, the LSI showed predictive validity with a number of outcome measures including violent recidivism. In addition, the LSI fared better than both the SIR and the SFS in predicting a wide range of institutional, parole, and post-release recidivism measures. The findings suggest that the LSI has the potential to aid parole decision making in two ways. First, it has demonstrated an ability to accurately assess risk. Secondly, in an area largely ignored by other instruments, it can offer treatment intervention strategies that may lead to a decrease in the likelihood of future offending.

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THE UTILIZATION OF AN INTERVIEW-BASED CLASSIFICATION INSTRUMENT FOR PAROLE BOARD DECISION MAKING IN ONTARIO

Media attention often focuses on the decisions of parole boards which result in the release of inmates who later go on to commit serious criminal offences. When offenders on conditional release commit serious offences parole boards are criticized by both the press and the general public. The aim of any parole board is similar to those of a sentencing body. Parole boards look to treatment, incapacitation, deterrence, and just deserts (Gottfredson & Gottfredson, 1988) as guidelines for their decisions. However, parole boards receive more criticism from the public regarding their decisions compared with earlier judicial decisions such as sentencing (Champion, 1994).

Parole boards across North America have difficult decisions to make on a daily basis. In Canada, for example, the National Parole Board made 34,555 conditional release decisions in 1992-1993 (Sutton, 1994). The release of offenders from provincial incarceration in Ontario, prior to their warrant expiry, is the responsibility of the Ontario Board of Parole. The Board is authorized to consider for conditional release adult offenders who are serving sentences of less than two years in provincial institutions. During 1992-1993, the Ontario Board of Parole made 6614 quorum decisions (Ontario Board of Parole, 1993).

The parole board decision making process can often be simplified into one major issue. Should the parole system detain an inmate who poses an undue risk to public safety until his statutory release date, or should these high risk individuals be released conditionally because statutory release without parole would allow no supervisory control. The reasoning behind the latter alternative is that releasing a high risk offender early allows a parole officer to have some control over the offenders lifestyle, if even for a relatively brief period. Hopefully, with meaningful supervision, the likelihood that the offender will reintegrate back into the community successfully is increased (Andrews, 1989).

Public opinion seems opposed to parole and in favour of sanctions which emphasize punishment and deterrence. Research indicates that the public are mostly concerned with issues of personal safety and are less concerned regarding the punishment of the offender (Cumberland & Zamble, 1992). Research also indicates that a sentence focusing entirely on punishment does not offer any deterrence to later criminal offending (Andrews et al., 1990). Nevertheless, subjects in Roberts' study (1988) believed that release on parole was often too early, too often, and to the wrong individuals.

Despite the fact that the public appears to support the idea of parole, most parole boards continue to face harsh public criticism and legislative challenges. These include being questioned over exercising their statutory authority as well as being subjected to critical review every time a parolee commits a serious crime on conditional release. Because of increasing pressure, parole boards need to be sure their decisions are reasonable and consistent. They must also be able to document how a suitable balance is maintained between fairness to the offender and community protection. Finally, parole boards must ensure there is a structure in place that gives offenders a chance for rehabilitation as they attempt to reintegrate themselves back into the community.

Measuring success

Despite the urge against the use of 2 x 2 contingency table, especially when attempting to predict violence (Hart, Webster & Menzies, 1994), the majority of published studies examining the accuracy of criminal justice decisions provide data in this form (e.g. Klassen & O'Connor, 1988; Steadman & Coccozza, 1974; Thornberry & Jacoby, 1979.) In these tables a true positive decision results when the predictor correctly predicts the outcome while a false positive decision results when, despite the presence of the predictor, the offender does not recidivate. A true negative arises when the absence of the predictor coincides with the absence of recidivism. A false negative is the erroneous identification of recidivists as non-recidivists. Hence, a desirable predictor is one which maximizes "hits" and minimizes "misses".

False positives and false negatives do not have equal social consequences. A high false negative rate signifies that many offenders are being released who are unsafe. In contrast, a high false positive rate results in the unjust detention of many who are "safe". Even if we accept that there is not, nor will there ever be, perfect predictability, it still remains a parole board's responsibility to improve upon the reliability and accuracy in their decisions.

The efficiency of a predictor is the extent to which it predicts beyond chance. This depends not only with the predictors correlation with the criterion but also with the base rate, which is the frequency of the criterion in the given population. Problems occur with this form of prediction if base rates are low (Quinsey & Maguire, 1986; Webster, Harris, Rice, Cormier, & Quinsey, 1994), as has often been the case in studies examining violent reoffending (e.g. Klassen & O'Connor, 1988, Steadman & Coccozza, 1974; Thornberry & Jacoby, 1979)

A further limitation of prediction efficiency is the selection ratio. This is the proportion selected as positive by the predictor. Optimal efficiency requires a selection ratio equal to the base rate. The selection ratio can be changed to alter the false positive or false negative rates. For example, parole boards, can set the number of false negatives at zero by simply letting no one out. The price paid for this is an extremely high amount of false positives. In practice, as paroles are granted, the probability of a false negative increases as the likelihood of a false positive decreases.

Clinical prediction

In judging an offender and his potential for future danger his behaviour the clinician must consider a wide array of information related to the individual and his current situation (Mulvey & Lidz, 1984). Several studies have been conducted to determine the decision making process for the prediction of future criminal offending. Studies concluded that several factors tend to be used more frequently in making clinical risk predictions (Mulvey and Lidz, 1984). Forensic psychiatrists report considering current offence,

criminal record, child pathology, family background, social interactions and cues during the interview as part of their decision making process (Menzie's, Webster and Butler, 1981).

Studies of dangerousness confirm that offence related behaviour, particularly violence, is strongly weighted in clinical prediction (Quinsey & Abtman, 1979, Cooper & Werner, 1990). Interestingly, seriousness of current offence has not been shown to be a strong correlate to future violent offending (Harris, Rice, & Quinsey, 1993). In fact, previous criminal violence (Holland, Holt, & Beckett, 1982), institutional assaultiveness, and prior homicide have shown low predictive validity for future violent offending in some studies (Quinsey and Maguire, 1986).

Attention to distal factors, such as child pathology, appear questionable for use in predicting future violent offending (Blackburn, 1994). Other family background factors such as social class and family income have shown, at best, weak correlations with future criminal offending (Andrews & Bonta, 1994). Thus, it would seem, many of the factors considered in making risk decisions by mental health professional are not empirically defensible. Cooper and Werner (1990) showed that correctional workers tended to "de-emphasize cues empirically linked to violence or, alternatively, overemphasize cues unrelated to the criterion" (p. 442).

Evidence on the reliability of psychiatrists predictions was studied by Quinsey and Abtman (1979). They reported that the inter-rater reliability of psychiatrists in predicting assaultive behaviour was weak. Furthermore, there was nothing distinctive or particularly insightful about the judgment of the psychiatrists over that of lay people.

Low predictive accuracy was found in a Canadian study by Sepjak, Webster, and Menzie's (1984). Mean correlations of pre-trial ratings of predicted dangerousness with ratings of actual dangerous behaviour during a two year follow up were 0.20 for psychiatrists, 0.17 for psychologists, and 0.12 for correctional officers, all of which were significant. Non significant predictions were made by both nurses and social worker (0.08).

and 0.03 respectively) This confirmed an earlier conclusion reached by Monahan (1981), who reported on the consistent over prediction of dangerousness by psychiatrists and psychologists and determined that they were accurate in no more than one in three of their predictions

Accuracy in judging dangerousness is likely effected by the cognitive biases inherent in human decision making. Kahneman and Tversky (1973) found that individuals often made decisions based on simplified heuristics which ignore the basic rules of probability. Many common mistakes have been identified in human decision making including ignoring base rates, relying on illusory correlations, and seeking out confirmatory rather than disconfirmatory evidence (Faust, 1986).

Much research in psychology has demonstrated that people often fail to incorporate statistical principles when making decisions (Kahneman, Slovic, & Tversky, 1982; Nisbett & Ross, 1980). Research on the use of base rate information in correctional decision making has been found to be completely consistent with this earlier finding (Gottfredson & Gottfredson, 1988) The decision making of parole boards was not exempt from this conclusion. Carroll (1980) found that parole board members failed to incorporate base-rate information into their judgements of risk. It was also found that parole board members judgement of risk were uncorrelated with actual offender recidivism In contrast, a simple statistical model was significantly able to predict recidivism (Carroll, Weiner, Coates, Galegher, & Alibrio, 1982). In general, the literature has demonstrated that criminal justice personnel, as a whole, have failed to incorporate statistical principles into their decision making and, instead, rely upon simple rules and heuristics that can often lead to biased decisions (Gottfredson, 1987; Gottfredson & Gottfredson, 1988).

There is little evidence in the literature to suggest that psychiatrists, other mental health professionals, or correctional personnel can predict the future dangerousness of prisoners with any substantial degree of certainty (Webster, Dickens & Addario, 1985).

This finding remains true whether one uses clinically based opinion or relies upon psychometric data.

Actuarial measures

One of the tasks for forensic psychology is to derive predictive information for use in criminal justice decision making, such as placement or release decisions. A specific aim is the derivation of actuarial predictive instruments which objectively indicate an optimal decision. This is contrasted with clinical prediction, which involves a subjective risk evaluation (Meehl, 1954). When using subjective measures, or when the focus shifts onto impressionistic considerations, it becomes easy to "construct dangerousness" or overestimate the probability of risk (Webster et al., 1985). Objective risk measurements, on the other hand, have the ability to classify offenders with previous violence on their records as low or moderate risks (Andrews, 1982).

There is enough research in the field of criminology to establish a general consensus within the research community regarding what types of variables are valid predictors of recidivism and the degree in which they are related to various criminal activities. Most studies (Andrews & Bonta, 1994), agree that being young and number of previous contacts with the criminal justice system are positively correlated with the probability of criminal recidivism. Offence severity, on the other hand, is negatively correlated with future unlawfulness. Other predictors, including alcohol abuse, level of education, criminal associates, and anti-social attitudes are usually found to be predictive of later criminal activity.

In virtually every study, statistical prediction has been found to be more accurate than clinical judgement (Gottfredson, 1987). Many attempts have been made to devise statistical models to predict the level of risk that incarcerated offenders pose to the community if released. Early studies showed that it was possible for decision makers to improve the quality of their decisions through the use of actuarial information (e.g. Hoffman, 1983; Nuffield, 1982).

A number of researchers have taken the risk factors and predictors of future criminal offending identified in the literature and combined them in a manner that produces a summary score. This combination may be a simple addition of unweighted points (Burgess method) or linear weighted totals derived through multiple regression. Several other similar methods have also been developed and utilized (Gottfredson, 1987). These summary scores enable decision makers to more accurately look at recidivism than would be possible when looking at single predictors alone. Such an instrument can accurately assign a probability of future criminal behaviour to groups defined by a combination of attributes.

Prediction tables were first constructed by American criminologists in the 1920s (Blackburn, 1994). In the United States using predictive criteria to assist parole decision making commenced in the late 1960s. In 1972, the U S Parole Commission started using it's first actuarial instrument to predict parole success (Hoffman, 1983). For example, it was shown how a salient factor score (SFS) could be used by parole authorities to establish a range of sentences, and release dates, for each risk category (Gottfredson, Wilkins, and Hoffman, 1978).

Several investigative projects have since addressed the predictive validity of a revised SFS. The revised SFS81 has been found to have predictive validity and stability equivalent to that of its predecessor (Hoffman & Beck, 1985). Further studies are now reporting that the SFS has retained it's predictive accuracy over a seventeen year period in which three samples were released (Hoffman, 1994). These findings support the conclusion that the Salient Factor Score is able to separate federal prisoners into categories having significantly different probabilities of recidivism. Furthermore, the predictive accuracy of the SFS has remained stable over time.

During the 1970s and 1980s these actuarial models continued to be systematically applied throughout the criminal justice system. Currently, every state is using some form of system whereby it's decisions will be objective. With the aid of these instruments the

predictive accuracy of general criminal recidivism now lies routinely between 60% and 80% (Andrews, 1989). It must be stressed that these models were created to provide a structure for decision making. This, in turn, makes the basis for discretion on the part of parole members explicit as well as forces them to focus on base rates and risk categories. Objective risk instruments developed in Canada include the Statistical Information on Recidivism Scale (SIR), refined by Nuffield (1982), as well as the Level of Supervision Inventory (LSI), developed by Andrews (1982).

The Statistical Information on Recidivism Scale (SIR) was designed to assist in parole decision making. The SIR scale is an instrument which weighs the importance of various parole decision outcome related items. The SIR total score is the summation of all the items and represents one of five levels of risk. Hann and Harman (1992) and Motiuk and Porporino (1989) revalidated the SIR Scale with respect to federal conditional release and concluded that the scoring system was an accurate predictor of recidivism. Motiuk and Porporino (1989) also concluded that the SIR Scale was a valid predictor of success while on federal parole. More recently, Bonta, Hann, Harman, and Cormier (1995), based on a sample of 3267 inmates released in 1983-1984, re-affirmed the SIR scale as a valid predictor of general recidivism. They also found that the SIR scale showed low but significant associations with future violent behaviour.

The Level of Supervision Inventory (LSI) serves as the classification system for probation and parole offices in Ontario. The LSI assesses both an offender's risk level and needs (Andrews, 1982). The 54 item quantitative survey instrument was derived from an extensive review of the recidivism literature as well as through consultation with parole officers. The information necessary for completion of the LSI is gathered through a standardized interview and verified by a review of official records. Items are scored in a binary format and distributed across 10 subcomponents. The total LSI score is the summation of all checked items. The higher the score the higher the risk for recidivism.

Among probationers, the LSI has demonstrated internal consistency ($\alpha = 0.72$), inter-rater reliability ($r = 0.94$), and temporal stability ($r = 0.80$) over several months. In addition LSI subcomponent scores have demonstrated convergent validity with alternative measures of the same construct (Andrews, Kiessling, Mickus, & Robinson, 1986).

Research with this instrument has focused on community supervision issues such as probation and parole (Andrews, 1982) as well as with inmates placed into provincial halfway houses (Bonta & Motiuk, 1985; 1987, 1990). Research on a sample of 561 probationers indicated that LSI total scores were predictive of in-program recidivism, post-program recidivism, and severity of reoffence (Andrews et al., 1986). It is evident that the LSI has undergone considerable empirical validation with respect to probation samples (Motiuk, 1991).

In studies looking at the classification of offenders for halfway houses, Bonta and Motiuk (1987; 1990) found that approximately two-thirds of inmates who were identified as low risk offenders were missed by traditional and more subjective classification procedures. As a result, these low risk offenders spent their entire sentence in custody. It was also shown that when the LSI was used to guide halfway house placement there was a significant decrease in "overclassification". Furthermore, LSI scores were found to be significantly correlated to adjustment in a Community Residential Centre and reincarceration during a one year follow up (Bonta & Motiuk, 1985).

The LSI has also been used to predict adjustment to prison. Bonta and Motiuk (1992) found that LSI scores predicted both prison infractions and reincarceration for their selected sample of incarcerated offenders. Similarly, Motiuk (1991), reported that LSI scores were related to security classification, misconducts, days in segregation and early release.

Prediction of violence

Most of the instruments to date have been designed to predict criminal recidivism of any kind (Harris et al., 1993). Attempts to develop actuarial instruments to predict violent recidivism have been far less successful (Holland, Holt, Levi, & Beckett, 1983, Nuffield, 1982). At the same time, it is with violent crime that the public and parole boards are the most concerned.

The research community began serious interest in the prediction of violence in the late sixties. These efforts were met with limited success (Monahan, 1981; Otto, 1992; Webster, Harris, Rice, Cormier, & Quinsey, 1994). The main reason offered for this lack of success has been the low base rate problem (Harris et al., 1993). In a 1972 study three attempts to predict violent offending among parolees in California resulted in extremely high false positive rates (Wenk, Robison, & Smith, 1972). In one of these studies 4000 prisoners were followed for a 15 month period. The base rate for violent offending was 2.5%. The best statistical predictor was only able to identify 50% of violent parolees, but in achieving this it incorrectly identified almost 90% of the subjects. The authors considered the process of predicting violence futile due to the instability of the criterion measure. Similar conclusions were also drawn by Holland et al. (1982) who found that their best predictor was not efficient at predicting future violent offending.

A more extensive literature exists on predicting dangerousness in psychiatric populations but the results have been just as disappointing. The "first generation" of research on predictions of dangerousness came from naturalistic studies conducted on mental health patients released by court order from their respective institutions. In one study, 98 patients released from civil hospitals were followed for a four and a half year period. Steadman and Cocozza (1974) found two variables, age and previous criminal history, were related to rearrest during their follow up period. Despite this relation, the predictive power of these two variables still led to misidentifying over half of the patients

They discovered that for every prediction of violence there were more than two false positive errors.

Thornberry and Jacoby (1979), under similar circumstances, set out to repeat the earlier study. They were unable to find variables, alone or in combination, that led to high predictive accuracy. These results demonstrated that clinicians and administrators assumed patients to be more dangerous than they actually proved to be.

This early literature on predicting violent recidivism drew attention to two issues: high false positive errors in prediction and low base rates for violence. In trying to avoid committing false negatives, administrators, parole boards, and clinicians, created false positives. Thus, violence was over predicted. As for the low base rate problem, researchers attempted to redefine their predictor and criterion variables while creating a shorter term follow-up (Webster et al., 1994)

In 1981 Monahan set the stage for a "second generation" of prediction research. In his review of the literature to date he was able to address many of the conceptual and methodological flaws occurring in the previous studies. As a result, studies started to look at violence prediction over the short term. Hence, this "second generation" of research approached the problem more cautiously. This was stressed through more strict adherence to methodological design and focused on prediction in particular settings and over shorter periods of time.

An example of this new research was a study conducted by Werner, Rose, and Yesavage (1983). They looked at the clinical judgement of 40 male patients admitted to an acute-care psychiatric unit and predicted whether they would engage in an assault during their first week on the unit. Clinical judgement was still found to have low accuracy rates in predicting patients violence.

Klassen and O'Connor (1988) selected a large group of male patients from a community health centre and followed them for six months after discharge. They also used a wide range of potential predictors including criminal background and substance abuse.

Although modifications to the sample were made to assist in dealing with the low base rate problem, predictive power remained relatively low at 59%. This was quite a disappointment given the shortness of follow-up and the fairly high base rate of violence reported in the study (19%).

Despite some gains made in methodology, results continued to turn up high levels of false positives (Menzies, Webster, McMain, Staley, & Scaglione, 1994). This second generation failed to demonstrate that predictive accuracy had been obtained (Blackburn, 1994). The limited use of predictive devices was, in part, due to a mistrust of statistical prediction, despite the consistent evidence that it consistently outperforms clinical prediction (Meehl, 1954; 1986). Up until the late 1980s it may also have reflected the relatively low power of actuarial instruments to predict future violent offending beyond the .40 barrier.

A recent study conducted at the Penetanguishine Mental Health Centre showed correlations exceeding previous attempts, ranging from .43 to .53 (Harris et al., 1993). These results were considered an advance over previous works because the clinical information made available to the researchers was more systematically derived than in previous years. This study brought to light that in high risk populations the base rates of violence were higher than originally reported.

There have been marked improvements in the methods and design of research conducted through the 1980s and into the 1990s (Webster et al. 1994). The base rate problem, for example, may be solved by focusing on homogeneous groups defined by particular kinds of dangerous behaviour with relatively high base rates, and by using criteria broader than official criminal records (Quinsey & Maguire, 1986).

Otto (1992) summarized the outcome of "second generation" research on the prediction of violence in stating "the picture looks somewhat brighter than it did ten years ago" (p. 129). Current prediction methods have clearly yielded improvements over chance and over traditional clinical predictions. Improvements may continue with better

measurement of both predictors and criteria (Gottfredson, 1987). The reliability of the criterion measure, for example, is a major issue. Official arrests and convictions may seriously underestimate actual violence or offending rates. As such, many false positives may simply be undetected true positives. Selection of predictors need to be guided by theory rather than by random empiricism and measures of success need to go beyond simple dichotomies of whether or not an offender is rearrested or reconvicted.

Dynamic predictors

Despite gains made with actuarial instruments their reliance on static biographical data as predictors has come under scrutiny for failing to consider the effects of treatment or other interventions on antisocial behaviour when an offender returns to the community. Previous models (e.g. SIR.; SFS81, Risk Assessment Guide) rely almost exclusively on static predictors of future offending.

Variables utilized as predictors are most commonly personal history data (Andrews & Bonta, 1994). Data related to recidivism may include type of crime, age at first arrest, prior convictions, stable employment history, and substance abuse history. This kind of information is utilized in the vast majority of actuarial models (Champion, 1994). The strength of these relationships is unlikely to fluctuate with time, place and conditions. Hence, these instruments will not necessarily be useful in different settings or across time.

Similarly, a diagnosis of psychopathy has been shown to predict violent recidivism (Hare & McPherson, 1984; Harris et al., 1993). However, it has been suggested that a behavioural risk/needs assessment has the added ability to improve the management opportunities compared to that offered by personality diagnoses such as psychopathy (Loza & Simourd, 1994). Research using questionnaires, such as the M.M.P.I. or C.P.I. to predict recidivism, although dynamic in nature, have not produced consistent findings, and are at best, a modest contribution to the prediction of future criminal behaviour (Blackburn, 1994).

The SIR and SFS scales deal almost exclusively with static predictors such as age and offence history. The SFS, for example, is a static prediction instrument that measures information available when the offender is sentenced. Except in unusual circumstances, this information will not change during the offenders period of incarceration (Hoffman, 1994). This becomes a problem when institutional and community treatment programs require information about what intervention strategies to employ. Although static predictors are useful in identifying high risk groups, they become essentially irrelevant upon follow up because they are unable to provide insight into the reduction or prevention of recidivism in the community. Dynamic predictors, on the other hand, are variables that can be altered in order to effect criminal conduct (Andrews, 1989). Dynamic predictors found to be predictive of future offending include; lack of employment, criminal associates, and alcohol abuse (Waller, 1974).

More recently, the importance of identifying these dynamic predictors for prediction has been documented (Andrews & Bonta, 1994, Motiuk, 1991, Zamble & Quinsey, 1991). Motiuk and Porporino (1989), for example, identified several needs that demonstrated predictive validity. These included, criminal companions, alcohol/drug use, instability in living arrangement, and lack of responsiveness to supervision. In a recent study conducted through the Research Branch at the Correctional Service of Canada (Motiuk & Brown, 1994) it was reported that all seven need areas studied, including employment, marital/family, associates, substance abuse, community functioning, personal/emotional orientation, and attitude, were significantly related to an offender's likelihood of succeeding or failing on conditional release. In addition to these findings, this study indicated that a case manager's rating of offender motivation to address their identified needs were predictive of conditional release outcome. Classification instruments that include both static and dynamic risk/need factors have shown better predictive efficiency over instruments that focus solely on static predictors, such as

criminal background (Motiuk, 1993). There is still little evidence, however, in regards to dynamic risk predictor's validity with respect to violent reoffending (Bonta et al., 1995).

The ability to identify post-release factors that are related to recidivism is crucial because it provides criminal justice decision makers with targets for supervision and intervention (Andrews, 1989, Quinsey & Walker, 1992). In addition, documentation of risk/needs can be used as a tool to monitor an offender's behaviour as it relates to release outcome.

The evidence suggests interventions designed to reduce recidivism are best focused on high-risk cases and target dynamic risk factors or criminogenic needs (Andrews, 1982, 1989; Andrews & Bonta 1994). Andrews et al (1990) argued that interventions that disregard the assessed needs of the client or the conditions that are required for change can not be expected to be effective. In their meta-analysis of treatment interventions they concluded that appropriate programs reduced recidivism by an average of 50%. It was shown that appropriate service provisions have effects on recidivism which are not found by traditional penal sanctions (Andrews, Bonta, & Hoge, 1990). Offering treatment and intervention options to offenders can now be justified on empirical grounds whereas continued incarceration, with no emphasis on programs, can no longer be believed to offer any rehabilitation effects.

Community-based behaviour modification is considered more promising since new skills are more likely to be acquired when the training and living environments are the same (Blackburn, 1994). Interventions that are designed to reduce post-release recidivism must continue in the community and must be ongoing so as to address the problems that continually change and arise while reintegrating into society (Quinsey & Walker, 1992).

The literature on the prediction of both general and violent recidivism suggests that high-risk groups can be differentiated on the basis of a number of static variables. Predictive power, however, is increased by including dynamic predictors that are measured in the post-release environment (Motiuk, 1993). Actuarial models incorporating static and

dynamic variables (e.g. LSI) can be useful to aid decision makers in establishing level and type of supervision, as well as indicating specific recommendations for treatment in order to reduce the risk of reoffence

Parole in Ontario

There has only been one major study done in Ontario looking at the Ontario Board of Parole in the last 15 years. Parole Decision Making in Ontario was a two part study. The first phase was reported by Madden (1980) who attempted to identify the criteria that were at that time used by the Ontario Parole Board. The second phase of the study (Polonoski, 1981) looked at recidivism a year after release into the community.

Madden (1980) looked at 266 provincial offenders and factors related to their parole decision. In this sample 40% of cases were granted parole, 51% denied parole, and 9% were deferred. Among the factors found to be related to the parole decision were, inmates plans for release, current offence, previous record and alcohol and drug abuse. In questionnaires parole board members ranked living plans, work/school plans, and prior record as the most important factors in making parole decisions. In contrast, the Board stated institutional record, employment, and education were relatively less important in making their decisions. In an attempt to identify criteria for parole decisions Madden investigated the reasons given for denying parole. It was found that the absence of a suitable plan was the number one reason given for denying parole with need for institutional treatment and poor institutional conduct ranking second and third respectively. In contrast, poor attitude, nature of offence, drug problem, and institutional recommendation were rarely given as reasons for denying parole.

In phase two Polonoski looked at the recidivism rates of these 266 cases. She found 41% of the sample had been reconvicted or reincarcerated. It was also noted that the sample released at sentence expiry had significantly more correctional contact after release, were more likely to be reconvicted, and more likely to be reincarcerated.

Polonoski reported successful parolees tended to have more stable living arrangements, reported fewer drinking problems while on parole, used their free time more appropriately, were more productive, and had fewer criminal associates. She concluded by stating that the Ontario Parole Board, for the most part, used criteria that were consistent with factors related to success or failure on parole although some discrepancies existed. Most notably however, there is little data on the relative weighting of these factors and the evaluation of their effective use. With the development that has occurred in the area of actuarial prediction and risk/need management a more detailed study is now warranted.

Present Research

The literature is clear on several issues. The classification and risk of offenders is in danger of being overestimated by parole decision makers. As such, an objective risk assessment, such as the LSI, may provide a guideline or structure for improving decision making. By making systematic and objective risk/needs assessments the public is protected by ensuring restrictions on liberty, intensive monitoring, and treatment for higher risk cases. Systematic decision making can reduce arbitrary decisions, decision inequities, and unwarranted disparity (Hoffman, 1994).

This study's main concerns are with the covariates and predictors of parole decisions as well as the covariates and predictors of recidivism. In working towards the utilization of a classification instrument for parole decision making current parole decisions and their relation to recidivism was investigated. It is hoped that with a clearer understanding of the factors related to both parole decisions and recidivism that the usefulness of actuarial instruments and their potential to improve decision making will be realized.

The first step of this study was to determine the correlates and covariates of parole decisions. An understanding of the factors that are currently related to the release of offenders into the community needs to be empirically documented if improvements in

parole decision making are to be implemented. An essential component of the current study will be to evaluate the Ontario Parole Board's ability to utilize the LSI to guide its decision making. A positive evaluation will be made on the basis of parole board decisions being strongly correlated with known and empirically validated factors of risk. As such, this study will examine the Board's ability to assess risk. Hence, it is necessary to investigate the correlates of parole decisions and the validity of these factors in predicting outcome variables. Thus, this study seeks to establish the relationships between parole decisions, actuarial predictions of risk, and release outcome.

Also of importance to parole decision making are the recommendations parole board members received from other correctional agencies. The parole board receives recommendations regarding the release of inmates on a regular basis from parole offices, police departments, clinicians, and institutional staff. The predictive validity of these recommendations will be determined with respect to parole outcome measures and post-release recidivism. The relative impact of the recommendations on Parole Board members will also be assessed. It was hypothesized that the correlations between these measures and criterion measures would be significant. However, the correlations between professional recommendations and outcome variables were hypothesized to be low in comparison with actuarial risk instrument's predictive accuracy. This research will identify any incremental validity in the assessment and subsequent recommendations made by outside agencies after actuarial instruments have been accounted for.

Of relevance to the current study is whether professional opinions added to the predictive validity of any of the actuarial instruments. It was hypothesized that these additional "opinions" would offer little in the way of incremental validity and may, in fact, be unrelated to offender outcome measures. However, there is likely to be one exception. In the current offender sample actuarial risk estimates are frequently incorporated with clinical recommendations. Research has indicated that the prediction of dangerousness must be anchored on actuarial estimates of risk (Webster et al., 1994). However, it has

also been shown, by the same authors, that divergences from these estimates, based on clinical impressions, may be incremental in predicting dangerousness. It was hypothesized that clinical recommendations will be correlated highly with the LSI and may offer some incremental validity

The fundamental purpose of this research was to assess the ability of the LSI to predict a variety of institutional, parole, and post-parole measures. It was hypothesized that the LSI would be predictive of a variety of correctional outcomes including revocations, general recidivism, and violent recidivism. Comparisons were also made between file based actuarial risk instruments and the LSI. SIR scale scores and SFS scores were calculated retrospectively and compared with the LSI with respect to their efficacy in predicting parole outcome and post-release recidivism. In addition, the relative predictive validity of the LSI, SFS, and SIR scales was investigated.

The literature suggests that greater attention must be paid to a parolee's adjustment to the community in future objective risk instruments. It was hypothesized that community feedback on the criminogenic needs of offenders such as alcohol and drugs, living arrangements, and criminal companions would be related to reoffending rates. Hence, post-release factors, such as criminogenic needs, are hypothesized to be predictive of parole outcome and addressing these factors through interventions is hypothesized to decrease parole recidivism

Correspondence between scale scores, decisions, and parole board recommendations, will be compared and evaluated. This study seeks to identify the criteria currently being used by the Ontario Board of Parole in its decision making process. This provides both an assessment of the Board's success in predicting risk to reoffend and helps to determine the Board's efficiency in making their least restrictive determination. Specifically, the study's intent was to explore the extent to which an objective risk instrument developed for community supervision of offenders was utilized by the Ontario Board of Parole. If the LSI demonstrates validity in parole decision

making it will have been validated as a standardized method of monitoring offenders throughout their sentence. The benefits of this approach will be to increase accountability and consistency as well as simplify staff training costs (Bonta & Motiuk, 1992)

In addition, this study will assess the reliability and validity of previously developed recidivism prediction models created for parole prognosis. In doing so, the study serves to investigate the relationship between these models and parole decisions as well as assess the incremental validity and utility of using dynamic factors in predicting recidivism over the previous static based models. The search for dynamic factors related to parole success can only serve to enhance already existing classification procedures. Hence, the present research was intended to act as an extension and validation of the risk/needs principle and to facilitate the identification of dynamic risk factors that become apparent through the reassessment of offenders while on parole or during incarceration.

The Ontario Board of Parole would be a significant benefactor in an emergence of a more advanced "psychology of criminal conduct". This social-psychological theoretical base will permit the evaluation of the current parole decision making process and allow empirically based proposals for adjustments in decision making. This will lead to more effective decisions and more efficient resource management in the Parole system. More importantly, it may add to the effectiveness of parole decision making without jeopardizing public safety.

METHOD

Participants

A complete and comprehensive file review was conducted on all five hundred and twenty six provincial offenders who came before the Eastern Regional Board of Parole between May 1, 1993 and December 31, 1993. The sample consisted of male and female offenders serving a sentence of less than two years. All offenders in this study served at least part of their sentence at either the Ottawa Carleton Detention Centre (OCDC) or the Rideau Correction and Treatment Centre (RCTC). The majority were released to the Ottawa region.

Of this sample, 399 had been systematically assessed using the LSI and had their total scores on the instrument communicated to the Board before they rendered a decision. LSI scores on 44 offenders who had undergone an LSI assessment prior to a parole hearing, but did not have their scores made available to the Parole Board at the time they rendered their decision, were also gathered. An additional 23 offenders had LSI interviews conducted twice prior to their hearing. Raters on the second set of LSI scores were blind to the first rater's LSI scores. These scores served as reliability estimates and inter-rater reliability between institutions. If two or more LSI scores were available prior to a parole hearing the most recent was selected for the overall analysis. Generally, LSI interviews were conducted by trained and qualified personnel as part of the intake assessment process at both RCTC and OCDC.

Measures

Level of Supervision Inventory The currently used version of the LSI (Andrews & Bonta, 1993) contains 54 items denoting specific risk variables grouped into ten subcomponents. These subcomponents represent the different risk/need areas of: Criminal History, Education/Employment, Finances, Family/Marital, Accommodations, Leisure/Recreation, Companions, Alcohol/Drugs, Emotional/Personal, and Attitude/Orientation (see Appendix A). Each item is coded in a binary format indicating

that the risk factor is or is not present. Scores are then summed with each individual risk factor being equally weighted. Higher scores reflect a greater risk of recidivism and need for treatment intervention. Original research on the instrument demonstrates that the LSI has acceptable levels of internal consistency, inter-rater reliability, and temporal stability (Andrews, 1982). More recent studies have revealed modest correlations among subtotals and acceptable levels of internal consistency (Loza and Simourd, 1994)

The supervision levels dictated by the LSI are designed to reflect both risk for later criminal offending and an offender's need for services. Offenders can be assigned to five groups ("Very good", "Good", "Moderate", "Poor", and "Very Poor"). This classification system has been utilized in the past to facilitate case management decisions

Statistical Information on Recidivism The SIR (Nuffield, 1982) is an actuarial risk instrument used by the National Parole Board in its decision making process (see Appendix B). The scale consists of 15 items that provide an estimate of the probability of recidivism within two years after release. It is based on criminal and social factors which have been found to be systematically related to reoffence rates. The scale consists of five risk levels of recidivism ranging from "very poor" (33.3% success rate) to "very good" (80% success rate). Lower scores, in this case, reflect a greater risk of recidivism

Salient Factor Score 81: The Salient Factor Scale (see Appendix C) is an actuarial device used by the United States Parole Commission as an aid for assessing an inmates likelihood of recidivism after release (Hoffman & Beck, 1985). Use of this guideline system is designed to enhance consistency and fairness of parole decisions by structuring and guiding parole board member's decision making process without removing the opportunity to use discretion based on individual case needs. This scale uses six items that, when added together, produce a score from zero to ten. The higher the score the lower the likelihood of recidivism.

The SFS weights heavily on an individual's previous criminal history with a total of 9 points out of a possible 10. In addition, 7 points would be allocated to those with no

previous criminal record. Lower scores meant that offenders would be considered "poor risks" while high scores are regarded as "good" or "very good risks". As such, those with limited criminal records automatically become good or very good risks.

Salient factor scores were originally designed to assist parole board members to make fair, objective, and just parole decisions. Departures from these guidelines were to be documented by parole boards. In 1981 the salient factor scoring instrument was revised to yield a six-factor predictive score known as the SFS81 (Hoffman, 1983). The SFS81 was shown to have the predictive characteristics of its predecessor but with greater scoring reliability.

Professional Recommendations: Professional recommendations included indications of support for parole by police departments, parole offices, clinicians, and institutional staff. These items were coded through parole board member's decision sheets. In the case of parole office and police recommendations, professional support for parole was interpreted by parole board members from the examination of pre-parole reports. Clinical recommendations were gathered through psychological assessments while institutional staff recommendations were gathered by parole board members through institutional behaviour and progress reports. OBP members interpreted various professional input into a dichotomous (i.e. yes/no) variable either supporting or not supporting release. These dichotomous variables were used for the overall analysis.

Procedure

There were two phases to the data collection process in the present study. First a detailed coding manual was constructed to objectively define background, pre-parole, parole and post release variables (see Appendix D). Then a comprehensive file review was conducted on Eastern Region Parole Board cases. Ontario Board of Parole (OBP) case files included sentence information, client background, criminal history, institutional performance, and assessments of community performance while on Parole. An OBP file typically contained input from various community and correctional agencies who either

supported or opposed the proposed release plan. OBP files also contained LSI total scores. Post-hoc blind scoring of the Salient Factor Score and Statistical Information on recidivism was completed for each subject in the sample based on their file review and Canadian Police Information Centre (CPIC) inquiries. LSI individual item information, because it was not available to the OBP, was gathered through the Psychology Department at RCTC and the OCDC.

The second phase was a one year post release follow up on the entire sample. Recidivism data was collected from two sources. Recidivism data pertaining to parolees was collected through monthly, suspension, and termination reports submitted to the OBP by parole offices throughout Ontario. A CPIC search was also conducted on the entire sample one year following the last potential discharge date of an inmate. All offenders were released either on parole or on their discharge eligibility date (two-thirds of their sentence). All offenders had the potential to be out in the community for an entire year prior to the collection of recidivism information. Information on both prior offences and recidivism information post release was gathered through 'official' criminal record sheets.

It should be noted that although criminal records were frequently part of OBP files there was a large number of files that did not contain criminal background information. In this sense Parole Board decisions were often made 'blind' to officially documented offence information.

Analysis

Preliminary coding efforts identified which variables could be reliably coded from file reviews. Frequently missing data resulted in the deletion of several variables and two cases. Predictive classes included demographic information, such as age, race, marital status, vocational stability, education, previous criminal history, such as age at first arrest, number of previous convictions, number of previous incarcerations; and current offence history; such as type of offence, victim injury, and alcohol involvement with offence. Other potential covariates and predictors included information assessments made by parole

board members, reasons for or against release, community assessments, and other professional opinions. Criterion measures included parole outcome variables such as warnings while on parole, suspensions, arrests, convictions, and revocations. Post-release outcome measures included general recidivism, violent recidivism, number of violent offences, reincarceration, and length of new sentence.

Criterion variables (e.g. parole success and failures) will be compared using regression analyses within classes of predictor variables (e.g. Static models, LSI, board members decisions) in order to compare the predictive accuracy of various methods. The absolute, relative, and incremental predictive ability of the various simple predictors (e.g. current sentence, drug history, LSI items) on post-release outcome was explored through correlation matrices, multiple regression, and step-wise multiple regression analysis.

Two by two contingency tables were constructed for each actuarial prediction variable and professional prediction variable. These tables examined a variety of statistics used to describe the accuracy of each predictor variable. Relative Improvement Over Chance (Loeber & Dishion, 1983) was used extensively.

The incremental validity of the SIR scale and SFS were evaluated through step-wise multiple regression analysis by attempting to force static models in after the LSI has already been entered. In reverse, the incremental validity of the LSI was tested by attempting to force it into the regression equation after the static models had been accounted for. Further analysis into the utility of the LSI was obtained by correlation matrices of treatment needs identified (LSI subcomponents) and post-release measures. Contingency tables identifying appropriate versus non-appropriate or no treatment can be evaluated on various criterion measures. In addition, contingency table examination was conducted on intake LSI risk level and selected criterion variables including parole decisions, institutional performance, parole success, and follow up recidivism. Thus, various analyses of contingency tables were constructed to determine the predictive accuracy for each classification instrument.

RESULTS

Sample

The original list supplied by the Ontario Board of Parole (OBP) to be used as the sample in the current study consisted of five-hundred and twenty six offenders. Three of these offenders were eliminated from the study because they did not meet the inclusion criteria. Two were eliminated because their parole date fell outside the allotted time period and the other was discarded because his hearing took place in Quebec. Two other cases were eliminated from the list because of a consistent lack of reliable information.

Offenders in the sample were primarily Caucasian (93.4%), male (98%), and English speaking (92%). As seen in Table 1, the highest grade level attained while in the community was, on average, 10.1 ($sd = 1.95$). Approximately 20% of the sample had completed their grade twelve and another 6% had at least some post-secondary education. Nearly 70% of the sample were not employed at the time of their current offence and only 3.5% indicated they had an occupation that required a skill or trade. Over 64% worked less than six months during the year previous to their incarceration and another 67% relied on social assistance as a source of income during this time period preceding their incarceration.

While almost 46% of the inmates reported themselves as single and never having been married another 36% were married or living common law at the time of their current offence. The remaining 18% were either separated or divorced. An additional 27% of the offenders had economically dependent children living with them at the time of their admission to prison. Nearly half (49%) of the inmates reported coming from a family background that was characterised by drug and alcohol abuse. Those offenders coming from a family with a member having a criminal background comprised a quarter of the sample while those having psychiatric problems within their immediate families made up 7% of the sample. On self report, almost 65% of the inmates reported that they had left their parental home before the age of 16 or did not have a two parent upbringing.

Table 1

Sample Descriptives.

Item	Mean	Standard Deviation	Range
Age	31.0	9.90	18 - 70
Education Level	10.1	1.95	3 - University
Youth Convictions	2.14	4.32	0 - 37
Youth Incarcerations	0.61	1.37	0 - 11
Age at first arrest	21.90	7.75	9 - 70
Age at first incarceration	24.59	8.84	16 - 70
Total previous offences	10.34	11.59	0 - 99
Total violent offences	1.81	2.29	0 - 15
Previous incarcerations	2.84	3.30	0 - 21
Current aggregate sentence	298	167	90 - 729
Number of current offences	3.97	3.50	1 - 25
Number of misconducts	0.52	1.0	0 - 7
Segregation placements	0.21	0.55	0 - 4
Time on parole (days)	167	111	1 - 489
Contact with P/O (/month)	1.81	0.60	0 - 4.70
New offences	1.42	2.62	0 - 24
New violent offences	0.32	0.75	0 - 4

At the time of their Parole Board hearing 70% of the inmates were serving time at the Rideau Correction and Treatment Centre and another 29% were serving their incarceration period at the Ottawa Carleton Detention Centre. Offenders were serving sentences ranging from 90 days to two years less a day. The average sentence length was 298 days ($sd = 167$). On admission to the provincial system the mean age of the offenders was 31.0 years ($sd = 9.9$) with a range in age from 18 to 70 years. All convictions relating to the aggregate sentence the offender was serving at the time of his parole hearing were considered current convictions. Previous convictions were defined as those preceding the charges relating to the current term of incarceration.

The average number of previous convictions for the offenders in the sample was 10.3 ($sd = 11.6$) with a range of 0, or no previous offences, to 99 prior convictions. Only 14% of the sample were first time offenders. In fact, the mean number of previous incarcerations was 2.8 ($sd = 3.3$). Those offenders who were incarcerated for the first time made up 30.1% of the entire sample. An additional 17.7% had only one previous incarceration while 12.4% had two. Approximately 40% of the population sampled had three or more previous incarcerations. Almost 8% of the inmates had previously served federal sentences (i.e. two years or more in length). Offenders who had convictions in juvenile court consisted of 43% of the sample. Another 26% of the sample had served an incarceration period as a juvenile as a result of their offences. Twelve percent of the offenders with juvenile records were classified as violent.

No offenders who came before the OBP during the sampling period had ever been convicted of Murder. Three had previous convictions for Manslaughter and one had a conviction for accessory to murder. Furthermore, 41% had a previous assault or threat conviction, 13% had a previous weapons charge, and 10% had a robbery related conviction on their criminal record. Only 2% of the sample had a sex related conviction on their record while 25% had previous drug charges, 40% had driving charges, and 60% had a property related offence on their record.

The average number of current convictions was 3.97 ($sd = 3.5$) with a range of 1 offence through 25. Those who were currently serving time for a violent or weapons offence consisted of 40% and 20% of the sample respectively. No victim injury was reported in 65.1% of the cases coming before the Parole Board. Current offences resulting in a victim being admitted to the hospital or receiving medical treatment occurred in 10.9% of the cases. Death was a result of 1.3% of the samples current offences. Of the cases where there was a victim of a violent crime 27.4% of those victims were a spouse and another 21.9% were either a close member of the offenders family or a significant other. The victims of violent crime were acquaintances to the offender 20.4% of the time while a stranger or police officer were the victim's of the current violent offence 20.9% and 9.4% of the time respectively.

Eighty-five percent of the sample had previous probation experience and 77.5% of inmates who had served a sentence of community supervision had a probation breach. Similarly, 27% of the inmates had been previously released on parole or mandatory supervision. Of the inmates who had previous parole experience approximately 34% had a parole or mandatory supervision revocation. In addition to these breaches, almost 16% of the sample had a history of escape or U.A.L. charges as an adult or juvenile. Nearly half (46%) of the inmates also had a breach of trust associated with their current sentence or were on community supervision at the time of their offence. Offenders in the sample had outstanding charges pending prior to their parole hearing in 17.1% of the cases.

While incarcerated 33.5%, 12.1%, and 6.3% of the inmates participated in substance abuse treatment, anger management, and counselling respectively. In total, 43.2% of the offenders completed some type of programming during their incarceration. The vast majority of offenders at the time of their parole hearing (83%) were also assessed by clinicians or the Parole Board as still requiring treatment interventions. However, another 38.4% had initiated contact with a suitable program in the community prior to their release.

During their incarceration 30.8% of the sample incurred at least one institutional charge and 9% of these were assaultive or violent in nature. The average number of misconducts was 0.52 ($sd = 1.0$) with a range of 0 to 7. Of those studied, 15.7% served time in segregation during their current aggregate sentence. A number of offenders applied for a Temporary Absence Permits (TAPs) or made an application to a Community Resource Centre (CRC) prior to a parole hearing. From the 52% of the sample who had applied for a TAP or CRC placement, roughly 45% of the applications were granted.

Prior to any potential release offenders are assessed on a number of community related variables by their respective parole offices. Of the sample coming before the Parole Board 90.1% had a confirmed residence and 33.5% had confirmed employment. Prior community supervision was judged as positive, by the parole officer, in 24.3% of the parole applicants who had previous probation or parole experience. Recommendations for release submitted to the Parole Board by the parole offices supported the early release of offenders 40.7% of the time. More specifically, in 76.8% of cases where parole was supported special conditions and restrictions were suggested to lower the risk of potential reoffending. In the remaining cases inmates were recommended for release without restrictions. Of the 59.3% of the sample not supported for release by their parole office 30.5% of the parole officers had proposed alternative conditions with their recommendation should the offender be released. In the remaining 69.5% of cases where parole was not supported, no alternatives were proposed.

In considering parole applications the OBP often considers other professional opinions in addition to those of the parole offices. Inquiries are regularly made to all relevant correctional agencies but replies are frequently absent. Police departments offered recommendations for 190 offenders. They opposed an early release in 77.9% of these cases. Clinicians made recommendations for only 23.8% ($n = 124$) of the inmates but these recommendations were positive 66.1% of the time. Similarly, institutional staff

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Table 2

Percents and Frequencies of Rationale for Granting and Denying Parole

Granted	Mean (N)	Mean (N)	Denied
Completed treatment	36%(177)	24% (117)	Failed to complete treatment
Positive institutional conduct	5%(26)	9% (44)	Poor Institutional behaviour
Residence confirmed	49%(241)	12% (61)	Unsuitable residence plan
Employment confirmed	38%(185)	15% (72)	Unsuitable employment plan
Community support	39%(193)	3% (16)	No community support
Professional support	22%(109)	24% (116)	Lack of professional support
Minor criminal history	26%(130)	41% (202)	Extensive/Repeated offences
No Violent history	4% (18)	26% (127)	Violent criminal history
Current offence minor	1% (7)	19% (92)	Serious current offence
Positive past supervision	16% (80)	48% (235)	Poor supervision in past
No substance abuse	10% (50)	48% (235)	Substance abuse
Incarceration deterrent effect	3% (13)	00% (0)	No deterrent effect
Plans community treatment	36%(176)	9% (43)	No plans for community treatment
Low LSI	9% (44)	7% (33)	High LSI
Motivated	5% (26)	5% (23)	Not motivated
Insight into behaviour	6% (28)	3% (15)	Lacks insight into behaviour
Responsibility for behaviour	2% (10)	4% (19)	Failed to take responsibility
Shows remorse	5% (22)	1% (6)	Lacks remorse
Positive attitude	2% (8)	3% (15)	Poor attitude
Long gap between offences	6% (29)	1% (06)	Short period from last offence
Offences occurred long ago	02% (11)	2% (12)	Negative Peer group
Probation to follow	03% (13)		

Note: Number of valid cases = 492

Outcome Measures

Of the 285 inmates that could be followed on parole (i.e. not out of region) 26.3% were suspended on at least one occasion. Reasons for suspension included failure to report (16%), moving without permission (22.7%), substance use contrary to a special condition (46.7%), failure to undergo treatment (29.3%), and new criminal charges (52.7%). Parole could also be terminated in four different manners. Parole was completed because the offender reached their warrant expiry date (i.e. end of sentence) in 76.7% of the cases. Approximately half (50%) of those parolees who successfully completed their parole also had probation terms to serve. Parole was terminated by means of a revocation due to a technical violation of a standard condition in only 1% of the cases and terminated due to a violation of a special condition, imposed by the Parole Board, in 9.4% of the sample. For 12.9% of offenders parole was revoked due to incurring new criminal charges.

Including the time on parole, the average time at risk to offend in the community was 546 days ($sd = 190$). Three different outcome measures were generally used. For those receiving parole, revocation was used as an indication of failure. If an inmate had his parole revoked for any reason the parole was not considered a success. It should also be pointed out that it was possible to reoffend within the parole period and not be revoked. Thus, a new offence does not necessarily coincide with a revocation.

General recidivism was defined as being arrested for any type of new offence within the time period the offender was at risk. Violent recidivism, on the other hand, was defined as being charged or convicted of a violent offence within the same follow-up time period. Finally, the re-incarceration outcome measure consisted of all inmates who were

sentenced to a new provincial or federal sentence after their release. This included those who received additional time added onto their sentence if they had yet to reach warrant expiry on their current aggregate sentence. Unfavourable outcome will refer to revocation, recidivism, and reincarceration (see Appendix D).

Recidivism data gathered through both CPIC and monthly parole reports revealed that 43.6% of the sample recidivated during the year follow-up period. This was considered the general recidivism rate. The mean number of new offences was 1.42 ($sd = 2.62$) with a range from 0 to 24 offences. The violent recidivism rate was 20%. The mean number of violent crimes for the entire sample was .32 ($sd = .75$) but for those having committed a new violent crime the mean number of offences was 1.62 ($sd = .87$). Twenty-nine percent ($n = 139$) of the entire follow-up sample were given a new provincial or federal sentence after their release. Those receiving a custody disposition received an average sentence length of 10.64 months ($sd = 13.1$) with a range of 15 days to 7 years.

Actuarial Instruments

The mean of the LSI scores that were reported to the OBP was 23.64 ($sd = 8.3$). These scores ranged from 2 to 49. A slightly smaller sample was used when examining the individual item scores due to some completed LSI forms being unavailable for examination. Table 3 provides the percentages for individual item scores on the LSI. As is apparent, many of the variables that are covered in the LSI were consistent with the overall sample. For instance, approximately 88% of the LSI sample had a previous criminal history and roughly 73% were unemployed at the time of the current offence. It was evident by investigating the LSI items that a large proportion of this sample had criminal associates (75.9%) and criminally oriented friends (66.4%). Other notable results

Table 3

Distribution of LSI Individual Item Scores (N= 389)

Variable	%
Criminal history	
Any prior convictions	87.9
Two or more prior convictions	75.6
Three or more prior convictions	65.9
Three or more present convictions	55.9
Arrested under 16	44.4
Ever incarcerated	89.0 *
Escape History	06.9
Institutional misconduct	32.8
Community supervision	60.3
Official record of violence	59.2
Employment/education	
Currently Unemployed	73.1
Frequently unemployed	57.4
Never employed full year	25.9
Ever fired	27.2
Less than grade 10	40.0
Less than grade 12	77.2
Ever suspended/expelled	43.1
Participation/performance	76.9
Peer interactions	32.6*
Authority interactions	33.8*
Financial	
Financial problems	47.9
Reliance on social assist	75.4
Family/marital	
Dissatisfaction with marital	49.5
Non-rewarding parental	31.0
Non-rewarding, other relatives	22.6
Criminal family/spouse	34.1
Accommodation	
Unsatisfactory accommodations	33.6
Three or more address changes	17.7
High crime neighbourhood	14.9
Leisure/recreational	
No organized participation	80.8
Could make better use of time	79.2

cont'd

Table 3 (continued)

Variable	%
Companions	
A social isolate	15.4
Some criminal associates	75.9
Some criminal friends	66.4
Few anti-criminal acquaintances	08.2
Few anti-criminal friends	08.5
Drug/alcohol problems	
Alcohol problem ever	73.1
Drug problem, ever	51.0
Alcohol problem, currently	62.6
Drug problem, currently	33.6
Law violations associated with	83.6
Marital/family problems associated with	60.3
School/work problems associated with	49.2
Medical problems associated with	14.1
Other clinical indicators of substance abuse	61.5
Personal/emotional	
Moderate interference	33.8
Severe interference	02.3
Psychiatric treatment past	26.2
Psychiatric treatment now	05.4
Psychological assessment	63.6
Attitude/orientation	
Supportive of crime	32.8
Unfavourable toward convention	17.9
Poor attitude towards sentence	14.4
Poor attitude towards supervision	24.6

* scoring error

found that 73% and 51% of the LSI sample, at one point, had an alcohol or drug problem respectively. Only 2.3% of the sample were assessed as having severe emotional or personal problems but over a quarter of the sample had attended psychiatric treatment in the past.

The distribution of the LSI indicated some scoring errors. Most notably in items six ("Ever incarcerated") and eleven ("Currently unemployed"). Item six, given the sample, should always be checked. Therefore this item should be 100% by definition. Items 18, 19, and 20, according to the scoring guide, should have a greater frequency of positive responses than item number eleven. Clearly, they do not. Since this studies primary focus was on the utility of the LSI as submitted to the OBP these errors were not corrected.

The inter-correlation Matrix of LSI total scores and it's sub-components are explored in Table 4. Inspection of the inter-correlation matrix reveals modest correlations among subcomponent scores. However, the financial subcomponent had noticeably weak correlations with other sub-components. Despite being significant, the financial subcomponent showed the weakest correlation ($r = .26, p < .001$) with LSI total score. Cronbach's alpha (.83) on the total scale score showed reasonable internal reliability estimates. Test-retest reliability was conducted using a sample of twenty-three LSI assessments that were conducted at both the Rideau Correction and Treatment Centre and the Ottawa Carleton Detention Centre. The average time between assessment was 1.6 months. The correlation coefficient between the LSI total scores was 0.82. This indicated that LSI totals were reasonably reliable over time and across raters.

The frequency distribution of the SIR scale and its individual components are listed in Table 5 while the SFS and the frequency of it's individual components are displayed in Table 6. As can be seen in the two tables the fluctuations in total scores on both the SFS

Table 4

Inter-correlation Matrix of the LSI Total Score and Subcomponents (N = 389)

	Sub1	Sub2	Sub3	Sub4	Sub5	Sub6	Sub7	Sub8	Sub9	Sub10	LSI Total
Sub1	1.00										
Sub2	.61**	1.00									
Sub3	.00	.42**	1.00								
Sub4	.30**	.10*	-.03	1.00							
Sub5	.26**	.21**	.07	.42**	1.00						
Sub6	.22**	.32**	.10	.27**	.22**	1.00					
Sub7	.25**	.39**	.13*	.25**	.28**	.32**	1.00				
Sub8	.39**	.10	-.05	.30**	.29**	.34**	.19**	1.00			
Sub9	.11*	.09	.09	.14*	.13*	.04	.01	.11*	1.00		
Sub10	.34**	.28**	.02	.18**	.24**	.18*	.38**	.21**	.19*	1.00	
LSI Total	.68**	.61**	.26**	.52**	.54**	.51**	.57**	.64**	.29*	.54**	

Note: Sub1 = Criminal history
 Sub2 = Employment/Education
 Sub3 = Financial
 Sub4 = Family/marital
 Sub5 = Living Arrangement
 Sub6 = Leisure/Recreation
 Sub7 = Criminal Associates
 Sub8 = Substance Abuse
 Sub9 = Emotional/Personal
 Sub10 = Attitude

* $p < .05$; ** $p < .001$

Table 5

Distribution of SIR Scale Individual Item Scores (N= 521)

Variable	%
Current Offence	
+4 Incest, sexual intercourse with underage ...	0%
+3 Homicide, Narcotics offences	10%
+2 Robbery, dangerous driving, obstruction	10%
0 None applicable	38%
- 1 Possession stolen goods, theft	14%
- 2 Break and Enter	27%
- 4 Escape	2%
Age at Admission	
+2 40 or over	16%
0 21 to 39	70%
- 2 20 or under	13%
Previous Incarceration	
+4 Never been incarcerated	30%
0 One or two previous incarcerations	30%
- 1 Three or four previous incarcerations	14%
- 2 Served sentences on 5 or more occasions	26%
Revocation or Forfeiture	
0 No revocations	90%
-2 Has had previous parole or M S. revoked	10%
Act of Escape	
0 No escapes	92%
-3 Previous escape	8%
Security Classification	
0 Not maximum	100%
Age at First Adult conviction	
+7 50 or over	2%
+6 Between 41-49	2%
+3 Between 31-40	4%
+2 Between 23-30	16%
0 Between 19-22	43%
- 2 18 or under	33%
Previous Conviction For Assault	
0 None	63%
-2 One previous assault	19%
-3 Two or more previous assaults	18%
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Table 5 (continued)

Marital Status At Admission	
+1 Married or common-law	34%
0 Nor married	66%
Interval at Risk	
+2 24 months or more last in the community	28%
0 Between 6 months and 24 months	40%
- 1 Less than 6 months	32%
Number of Dependants	
+1 Three or more	4%
0 Less than 3	96%
Current Aggregate Sentence	
0 Less than 5 years	100%
Previous Sexual Convictions	
0 Less than two	99%
-4 Two or more	1%
Previous Convictions for Break and Enter	
+2 None	62%
- 2 One or two convictions	22%
- 3 Three or four convictions	8%
- 6 Five or more	8%
Employment Status at Arrest	
+1 Employed	28%
0 Not employed	72%

Table 6

Distribution of SFS Individual Item Scores (N= 521)

Variable	%
Prior Convictions (Adult or juvenile)	
None (3 points)	14%
One (2 points)	8%
Two or three (1 point)	13%
Four or more (0 points)	65%
Prior commitments	
None (2 points)	30%
One or Two (1 point)	30%
Three or more (0 points)	40%
Age at Current Offence	
25 or older (2 points)	67%
20-25 (1 point)	27%
19 or younger (0 points)	7%
Recent Commitment Free Period	
None over last three years (1 point)	25%
Otherwise (0 points)	75%
Probation/Parole/Escape -This Offence	
Yes (1 point)	47%
No (0 points)	53%
Heroin Dependence	
No history of dependence (1 point)	97%
History of dependence (0 points)	3%

and SIR scales are almost entirely based on previous criminal history

Table 7 shows the means, standard deviations and ranges of scores for the LSI, it's subcomponents, the SIR, and SFS instruments. It should be noted that the sample of cases used for the LSI in Table 7 consisted only of those where all scores were available. A larger sample was generally used however for total score analysis. On preliminary inspection the LSI total score appears to be primarily based on the criminal history, substance abuse, and employment/education subcomponents.

The correlation matrix of the actuarial instruments and parole decisions are presented in Table 8. It can be seen that all the actuarial risk instruments are moderately to highly correlated with one another. A particularly high correlation was evident between the SIR and SFS scales ($r = .70, p < .001$). Moderate to high negative correlations were found between the LSI and SIR ($r = -.52, p < .001$) as well as the LSI and SFS ($r = -.42, p < .001$).

Parole Decisions

Also shown in Table 8 are actuarial risk assessments correlations with parole decisions. All actuarial instruments were significantly correlated with the parole decision to grant or deny release in the expected directions. The highest actuarial risk instrument correlation with OBP decision was the LSI ($r = -.33, p < .001$). Hence, as total scores on the LSI increased, indicating greater risk, the likelihood of being denied parole also increased.

Presented in Table 9 are the correlations between professional recommendations and parole release decisions. Pearson product-moment correlation coefficients were generally higher between OBP release decisions and professional recommendations than

Table 7

Means and Standard Deviations of Actuarial Instruments Total Scores and Subcomponents

Classification Instrument	Mean	SD	Range	N
LSI Total Score	23.81	7.37	4 - 49	389
Criminal history	5.78	2.24	0 - 10	
Employment/Education	4.87	2.28	0 - 10	
Financial	1.23	0.70	0 - 2	
Family/marital	1.37	1.14	0 - 4	
Living Arrangement	0.66	0.90	0 - 3	
Leisure/Recreation	1.60	0.64	0 - 2	
Criminal Associates	1.74	1.10	0 - 4	
Substance Abuse	4.36	2.33	0 - 9	
Emotional/Personal	1.31	0.89	0 - 5	
Attitude	0.90	0.95	0 - 4	
SIR Scale	0.04	7.52	(-)18 - 19	521
Salient Factor Score	5.03	1.90	1 - 10	521

Table 8

Correlation Matrix of Actuarial Risk Estimates and Parole Release Decisions

	LSI	SIR	SFS	OBP
LSI	1 00			
SIR	-.522 (389)	1 00		
SFS	-.417 (389)	.701 (521)	1 00	
OBP	-.334 (389)	.276 (521)	.240 (521)	1 00

Note: LSI = Level of Supervision Inventory
 SIR = Statistical Information on Recidivism Scale
 SFS = Salient Factor Scale
 OBP = Ontario Board of Parole decision
 All significant at $p < .001$
 Number in brackets reflect n

Table 9

Correlation Matrix of Professional Support for Parole and Actual Parole Release Decisions.

	P/O	POL	CLN	SFF	OBP
P/O	1.00				
POL	.785 (184)	1.00			
CLN	.554 (89)	.467 (59)	1.00		
SFF	.426 (173)	.226* (116)	.902 (61)	1.00	
OBP	.555 (341)	.405 (184)	.697 (124)	.669 (173)	1.00

Note: P/O = Parole Office

POL= Police Department

CLN= Clinician

SFF = Institutional Staff

OBP= Ontario Board of Parole decision

* significant at $p < .01$; all others significant at $p < .001$.

Number in brackets reflect n

with the risk assessments predictions. OBP decisions to release were highly correlated with both clinical support for release ($r = .70, p < .001$) and institutional staff support ($r = .67, p < .001$). Notably, clinician and institutional staff support for parole was virtually identical ($r = .90, p < .001$). Similarly, police and parole officers recommendations were highly positively correlated ($r = .79, p < .001$). Police ($r = .41, p < .001$) and Parole officers ($r = .56, p < .001$) support for release was also moderately correlated with Parole Board decisions. Therefore, if there was support from any of the correctional agencies the likelihood of parole being granted increased

Correlations for actuarial risk instruments and professional recommendations are shown in Table 10. All risk instruments showed significant correlations with professional recommendations in the expected direction. Hence, as risk level increased the likelihood of support from outside agencies for parole decreased. Clinician's support for parole was the highest bi-variate correlate with the LSI ($r = .39, p < .001$). Overall, clinical recommendations had the highest correlations with actuarial instruments of the four professional groups.

Parole Board Decision Covariates

Numerous variables were examined in relation to Parole Board decisions to grant or deny parole. As can be seen from Table 11 numerous variables were significantly related to parole release decisions. As expected, criminal background measures, such as youth court convictions ($F(1, 407) = 28.29, p < .0001$), age at first incarceration ($F(1, 511) = 13.37, p < .001$), previous violent offence ($F(1, 490) = 20.96, p < .001$) and previous probation breach ($F(1, 381) = 44.68, p < .001$) were all significantly related to parole decisions. Surprisingly, the seriousness of the current offence was not significantly

Table 10

Correlations of Risk Instruments and Professional Recommendations (N).

Measure	P/O	POL	CLN	STF
LSI	.281 (256)	.388 (142)	.391 (109)	.301 (146)
SIR	.310 (256)	.272 (184)	.264 ^b (124)	.220 ^b (173)
SFS	.311 (341)	.326 (184)	.344 (124)	.195 ^a (173)

Note: LSI = Level of Supervision Inventory

SIR = Statistical Information on Recidivism Scale

SFS = Salient Factor Scale

P/O = Parole Office

POL= Police Department

CLN= Clinician

STF = Institutional Staff

Scores have been reversed on the LSI to allow for readability

a is not significant; b $p < .01$; all others significant at $p < .001$.

Table 11

Covariate Means and Percentages for Parole Board Decisions.

	Granted	Denied			
Continuous variables	Means		N	F	p
Demographics & Background					
Age	30.04	31.52	500	2.68	n.s.
Education Level	10.31	9.83	466	6.85	**
Drug Abuse Rating	0.64	0.91	465	9.95	**
Criminal History					
Youth court convictions	1.31	3.62	409	28.29	****
Youth custody placements	0.36	1.06	381	24.02	****
Age at first offence	22.63	20.73	515	7.38	**
Age at first incarceration	25.70	22.80	513	13.37	***
Total convictions	12.47	17.25	521	19.79	****
Total violent convictions	1.49	2.33	521	17.30	***
Total breaches	2.07	3.95	521	37.23	****
Previous incarcerations	2.29	3.73	518	24.18	****
Total time for dispositions	16.29	21.77	518	2.87	n.s.
Most serious offence scale	3.47	3.59	500	0.24	n.s.
Criminal versatility	3.70	4.83	498	35.63	****
Current offence					
Aggregate sentence	304	288	500	1.04	n.s.
Period since last offence	30.31	13.71	471	29.31	****
Longest prior sentence	8.59	9.25	518	0.19	n.s.
Institution					
Institutional Misconducts	0.39	0.73	487	13.92	***
Segregation placements	0.16	0.29	484	5.91	*
Actuarial Instruments					
SIR	-1.68	-2.59	521	42.79	****
SFS	5.40	4.46	521	31.66	****
LSI	21.27	27.37	399	59.98	****
<hr/>					
Dichotomous variables	Percents				
<hr/>					
Demographics and Background					
Social Assistance	61%	77%	431	11.88	***
Parents until 16	41%	24%	321	9.87	***
Family substance abuse	44%	58%	313	6.00	*
Family criminal history	21%	31%	313	4.10	*
Family psychiatric history	5%	9%	305	1.45	n.s.

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Table 11 (continued)

	Granted	Denied			
	Percentage		N	F	p
Criminal History					
First adult incarceration	38%	18%	494	21.66	****
Previous violent offence	38%	58%	492	20.96	****
Previous escape	12%	21%	491	6.30	*
Previous probation breach	66%	93%	383	44.68	****
Previous revocation	27%	43%	152	4.24	*
Current Offence					
Present violent offence	36%	51%	497	10.35	**
Under supervision at offen.	33%	67%	482	57.77	****
Intoxicated at offence	68%	92%	426	32.68	****
Interim release breached	36%	74%	368	54.30	****
Probation to follow	50%	47%	476	0.35	n.s.
Outstanding charges	14%	22%	463	4.83	*
% of sentence served	33%	36%	500	4.65	*
Institutional					
Initiated programming	62%	43%	467	15.99	***
Completed programming	51%	30%	468	20.83	****
Expresses responsibility ¹	76%	15%	371	202.65	****
Positive attitude ¹	96%	52%	273	106.68	****
Positive work habits ¹	96%	58%	216	65.95	****
T.A.s or CRCs	57%	20%	265	36.49	****
Personal					
Accepts responsibility ¹	86%	42%	351	93.29	****
Identified problems ¹	80%	54%	435	36.46	****
Release Plans					
Positive residence eval.	62%	32%	445	42.08	****
Positive employment eval.	36%	16%	416	20.91	****
Community program	49%	22%	461	37.04	****
Release plan realistic ¹	85%	8%	396	532.98	****
Release plan different	62%	47%	400	9.03	**
Professional Recommendations					
P/O favour release	63%	8%	341	150.80	****
Police favour release	38%	4%	184	35.64	****
Clinician supports release	93%	26%	124	115.25	****
Staff favour release	89%	23%	173	138.20	****

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$. n.s. = not significant

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related to parole decisions. In addition to criminal background covariates a number of institutional variables were found to be significantly related to the granting of parole. Placements in segregation ($F(1, 482) = 5.91, p < .05$) and number of misconducts ($F(1, 485) = 13.92, p < .001$) were significantly lower in those released on parole than those that remained incarcerated until their discharge date. Personality variables, such as positive attitudes ($F(1, 271) = 106.7, p < .0001$), and treatment variables, such as completion of programming ($F(1, 466) = 20.83, p < .0001$), were significantly associated with decisions to grant parole.

The variables shown in Table 11 comprised a complete list of the variables considered for entry into a step-wise multiple regression analyses. Many factors were excluded on the basis that they were highly correlated ($r > .90$) with other variables already considered and were therefore unlikely to add any unique information. It was also recognized, however, that many of these single variable predictors were likely to have already been taken into account by the actuarial instruments.

A step-wise multiple regression analysis was conducted using all variables that statistically differentiated (at $p < .0001$) those who were granted parole from those who were denied parole. The results are presented in Table 12. As can be seen from the table many of the previous variables that were identified were not included in the final regression equation. Essentially, these variables could not offer any unique information to the explained variance in the outcome measure. The first variable selected to enter the equation was realistic release plan. This variable is an assessment made by the Parole Board. This variable on its own had a highly significant positive correlation with parole decisions ($r = .76, p < .001$). On the second step the attitude variable was entered. This increased the multiple R to .80 and accounted for an additional 6% of the variance. On

Table 12

Stepwise Multiple Regression Analyses Using the Parole Decision as the Dependent Variable (N = 74).

<u>Step</u>	<u>Predictor</u>	<u>Multiple R</u>	<u>Adj. R Sq</u>	<u>Beta</u>	<u>t</u>	<u>p</u>
1.	Release Plan	.76	.58	.41	3.50	.001
2.	Attitude	.80	.63	.21	2.03	.047
3.	Clinician Supports	.81	.64	.27	2.00	.049

Note: Probability to enter < 0.05

the final step clinical support for parole was entered. This variable accounted for an additional 2% of the variance. All together these three variables accounted for 66% of the variance in parole decision making. No other variables added significantly to the explained variance.

The impact of risk instruments and professional support were assessed separately using multiple regression analysis. All three risk assessment instruments accounted for 14% of the variance in parole decisions ($F(3, 395) = 21.40, p < .001$). However, alone the LSI accounted for 13% of the variance. After the LSI entered the SFS scale added only 1% to the explained variance. The SIR scale did not meet the criterion to enter the equation ($p < .05$). Thus, after the LSI had been taken into account the incremental validity in explaining parole decisions with other risk instruments was minimal.

Again, using a multiple regression analysis, parole outcome was used as a dependent measure while entering all professional support variables. Together these variables accounted for 55% of the variance and had a Multiple R of .73 ($F(3, 54) = 16.21, p < .001$). When explored through step-wise methods clinical support was the first variable extracted. It accounted for 49% of the total variance and had an $r = .70$ ($p < .001$). On the second step parole office support was entered. This variable accounted for an additional 4% of the variance. Together these variables had a Multiple R of .73 and an R square of .53. Thus clinical and parole officer recommendations showed unique contributions to the explanation of parole decisions. Police and institutional staff recommendations did not add significantly to the explained variance and were excluded from the final regression equation. Attempts were also made to enter risk measurements

into the regression equation. After professional support had been entered the risk assessment instruments did not add significantly to the explained variance.

Post-Release Outcome

A number of pre-parole predictors were found to be statistically related to revocations, violent recidivism and reincarceration. Table 13 illustrates a number of variables and their relation to revocation. Criminal history variables were generally shown to be statistically related to recidivism. In particular, total convictions ($F(1, 285) = 22.64$, $p < .0001$), incarcerations ($F(1, 284) = 24.67$, $p < .0001$), and breaches ($F(1, 285) = 28.36$, $p < .001$) showed to be reliable variables in discriminating between those whose parole was revoked and those who completed parole successfully. The actuarial instruments were also all related to parole outcome. Notably, previous revocations, realistic parole plan, completed programming, and clinicians favouring release were not significantly related to parole outcome.

Many of the same variables were also statistically related to reincarceration (see Table 14) and violent recidivism (see Table 15). Several exceptions were apparent. Namely, many dynamic variables were statistically related to future violence and reincarceration. Pro-social attitudes, for example, were associated with lower rates of reincarceration ($F(1, 253) = 21.97$, $p < .001$) and violent reoffending ($F(1, 262) = 7.09$, $p < .001$). Similar patterns were discovered with the submission of a realistic release plan with both violent recidivism ($F(1, 384) = 7.94$, $p < .001$) and reincarceration ($F(1, 368) = 22.73$, $p < .001$). Confirmed employment was also associated with reincarceration ($F(1, 448) = 19.12$, $p < .001$) and violent recidivism ($F(1, 474) = 10.59$, $p < .01$) at significant levels.

Table 13

Means and Percentages for Predictor Variables and Revocation

Continuous variables	No Revocation	Revocation	N	F	p
	Mean				
Age at first offence	23.63	19.51	285	12.46	***
Youth convictions	1.00	2.50	245	9.11	**
Youth incarcerations	0.24	0.79	232	14.46	**
Total convictions	10.96	18.10	287	22.64	****
Total violent convictions	1.31	2.10	287	7.99	**
Previous incarcerations	1.89	3.85	286	24.67	****
Segregation placements	0.11	0.33	281	11.85	***
Criminal Versatility	3.38	4.97	287	32.53	****
SIR	2.84	-2.60	287	28.31	****
SFS	5.67	4.81	287	10.69	***
LSI	20.23	25.74	223	21.90	****
Dichotomous variables	Percents		N	F	p
Under influence at offence	64%	89%	248	13.08	***
Interim release breached	30%	63%	224	18.74	****
First Incarceration	42%	21%	284	9.80	**
Previous violent	35%	50%	284	4.96	*
Previous escape	7%	27%	282	18.74	****
Previous probation breach	61%	83%	205	8.15	**
Confirmed employment	57%	39%	278	6.13	*
P/O favours release	67%	40%	184	10.34	**
Police favour release	43%	14%	93	6.06	*
Unrelated to revocation					
Age	31.0	31.9	286	0.40	n.s.
Education	10.3	10.1	268	0.66	n.s.
Previous revocation	22%	42%	84	3.55	n.s.
Accepts responsibility ¹	86%	85%	205	0.03	n.s.
Completed programming	48%	61%	264	3.36	n.s.
Positive work/attitude ¹	98%	92%	143	3.28	n.s.
Realistic release plan ¹	87%	80%	220	1.35	n.s.
Clinician favours release	94%	88%	67	0.76	n.s.
Staff favours release	92%	88%	102	0.52	n.s.

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$

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Table 14

Means and Percentages for Predictor Variables and Reincarceration.

Continuous variables	No New Custody	Re- incarcerated	N	F	p
	Mean				
Age at first offence	23.05	19.44	473	21.46	****
Youth convictions	1.59	3.80	377	19.61	****
Youth incarcerations	0.45	1.08	352	15.24	***
Total convictions	12.17	18.93	476	33.61	****
Total violent convictions	1.65	2.25	476	6.79	**
Previous incarcerations	2.15	4.37	475	50.30	****
Segregation placements	0.14	0.39	447	17.08	****
Criminal Versatility	3.81	4.88	458	24.66	****
SIR	1.83	-4.04	476	68.65	****
SFS	5.36	4.32	476	30.84	****
LSI	21.25	28.81	365	73.06	****
Dichotomous variables	Percents		N	F	p
Parents until 16	43%	15%	294	23.70	****
Employed at arrest	85%	44%	441	11.44	***
Under influence at offence	75%	90%	395	10.81	**
Interim release breached	42%	71%	343	22.20	****
First Incarceration	35%	19%	456	11.84	***
Previous escape	11%	26%	452	15.73	***
Previous probation breach	71%	93%	354	21.85	****
Confirmed employment	50%	28%	450	19.12	****
Realistic release plan ¹	62%	35%	370	22.73	****
Positive attitude ¹	88%	63%	255	21.97	****
P/O favours release	46%	25%	314	12.30	***
Police favour release	26%	9%	174	6.10	*
Unrelated to custody					
Education	10.23	9.96	428	1.66	n.s.
Present violent	41%	44%	458	0.24	n.s.
Previous violent	43%	50%	452	1.87	n.s.
Previous revocation	26%	41%	139	3.50	n.s.
Accepts responsibility ¹	72%	61%	322	3.28	n.s.
Completed programming	43%	46%	430	0.27	n.s.
Clinician favours release	72%	63%	113	0.81	n.s.
Staff favours release	71%	56%	159	3.17	n.s.

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$.

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Table 15

Means and Percentages for Predictor Variables and Violent Recidivism

	Non-Violent	Violent Recidivists			
Continuous variables	Mean scores		N	F	p
Age at first incarceration	25.17	21.79	502	11.73	**
Total convictions	13.45	18.66	507	14.87	***
Total violent convictions	1.58	2.93	507	28.79	***
Previous incarcerations	2.50	4.38	506	27.13	****
Criminal Versatility	3.90	5.24	485	30.73	****
SIR	0.86	-3.76	507	31.80	****
SFS	5.16	4.47	507	10.43	**
LSI	22.34	29.65	389	51.69	****
Dichotomous variables	Percents				
Parents until 16	38%	14%	309	11.24	***
Under influence at offence	76%	89%	416	6.52	*
First Incarceration	33%	18%	482	7.46	**
Previous violent	42%	60%	478	9.72	**
Present Violent	38%	60%	484	13.52	***
Previous escape	13%	25%	478	7.56	**
Previous probation breach	74%	91%	375	10.09	**
Confirmed employment	47%	28%	476	10.59	**
Realistic release plan ¹	57%	38%	386	7.93	**
Positive attitude ¹	85%	68%	264	7.09	**
Expresses responsibility ¹	55%	33%	359	10.04	**
P/O favours release	44%	22%	329	10.90	**
Unrelated to violent recidivism					
Age	31.19	29.58	487	1.98	n.s.
Education	10.15	10.10	453	0.05	n.s.
Youth convictions	2.01	3.12	398	3.57	n.s.
Youth incarcerations	0.57	0.87	370	2.42	n.s.
Youth violent	0.17	0.28	357	1.09	n.s.
Segregation placements	0.20	0.29	471	1.84	n.s.
Employed at arrest	76%	55%	467	2.14	n.s.
Completed programming	44%	38%	455	1.04	n.s.
Police favour release	23%	10%	180	2.96	n.s.
Clinician favours release	69%	56%	121	0.94	n.s.
Staff favours release	68%	59%	167	0.75	n.s.

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$

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Again, completion of institutional programming on its own was not related to outcome measures

The Pearson correlation coefficients between professional recommendations for release and parole outcome are shown in Table 16. As can be seen, a number of recommendations were correlated with later parole outcome measures. Parole office recommendations against parole were significantly positively correlated with parole suspension ($r = .22, p < .01$), arrests ($r = .17, p < .05$), convictions ($r = .19, p < .05$), and revocations ($r = .22, p < .05$). Police Department recommendations opposed to release showed significant correlations with suspension ($r = .27, p < .05$) and revocation ($r = .27, p < .05$). Clinicians recommendations were not significantly related to any parole outcome measure and staff's recommendation's were only significantly correlated to warnings from parole officers while on parole ($r = .18, p < .05$).

Correlations of actuarial instruments with parole outcome measures can be seen in Table 17. Actuarial risk predictors were significantly correlated with all parole outcome measures with the exception of the SFS and warnings while on parole. Hence, as the estimated risk level increased on all actuarial instruments the probability of an unfavourable outcome while on parole also increased. The SIR scale was the most highly correlated measure with revocation ($r = -.32, p < .001$), and the number of arrests while on parole ($r = -.32, p < .001$). The LSI showed similar predictive qualities on parole measures. It was significantly correlated with revocation ($r = .30, p < .001$), and was the most highly correlated instrument with parole suspension ($r = .29, p < .001$). The SFS scale showed the weakest correlations of the three instruments with parole outcome measures but still achieved statistically significant levels of prediction.

Table 16

Correlations Between Professional Recommendations Against Release and Parole Outcome Measures (N).

Measure	Warning	Suspension	Arrest	Conviction	Revocation
Parole Officer	.097 (128)	.220** (142)	.172* (143)	.189* (142)	.224** (142)
Police	.118 (70)	.271* (77)	.148 (77)	.123 (77)	.268* (77)
Clinician	.047 (57)	.096 (62)	.058 (62)	.005 (62)	.139 (62)
Staff	.177* (85)	.050 (90)	.016 (90)	.001 (89)	.089 (90)

Note: * $p < .05$; ** $p < .01$

Table 17

Correlations Between Actuarial Risk Instruments and Parole Outcome Measures (N = 222)

Measure	Warning	Suspension	Arrest	Conviction	Revocation
LSI	.208**	.291***	.216**	.179**	.300***
SIR	-.152*	.290***	-.320***	-.284***	-.318***
SFS	-.107	-.213**	-.234***	-.197**	-.205**

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

LSI = Level of Supervision Inventory

SIR = Statistical Information on Recidivism Scale

SFS = Salient Factor Score

As shown on Table 18 all Pearson produce-moment correlations between actuarial risk assessments and post-release outcome measures were significant. The LSI was the best single predictor of all post release variables. Notably, the LSI was moderately correlated with general recidivism ($r = .42, p < .001$), violent recidivism ($r = .34, p < .001$), and reincarceration ($r = .41, p < .001$). The SIR scale also showed significant, but lower correlations than the LSI on all post release outcome measures with the exception of the length of new sentence ($r = -.28, p < .001$). While significant, the SFS had the lowest correlations with all post release criterion measures.

Table 19 shows the zero order correlations between professional recommendations and post release outcome measures. Clinician's recommendations were the most highly correlated with general recidivism ($r = .22, p < .05$). Parole office's recommendations against parole was the only significantly positively correlated measure with violent offence ($r = .15, p < .05$) and reincarceration ($r = .19, p < .01$). Despite many significant findings these correlations coefficients would all be considered modest or low.

Finally, outcome measures were analysed for those inmates who were granted parole and those that were denied parole. Table 20 displays these findings. As can be seen, the recidivism rates were substantially lower regardless of criterion measure for those released under parole than for those who were released at discharge. Correlations between parole decisions and criterion measures were calculated when time at risk in the community was held constant. The partial correlation coefficient between parole decisions and violent recidivism was significant. In fact, parole decision were significantly negatively correlated with violent recidivism ($r = -.17, p < .001$) and reincarceration ($r = -.28, p < .001$). Thus, when time at risk to reoffend was held constant parole decisions to grant release were associated with lower recidivism rates.

Contingency Table Analyses of Unfavourable Outcomes

Positive predictions of unfavourable outcome for the LSI, SIR scale, and SFS were based on scores exceeding their means. Because of different sampling sizes

Table 18

Correlations Between Actuarial Risk Instruments and Post Release Outcome Measures

Measure	General Recidivism (392)	Property Offence (389)	Violent Recidivism (389)	Re- incarcerated (365)	Length of Sentence (366)
LSI	.416***	.241***	.343***	.409***	.251***
SIR	-.359***	-.204***	-.243***	-.368***	-.276***
SFS	-.262***	-.145**	-.137**	-.280***	-.160**

Note: ** $p < .01$; *** $p < .001$; Number in brackets reflect n

LSI = Level of Supervision Inventory

SIR = Statistical Information on Recidivism Scale

SFS = Salient Factor Score

Table 19

Correlations Between Professional Recommendation and Post Release Outcome Measures(N).

Measure	General Recidivism	Property Offence	Violent Recidivism	Re- incarcerated	Length of Sentence
Parole Office	.158* (264)	.113 (261)	.150* (262)	.192** (249)	.163* (249)
Police	.213* (146)	.117 (145)	.106 (145)	.159 (139)	.037 (139)
Clinician	.215* (112)	.178 (112)	.114 (112)	.074 (104)	.068 (106)
Staff	.164* (148)	.236** (146)	.130 (146)	.162 (139)	.218* (139)

Note: * $p < .05$; ** $p < .01$

Numbers in brackets reflect n

Table 20

Means and Percentages for Parole Board Decisions and Criterion Measures.

Unfavourable Outcome	Granted	Denied	N	F	p
	Means				
Number of new offences	1.02	2.07	508	20.18	.0001
Number of violent offences	0.25	0.42	507	6.34	.0121
Number of weapons offences	0.02	0.08	507	6.27	.0126
Number of property offences	0.29	0.71	506	11.13	.0009
Number of new breaches	0.18	0.43	507	8.11	.0046
Time served on new charges	1.93	5.39	477	18.27	.0001
	Percentages		N	F	p
General Recidivism	36%	57%	509	21.40	.0001
Violent Recidivism	15%	27%	507	12.04	.0006
Reincarcerated	20%	44%	476	34.01	.0001

of independent measures the base rate fluctuated between .13 and .20. for the different tables. In Table 21 a two-by-two contingency table is presented that considers the parole outcome by professional and actuarial estimates of risk. Clinical recommendations were the most accurate in identifying those who had there parole revoked and those that did not (HITs = 75%). The LSI identified more accurately those that were likely to be revoked (PPP = 42%) over any other method of prediction. Positive Predictive Power is the ability of an instrument to identify those who show the feature being predicted (in this case revocation). Police recommendations showed the highest relative improvement over chance (RIOC = .61) despite having the largest proportion of false negative responses. RIOC measures the relative predictive accuracy of an instrument given the base rate of the outcome being predicted and the selection ratio of the instrument being used to predict.

Table 22 examines actuarial and professional predictions and outcome as measured by general recidivism. The results of a two-by-two contingency table analysis showed that the LSI had the greatest predictive accuracy (HITs = 70%) closely followed by Clinical support (HITs = 64%) and the SIR scale (HITs = 63%). The LSI also demonstrated a higher positive predictive power than any other method of prediction (PPP = 66%) and showed a substantial increase in prediction over chance given the base rate and selection ratio (RIOC = 39%). Police recommendations showed the highest RIOC (54%).

Two-by-two contingency tables considering the professional recommendations for release on parole in relation to violent recidivism is presented in Table 23. Actuarial instruments are also present. Examining the table shows that Clinician's estimates of risk and the LSI were the most accurate in identifying violent recidivists from non-recidivists (65%). The LSI also had the highest positive predictive power. Police officers estimates

Table 21

Contingency Tables and Statistics for Actuarial Instruments and Professional Recommendations (Parole Revocations).

Method	BR	SR	True Positive	False Positive	True Negative	False Negative	HITs	PPP	RIOC
	%	%	N	N	N	N	%	%	%
Recommendation									
Parole Officer	.22	.39	24	47	97	16	.66	.34	.35
Police	.23	.63	18	41	31	3	.53	.31	.61
Clinician	.24	.08	2	3	48	14	.75	.40	.21
Institutional staff	.24	.09	3	6	72	21	.74	.33	.13
Risk Instrument									
LSI	.24	.31	29	40	129	25	.71	.42	.33
SIR	.23	.38	42	67	153	25	.68	.39	.40
SFS	.23	.40	37	78	142	30	.62	.32	.25

LSI = Level of Supervision Inventory

SIR = Statistical Information on Recidivism Scale

SFS = Salient Factor Score

BR = Base Rate; Rates of Revocation for each method where cases were available

SR = Selection Ratio

HITs = Ratio of correct responses

PPP = Positive Predictive Power (ratio of true positive responses)

RIOC = Relative Improvement Over Chance (Loeber & Dishion, 1983)

Table 22

Contingency Tables and Statistics for Actuarial Instruments and Professional Recommendations (General Recidivism)

Method	BR	SR	True Positive	False Positive	True Negative	False Negative	HITs	PPP	RIOC
	%	%	N	N	N	N	%	%	%
Recommendation									
Parole Officer	.44	.61	104	98	88	41	.58	52	27
Police	.40	.79	65	78	31	7	53	46	54
Clinician	.38	.33	21	19	56	25	64	53	24
Institutional staff	.39	.33	28	29	74	38	60	49	17
Risk Instrument									
LSI	.44	.42	109	57	164	62	.70	.66	.39
SIR	.44	.48	139	104	181	85	.63	.57	.27
SFS	.44	.50	141	112	173	83	.62	.56	.26

LSI = Level of Supervision Inventory

SIR = Statistical Information on Recidivism Scale

SFS = Salient Factor Score

BR = Base Rate; Rates of Revocation for each method where cases were available

SR = Selection Ratio

HITs = Ratio of correct responses

PPP = Positive Predictive Power (ratio of true positive response)

RIOC = Relative Improvement Over Chance (Loeber & Dishion, 1983)

Table 23

Contingency Tables and Statistics for Actuarial Instruments and Professional Recommendations (Violent Recidivism)

Predictors	BR	SR	True Positive	False Positive	True Negative	False Negative	HITs	PPP	RIOC
	%	%	N	N	N	N	%	%	%
Recommendation									
Parole Officer	.20	.61	51	149	115	14	.51	.26	.45
Police	.17	.80	28	114	35	3	.35	.20	.54
Clinician	.13	.33	7	33	72	9	.65	.18	.16
Institutional staff	.16	.34	11	45	95	16	.64	.20	.11
Risk Instrument									
LSI	.20	.42	50	115	204	21	.65	.30	.49
SIR	.20	.48	64	178	230	35	.58	.26	.32
SFS	.20	.50	64	188	220	35	.56	.25	.30

LSI = Level of Supervision Inventory

SIR = Statistical Information on Recidivism Scale

SFS = Salient Factor Score

BR = Base Rate; Rates of Revocation for each method where cases were available

SR = Selection Ratio

HITs = Ratio of correct responses

PPP = Positive Predictive Power (ratio of true positive responses)

RIOC = Relative Improvement Over Chance (Loeber & Dishion, 1983)

of risk had the highest relative improvement over chance (RIOC). In this case, police officer's proportion of correct responses was 54% (RIOC) greater than what could be expected by chance given the base rate of .17 and selection ratio of 80%. Parole officer decisions and the LSI also showed high levels of RIOC at 45% and 49% respectively.

Notable in these results were the differences in selection ratios between the various predictors. Both police and parole officers did not support releases in 80% and 61% of the cases respectively. This far exceeded the base rate for their respective samples. This selection ratio resulted in a 45% false positive rate for parole officers and a 63% false positive rate for police. Of course, these translated into very low false negative rates. In particular, police recommendations led to false negatives in only 2% of the cases. In contrast, clinicians and institutional staff supported release in 33% and 34% of cases respectively. These selection ratios led to false positive rates of 27% for both clinicians and institutional staff. However, clinical estimates showed a 7% false negative rate and institutional staff estimates incorrectly identified violent recidivists 10% of the time.

Table 24 presents two-by-two contingency tables for professional recommendations and actuarial estimates in relation to being reincarcerated upon release. Again, because of missing data, the base rate differed across predictors. For this dependent measure the LSI was the most accurate (HITs = 70%) in identifying recidivists and non-recidivists. Clinicians, institutional staff, the SIR scale, and the SFS could all accurately identify those re-incarcerated and those not re-incarcerated over 60% of the time. The LSI and SIR scale both had the highest, but still modest, positive predictive power at 48% and 43% respectively. Again, police decisions were the most accurate decisions taking into account the selection ratio and the base rates (RIOC = 59%). In contrast, clinical decisions (RIOC = 10%) and institutional decisions (RIOC = 16%) showed small increases in accuracy over what would have occurred by chance alone. Noteworthy again is the high selection ratio of police (78%) and parole officers (60%) predictions given the base rate of re-incarceration

Table 24

Contingency Tables and Statistics for Actuarial Instruments and Professional Recommendations (Re-incarceration)

Predictor	BR	SR	True Positive	False Positive	True Negative	False Negative	HITs	PPP	RIOC
	%	%	N	N	N	N	%	%	%
Recommendation									
Parole Officer	.29	.60	69	120	102	23	.55	.37	.37
Police	.26	.78	41	95	34	4	.43	.30	.59
Clinician	.24	.30	10	24	62	17	.64	.29	.10
Institutional staff	.26	.33	18	34	84	23	.64	.35	.16
Risk Instrument									
LSI	.29	.41	72	78	183	32	.70	.48	.48
SIR	.29	.47	95	128	209	44	.64	.43	.40
SFS	.29	.49	91	142	195	48	.60	.39	.32

LSI = Level of Supervision Inventory

SIR = Statistical Information on Recidivism Scale

SFS = Salient Factor Score

BR = Base Rate; Rates of Revocation for each method where cases were available

SR = Selection Ratio

HITs = Ratio of correct responses

PPP = Positive Predictive Power (ratio of true positive responses)

RIOC = Relative Improvement Over Chance (Loeber & Dishion, 1983)

A comparison sample was then selected in which all LSI, SIR and SFS scores were available. The relative accuracy of each of these instruments in predicting general recidivism, violent recidivism, and reincarceration was explored in the two-by-two contingency table shown in Table 25. The base rates were .44 for general recidivism, .18 for violent recidivism, and .29 for re-incarceration within one year. The LSI showed the highest levels of predictive accuracy and the highest levels of identifying the criterion outcome for all outcome measures. In addition, the LSI had the highest levels of accuracy after taking into account base rates and selection ratios for all recidivism measures. In particular, the LSI correctly identified general recidivists from non-recidivists 70% of the time. The same accuracy was found when predicting recidivism based on the reincarceration rate. The prediction of violent recidivism was not as successful. The LSI showed the highest accuracy rate (65%) but still only identified 30% of the violent recidivists.

Noticeably, all instruments showed high false positive rates in predicting violent recidivism. The SFS, in particular, had a false positive rate of almost 40% compared to a false negative rate of 6%. Compared to the SFS the LSI was able to decrease the number of false positives (29%) while decreasing the number of false negatives (5.3%).

In order to make the actuarial instruments more reflective of the actual base rates the selection ratio of the instruments was altered. Instead of using the mean scores as the cut-off point for decisions the risk categories were used. For example, LSI scores resulting in placement in the "poor" or "very poor" category were selected as a likely positive. Similar procedures were used with the SFS and SIR scales. The resulting two-

Table 25

Contingency Tables for Actuarial Instruments - Comparing Actuarial Instruments
Predictions of Outcome.

Predictor	SR	True Positive	False Positive	True Negative	False Negative	HITs	PPP	RIOC
	%	N	N	N	N	%	%	%
New Offence (BR = 44)								
LSI	.42	109	57	164	62	.70	.66	.39
SIR	.49	108	82	139	63	.63	.57	.29
SFS	.51	110	90	131	61	.62	.55	.27
Violent Re-offence (BR = 182)								
LSI	.42	50	115	204	21	.65	.30	.49
SIR	.49	47	142	177	24	.57	.25	.34
SFS	.51	46	153	166	25	.54	.23	.28
Re-incarceration (BR = .285)								
LSI	.41	72	78	183	32	.70	.48	.48
SIR	.47	73	100	161	31	.64	.42	.43
SFS	.50	72	112	149	32	.61	.39	.38

BR = Base Rate; Rates of Revocation for each method where cases were available

SR = Selection Ratio

HITs = Ratio of correct responses

PPP = Positive Predictive Power (ratio of correctly identified positives)

RIOC = Relative Improvement Over Chance (Loeber & Dishion, 1983)

by-two contingency tables are presented in Table 26. Using these selection ratios the LSI had the highest predictive accuracy in comparison with the SIR scale and SFS using the HITs ratio, positive predictive power, and RIOC criteria. Noteworthy is the increase in the proportion of correct responses when using violent recidivism as a dependent measure. When the LSI selection ratio (.20) was set closer to the actual violent recidivism ratio (.18) the proportion of correct responses was .78. In addition, the proportion of true positives was 40% and the RIOC was 30%. Although this method of classification led to overall increases in accuracy levels for all instruments using violent recidivism and reincarceration as criterion measures they, conversely, led to higher false negative rates.

Multiple Regression Analyses of Unfavourable Outcomes

A series of multiple regression analyses were conducted using recidivism measures as a dependent variable. In the first of these analyses the LSI, SIR scale and SFS instrument were entered together into a regression equation with revocation as the dependent measure. Together these variables accounted for 12% of the variance ($F(3, 219) = 10.30, p < .001$). Similarly, all risk assessment variables entered together accounted for 20% of the variance in re-incarceration rates ($F(3, 361) = 29.20, p < .001$) and 13% of the variance in violent recidivism rates ($F(3, 386) = 18.67, p < .001$). All of these were significant.

To determine the unique contribution of each risk instrument to the explanation of outcome measure variance a series of step-wise multiple regression analyses were conducted. As seen in Table 27 both the SIR scale and LSI showed a unique contribution in explaining the revocation of inmates on parole (probability to enter $< .05$). In this analysis the SIR factor was extracted first ($r = .32, R \text{ Square} = .10, p < .001$). The next factor extracted was the LSI. This factor increased the Multiple R to .35 while explaining another 2% of the variance. The SFS was not extracted. Hence, the LSI was able to contribute unique information to the explanation of variance after the SIR scale had been taken into account.

Table 26

Contingency Tables for Actuarial Instruments - Comparing Actuarial Instruments Using High Risk Categories

Predictor	SR	True Positive	False Positive	True Negative	False Negative	HITs	PPP	RIOC
	%	N	N	N	N	%	%	%
New Offence (BR = .44)								
LSI	.20	55	24	197	116	.64	.70	.46
SIR	.32	79	45	176	92	.65	.64	.36
SFS	.24	60	34	187	111	.63	.64	.36
Violent Re-offence (BR = .18)								
LSI	.20	31	47	272	40	.78	.40	.30
SIR	.32	36	88	231	35	.69	.29	.28
SFS	.24	24	60	250	47	.70	.26	.13
Re-incarceration (BR = .29)								
LSI	.19	38	31	66	230	.73	.55	.37
SIR	.31	54	59	202	50	.70	.48	.30
SFS	.24	44	42	219	60	.72	.51	.32

LSI = Level of Supervision Inventory

SIR = Statistical Information on Recidivism Scale

SFS = Salient Factor Score

BR = Base Rate; Rates of Revocation for each method where cases were available

SR = Selection Ratio

HITs = Ratio of correct responses

PPP = Positive Predictive Power (ratio of true positive responses)

RIOC = Relative Improvement Over Chance (Loeber & Dishion, 1983)

Table 27

Stepwise Multiple Regression Analyses Using Revocation, Violent Recidivism, and Reincarceration as the Dependent Variables and Risk Instruments as Predictors

Revocation (N = 223)						
<u>Step</u>	<u>Predictor</u>	<u>Multiple R</u>	<u>Adj R Sq</u>	<u>Beta</u>	<u>t</u>	<u>p</u>
1.	SIR	.32	.10	-.22	-2.80	.006
2.	LSI	.35	.11	.17	2.25	.025
Violent Recidivism (N = 389)						
<u>Step</u>	<u>Predictor</u>	<u>Multiple R</u>	<u>Adj R Sq</u>	<u>Beta</u>	<u>t</u>	<u>p</u>
1.	LSI	.34	.12	.34	7.19	.001
Reincarceration (N = 364)						
<u>Step</u>	<u>Predictor</u>	<u>Multiple R</u>	<u>Adj R Sq</u>	<u>Beta</u>	<u>t</u>	<u>p</u>
1.	LSI	.41	.17	.30	5.18	.001
2.	SIR	.44	.19	-.20	-3.53	.001

Note: Probability to enter < 0.05

LSI = Level of Supervision Inventory

SIR = Statistical Information on Recidivism Scale

SFS = Salient Factor Score (not entered into any equation)

A second step-wise was conducted using violent recidivism as the dependent measure. In this analysis only the LSI was extracted. It alone accounted for 12% of the variance and achieved a Multiple R of .34 ($F(1, 391) = 51.7, p < .001$).

Finally, another step-wise was conducted using reincarceration as the dependent measure. This analysis showed a unique contribution from both LSI and SIR instruments, but in this case, the LSI was extracted first ($r = .41, R \text{ Square} = .17, p < .001$). The SIR scale was extracted next and increased the Multiple R to .44 and accounted for an additional 3% of the variance. This increase was significant.

To verify the contribution of the LSI the LSI was forced into the regression equation after both the SIR and SFS had been entered. With both violent recidivism ($\text{Beta} = .30, p < .001$) and reincarceration ($\text{Beta} = .30, p < .001$) the LSI contributed unique information to the explained variance after the SIR and SFS had been statistically controlled.

Another set of step-wise multiple regression analyses were conducted selecting independent variables based on their ability to statistically differentiate offenders on the criterion measures (see Tables 13 through 15 at the $p < .0001$ level). The first of these analyses was conducted using revocations as the dependent measure. As seen in Table 28 the Criminal Versatility measure was the first factor extracted ($r = .36, R \text{ Square} = .12$). On the next step remand charge was entered. This increased the Multiple R to .40 and accounted for an additional 3% of the variance. On the last step the SIR scale was extracted. This increased the Multiple R to .42 and added another 2% to the explained variance. No other factors were extracted.

Table 28

Stepwise Multiple Regression Analyses Using Revocation, Violent Recidivism, and Reincarceration as the Dependent Variables

Revocation (N = 224)						
<u>Step</u>	<u>Predictor</u>	<u>Multiple R</u>	<u>Adj. R. Sq.</u>	<u>Beta</u>	<u>t</u>	<u>p</u>
1.	Criminal versatility	.36	.12	-.17	-2.24	.022
2.	OBP5	.40	.15	.19	2.31	.003
3.	SIR	.42	.17	.19	21.82	.026
Violent Recidivism (N = 389)						
<u>Step</u>	<u>Predictor</u>	<u>Multiple R</u>	<u>Adj. R. Sq.</u>	<u>Beta</u>	<u>F</u>	<u>p</u>
1.	LSI	.34	.12	.31	6.49	.001
2.	VHIST	.37	.13	.13	2.69	.008
Reincarceration (N = 298)						
<u>Step</u>	<u>Predictor</u>	<u>Multiple R</u>	<u>Adj. R. Sq.</u>	<u>Beta</u>	<u>F</u>	<u>p</u>
1.	LSI	.39	.15	.28	4.76	.001
2.	INC	.42	.17	.19	3.34	.001
3.	YCONV	.44	.18	.13	2.28	.023

Note: Probability to enter < 0.05

LSI = Level of Supervision Inventory

SIR = General Statistical Information on Recidivism Scale

Criminal versatility = Summation of different types of criminal activity

INC = Number of previous incarcerations

VHIST = Number of previous violent and weapon offences

OBP5 = Offender under supervision when charged

YCONV = Number of convictions as a juvenile

When examining violent recidivism, LSI was entered on the first step (probability to enter < .05). The only other variable to offer a unique contribution to the explained variance was violent history. This variable totalled the number of previous assault and weapons charges. This factor increased the explained variance from 12% to 14%. No other variables were entered into the equation.

Finally, the explanation of variance in reincarceration rates was explored. This step-wise analysis showed three separate factors accounting for unique variance. On the first step the LSI total score was entered ($r = .39$, $R^2 = .15$). On the next step incarceration experience was entered. This variable was the sum total of all previous incarcerations. This variable uniquely contributed to another 3% of the explained variance and increased the Multiple R to .42. The final factor extracted was youth convictions. This was the sum total of all convictions as a juvenile. This factor increased the explained variance by 1% to a total of 19% and raised the Multiple R to .44.

Dynamic Predictors

A number of dynamic variables, which were assessed prior to parole, were investigated to determine their relationship with later recidivism. The first of these was suitability of residence. Inmates were placed into one of three groups. The first of these groups of inmates, called "positive residence", had positive benefits of their residence such as stability, substance abuse free, and other pro-social occupants. The second group "negative residence" proposed a residence that was problematic in that it was likely to have other criminally oriented residents, be unstable, or be in a high crime area. The final grouping "mixed residence" had both positive and negative aspects to their residence. The positive residence group comprised 35% of the sample, the negative 43%, and the mixed

22%. Using a One-Way ANOVA these groups were shown to be statistically related to revocation ($F(2, 260) = 3.99, p < .05$), violent recidivism ($F(2, 429) = 4.62, p < .05$) and later re-incarceration ($F(2, 405) = 10.40, p < .001$). In all cases as the inmates living arrangements became more problematic the level of failure on release increased.

Similar results were found in evaluating employment potential. The first group "positive employment" consisted of those who had stable employment opportunities and the second group "negative employment" either did not have employment or their employment opportunities were limited or problematic (i.e. peers or unstable). The third group "mixed employment" had both positive and negative aspects of their employment outlook. Those inmates having positive employment forecasts made up 28% of the sample while those having negative outlooks consisted of 53% of potential parolees. Roughly 19% had both positive and negative features of their employment prospects. There was a statistical difference in the levels of revocation ($F(2, 240) = 5.45, p < .01$), violent recidivism ($F(2, 397) = 4.27, p < .05$), and re-incarceration ($F(2, 373) = 9.02, p < .001$) in the employment categories. A pattern was again evident. As employment difficulties increased in the community so did the level of post-release recidivism.

Comparisons were also made regarding changes in employment status between incarceration and release. It has already been determined that employment prior to incarceration is statistically related later reincarceration. Comparisons however were made regarding the differences between groups who had employment prior to release and then were unemployed during parole versus those who maintained employment pre and post incarceration. It was found that those who maintained employment had significantly

lower violent recidivism ($t(187) = 2.4, p < .05$) and reincarceration rates ($t(187) = 2.6, p < .01$). Similar relationships were not found when measuring revocations. In reverse, comparisons were made between groups who did not have employment prior to incarceration and found work upon release compared to those who were unemployed before and after incarceration. The former group was found to have significantly lower revocation rates than the latter ($t(190) = 2.5, p < .05$). This again provided evidence for the dynamic nature of the variable in predicting unfavourable outcomes.

Of the dynamic factors assessed prior to release by parole officers many were significantly but modestly correlated with criterion variables. As seen in Table 29 education/employment problems and residence instability were significantly positively correlated with all outcome measures and negatively correlated with release. Financial stability also showed a significant negative correlation with revocation ($r = .24, p < .001$).

Dynamic risk factors as assessed by the LSI sub-components, also showed modest correlations with several outcome measures. Presented in Table 30 are the sub-components of the LSI and their correlations with parole decision, revocation, violent recidivism, and re-incarceration. Although not dynamic, criminal history was significantly positively correlated with all outcome measures. As the criminal history of inmates increased so did their later chances of failure. In addition, as anti-social attitudes beliefs and values increased so did the likelihood of violent recidivism ($r = .16, p < .01$) and reincarceration ($r = .18, p < .01$).

Of the eight variables assessed by parole officers on a monthly basis only problems associated with peer relations were significantly related to revocations ($t(256) = 2.40, p < .01$). Notably, education/employment difficulties, family problems, and living

Table 29

Pearson Correlations Between Parole Assessment of Dynamic Factors and Outcome Variables.

Dynamic Factor	Paroled	Revocation	Violent Recidivism	Re-incarcerated
Physical health	-.03	-.03	-.04	-.01
Employment Instability	-.23***	.21**	.15**	.18**
Financial Stability	.11*	-.24**	.02	-.11
Alcohol Problem	-.13*	-.09	.10*	-.02
Drug Problem	-.31***	.13*	.11*	.18**
Emotional Problems	-.23***	.08	.18**	.06
Residence Problems	-.36***	.17**	.13**	.21***

* $p < .05$; ** $p < .01$; *** $p < .001$

Blanks are non-significant

Table 30

Pearson Correlations Between LSI Subcomponents, Total Score, and Unfavourable Outcomes.

Subcomponent	Paroled	Revocation	Violent Recidivism	Re-incarcerated
Criminal History	.30***	.25***	.15**	.26***
Education/Employment	-.13*	--	.16**	.21***
Financial	--	--	--	--
Family/Marital	-.20***	--	.10*	--
Accommodation	--	--	.12*	.15**
Leisure/Recreation	-.18***	--	--	.17**
Companions	-.14*	.15*	--	.13*
Alcohol/Drug Problems	-.19	.16*	.14**	.25***
Emotional/Personality	--	--	.15**	--
Attitudes	-.29***	--	.16**	.18**
Total LSI Score	-.33***	.25***	.23***	.33***

* $p < .05$; ** $p < .01$; *** $p < .001$

Blanks are non-significant

arrangement problems (assessed by parole officers) were not significantly related to any outcome measures. However, number of address changed was found to be related to later violent recidivism ($F(2, 248) = 3.94, p < .05$).

Parole officer's concerns over the violation of standard parole conditions was also found to significantly differentiate offenders. Those parolees who had difficulties adhering to standard parole conditions were more likely to be revoked ($t(251) = 1.97, p < .001$), violently recidivate ($t(250) = 1.98, p < .05$), and be re-incarcerated ($t(238) = 3.94, p < .001$). The number of warnings a parolee received during the parole period (e.g. substance use or compliance with conditions) was significantly related to revocation ($r = .16, p < .01$) but did not differentiate offenders based on later offending.

Consistent reporting during parole was not only significantly negatively correlated with revocation ($r = -.29, p < .001$), but also with violent recidivism ($r = -.21$) and reincarceration ($r = -.21, p < .001$). In addition, regular employment while on parole was significantly negatively correlated with parole success ($r = -.23, p < .001$), violent recidivism ($r = -.18, p < .01$) and reincarceration ($r = -.16, p < .05$).

Treatment

Numerous One-way ANOVAs were conducted using participation in parole treatment programs as an independent measure and revocation, violent recidivism, and reincarceration as dependent measures. Five levels of program participation were identified, 1) meaningful participation in programming; 2) reluctant participation, 3) quit during treatment; 4) refused to participate and, 5) intervention not required. Based on these five levels, participation in substance abuse treatment programs was significantly related to

later revocation ($F(4, 267) = 15.05, p < .01$) violent recidivism ($F(4, 260) = 3.05, p < .01$), and re-incarceration ($F(4, 246) = 4.02, p < .01$). In analysing the group means it was apparent that as commitment to treatment increased, failure in the community decreased. Post-hoc comparisons (using Scheffe's test of significance) were made that showed that the parolees not requiring substance abuse treatment showed significantly lower recidivism rates than the other four groups on all outcome measures (see Table 31)

Further post-hoc analyses compared the groups that participated with those who quit or refused. The treatment groups had significantly lower violent recidivism rates ($t(259) = 2.60, p < .05$) and revocation rates ($t(242) = 6.16, p < .001$). No differences on this measure were found on later re-incarceration

Similar ANOVAs were conducted on anger management treatment participation during parole and psychological counselling. However, the number of subjects in each cell was minimal and may have impeded the analysis. No overall F values were significant. Therefore, no differences in recidivism measures were observed for those treatment conditions related to anger management and psychological counselling.

During preliminary analyses it was evident that participation in institutional treatment program was unrelated to future recidivism measures. When participation in treatment was investigated in relation to overall risk level there were also no significant main effect of treatment and no risk by treatment interaction. This was in contradiction to expectations that as risk level increased there would be corresponding effects of treatment on those high risk cases. However, the treatment outcome variable included participation in any institutional treatment program

Table 31

One-Way Analysis of Variance Using Treatment Categories As Factors and Recidivism Measures As Dependent Variables

	Treatment Categories						p
	A	B	C	D	E	F	
Revocation	12%	9.8% ^x	33% ^x	86% ^x	61.2% ^x	15.05	< .001
Violent Recidivism	11%	18% ^x	22% ^x	43% ^x	29% ^x	4.02	.006
Re-incarceration	11.2%	18 ^x	44% ^x	50% ^x	35% ^x	3.05	.011

A = Assessed as not requiring treatment

B = Meaningful participation

C = Satisfactory participation

D = Quit program after enrollment

E = Refused to participate or unproductive

- Note: 1) Post-hoc comparisons were made between group A and all other groups
All were significant at $p < .01$
- 2) Post hoc comparisons were made between (x) and (y) for all outcome measures. Significant differences were found with violent recidivism and revocation outcome measures

Table 5 (continued)

Marital Status At Admission		
+1	Married or common-law	34%
0	Nor married	66%
Interval at Risk		
+2	24 months or more last in the community	28%
0	Between 6 months and 24 months	40%
- 1	Less than 6 months	32%
Number of Dependants		
+1	Three or more	4%
0	Less than 3	96%
Current Aggregate Sentence		
0	Less than 5 years	100%
Previous Sexual Convictions		
0	Less than two	99%
-4	Two or more	1%
Previous Convictions for Break and Enter		
+2	None	62%
- 2	One or two convictions	22%
- 3	Three or four convictions	8%
- 6	Five or more	8%
Employment Status at Arrest		
+1	Employed	28%
0	Not employed	72%

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PM-1 3 1/2" x 4" PHOTOGRAPHIC MICROCOPY TARGET
NBS 1010a ANSI/ISO #2 EQUIVALENT

PRECISIONSM RESOLUTION TARGETS

Post-hoc analyses were conducted on those members who had taken part in the institutional substance abuse program. Members were separated into four groups based on their participation and their need level as assessed on the drug/alcohol subcomponent of the LSI. Those who scored in the top third of the substance abuse subcomponent were considered high need inmates for drug and alcohol treatment. Those who were not in the top third were considered low need. These groups were then split based on their participation or non-participation in institutional programs. These two factors (participation and risk level) were subjected to an ANOVA. Significant main effects were found on the risk factor, as expected, on both violent recidivism ($F(3, 352) = 5.47, p < .002$) and reincarceration ($F(3, 327) = 7.10, p < .001$). No significant main effects were found between groups who participated versus those who did not. However, there was a significant risk by treatment interaction when using violent recidivism as the dependent measure ($F(1, 352) = 6.86, p < .009$). Thus, participation in substance abuse treatment while incarcerated was related to significant reductions in the levels of violent recidivism for inmates who had high levels of substance abuse problems. It did not have the same effect on those who did not have substance abuse problems. This interaction approached but did not reach statistical significance levels for reincarceration.

Correlations between both actuarial and clinical judgements and participation in treatment while in the community were also examined. Of the 321 inmates released on parole 40.2% participated in some form of intervention. These interventions included substance abuse, A.A., anger management or violence programs, and counselling. Another 13.1% of parolees refused to participate in treatment or their attitude towards treatment was considered a hindrance to any potential benefits treatment may offer. No

actuarial measures or professional recommendations regarding parole were significantly correlated with a parolees likelihood of participating in treatment while in the community. Parole officer's recommendation against release were significantly correlated with refusal to participate in treatment programs while in the community ($r = .26, p < .001$)

Utilizing the LSI

LSI risk level groupings were constructed by taking the distribution of LSI total scores obtained for the Ontario Board of Parole and dividing them into five categories of risk. These categories were based on established categories of risk reported by Andrews and Bonta (1993). They were modified slightly to adjust for differences in the frequency distribution of this sample. Each risk category in this sample, therefore, had approximately the same percentage of inmates as the previously reported risk categories. These groups consisted of, "Very Good" (0 - 13), "Good" (14 - 22), "Moderate" (23-31), "Poor" (32-39), and "Very poor" (40+). Approximately 11.3% ($n = 45$) of the inmates who were assessed using the LSI were in the "very good" category. Another 30.3% ($n = 121$) were in the "Good" category while 38.3% ($n = 153$) fell into the "Moderate" category. In addition, 17.0% of the sample ($n = 68$) were classified as "Poor" and 3.0% ($n = 12$) were classified as "Very Poor".

Table 32 presents the relationship between the five categories of risk established during the LSI interview and various criminal background variables. As expected significant differences were found between LSI risk level and corresponding criminal background measures. More important was the utility of these risk categories in differentiating offenders on a number of outcome measures. As can be seen in Table 33 the LSI risk categories were significantly related to both pre-parole, parole, and post-

Table 32

LSI Ranking and Demographic and Criminal Background Variables

	Risk Category					F	p
	Very Good	Good	Moderate	Poor	Very Poor		
Age	35.8(44)	31.4(119)	30.6(150)	29.1(67)	30.7(12)	3.31	*
Education level	11.0(40)	10.6(111)	9.7(145)	9.6(63)	10.1(12)	7.12	***
Employment	74%(43)	36%(114)	21%(145)	10%(65)	14%(12)	4.33	**
Age at first arrest	29.1(45)	22.9(119)	20.4(152)	19.3(67)	18.1(12)	15.66	***
# of past offences	4.3(45)	6.2(121)	12.3(153)	17.6(68)	23.2(12)	20.06	***
# of past violent	0.44(45)	0.95(121)	1.56(153)	1.85(68)	3.42(12)	29.38	***
# incarcerations	0.89(45)	1.6(119)	3.5(153)	4.8(68)	7.0(12)	22.90	***
#current offences	2.7(45)	4.1(121)	4.4(153)	4.3(68)	3.67(12)	2.11	n.s.
# current violent	0.82(45)	0.86(121)	0.73(153)	0.87(68)	0.75(12)	0.27	n.s.
Agg. sentence-days	286(44)	313(119)	315(150)	344(67)	322(12)	0.79	n.s.

Note. Number in brackets reflects the n

* $p < .05$, ** $p < .01$; *** $p < .001$

Table 33

LSI Risk Categories and Institutional, Parole and Post-Release Outcome Measures

Measure	Risk Category					F	p
	Very Good	Good	Moderate	Poor	Very Poor		
Institutional							
(Mean)							
Misconducts	0.18(44)	0.47(119)	0.58(146)	0.86(65)	1.42(12)	4.97	***
Segregations	0.02(44)	0.25(118)	0.22(144)	0.26(65)	0.73(12)	3.64	**
(Rate)							
Violent misconduct	00%(44)	12%(118)	6%(147)	19%(63)	17%(12)	3.73	**
Parole							
(Rate)							
Released	91%(45)	77%(121)	53%(153)	35%(68)	42%(12)	15.74	***
Suspended	6%(34)	22%(86)	36%(77)	48%(21)	50%(4)	4.66	**
Revocation rate	3%(34)	17%(86)	36%(77)	36%(22)	50%(4)	5.35	***
(Mean)							
Warnings	0.06(32)	0.31(84)	0.44(64)	0.50(18)	0.50(4)	2.36	n.s.
Arrests	0.06(34)	0.31(86)	0.71(77)	1.09(22)	1.00(4)	2.69	*
Post Release							
(Rate)							
Re-offence	9%(44)	25%(118)	55%(151)	66%(67)	92%(12)	21.45	***
Violent recidivism	0%(44)	9%(118)	19%(150)	36%(66)	58%(12)	12.17	***
Re-incarceration	0%(44)	13%(114)	37%(138)	50%(58)	82%(11)	19.16	***
(Mean)							
# Violent offences	0.00(44)	0.16(118)	0.30(150)	0.65(66)	0.83(12)	9.02	***
# Breaches	0.00(44)	0.17(118)	0.32(150)	0.42(66)	0.50(12)	2.32	n.s.

Note. Number in brackets reflects the n

* $p < .05$, ** $p < .01$, *** $p < .001$

release variables. Further examination of the table shows that as the risk categories proceeded from "very good" through to "very poor" the likelihood on institutional misconducts increased. Similarly, as risk level increased the likelihood of reoffending after release increased substantially. Generally, as estimated levels of risk increased so did the parole release rates for each category. Of concern is that parole decisions to release inmates in the highest risk category did not decrease and, in fact, increased slightly over the adjacent risk category. In this case, those who were most at risk to re-offend were released at similar rates as other risk categories.

Professional recommendations were also examined in their relationship with LSI risk categories (See Table 34). Generally speaking, professional support for release was less likely as risk level increased, except for those most at risk. However, very small numbers in the "Very Poor" category are noted. It can be seen that police departments, for example, were highly unlikely to recommend for release any inmate who was a poor or very poor risk. In contrast, in relatively few of the cases where inmates were good risks did police departments show support for release.

The risk categories utilized by the SIR scale are displayed in Table 35. This sample of offenders is larger than that available for LSI and as such are not directly comparable. Regardless, the SIR risk categories were significantly related to both parole and post-release outcome variables. Generally, as recidivism rates increased the likelihood of having been placed into a high risk category also increased. Noticeably, risk categories were not significantly related to institutional segregations or violent misconducts.

The SFS and its four risk categories were also examined. Table 36 demonstrates that SFS risk categories were not related to institutional misconducts. Likewise, as violent

Table 34

LSI Risk Categories and Agencies Supporting Release

Recommendations	Risk Category					F	p
	Very Good	Good	Moderate	Poor	Very Poor		
Parole Office	81%(31)	49%(73)	30%(110)	18%(45)	45%(11)	10.87	***
Police	53%(17)	35%(40)	8%(62)	0%(28)	50%(2)	9.62	***
Clinician	100%(14)	78%(38)	58%(40)	35%(20)	67%(3)	5.76	***
Staff	89%(18)	75%(53)	66%(47)	37%(27)	67%(6)	4.50	**
Parole Board	91%(45)	77%(121)	53%(153)	35%(68)	42%(12)	15.74	***

Note Number in brackets reflects the n

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 35

SIR Risk Categories and Institutional, Parole and Post-release Outcome Measures

Measure	Risk Category					F	p
	Very Good	Good	Moderate	Poor	Very Poor		
Institutional							
(Mean)							
Misconducts	0.25(118)	0.55(123)	0.54(98)	0.74(84)	0.64(64)	3.36	*
Segregations	0.10(117)	0.23(124)	0.24(95)	0.22(84)	0.30(64)	1.67	n.s.
(Rate)							
Violent misconduct	07%(119)	08%(127)	10%(99)	13%(82)	08%(61)	0.77	n.s.
Parole							
(Rate)							
Released	84%(122)	64%(132)	51%(107)	51%(92)	46%(68)	11.81	***
Suspended	14%(90)	18%(79)	45%(47)	28%(40)	55%(29)	8.30	***
Revocation rate	10%(91)	16%(79)	43%(47)	23%(40)	53%(30)	10.14	***
(Mean)							
Warnings	0.25(84)	0.31(72)	0.40(42)	0.27(37)	0.54(24)	1.34	n.s.
Arrests	0.12(90)	0.23(79)	0.74(47)	0.70(40)	1.47(30)	7.49	***
Post Release							
(Rate)							
Re-offence	15%(117)	41%(128)	50%(107)	54%(90)	75%(67)	20.27	***
Violent recidivism	04%(117)	20%(127)	20%(106)	22%(90)	42%(67)	10.42	***
Re-incarceration	08%(114)	23%(119)	34%(99)	36%(85)	64%(59)	19.05	***
(Mean)							
# Violent offences	0.09(117)	0.28(127)	0.30(106)	0.39(90)	0.70(67)	7.97	***
# Breaches	0.04(117)	0.34(127)	0.32(106)	0.28(90)	0.49(67)	2.73	*

Note: Number in brackets reflects the n* $p < .05$; ** $p < .01$; *** $p < .001$

Table 36

SFS Risk Categories and Institutional, Parole and Post-release Outcome Measures

Measure	Risk Category				F	p
	Very Good	Fair	Poor	Very Poor		
Institutional						
(Mean)						
Misconducts	0.19(27)	0.53(147)	0.50(208)	0.63(105)	1.42	n.s.
Segregations	0.08(26)	0.20(146)	0.23(207)	0.23(207)	0.63	n.s.
(Rate)						
Violent misconduct	04%(27)	07%(148)	10%(208)	10%(105)	0.65	n.s.
Parole						
(Rate)						
Released	79%(28)	76%(150)	55%(215)	51%(122)	9.69	***
Suspended	14%(22)	19%(108)	32%(104)	37%(51)	3.38	*
Revocation rate	09%(22)	19%(108)	25%(106)	35%(51)	2.79	*
(Mean)						
Warnings	0.14(21)	0.34(98)	0.33(96)	0.34(44)	0.64	n.s.
Arrests	0.05(22)	0.32(108)	0.58(105)	0.76(51)	2.18	n.s.
Post Release						
(Rate)						
Re-offence	18%(28)	36%(149)	42%(211)	63%(121)	10.19	***
Violent recidivism	07%(28)	17%(148)	19%(211)	26%(120)	2.15	n.s.
Re-incarceration	11%(28)	21%(140)	27%(197)	49%(111)	10.70	***
(Mean)						
# Violent offences	0.07(28)	0.29(148)	0.28(211)	0.46(120)	2.67	*
# Breaches	0.04(28)	0.35(148)	0.19(211)	0.39(120)	2.00	n.s.

Note: Number in brackets reflects the n

* $p < .05$, ** $p < .01$, *** $p < .001$

rates increased there was not a corresponding increase in the likelihood of having been placed in a high risk category. Compared with the SIR scale the SFS categories could not as adequately differentiate offenders based on institutional, parole, and post-release variables.

A sub-sample of inmates were selected which had an LSI assessment completed but whose score was not made available to the OBP at the time of the hearing. This sample consisted of 43 offenders with a mean LSI score of 21.6 ($sd = 6.1$) and a range in scores from 4 to 31. The mean of this subsample was not significantly different than the overall sample. The OBP decision and the LSI total score was not significantly correlated in this subsample. Thus, when LSI scores were unknown OBP decisions to release did not fluctuate in relation to an actuarial estimate of risk. The mean decision rate did not differ between these sample

DISCUSSION

The aim of the present study was to develop an empirical understanding of parole decision making in Ontario. The theoretical framework guiding this venture was a general social-psychological model of criminal offending. It was hoped through the systematic observations of the correlates and predictors of both parole decisions and recidivism that the potential for a practical understanding of the parole process would be increased and initiatives could reasonably be suggested to improve correctional decision making.

The discussion that follows will be divided into three major components. The first section will deal with the variability in parole decision making and an examination of the factors relating to these decisions. Predictors considered for examination of parole decision making included the criminal background of offenders, institutional adjustment, participation in treatment, and other professional input. The unique contributions of each class of variables was examined and the relative efficacy of basing decisions on these factors will be explored.

The second section will explore the use of both simple predictors and classification instruments in the prediction of future criminal conduct. The absolute, relative, and incremental validity of each was earlier evaluated and will now be discussed. Comparative analyses have been conducted in order to determine the efficacy of using the LSI for parole decision making. It was expected that the use of a risk instrument which incorporated dynamic risk factors of criminal offending would not only be predictive of future offending, but would also offer treatment options to correctional decision makers. These issues will be investigated in this section.

This leads into the third and final section focusing on dynamic risk factors that have an effect, not only on parole board decision making, but also on later recidivism. Specific focus will be placed on whether these factors can be utilized in the future by the parole board to make more accurate decisions and help reintegrate offenders more successfully back into the community.

Parole Decisions

As expected parole decision making was highly correlated with past criminal history of the offender. Past criminal behaviour remains the best single predictor of future criminal offending. There is an abundance of evidence to support this claim in this and other studies (Andrews & Bonta, 1994). As such, the parole board's reliance on criminal background factors in reaching their decisions remains valid.

Parole board decisions also reflected institutional behaviour, participation in treatment, and input or recommendations from other correctional agencies. For instance, inmates granted release were more likely to have the support of their parole officer, clinician, institutional staff and police departments than those that were denied parole. Surprisingly, OBP decisions to deny parole did not increase with an increase in the seriousness of the current offence. Similarly, OBP decisions were not strongly related to institutional conduct in comparison with participation in treatment and parole release plans. This suggests that the Parole Board may not be operating exclusively under a 'just deserts' or punishment model. Instead, its focus may be on both the rehabilitation and the reintegration of the offender back into the community.

The parole board, in evaluating risk, looked to many different factors. It did not, however, frequently look to many of the major correlates of criminal offending (Andrews & Bonta, 1994). This was determined by reviewing OBP reasons for and against parole and the rationale for each decision. Anti-social attitudes, in particular, were not frequently cited in their listed factors for or against parole. Similarly, criminal peers and associations were infrequently cited. The literature has been clear in regards to the importance of these factors in predicting future criminal behaviour. The Parole Board in failing to consider these established correlates of future criminal offending in many of its cases has, in all likelihood, reducing its ability to accurately assess risk.

Another trend was the tendency on the part of the parole board to cite the presence of a risk factor in denying parole and infrequently citing the absence of a factor

as a reason for granting parole. For example, the presence of a substantial criminal history, substance abuse problems, and poor prior supervision were all frequently indicated as reasons for denying parole. It seems, however, that the absence of a substance abuse problem or criminal history was infrequently considered as a reason for granting parole. In particular, the OBP may be guilty of what Faust described as "confirmatory strategies". Similar to the findings of Faust in decision making studies, the OBP frequently focused on confirmatory evidence at the expense of disconfirmatory evidence. In this sense, the Parole Board may be overestimating risk and be making fundamental decision making errors (Faust, 1986).

Also confirming earlier studies (Carroll et al., 1982) was the discovery that OBP decisions were highly correlated with professional recommendations. This could mean one of two things. First it may suggest that the OBP is highly influenced by the recommendations of other agencies and makes decisions based on their feedback. This is a likely scenario given that both professional support and opposition to parole were frequently cited factors in their reasons for sentencing. However, there is still the possibility that both the Parole Board and other agencies rely on the same factors in making their decisions. This is analogous to the third variable problem in correlational research but more complex given the quantity of extraneous variables not controlled for.

Professional recommendations also correlate with many other factors including criminal history and program participation. However, given that professional opinion was still a significant predictor of parole decisions after other measures had been controlled for it is more likely that the OBP directly relies on these recommendations as a guideline for decision making. In earlier studies, Carroll (1980) provided controlled evidence that "case analysts" directly influenced parole board members. This data, however, should not be interpreted in causal terms. It can only be concluded that the OBP and other correctional agents often agree. It is likely, however, that professional input has a significant impact on parole board members.

OBP decisions appear to be based on three major factors. The first is the OBP's prognosis for successful reintegration back into the community. The second appears to be the OBP's rating of positive and pro-social adjustments while incarcerated. Finally, the Board looks to recommendations made by other professionals regarding an inmates support for release. These factors are slightly different than previous findings which found that parole boards tended to emphasize institutional discipline and crime seriousness (Carroll et al., 1982) as well as punishment and retribution (Madden, 1980).

The rate at which professionals outside the OBP recommended parole differed substantially. Police Departments infrequently supported parole while, at the other extreme, clinicians in more cases than not, supported a release decision. The clinicians support for parole appeared to be weighted the most heavily in parole board decisions. The correlation between the two was highly significant and, after a clinician's support had been taken into account, no other recommendations added any unique information to the explanation of parole decision variance. Generally, if clinicians supported parole then the parole board decision was positive.

All professional recommendations were at least moderately correlated with decision outcome and all showed higher correlations with parole decisions than any of the actuarial measures. The highest correlations with parole decisions among risk instruments was .33. This is notable when compared to the lowest professional recommendation correlation with parole decisions of .41. Professional recommendations and risk estimates were also modestly correlated with one another. Clinicians support for release was the most highly correlated of the professional recommendations with the LSI. This was not surprising since many clinicians in the provincial system use actuarial instruments as part of their assessment package.

Future Criminal Offending

Professional recommendations were all shown to be associated with the varying levels of risk as estimated by actuarial instruments. Despite their correlations with

actuarial instruments, later analyses revealed that the predictive validity of professional recommendations was suspect. Clinician and staff support for release, as interpreted by parole board members, showed no correlation to parole success. It would appear the ability of clinicians and institutional staff to predict parole success was limited. Other professional recommendations fared only marginally better. It would appear that police departments and parole offices tended to ignore known base rates of reoffending and overestimated risk. However, their decisions predicted failure beyond chance levels. On the other hand, clinicians and staff appear to have considered base rates in their decisions yet, on the whole, their decisions were not substantially accurate beyond chance.

The finding that clinical recommendations were not valid predictors was somewhat puzzling. Clinicians, at some of the correctional institutions, regularly conduct LSI interviews as part of their risk assessment package and, as such, have the option of anchoring their recommendations on these estimates. It appears that this did not occur. This was consistent with a study conducted by Wormith and Goldstone (1984) that found the incorporation of clinical data into actuarial schemes did not improve predictive accuracy. It should be noted that in this case, although their predictions were not found to be valid, they were not overestimating risk like had been reported in previous studies (Webster, Dickens, & Addario, 1985). Nevertheless, clinical estimates of risk, derived from parole recommendations, showed limited predictive validity with respects to post-release outcome measures.

Several problems with the coding of information may account for the lack of professional success in predicting outcome variables. First, in this study, professional recommendations were coded from Parole Board documents. Since these recommendations were coded from a second hand source there is the possibility of misinterpretation and error. The fact that these recommendations are coded as dichotomous variables is also problematic. Many of these recommendations are accompanied by restrictions or conditions (e.g. treatment interventions). By limiting the recommendations

to a "Yes" or "No" response there is the possibility that predictive qualities may be lost by parole board members. As well, there may be predictive aspects in professional recommendations that have been overlooked by parole board members while interpreting recommendations and assessments and translating them into dichotomous responses for or against parole. Finally, although professional recommendations are made regarding parole, there has been no explicit prediction by these agencies regarding the likelihood of future violence or other specific outcome. Using these recommendations to predict post-release offending may be using them for a purpose for which they were not originally intended.

As risk instruments estimates increased, the likelihood of a decision to release an inmate was reduced. The strongest actuarial instrument correlation to parole decisions was the LSI. The OBP had access to these LSI scores prior to their release which may account for this relationship. However, there was also a significant relationship between Parole Board decision making and the SFS and SIR scales both of which were calculated retrospectively from file information. Hence, the Parole Board appears to be considering some of the factors that comprise these two scales.

Since Parole Board decisions were significantly correlated with every actuarial estimate of risk, this implicitly implies that the OBP is making decisions based on an offenders level of risk. This is consistent with previous studies identifying National Parole Board decisions as being related to the predicted level of risk (Hann & Harman, 1992). Previous research has consistently indicated the importance of using actuarial instruments over traditional correctional decision making (Andrews, 1982, Meehl, 1954, Nuffield, 1982). In studies focusing on half-way house placement it was found that LSI could facilitate inmate classification (Bonta & Motiuk, 1985, Bonta & Motiuk, 1992). In this same sense the LSI could facilitate Parole Board's decision making in the provincial system.

There are many indications in this research that the best method of predicting risk involves using an empirically based instrument that is premised on the statistical probability of an inmates probability to reoffend. The use of a statistical risk prediction system would certainly not be a radical change in the nature of parole board decision making. Previous studies have concluded that the best system for predicting risk, in at least some circumstances, may be a system which combines the contributions of statistical estimates and the expertise of parole board member (Hann & Harman, 1992).

In this study, comparisons were made between three actuarial risk instruments. LSI, SIR scale, and SFS total scores were all examined on their efficacy in predicting unfavourable outcomes. All three scales were significantly and positively correlated with unfavourable outcomes of parole (e.g. revocation) and post-release variables (e.g. violent recidivism and reincarceration). The LSI yielded the highest single bi-variate correlation with violent recidivism and reincarceration. However, the SIR scale showed the highest correlation with revocation and general recidivism measures. With one exception (e.g. Criminal versatility and revocation), both exceeded the risk estimates of any other single factor including professional recommendations.

Actuarial risk estimates, with the noted exception, out predicted all single factor variables. When single factors were examined based on their univariate relation to unfavourable outcomes it was found that several were modestly and significantly correlated with unfavourable outcome measures. However, when these were considered for entry in a step-wise multiple regression analyses, along with actuarial instruments, many were found to already be "taken into account" by the actuarial instruments. The results again suggested that actuarial risk instruments could account for a modest amount of the explained variance and very few additional variables could uniquely account for any additional variance once the risk instruments relationships with unfavourable outcome had been accounted for.

The findings that both the SFS and SIR instruments were significantly correlated with a variety of post-release variables suggest that file review based assessments have some utility in relation to correctional decision making. The fact that both the SIR Scale (Bonta, Hann, Harman, & Cormier, 1995, Bonta and Higginbottom, 1991, Hann and Harman, 1992, Nuffield, 1982) and SFS scales (Hoffman, 1983, Hoffman, 1994, Hoffman & Beck, 1985) predict outcome is consistent with an extensive body of literature on these actuarial risk instruments.

The LSI instrument is set apart from the other instruments in that it is an interview based assessment. Although the LSI relies on file reviews and contacts with collateral sources, the majority of the information is collected and obtained through a structured interview. Previous research has identified interview based assessments, as opposed to self report and file reviews, as among the strongest predictors of in-prison and post-release performance (Motiuk, 1991). Along with the use of the LSI also comes the ability to identify potential targets for treatment intervention.

All three instruments showed moderate to high convergent validity estimates. With such high correlations it was doubtful that any instrument would offer any unique contribution to the residual variance after another instrument had been accounted for. After having considered the LSI there was no incremental validity of either the SIR scale or the SFS in predicting future violence or re-incarceration. However, after considering the SIR and SFS scales, the LSI offered incremental validity when predicting revocation, violent recidivism, and reincarceration. These findings were consistent with preliminary research comparing the use of the SIR and SFS scales on a provincial population (Bonta & Higginbottom, 1991). In this case, after static variables (i.e. criminal histories) have been accounted for there is still a unique contribution to be made by more dynamic variables.

The LSI was the best predictor, using a variety of criteria, of violent recidivism and reincarceration when all variables were considered. However, past violent history showed

incremental predictive validity after the LSI had been held constant. Thus, the number of past violent offences would seem capable of offering additional and unique information beyond the ability of the LSI to predict violent recidivism. The fact that there was some incremental validity to be found in adding some criterion specific measures to the analysis was not surprising. For example, when predicting future reincarceration it was found that the number of previous incarcerations showed predictive incremental validity. Similarly, in explaining violent reoffending the number of previous violent offences established incremental predictive validity after the LSI had been taken into account. This would suggest that different criterion measures for evaluating recidivism are likely to have an effect on which tools and predictors are valid

These results indicate that should the LSI be used for parole-decision making in Ontario that it is comparable, and even better in some circumstances, than it's counterparts that were specifically designed for use by parole boards. The LSI has been widely researched among probationers (Andrews, 1982), half-way house residents (Bonta & Motiuk, 1985) and provincially incarcerated inmates (Motiuk, 1991). The present study's findings suggest that the use of the LSI can be extended to potential parolees in the provincial system. Predictions of institutional misconducts, parole adjustment, recidivism, and reincarceration were all significant. The present investigation served as a example of how the Level of Supervision Inventory could be utilized as an effective instrument to guide parole decision making. The results also indicate that the assessment of risk and needs among provincial offenders being considered for release can be facilitated by the use of an empirically based instrument derived from a social learning perspective.

In short, the use of a standardized interview based classification system, like the LSI, to guide parole decisions will ensure that parole board decisions are firmly grounded in known empirical relations. Moreover, it is likely to reduce fundamental errors of decision making and human cognitive limitations

Dynamic Information

The LSI provides dynamic information that previous instruments have not utilized. Dynamic risk factors are those factors that upon change alter the probability of recidivism. The SIR scale contains only one potentially dynamic factor, married at offence. The SFS contains no dynamic risk factors. Hoffman (1995) argued that dynamic factors were not relevant to federal parole decision making in the United States because they have the potential to unfairly punish offenders for factors that may be beyond their control (e.g. employment). The revision of the SFS scale to rely exclusively on static predictors of past criminal history reflects the instruments attempt to compromise between predictive and "just deserts" approaches to correctional decision making. Regardless, the potential uses of dynamic risk instruments, especially in populations being supervised in the community or serving determinate sentences, can not be overlooked.

The results of the present study found that those offenders who were assessed, at intake, as having employment, educational, financial and substance abuse problems were more likely to be denied parole later on in their sentence. Similarly, inmates with these characteristics were more likely to have difficulties on parole and later reoffend.

Substance abuse problems were predictive of both release decisions and favourable outcome. When drug and alcohol abuse factors were separated both were shown to be predictive of unfavourable outcome although alcohol was to a very limited degree. This was inconsistent with an earlier finding by Motiuk (1991). He found that when the two factors were separated that alcohol was not predictive to post-release outcome. He also found that alcohol problems were more likely to signify parole release denial in comparison to drug problems. In this sample the opposite was true. Thus, higher rates of denying parole to inmates with drug problems seemed justifiable given their increased likelihood of failure on release.

Unexpectedly, inmates having emotional or personal problems, as assessed on the LSI, were not more likely to be denied release than a sample without emotional/personal

problems. These inmates were, however, more likely to violently recidivate. A similar measure of emotional difficulties, assessed by parole officers, confirmed this outcome. Of note, is that when parole officers assessed inmates as having emotional/personal problems there was a relation of that assessment with release. The same construct, measured by the LSI and also predictive of violent recidivism, was unrelated to release. Regardless, of parole decisions there was evidence to add further support for individual differences in criminal conduct.

The present research showed that the assessment of anti-social attitudes related to parole decisions, violent recidivism, and reincarceration. Generally, as offenders displayed anti-social orientations the chances of being released decreased. In contrast, those who maintained positive attitudes while incarcerated had a high likelihood of being released. These differences in orientation proved to be modestly related to several post-release variables. These findings are consistent with earlier research (Andrews, Wormith & Kiessling, 1985) and support a 'psychology of criminal conduct' where pro-social sentiments and values play a significant role in the propensity to commit future criminal acts.

Clearly this studies investigation of numerous single correlates of criminal conduct provides empirical support for a comprehensive theory of criminal conduct such as the Personal, Interpersonal, and Community Reinforcement (PIC-R) model. The PIC-R (Andrew and Bonta, 1994) is a general social learning approach to criminal conduct which is comprehensive and flexible. This perspective recognizes that immediate contingencies are responsible for the acquisition, maintenance and modification of human behavior. It considers both the factors which encourage and discourage deviant behaviour and stresses the density of rewards and costs of these factors. Thus, when there are variations in the levels of rewards for criminal conduct the probability for criminal offending also varies. Major areas were identified as sources of variation. The predictive validity of these

sources of variation (i.e. employment, education, residence, substance abuse, emotional/personal and attitudes) reflect individual differences in criminal conduct

As stated earlier, after entering the LSI risk level, no other instruments or professional recommendations added to the explained variance. This result is not entirely consistent with the literature. In Motiuk's study (1991), he found that after considering intake LSI risk level that there were gains, albeit relatively small, in explained variance by use of the SFS. Previous literature has shown that other types of instruments may add to the explained variance accounted for alone by the LSI. In particular, a 1986 study conducted by Motiuk, Bonta, and Andrews, concluded that paper and pencil based classification instruments yielded relatively small increments in the proportion of variance explained in their outcome measures after the LSI had been taken into account.

The file review based instruments, such as the SFS and SIR scales, were developed using a different sample, yet showed predictive validity. This replicates previous research in this area (Motiuk, 1991). It would appear that there is considerable overlap in the variables used to construct these two instruments. Both rely extensively on criminal background measures which are known to be the best predictors of future criminal offending (Blackburn, 1994). However, these variables are not amenable to change and therefore do not offer any options for where resources are best allocated to reduce future offending. Therefore, these predictions are essentially static. Assessments based solely on criminal history is insufficient to determine who is likely to succeed when released (Motiuk, 1991). It is clear from this study, along with others (Motiuk and Porporino, 1989; Motiuk, 1991; Zamble & Quinsey), that dynamic risk factors need to be targeted when dealing with incarcerated offenders and offenders who are on community supervision.

Future Research

Further psychometric work can be conducted on the LSI including an analysis of the Receiver Operator Characteristics (ROC). This is a method of analysis that

determines the optimal cut off values for risk categories on a risk prediction instrument. In addition, an ROC analysis would provide a statistic related to the sensitivity of the instrument. This would allow for the comparability of the LSI with other instruments in predicting violent reoffending (Mossman, 1994)

Specific dynamic variables should also be the focus of future research. With the co-operation of area parole offices it should also be possible in the future to look at LSI multi-wave assessments and their relation to criminal offending. Again, specific focus could be on those factors that the Parole Board may have an opportunity to observe and manipulate. Thus, reintegration strategies can incorporate these factors and work towards making changes that reduce the probability of future criminal offending.

One of the major drawbacks to this analysis was some inconsistent coding procedures for the LSI by the various institutions. In some instances, it would appear that LSI interviewers have taken it upon themselves to unilaterally change the criteria for coding various individual items. Although this did not appear to effect the reliability estimates to any major degree there are concerns that it has effected the accuracy (predictive validity) of the instrument and, in particular, the accuracy of particular subcomponents in predicting post-release variables. Although not systematically assessed, it would seem that various institutions and individuals have certain item preferences. In the future this can be systematically evaluated to determine if any of these changes in coding procedures add to the validity of the instrument or are detrimental to both its reliability and predictive validity.

Another limitation to the present study is it's inability to account for inmate activity between their parole hearing and their discharge date, if they were not granted a release. By having this 'blind spot' in data collection several variables may interfere with conclusions that are drawn that have been unaccounted for.

It has been suggested that LSI intake assessment's predictive efficiency could be attributed to the overall wider sampling of an inmates behavioural domain (Bonta &

Motiuk, 1985; Motiuk, 1991). However, in Motiuk's study predictive efficiency of the LSI was maintained and even enhanced by re-administering the same interview schedule on post-release. This would imply that the LSI administered on intake into the correctional system has the potential to be improved upon if it is re-administered at the time of a parole board hearing. If conducted by the Parole Board this may have the benefit of improving prediction accuracy. Andrews, Kiessling, Mickus, and Robinson (1986) have shown that LSI retest scores were more strongly correlated with recidivism measures than intake scores. It is reasonable that, with a dynamic measure such as the LSI, scores taken closer to the time of the behaviour in question, will show higher correlations with outcome measures than those taken at a more distant time. This principle was supported by Motiuk (1991).

Another comment regarding the availability of background information must also be made. In the 1980 report Madden commented on the status of parole board decision making in Ontario. She made the observation that in a large number of cases there was simply not enough information for the Board to make an informed decision. She noted that much of the information gained through hearings could not be verified through alternative and more reliable sources. Unfortunately, in 15 years little would appear to have changed. Frequently, parole board members were not provided with official documentation of such essentials as a criminal record. Much of the information in the files could not be verified through other sources and are therefore suspect.

Conclusion

The understanding of criminality sought by the psychology of criminal conduct is empirical, theoretical and practical. Hence the focus of this research was to seek explanations of criminal conduct that are consistent with systematic observations, are rationally organized, and are practical to others who have use for knowledge in the correctional field.

In this study there are reasonable grounds to suggest that a practical understanding of parole decision making is underway and that reasonable measures can be undertaken by agencies, such as the parole board, to alter the future probability of criminal conduct. Use of an interview-base classification system to guide its decision making, given the current findings, would likely make the OBP more effective in assessing risk and allow them to more efficiently assist in an inmates reintegration back into the community

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APPENDIX A

LEVEL OF SUPERVISION

A. CRIMINAL HISTORY

Code "1" for Yes

Code "0" for No

1. Any prior convictions. __
2. Two or more prior convictions __
3. Three or more prior convictions
4. Three or more present convictions
5. Arrested under 16
6. Ever incarcerated:
7. Escape History:
8. Institutional misconduct:
9. Community supervision:
10. Official record of violence

B. EMPLOYMENT/EDUCATION

11. Currently Unemployed
12. Frequently unemployed
13. Never employed full year
14. Ever fired:
15. Less than grade 10
16. Less than grade 12;
17. Ever suspended/expelled
18. Participation/performance
19. Peer interactions:
20. Authority interactions:

C. FINANCIAL

21. Financial problems
22. Reliance on social assist

D. FAMILY/MARITAL

23. Dissatisfaction with marital
24. Non-rewarding parental.
25. Non-rewarding, other relatives
26. Criminal family/spouse

E. ACCOMMODATION

- 27. Unsatisfactory accommodations
- 28. Three or more address changes
- 29. High crime neighbourhood

F. LEISURE/RECREATIONAL

- 30. No organized participation
- 31. Could make better use of time

G. COMPANIONS

- 32. A social isolate
- 33. Some criminal associates
- 34. Some criminal friends
- 35. Few anti-criminal acquaintances
- 36. Few anti-criminal friends

H. DRUG/ALCOHOL PROBLEMS

- 37. Alcohol problem ever
- 38. Drug problem, ever
- 39. Alcohol problem, currently
- 40. Drug problem, currently
- 41. Law violations:
- 42. Marital/family
- 43. School/work
- 44. Medical
- 45. Other clinical indicators

I. PERSONAL/EMOTIONAL

- 46. Moderate interference
- 47. Severe interference:
- 48. Psychiatric treatment past
- 49. Psychiatric treatment now
- 50. Psychological assessment

J. ATTITUDE/ORIENTATION

- 51. Supportive of crime:
- 52. Unfavourable toward convention
- 53. Poor attitude towards sentence:
- 54. Poor attitude towards supervision

M. LSI TOTALS

1. Criminal History items; 1 through 10
2. Employment/Education, items 11 through 20
3. Financial items, 21 and 22
4. Marital/Family; items 23 through 26
5. Accommodation; items 27 through 29
6. Leisure/Recreational; items 30 and 31
7. Companions; items 32 through 36
8. Alcohol/Drugs; items 37 through 45
9. Emotional/Personal; items 46 through 50
10. Attitudes; items 51 through 54
12. LSI TOTAL (Total 1 through 10)

APPENDIX B

General Statistical Information on Recidivism

1. Current Offence		<input type="text"/>
	+ 4 Incest/sexual intercourse with underage	
	+ 3 Homicide	
	+ 3 Narcotics Offences	
	+ 2 Unarmed robbery	
	+ 2 Arson, kidnapping, abduction, criminal neg.	
	- 1 Receiving or possession of stolen goods	
	- 1 Theft	
	- 2 B&E, forcible entry, possession of a firearm	
	- 4 Escape	
2. Age at admission	+ 2 Over 39	<input type="text"/>
	- 2 Under 21	
3. Previous incarceration	+4 First time incarcerated	<input type="text"/>
	- 1 Served time 3-4 times before	
	- 2 Served time 5 or more times	
4. Previous revocation	- 2 Previous term of parole revoked	<input type="text"/>
5. Previous escape	- 3 Has been convicted of escape or attempted	<input type="text"/>
6. Security classification	- 1 Maximum * OMITTED * (automatic "0")	<input type="text"/>
7. Age at first conviction	+7 Over 49	<input type="text"/>
	+6 41-49 inclusive	
	+3 31-40 inclusive	
	+2 23-30 inclusive	
	- 2 Under 19	
8. Previous assaults	- 2 1 previous conviction for assault	<input type="text"/>
	- 3 2 or more previous convictions for assault	
9. Current marital status	+1 Married or common-law at incarceration	<input type="text"/>
10. Interval at risk	+2 2 years or more	<input type="text"/>
	- 1 Less than 6 months	
11. Dependents	+2 Had three or more dependents	<input type="text"/>
12. Aggregate sentence	+2 Six years or more *OMITTED	
	+3 5 and up to 6 years *OMITTED	
13. Previous sex offence	- 4 1 previous conviction for rape or sex assault	<input type="text"/>
14. Previous B&E	+2 No previous convictions for B&E	<input type="text"/>
	- 2 1-2 previous convictions	
	- 3 3-4 previous convictions	
	- 6 5 or more previous convictions	
15. Employment status	+1 Employed at time of arrest (full or part time)	<input type="text"/>

Source: Nuffield (1982)

APPENDIX C

The Salient Factor Score (SFS 81) Index

1. Prior convictions/adjudications (adult or juvenile) None = 3 points One = 2 points Two or three = 1 point Four or more = 0 points	<input style="width: 80px; height: 20px;" type="text"/>
2. Prior commitments of more than 30 days (adult or juvenile) None = 2 points One or Two = 1 point Three or more = 0 points	<input style="width: 80px; height: 20px;" type="text"/>
3. Age at current offense/prior commitments: 25 years of age or older = 2 points 20-25 years of age = 1 point 19 years of age or younger = 0 points	<input style="width: 80px; height: 20px;" type="text"/>
4. Recent commitment free period (three years) No prior commitment of more than 30 days (adult or the juvenile) or released to the community from last such commitment at least three years prior to the commencement of current offence = 1 point Otherwise = 0 points	<input style="width: 80px; height: 20px;" type="text"/>
5. Probation/parole/confinement/escape status violator this time: Neither on probation, parole, confinement, or escape status at the time of the current offense, nor committed as probation, parole, confinement, or escape status violator this time = 1 point Otherwise = 0 points	<input style="width: 80px; height: 20px;" type="text"/>
6. Heroin/opiate dependence: No history of heroin/opiate dependence = 1 point Otherwise = 0 points	<input style="width: 80px; height: 20px;" type="text"/>
Total Score =	<input style="width: 80px; height: 20px;" type="text"/>

Source: Hoffman, P. (1983)

APPENDIX D

CODING MANUAL

CASE TRACKING

NAME	Name of subject
SUB	Subject number
DOB	Date of birth
CLIENT	Client number
FPS	FPS#
INSTIT	Institution at release
AGGSENT	Aggregate Sentence (in days)
ADMIN	Date of execution of sentence
PED	Date of Parole Eligibility
DPD	Discharge Possible Date
WED	Date sentence is completed
LSI_OPB	LSI score reported by OPB

DEMOGRAPHICS

GENDER	Gender of subject
--------	-------------------

Value	Label
1	Male
2	Female

RACE	Race of subject
------	-----------------

Value	Label
1	White
2	Black
3	Asian
4	Aboriginal (Native)
5	East Indian

LANG	Primary language of inmate
------	----------------------------

Value	Label
1	English
2	French
3	Other

EDUC Highest level of education achieved while in the community. Count grades one through thirteen. Give 14 for college, 15 for university, and 16 for post graduate degrees (e.g. law, medicine, MBA). Code "99" for unknown

EMPLOY Employment status at arrest

Value	Label
0	Unemployed
1	Employed; unskilled or semi-skilled
2	Employed; skilled, trade, management etc
3	Student
4	Non-working due to retirement, disability etc
9	Unknown

EMPFREQ Was the offender employed more than 50% of the year prior to incarceration

Value	Label
0	No
1	Yes
9	Unknown

EMPUIC Did the offender receive social assistance the year prior to being Incarcerated.(include UIC, Welfare, Disability etc. .)

Value	Label
0	No
1	Yes
9	Unknown

MARITAL Marital status at arrest

Value	Label
1	Married or Common-law (longer than 6 months)
2	Single-never married
3	Separated/divorced
9	Unknown

DEPEND Number of dependents (children under 16 to whom the inmate is financially responsible)
LIVEPAR Did the offender live with his biological parents until the age of 16

Value	Label
0	No
1	Yes
9	Unknown

ALC_HIS Assess the level of alcohol problems the offender has experienced
DRUG_HIS Assess the level of drug problems the offender has experienced

Value	Label
0	No Problems (Does not use or has never experienced problems due to use)
1	Problems; occasional use leads to difficulties (i.e. alcohol related offence, complaints by others, aggressive while drinking, binge drinking, late or absent from work.
2	Severe Problems; abuse disrupts life (i.e. everyday use, more than 2 offences, social life(drinks alone or indiscriminately), marriage disruption, fired from work, attended program, failure to meet financial obligations due to use.)
9	Unknown

* If problem Code as a "1" unless specifically meet requirements as a "2"

FAM_AL Alcohol abuse present in the home
FAM_CRIM History of criminal conduct in immediate family (parents, guardians, and siblings)
FAM_PSYC History of psychiatric illness in the family

Value	Label
0	No
1	Yes
9	Unknown

ADULT CRIMINAL

CURROFF All offences associated with the current aggregate sentence current sentence

All Offence types and number charges (14 types based on Criminal Versatility with sub categories)

MSCHRG Most serious current charge Choose the highest offence charge that led to a conviction in the current sentence

Value	Label
1	Theft under, driving charges, breach, possession
2	Theft over, B&E, Fraud, threatening
3	Assault, poss. of weapons, threat with weapon
4	Trafficking narcotics
5	Non simple Assaults (aggravated, CBH, weapon)
6	Sexual assault, other sexual offences
7	Kidnapping/Forcible Confinement
8	Robbery
9	Armed Robbery
10	Rape, aggravated sexual assault
11	Attempt murder/criminal negligence causing death
12	Murder/Manslaughter

CO_INJRY Most serious victim injury (Injury associated with most serious charge)

Value	Label
0	None
1	Slight - no weapon
2	Slight - weapon
3	Treated and released (e.g stitches, broken bone)
4	Hospitalized
5	Death
99	Unknown

CO_RELAT Relation of victim for current offence (relation for most serious offence)

Value	Label
1	Spouse
2	Close family
3	Extended family
4	Significant others

5	Casual acquaintance
6	Stranger
7	Police, guard
8	Not Applicable (no victim of offence)
9	Unknown

CO_WEP Use of weapon during any current offence

Value	Label
0	No
1	Yes
9	Unknown

CO_SEX Victim of any current offence female

Value	Label
0	No
1	Yes
9	Unknown

CO_REV Current offence includes a breach of trust Yes if breach of probation, recognizance, fail to appear, revocations etc.

Value	Label
0	No
1	Yes
9	Unknown

CO_ALC Alcohol involved with current offence

CO_DRUG Drugs involved with offence

Value	Label
0	No
1	Yes
9	Unknown

PREVOFF	Previous offences (criminal history); any offence that does not contribute to the current aggregate sentence Offence will be coded same as current
AGEFAR	Date of first offence
AGELAST	Date of last offence
TFREE	Time (in months) the offender was in the community.(SIR)
AGEFIN	Date of first incarceration
PREINCA	Number of previous incarcerations (15 days or more)
LONGSEN	Length of longest sentence ever received (months)
TSERVD	Total time served in custody (only provincial and federal, not including this sentence: add up total time, consecutive, given in dispositions)
MSPREV	Most serious previous offence. Code the most serious charge in the offenders criminal lifetime not including current offences.

Value	Label
-------	-------

1	Theft under, driving charges, breach, possession
2	Theft over, B&E, Fraud, threatening
3	Assault, poss. of weapons, threat with weapon
4	Trafficking narcotics
5	Non simple Assaults (aggravated, CBH, weapon)
6	Sexual assault, other sexual offences
7	Kidnapping/Forcible Confinement
8	Robbery
9	Armed Robbery
10	Rape, aggravated sexual assault
11	Attempt murder/criminal negligence causin_ death
12	Murder/Manslaughter

PO_INJURY Most serious victim injury previous (Injury associated with most serious charge)

Value	Label
-------	-------

0	None
1	Slight - no weapon
2	Slight - weapon
3	Treated and released (e g stitches, broken bone)
4	Hospitalized
5	Death
88	Not Applicable
99	Unknown

PO_WEP Use of weapon during any previous offence

Value Label

0 No
 1 Yes
 8 Not Applicable
 9 Unknown

CRIMVER Criminal versatility: PCL-R 20 (1-15)
 Cumulative number that is applicable.

1. Theft, B&E, possession of stolen goods .
2. Robbery, armed robbery, extortion
3. Drug offences
4. Assault, ACBH, threatening
5. Murder, attempted, manslaughter
6. Possession of weapons
7. Sexual offences
8. Criminal negligence, driving offences(DWI, and dangerous)
9. Fraud, forgery, false pretenses, impersonation
10. Escape, UAL, fail to appear, breach of recognizance
11. Kidnapping, forcible confinement
12. Arson
13. Obstruct justice, perjury, assault a peace officer
14. Crimes against the state; treason, smuggling, income tax
15. Miscellaneous minor charges, vandalism, mischief, disturbance

YCONV Number of youth convictions (if unknown but record is "77")

YINCAR Number of youth incarcerations Include open, closed, group homes or training schools

YVIOL Number of violent youth offences (violent includes Robbery, threats, and assaults)

YWEAP Number of youth offences involving a weapon/charges with

YPROP Number of youth Property offences (Includes frauds)

YBRCH Number of youth breaches/Escapes/UAL etc .

INSTITUTION

PROGAL	Involved in institutional alcohol program
PROGDR	Involved in institutional drug program
	Note: If involvement in substance abuse code for both alcohol and drugs
PROGCS	Involved in institutional cognitive skills program
PROGAM	Involved in institutional anger management program
PROGC	Involved in institutional counselling (non-specific)
PROGREL	Involved in institutional relations program
PROGOT	Involved in other institutional program (specify)

Value	Label
0	Not attend and not required
1	Completed Successfully
2	Completed Unsuccessfully/Partial Success
3	Withdrew
4	Refused Treatment
5	Requires but never participated/no record of participation (did not specifically refuse)
9	Unknown

MISCOND	Number of institutional misconducts
SEGS	Number of times in segregation
IN_RATE	Institutional rating

Value	Label
1	Positive no problems, attended treatment
2	Positive, minor problems, could still use treatment
3	Negative; major problem or many minor, unsuccessful treatment
4	Negative; Major disciplinary problem, refused treatment
9	Unknown

REQTX	Inmate still requires treatment (OBP assessment or clinician)
-------	---

Value Label

0	No
1	Yes
9	Unknown

COMMUNITY ASSESSMENT

Note: use the last community assessment before final parole decision in which it applies

PAROFF Parole officer
OFFICE Parole office

OUTCHRG Any outstanding charges

Value Label

0 No
1 Yes
9 Unknown

RESIDE Planned residence

Value Label

1 Spouse/Common-law(more than 6 months)
2 Friend
3 Parent
4 Relative
5 Alone
6 Correctional institution/program
7 Not determined
9 Unknown

RESCONF Residence confirmed

Value Label

0 No
1 Yes
8 Not applicable
9 Unknown

EMPCONF Employment confirmed

Value Label

0 No
1 Employment confirmed
2 Treatment confirmed
8 Not applicable
9 Unknown

AC_PHY	Concern of physical handicaps/illnesses
AC_EMD	Concern of emotional difficulties
AC_STEMP	Stable employment history
AC_STFIN	Stable financial situation
AC_ALC	Concern over alcohol involvement
AC_DR	Concern over drug involvement
AC_SUP	Prior community supervision positive
AC_OTHER	Specify other concerns

Value	Label
0	No
1	Yes
8	Not applicable
9	Unknown

RESEVAL Evaluation of residence

Value	Label
1	Approval (mostly positive, stable, support, area, supervision, pro-social)
2	Indifferent(positives and negatives)
3	Disapproval(mostly negative; unstable, residents, area)
8	Not applicable
9	Unknown

EMPEVAL Evaluation of employment

Value	Label
1	Approval (mostly positive :stable, pro-social, full time, reliable)
2	Indifferent(positives and negatives)
3	Disapproval(mostly negative; uncertain, location, peers, boss)
8	Not applicable
9	Unknown

POREC Parole Officer recommendation

Value	Label
1	Positive, no special conditions
2	Positive, with special conditions
3	Negative, proposes conditions or alternatives
4	Negative, no proposed alternatives
8	Not applicable
9	Unknown

POCOND1	Parole Officer recommended abstention from alcohol/drugs
POCOND2	Parole Officer recommended substance abuse treatment
POCOND3	Parole Officer recommended psychiatric/psychological counselling
POCOND4	Parole Officer recommended non-association
POCOND5	Parole Officer recommended sex offender treatment
POCOND6	Parole Officer recommended other special conditions (specify)

Value	Label
0	No
1	Yes
8	Not applicable
9	Unknown

POLICE Police Officer recommendation

Value	Label
1	Positive, no special conditions
2	Positive, with special conditions
3	Negative, proposes conditions or alternatives
4	Negative, no proposed alternatives
8	Not applicable
9	Unknown

PAROLE DECISION (INDEX)

	Must relate to final decision of 1993 that led to a release or denial
Note:	Final parole decision must be in 1993; but first decision can be before if final decision on current term came during 1993.
PANEL1	First panel member
PANEL2	Second panel member
PANEL3	Third panel member

ONTARIO BOARD OF PAROLE DECISION MAKING CHECKLIST

OPB1	Present offences violent
OPB2	Offences under community supervision
OPB3	Offences committed under influence
OPB4	On interim release prior to Current Offence
OPB5	Interim release breached
OPB6	Young offender history
OPB7	Young offender offences violent
OPB8	Adult criminal history
OPB9	First adult incarceration
OPB10	Previous adult offences violent
OPB11	Escape history
OPB12	Ever previously on probation
OPB13	Probation ever breached
OPB14	Ever previously on parole or mandatory release
OPB15	Parole or mandatory release revoked
OPB16	Has accepted responsibility for offence
OPB17	Has identified problems
OPB18	Has initiated contacts with programs
OPB19	Has completed/participated in programs
OPB20	Has misconducts
OPB21	Misconducts assaultive
OPB22	Maintained positive attitudes in prison
OPB23	Has positive work habits/attitudes
OPB24	Applied for TAs or CRC placements
OPB25	TAs or CRC placement granted
OPB26	Confirmed residence
OPB27	Confirmed employment/schooling
OPB28	Contacts to start programs in community
OPB29	Release plan realistic
OPB30	Plan substantially different than prior
OPB31	Expresses feelings of responsibility
OPB32	Investigating PPO in favour
OPB33	Police in favour
OPB34	Reporting clinicians in favour
OPB35	Institutional staff in favour

Value	Label
0	No
1	Yes
8	Not applicable
9	Unknown

PAROLE DECISION

DECDATE1 Date of first Parole Board decision

Factors that were for parole

PRO1	Successful program
PRO2	Institutional behaviour
PRO3	Residence confirmed
PRO4	Employment confirmed
PRO5	Community support(family, friends)
PRO6	Professional support (police, case management, psychology)
PRO7	Minor criminal history (Number)
PRO8	No violent history
PRO9	Minor current offence
PRO10	No supervision difficulties past (positive)
PRO11	No substance abuse problems
PRO12	Incarceration served as a deterrent
PRO13	Offender is committed to undergo treatment in the community
PRO14	Low risk (must say LSI or other actuarial tool)
PRO15	Motivated
PRO16	Pro-social attitudes
PRO17	Insight into behaviour or problems
PRO18	Shows Remorse
PRO19	Accepts responsibility
PRO_OT	Other (specify)

Factors against parole

CON1	No Successful program, needs program, or refused program
CON2	Institutional behaviour poor
CON3	Residence not confirmed
CON4	Employment not confirmed
CON5	No community support(family, friends)
CON6	NO professional support (police, case management, psychology)
CON7	Major criminal history (Number)
CON8	Violent history
CON9	Major current offence
CON10	Supervision difficulties past (positive)

CON11	Substance abuse problems
CON14	High risk (must say LSI or other actuarial tool)
CON15	Not Motivated
CON16	Anti-social attitudes
CON17	Lacks Insight into behaviour or problems
CON18	Shows no Remorse
CON19	Denies or minimizes responsibility
CON_OT	Other (specify)
DEC1	Decision given during first parole hearing Defer does not count as a decision

Value	Label
0	Deny
1	Grant
9	Unknown

UNAN1 Decision one was unanimous

Value	Label
0	No
1	Yes
8	Not applicable
9	Unknown

DECF1	Successful program
DECF2	Institutional behaviour
DECF3	Residence confirmed
DECF4	Employment confirmed
DECF5	Community support(family, friends)
DECF6	Professional support (police, case management, psychology)
DECF7	Minor criminal history (Number)
DECF8	No violent history
DECF9	Minor current offence
DECF10	No supervision difficulties past (positive)
DECF11	No substance abuse problems
DECF12	Incarceration served as a deterrent
DECF13	Offender is committed to undergo treatment in the community
DECF14	Low risk (must say LSI or other actuarial tool)
DECF15	Motivated
DECF16	Pro-social attitudes
DECF17	Insight into behaviour or problems
DECF18	Shows Remorse
DECF19	Accepts responsibility
DECF_OT	Other (specify)

DECA1	No Successful program, needs program, or refused program
DECA2	Institutional behaviour poor
DECA3	Residence not confirmed
DECA4	Employment not confirmed
DECA5	No community support(family, friends)
DECA6	NO professional support (police, case management, psychology)
DECA7	Major criminal history (Number)
DECA8	Violent history
DECA9	Major current offence
DECA10	Supervision difficulties past (positive)
DECA11	Substance abuse problems
DECA12	No treatment in the community
DECA13	Not Motivated
DECA14	High risk (must say LSI or other actuarial tool)
DECA16	Anti-social attitudes
DECA17	Insight into behaviour or problems
DECA18	Shows Remorse
DECA19	Accepts responsibility
DECA_OT	Other (specify)

Value Label

0	No
1	Yes
8	Not applicable
9	Unknown

Special conditions

COND_AL	No alcohol
COND_DR	No drugs
COND_AS	No association
COND_FR	No frequenting
COND_UU	Undergo urinalysis
COND_SE	Sustain employment
COND_OT	Other (specify)
TREAT_AL	Alcohol treatment
TREAT_DR	Drug abuse treatment
TREAT_AA	attend AA or NA
TREAT_PS	Psychiatric/Psychological treatment
TREAT_SO	Sex offender treatment
TREAT_CO	Counselling non-specific
TREAT_OT	Other (specify)

Value	Label
0	No
1	Yes
8	Not applicable
9	Unknown

Parole Decision 2

DECDATE2 Date of second Parole Board decision
(for coding see Decision 1 and add "S" in front of Variable Name)

PAROLE

MONTH1 First month on parole

P1_OFF1 Employed

P1_OFF2 Enrolled in school

P1_OFF3 Changed jobs

P1_OFF4 Police contact (specify)

P1_OFF5 Experiencing problems (specify)

P1_OFF6 Parole Board action (specify)

NOMOS Number of months reporting

P1_PO1 Contacts in person

P1_PO2 Contacts other

Concerns with ...

P1_PO3 Living arrangements

P1_PO4 Employment/Education

P1_PO5 Finances

P1_PO6 Relationship with family

P1_PO7 Associates and friends

P1_PO8 Leisure time activities

P1_PO9 Adherence to parole conditions

P1_PO10 Adherence to special conditions

P1_PO11 Special (specify)

P1_PO12 Recommendations (specify)

Note: change Variables according to month.

PARLSI Code for LSI at beginning and end of parole term

PAROLE OUTCOME

PARREL Date of release on parole

OFFSUSP Was the offender suspended

DSUSP1 Date of first suspension

SUSPRES Reason for suspension

Value I bel

1 Violation standard condition

2 Violation special condition

3 New offence, arrested

8 Not applicable

9 Unknown

POSUSP Recommendation made by P/O for outcome of suspension

Value Label

1	Positive, no special conditions
2	Positive, with special conditions
3	Negative, proposes conditions or alternatives
4	Negative, no proposed alternatives
8	Not applicable
9	Unknown

DECSUSP

Value Label

1	Continue Parole
2	Continue with restrictions
3	Terminate Parole
8	Not applicable
9	Unknown

PRO_S1 No grounds for suspension (i.e. arrest no conviction)

PRO_S2 Minor violation

PRO_S3 No threat to public safety

PRO_S4 Offender will benefit more from staying in the community

CON_S1 New offences

CON_S2 Deterioration of behaviour (violations of conditions)

CON_S3 Failure to stay with plan (i.e. no treatment)

CON_S4 P/O recommendation

Note: If second suspension code the same; add "S" in front of Variable Name.

P_OFF Parole offences. code 1 through 135 (see offender coding sheet)

PFA First arrest on parole

PMSCHRG Most Serious charge while on parole (see codes for Current offence)

PVINJRY Victim injury (see earlier codes); for any offence or allegation

PDISP Disposition for offences committed on parole

Value Label

0	Yet to be determined
1	Fine, discharge, not guilty (i.e. not time)
2	Probation

3	Provincial Incarceration
4	Federal incarceration
8	Not applicable
9	Unknown

NWAR	Number of Warnings
WARNSA	Warnings due to substance abuse
WARNTX	Warnings due to failure to attend treatment
WARNLA	Warnings due to living arrangements
WARNFTR	Warnings due to failure to report

DISPTIME Sentence length for new offences

PARTERM Date of Termination of parole
Parole can only be terminated through revocation or completion

TERMRES Reason for termination

Value	Label
0	Completed Sentence
1	Deterioration of offender (no violation)
2	Revocation due to technical violation (standard condition)
3	Revocation due to violation of special condition
4	Revocation, new offence
8	Not Applicable
9	Unknown

RSPSUP Response to supervision

Value	Label
1	Positive, no special conditions violated, no problems
2	Positive, minor difficulties requiring intervention (i e fail to show, did not attend program immediately)
3	Negative, minor difficulties with conditions, not receptive to directions
4	Negative, violation of conditions. refusal to follow direction
8	Not applicable
9	Unknown

PORECF P/O recommend for future parole

Value **Label**

- 1 Positive
- 2 Negative
- 3 Undecided
- 8 Not applicable
- 9 Unknown

PLANFOL Was the original parole plan followed

Value **Label**

- 1 Completely, mostly (all plans held)
- 2 Partially (1 or 2 of 3 primary plans)
- 3 Not at all (neither employed, treatment, residence etc...)
- 8 Not applicable
- 9 Unknown

PARTX1 Alcohol treatment program or residential treatment centre

PARTX2 Substance abuse treatment program

PARTX3 Attended A.A. or N.A. meetings

PARTX4 Attended psyc counselling

PARTX5 Attended program focusing on violence or anger management

PARTX7 Other specify

Value **Label**

- 0 Not require/did not attend
- 1 Attended regularly throughout parole (successful completion)
- 2 Attended reluctantly/or was unsuccessful unmotivated etc.
- 3 Withdrew, started and failed to complete
- 4 Refused treatment/lack of motivation
- 5 Requires but never participated, never directed to go (not refusal)

POST-RELEASE

- * Any "attempt" is counted as if the offences had been committed
- ** Post release information gathered through new charges posted on CPIC and new convictions listed along with their dispositions
- *** Special attention must be paid to ensure new offences listed on CPIC are not charges that were outstanding at the time of the parole hearing

NEWOFF Was the offender re-arrested or charged since his release from custody on a new charge.

Value Label

0	No
1	Yes
8	Not applicable
9	Unknown

NUMNEW Number of new charges after release on CPIC

NEWVIOL Number of new violent offences Charges or convictions on CPIC

Violent offences include; (Generally same guideline as Category 1 offenders in the federal system..)

Uttering Threats

Assault (Simple, ACBH, Aggravated, Sexual, With a weapon)

Assault a Peace Officer or Assault with intent to Resist Arrest

Forcible Confinement

Robbery (attempted, armed or with violence)

Use of a Firearm, Point Firearm (any weapons offence specifically paired with another violent offence i.e. possession of weapon and armed robbery)

Murder, Manslaughter

NEWWEP Number of new weapon charges on CPIC

NEWPROP Number of new property related offences

Includes any offence committed solely for material gain other than Robbery

Property includes;

B&E (with Intent, theft etc)

Theft over/Theft under/Auto

Possession of Stolen Property

Fraud/Forgery/Personation/Use of Stolen Credit Card

NEWBRC Number of new breach related charges

Includes;

NEWDISP New Disposition as a result of new charges/conviction

Value Label

0	Yet to be determined
1	Fine, discharge, not guilty (i e not time)
2	Probation
3	Provincial Incarceration
4	Federal incarceration
8	Not applicable
9	Unknown

NEWTIME Amount of time serving as a result of the new charges

END

0|4-06-9|6

FIN