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**SOCIO-CULTURAL DIFFERENCES AND THE PREDICTIVE  
VALIDITY OF RISK ASSESSMENT SCALES**

By

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submitted to the Department of Criminology  
University of Ottawa, in partial fulfillment  
of the requirements for the degree of  
master of arts

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## ABSTRACT

This thesis set out to assess whether the predictive validity of five risk assessment scales might be influenced by the language and socio-cultural background of the offender. An anglophone group of 159 offenders and a francophone group of 46 offenders were scored on The Wisconsin Assessment of Client Risk Scale, The Nuffield General Recidivism Scoring System, The Salient Factor Score, The Michigan Assault and Property Risk Screening Scales. The offenders used in this Study were all federal offenders released under community supervision in The Federal Correctional System. The data analysis involved the comparison of both groups on the distribution of risk scores on each scale and the relationships between the various risk scores and an outcome measure of success or failure while under community supervision.

Some socio-cultural differences were found. In general, the risk assessment scales appeared to perform better in predicting recidivism for the anglophone group as suggested by significant differences among the different groups and by a greater number of significant correlations between risk scores and the outcome measure. Significant differences between both groups were noted for The Wisconsin Assessment of Client Risk scale and The Michigan Assault Risk Screening scale. Although the differences were not significant, some variation in the distribution of risk scores of the groups was noted on other scales.

The correlations between risk scores and outcome reported in

the present study are slightly lower, than those reported in two previous studies, but are significant. The anglophone group scored higher on the two scales which appeared to put more emphasis on property crime namely, The Nuffield and Michigan Property Risk scales. The francophone group scored higher on scales which put more emphasis on assaultive offences, such as The Michigan Assault Risk scale.

The use of some scales would mean the release of fewer anglophone offenders while the use of other scales would mean the release of fewer francophone offenders. There is no clear evidence to suggest that the use of these instruments would result in any systematic differential bias against francophone offenders.

## CHAPTER 1

### INTRODUCTION

Risk assessment technology has become an explicit part of the parole system's decision-making and classification process in many states in the U.S.A. The National Parole Board of Canada has been slower in adopting risk assessment technology. However, in recent years, it has taken concrete steps to make risk assessment an integral part of its parole decision-making process and is currently using an actuarial risk assessment scale developed by Nuffield ( 1982 ). The use of risk assessment scales is becoming more widespread both in the United States and in Canada, in spite of the fact that a number of serious methodological and practical problems compromise their predictive validity.

This thesis examines one aspect of the predictive validity of a number of risk assessment scales currently used for parole decision-making. It is assumed that for risk assessment scales to be valid parole decision-making tools for Canada, they must not be greatly affected by the offender's language and socio-cultural background. The specific aim of the thesis is to determine whether the predictive validity of scales designed, tested and used in the U.S. and in Canada ( the Nuffield scale ) might be adversely affected by Canada's bilingual offender

population. The thesis was designed to assess whether scales developed and used with a largely anglophone offender population would be as accurate with a francophone offender population.

The introduction and review of the literature will take the following format. It will begin with a brief analysis of how prediction and classification in criminological thought have been linked with decision making at different phases of the criminal justice process. In order to set the present study in an historical context, an overview will be presented of the climate from which the design and use of risk assessment technology emerged in the criminal justice system generally and in parole decision-making specifically. This will include a review of early efforts made in the area of prediction as well as more recent developments. The next section will involve a review of the principal practical and methodological problems which have been associated with the design and use of risk assessment technology. An overview will be made of the principal studies comparing the validity of various risk assessment scales used for parole decision-making, and of studies which have compared different statistical approaches to improving the accuracy of risk prediction. Finally, the purpose of the present study will be outlined in more detail.

Classification and prediction in criminological thought

Gottfredson (1987) suggests that Goring and Lombroso, in the early part of the twentieth century, "changed the course of criminology through their effort to classify criminals according to certain physical characteristics. Goring, influenced by Lombroso's work sought to identify "a physical criminal type" (p. 3-4) based on the physiques of criminals, age, and other factors. Phrenology was another classification tool which became popular in the criminal justice system at the turn of the century and involved the study of skull configurations. Gottfredson (1987) points out that the classifications of phrenology were associated with classes of criminal behavior, albeit rather crudely. Other early schemes involved the classification of criminals according to their responsiveness to different treatments. For example Jenkins and Hewitt (1944) and Hewitt and Jenkins (1946) applied freudian theory in setting forth a classification scheme for juvenile offenders. They distinguished among overinhibited, underinhibited and pseudo-social offenders (Sechrest, 1987 p. 298) This type of classification is still made today. For example, classification categories such as: medical needs, psychiatric needs, aged sex offender, gang affiliation and violent behavior are used in the U.S. jail system to classify offenders for treatment in some fashion (Sechrest, 1987 p.296). Other efforts were based on causal theories of delinquency and crime as well as theories on the influence of

personality and social factors on response to treatment. Examples include the classification of offenders on the basis of social perception, interpersonal interactions and cognition. The above comprise examples of efforts made in the first half of the century to classify offenders based on predictions of future behavior and motivated by a desire to control such behavior.

These early efforts, albeit primitive, reflected the criminology of the day which sought to link crime with some abnormality in the anatomy or physiology of the offender.

#### Early developments of risk assessment technology

Schuessler, (1954) points out that the first significant attempt to develop a predictive device for parole decision making and classification was that of Burgess in 1928. His study was based on a sample of 3000 releasees from Illinois state prisons, 26% of whom were parole violators. He identified 21 factors which differentiated parole violators from non-violators. He included these factors in an actuarial table. Each factor was assigned a weight of one. The offender's total "risk score" was based on the summation of his individual score on each item. This model was based on the assumption of a linear relationship between the criterion (the score obtained with the actuarial table) and parole outcome.

During approximately the same period, the Gluecks were

involved in similar research with a sample of offenders paroled from a Massachusetts reformatory (Glaser, 1987). They associated success or failure on parole with seven pre-parole factors. The subject's score corresponded to the sum of the percentage of failures in his categories on each of these factors. The Glueck's work led to the creation of the 1938 experience tables<sup>1</sup> by sociologist actuaries (Glaser, 1987).

In the early 1950s Ohlin tested the validity of this table with a sample of parolees. He found that observed rates of parole violation were lower than those which had been predicted with the table.

Some general disenchantment led to a long period of inactivity in the risk assessment area. Following Burgess' and the Gluecks' efforts a variety of analogous parole or prediction studies were undertaken in other states (Schuessler, 1954 Simon, 1971). However, a number of factors including some methodological flaws in the Gluecks' work (their sample comprised a number of extreme cases which could not be considered representative of the overall offender population) stymied the progress of the science of risk prediction for a period of approximately 20 years (between 1950 and 1970). Brennan (1987) points out that for a long time most criminal justice officials still felt strongly that decision making was best left to their

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<sup>1</sup> statistical prediction tables which classify current cases into categories that follow up studies of past cases

discretion. Marvin and Bohnstedt (1979) suggest that parole officials resisted the introduction of experience tables and other risk assessment technology in the 1960s because they believed that such devices would make the decision-making process too mechanical and leave no room for the consideration of individual differences between offenders, or important subjective or clinical factors. The risk assessment technology available at the time included only a few of all the relevant variables. Finally, and most importantly, they strongly doubted that risk assessment technology would improve the accuracy of their decisions.

#### Contemporary developments of risk assessment technology

During the 1960s problems which had plagued the U.S. criminal justice system for decades began to raise more public and official concern. It was increasingly believed that the officials involved at different phases of the criminal justice process from bail to classification for parole supervision were not held sufficiently accountable for the decisions they made. They also believed that these decisions were often disparate from case to case (Travis & O'leary, 1985; Clear & Gallagher 1983, 1985; Wright Clear & Dickson, 1984; Glaser 1985, 1987; Nuffield, 1982; Tonry, 1987). Also, because decision making at all levels of the criminal justice process had until then largely been left to the discretion of the people involved, there was no

concrete or visible means for higher ranking officials or the concerned public to know what criteria were being relied upon. The public and high ranking officials were becoming concerned that as a result of this faulty and unstructured decision making process, unguided by clearly defined criteria some offenders might be released prematurely on parole and possibly commit serious offenses such as murder or sexual assault. There was also evidence of racial disparity in the criminal justice process, black offenders were not as likely as white offenders to be treated fairly or equitably throughout the criminal justice process (Nuffield,1982; Petersilia & Turner,1987).

"Minorities in the U.S. (mainly blacks) are more likely to be suspected of crime than whites ,they are more likely to be arrested and less likely to receive bail. Further, after being arrested they are more likely to be indicted than whites and less likely to have their cases dismissed. If tried minorities are more likely to serve full terms without parole" (Cleveland Plains Dealer, 1980 cited by Simpson and Yinger, 1985). Black offenders do appear to be over-represented in the criminal justice system. Although they might only constitute approximately 12 % of the U.S. population they account for about a third of all arrests tabulated in the Uniform crime index of the FBI. More than 40 % of the 306602 inmates of federal prisons in 1978 were black as were 48% of the prisoners in state prisons (Simpson & Yinger, 1985).

On another level lies the problem of prison overcrowding. Finn (1984) points out that in the 1970s the penitentiary population of many states had increased at such a rate that it exceeded available space. Many state governments were thus pressured into setting a ceiling for their prison population. Accordingly, there was an urgent need for criminal justice officials to seriously consider alternatives to incarceration for a large number of offenders in order to forestall the need to build costly new penitentiaries.

The age of fiscal and financial restraint began in the late 1960s and early 1970s (Bemus, Arling & Quigley 1983 Clear & Gallagher 1982, 1985 Chi 1983). This meant that criminal justice agencies had to find some means of maximizing the use of available resources. Many parole agencies adopted the "workload" style of management where an officer's performance and input would be appraised on the basis of the amount of attention required by each case instead of total caseload. Caseload size alone could not be a useful measure of officer input since some cases required very little attention.

Recent developments in risk assessment technology

One of the most controversial crime control policies to arise in the late 1970s and early 1980s is that of selective incapacitation (Decker and Salert, 1987; Gabor, 1985, 1986; Greenwood, 1982; Chi, 1983; Cohen, 1983). This policy was developed to address the problems of prison overcrowding and financial and fiscal restraint. Its proponents advocate the use of risk assessment technology as a means of maximizing the efficient use of available prison space without increased cost to the criminal justice system, and perhaps with actual savings. Selective incapacitation is based on the assumption that a small percentage of offenders are responsible for a large proportion of all crime and that they can be identified and incapacitated through preventive sentencing. Greenwood, (1982) designed a risk assessment device which is being used in an effort to identify these "chronic offenders". It was assumed that savings would be made by using this policy, in that scarce prison space would be reserved for those that need to be incapacitated, the remaining and larger proportion of offenders being safely released to the community at an earlier date, to be supervised there at a lower cost. Legislation putting a cap on the total prison population was passed in the state of Iowa in 1981; as a consequence, efforts were made to build some of the elements of the policy of selective incapacitation into this state's correctional system (Chi, 1983).

A pioneer effort to develop risk assessment technology for probation and parole classification was undertaken by Baird et al in the state of Wisconsin. Baird, Heinz and Bemus (1980) mention that this effort was made in response to a directive from the state legislature to improve the effectiveness of service delivery to state probationers and parolees. Glaser (1987) points out that: " the Wisconsin system would help standardize time allocations in a supervisor's job, with more time to be given to clients with high risk/high needs scores and less to those with minimum scores" (p 280) . Prior to release the offender is classified on the basis of an assessment of client risk and needs score. From six months to a year after release the offender may be reclassified based on the re-assessment of his level risk and needs. As mentioned earlier, the Wisconsin classification system also involves appraising an officer's input on the basis of his workload as opposed to total caseload, thereby ensuring a more efficient use of fiscal and financial resources. The Illinois Department Of Corrections has been using a: "Case Classification and Workload Management System" similar to that used in Wisconsin since 1982. This is also the case in North Carolina, where a new Case Management System involving the classification of probationers and parolees for supervision on the basis of risk and needs has been used since 1981 (North Carolina Department Of Corrections, 1981).

Sentencing and parole guidelines

Beginning in the early 1970s, efforts were made to address the various issues raised above, namely those having to do with the lack of accountability and objectivity and the excessive use of discretion and disparity in criminal justice decision making. Sentencing guidelines were established in many states to reduce disparity and to make sentences more determinate by structuring or eliminating the use of discretion (Goldkamp, 1987; Petersilia & Turner, 1987; Gottfredson, Wilkins & Hoffman, 1978; Gottfredson & Gottfredson, 1979). Sentencing guidelines were adopted in the states of Colorado and Minnesota in 1976. That same year, Nevada adopted the use of a risk assessment instrument to structure the use of discretion in pre-sentence reports. A sentencing guidelines program was approved in Arizona in 1978. This program makes the use of discretion more difficult through a more precise definition of variables to be considered for sentencing . A New York city experiment by The Vera Foundation brought the establishment of The Vera Point system for bail decision-making, thereby reducing the level of disparity at that phase of the criminal justice process (Gottfredson & Gottfredson, 1986; Glaser, 1987). Experiments with bail guidelines were also undertaken in Philadelphia. These guidelines became mandated by law in 1983.

In the early 1970s, Gottfredson et. al. became involved with

The U.S. parole commission in a collaborative effort to develop parole guidelines (Glaser, 1987; Gottfredson, Wilkins and Hoffman, 1978). Hoffman (1983) points out that a guideline system came into experimental use in 1972. In this guideline system the parole candidate would be evaluated on the basis of the severity of his index offence(s), a measure of parole prognosis based on The Salient Factor Score (this scale is described in the methodology section) as well as an applicable guideline range. This system was designed to control and structure the use of discretion by parole officers and to increase accountability and objectivity in their decision-making (Gottfredson & Gottfredson, 1985). Parole officers are permitted to go beyond the guideline system, and use their own judgment in making a decision; however, they must provide the board with written reasons for wishing to do so (Hoffman 1983 Glaser, 1987). While at first voluntary the use of this system became mandated by law with the parole commission and reorganization act of 1976. Between 1976 and 1980, only 20 % of parole decisions are believed to have departed from the guidelines. A research team monitors the efficiency of the system and revises it, if need be, based on an analysis of the decisions which have departed from the guidelines.

Marvin & Bohnstedt (1979) point out that some U.S. parole jurisdictions have adopted a modified version of the U.S. parole Board's guideline system; these include Oregon, Minnesota and Maryland.

Other developments in risk assessment technology

Until the late 1970s, The Parole Board of The Michigan Department Of Corrections was the only U.S, jurisdiction making use of a risk assessment instrument (Marvin & Bohnstedt, 1979). However, developments gained momentum in the early eighties. A survey done by The Solicitor General of Canada in 1987 indicated that at least 60 risk assessment scales were currently being used by some 64 U.S. parole agencies; 38 of these scales were used to determine the level of community supervision; 16 scales were used for release decision making. Risk assessment scales similar to the Salient Factor Score are used for release decision-making by 5 parole jurisdictions namely Massachusetts, Tennessee, Texas, Pennsylvania and Michigan. The National Institute of Corrections sponsored the efforts of some jurisdictions while others were made independantly in other jurisdictions.

Methodological Issues and Problems with Current Risk Assessment Technology

As has been indicated in the foregoing, The use of risk assessment technology for parole decision making has become widespread, most U.S. jurisdictions relying on risk technology of one form or another to reach a decision. However the literature raises a number of methodological problems and issues concerning their validity. Wright, Clear and Dickson ( 1984 )

Clear and Gallagher (1982, 1985) mention that some parole agencies use scales designed in other jurisdictions without cross-validating them first with their own offender population. The result obtained from such unvalidated use may involve considerable shrinkage (a reduction in predictive validity) (Simon, 1971; Gabor, 1985 1986; Tarling and Perry, 1985; Wilbanks, 1985). The use of unreliable and subjective sources of information (such as case records) to score risk assessment technology can also compromise its validity (Farrington & Tarling, 1985). The objectives which risk assessment technology are designed to meet are often not clear, or based on a concrete theoretical framework; this makes validation difficult since validity is after all an indication of how well the objectives have been met (Wright, Clear and Dickson, 1984; Gottfredson and Gottfredson, 1985).

More effort is spent on trying to make risk assessment technology more accurate through more sophisticated statistical techniques than is spent trying to make it more accurate by revising the objectives. This is unfortunate since research has shown that very little improvement in predictive validity has been obtained with the more sophisticated methods of statistical prediction. Criminal justice officials tend to forget that a risk score is not a true prediction of risk but a probability statement about risk (Clear and Gallagher, 1983 1985). It is also important to remember that a correlation between the criterion

and predictor variable does not imply causation (Berk, 1987).

The outcome criteria can also place boundaries on what level of predictive validity can be achieved with risk assessment technology. These are usually reduced to a dichotomous measure of success or failure as revocation or discharge. Little or no consideration is given to unofficial crime or rule violations, wrongful conviction or the severity of the reasons for revocation as compared to previous occasions (Gottfredson and Gottfredson, 1985).

Although risk assessment scales might not have shown to predict recidivism much more accurately than chance, most research suggests that they fare no worse than clinical judgment or the case study approach in that regard. Methodological problems have placed and will likely continue to place limitations on their predictive validity. These problems notwithstanding, risk assessment technology still offers the advantage of creating a concrete framework for parole decision making which increases accountability and objectivity and reduces disparity and the excessive use of discretion in the criminal justice process (Hutson, 1982).

Studies on the validity of risk assessment technology

1. Studies which have compared the validity of different risk assessment scales: a number of recent studies have been conducted to test the validity of risk assessment technology. For example, Klein & Caggiano (1986) compared five risk assessment scales as to how accurately they predict recidivism with a sample of inmates released from California, Michigan and Texas prisons.

They compared The Salient Factor Score, The California Base Expectancy Scale, The Greenwood Scale, The Pablo scales and The Iowa scales. With the exception of the Iowa scales, a fairly strong correlation was obtained between the scores on the different scales. The variables most strongly associated with recidivism were extent of prior record and history of substance abuse. The predictions generated by any one model were poor: only 5 to 10 % more accurate than chance. The authors explain that what little accuracy was obtained was due to differences between the release outcomes of inmates with extremely high versus extremely low scores. Porporino & Zamble (1987) used a sample of 77 Canadian offenders to measure the predictive validity of six risk assessment scales: The Nuffield Prediction of General (rps [g]: General Recidivism Prediction scale) and Violent (rps [v]: Recidivism Prediction Scale for Violence) Recidivism scales, The Salient Factor Score, The Risk Level Evaluation System (Illinois 1) and The Community Correctional

Centre Risk Evaluation (Illinois 2) and the Iowa Model for Offender Risk Assessment. They found the scores on these scales to be highly inter-correlated. The Nuffield RPS (v) scale had the lowest correlation with the other scales because of its unique nature as compared to the others. This scale also had the lowest correlation with outcome while the other scales differed little in how strongly they correlated with outcome. With a selection ratio of 50%, the scales performed similarly with regards to predictive validity: with the exception of the rps (v), the models correctly identified outcome better than chance; the proportion of correctly identified recidivists was uniformly high for all scales varying between 74 and 79 %.

2. Studies which have compared different statistical approaches to risk prediction: the following summarizes 4 studies which have compared different statistical approaches to improving the accuracy of risk assessment technology. Tarling and Perry (1985) compared the accuracy of three statistical techniques for constructing prediction instruments namely, automatic interaction detector (AID) multiple classification analysis (MCA) and logistic regression with the predictive attribute analysis (PAA) and multiple regression methods used by Simon in her 1971 study. They used Simon's original sample of 539 probationers, dividing it into a construction sample of 270 cases and a validation sample of 269 cases. AID performed better than PAA in the construction sample, explaining more variance (0.29 versus 0.17)

with less prediction error (0.33 versus 0.28). However, it performed more poorly than PAA in the validation sample explaining only 6% of the variance with a level of prediction error of 42%. Very little difference in the performance of MCA, multiple regression and logistic regression were noted in the construction and validation samples. The methods used by Tarling and Perry did not perform any better than those used by Simon, in her original study. Every method experienced considerable shrinkage from the construction to the validation sample.

Gottfredson and Gottfredson, (1985) compared the statistical efficiency of five prediction methods, namely two linear additive models, two clustering models and a multivariate contingency model within the context of parole risk assessment. These methods were used to develop parole decision making aids with data collected from a construction sample of 2382 offenders released on parole in 1970. These devices were then cross-validated with a sample of 1004 offenders released on parole in 1972. There was no significant difference between the devices developed with each method in how strongly they correlated with parole outcome (re-arrest versus non re-arrest), the correlations ranging between 0.3 and 0.4. According to these results, no one method for developing operationally useful decision making aids appears to provide a statistical advantage over the others.

Wilbanks, (1985) compared the statistical efficiency of five

statistical prediction methods, namely the Burgess and Glueck linear additive methods, multiple regression, association analysis and predictive attribute analysis (PAA). These methods were compared as to how much they improved predictive validity in terms of the number of correct predictions and errors made. Their study was based on a sample of 854 Texas parolees which was divided into a construction sample of 427 subjects and a validation sample of 427 subjects as well.

Predictive attribute analysis and multiple regression were the most effective methods in the construction sample that is, they brought the highest number of correct predictions and the fewest errors. However the simpler Glueck method was the most accurate in the validation sample. Shrinkage in predictive validity was greatest for the more sophisticated methods.

Van Alstyne & Gottfredson, (1978) compared the accuracy of loglinear analysis and the Burgess method for the prediction of parole success. They divided a sample of 5585 Ohio releasees in a construction sample of 2793 and a validation sample of 2794. The percentage of parole success obtained with the Burgess method ranged from 71.1 to 91.4 in the construction sample and from 68.4 to 90.1 in the validation sample. Almost identical ranges of parole success were obtained with the logistic regression method. These results provide further indication that the more sophisticated methods of statistical prediction do not much

improve on the predictive validity obtained with simpler methods. More research needs to be done to compare the predictive validity of different risk assessment scales. However the research findings reviewed above suggests that their accuracy is not much greater than what can be expected by chance. Also, attempts made to make Burgess' simple method of statistical prediction more sophisticated through various techniques have not significantly improved predictive validity. In fact, more shrinkage in validation has occurred with these techniques than with Burgess' simple method.

#### Racial and cultural disparity and risk assessment technology

It has been suggested that the use of social status variables such as education, employment and the use or abuse of alcohol and drugs in certain risk assessment technology creates disparity between the treatment of black and white offenders in the criminal justice system (Petersilia & Turner, 1987). It has also been suggested that the use of such factors in a standardized format has institutionalized rather than removed racial disparity. The alleged disparity may have to do with the possibility that blacks are being scored on variables over which they cannot be expected to have the same level of personal control as white offenders. However, some research suggests that removing social status variables from the risk assessment in which they are used will not eliminate the problem with racial

disparity. This research also points out that some social status variables such as alcohol and drug use and abuse put white offenders at a disadvantage.

T h

conviction, the nature of the index offence and previous convictions has created a problem with disparity because blacks tend to score higher than whites on these variables. This alleged difference might be real or it might simply reflect the greater vigilance of crime control agencies to black crime.

The dominant issue appears to be that of equity versus predictive validity: Can we eliminate from risk assessment technology those crime related factors which have been alleged to create racial disparity without at the same time seriously compromising the predictive validity of this technology ? Is it fair and equitable to use risk assessment technology designed with a sample of offenders belonging to the racial or cultural majority with offenders belonging to a racial or cultural minority? Also tied in is the issue of transferability: does not shrinkage in predictive validity occur as a consequence of this transfer?

#### The present study

The issues and questions concerning racial and cultural disparity constitute the framework for the present thesis. As

mentioned at the outset The Nuffield General Recidivism scoring system has become an explicit part of The National Parole Board's pre-release decision policy on the risk of recidivism. This scale will be used to evaluate every inmate coming up for parole consideration. The language and socio-cultural background of the offender are not considered relevant to risk assessment in this policy. The Nuffield risk prediction scale was largely designed with a sample of offenders belonging to the anglophone majority in Canada. However, this scale will also be used to evaluate offenders belonging to Canadian minorities such as francophones and natives. This raises the two main issues to be addressed in the present thesis namely those of predictive validity and equity.

The literature reviewed earlier has shown that considerable shrinkage in predictive validity can occur when the use of risk assessment technology is transferred to another setting and is used with an offender population other than that with which it was designed. This thesis aims to determine whether risk assessment scales designed and used in Canada and the U.S. with a largely anglophone offender population would be as accurate with a francophone offender population. This question is important given the substantial proportion of francophones in the correctional population in Canada.

The other important issue to be discussed is the following:

Does a disparate treatment of francophone offenders result from the use of these scales; that is, is a larger proportion of francophone offenders being classified as high risks without this being justified by their index offence and criminal background ? Is it fair and equitable to use risk assessment scales designed with an anglophone population to evaluate francophone offenders for parole ?

## CHAPTER 2

### METHODOLOGY

#### Subjects

The sample was taken from an earlier study conducted by The Research Branch of Correctional Services Canada ( Motiuk and Porporino, 1988 ). That study sampled cases randomly from the population of offenders who either: 1. successfully completed their parole or mandatory supervision ( i.e. reached their warrant expiry date ) between January 1 and December 31, 1985, or 2. had their parole or mandatory supervision revoked during this year. This search yielded approximately 4523 cases from all across Canada ( Motiuk and Porporino, 1988 ).

The original intention was to gather information on approximately 600 cases, that is, 150 cases per conditional release grouping, these groupings being: 1. reached warrant expiry date while on parole 2. revoked while on parole 3. reached warrant expiry date while on mandatory supervision 4. revoked while on mandatory supervision ( Motiuk and Porporino, 1988 ).

However, information on all 600 cases was not accessible, some of the files were difficult to locate, some were being held on active status ( i.e. in current use ), and still others were eliminated because it was found that they did not in fact meet

the sampling criteria. A total of 221 cases remained at this stage of the sampling process ( Motiuk and Porporino, 1988 ).

For the present study, the total sample of 221 offenders was examined according to francophone versus anglophone background. The bilingual offenders and offenders who spoke a language other than french or english were deleted because there were too few. Thus, a sample comprising a group of 159 anglophone offenders and a group of 46 francophone offenders was used in the present study.

The distinction of cases based on language was derived from information recorded on the Penitentiary Placement Report. The spoken language of the offender was assumed to be his mother language.

### Procedure

Information from the existing data base was used to score the sample on five risk assessment scales: The Wisconsin Assessment Of Client Risk Scale, The Nuffield General Recidivism Scoring System, The Salient Factor Score and The Michigan Property and Assault Screening scales<sup>2</sup>. A special effort was

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<sup>2</sup> programs to score all five scales had been prepared by The Statistics division of The Solicitor General of Canada. The programs simply consisted of telling the computer which questions from the survey questionnaire to use to score the scale items.

made to select scales which had at least a few item differences, in order to facilitate meaningful comparisons between them. It was also necessary to select scales which could be scored with available information.

### Description of Measures

In what follows, a brief description is provided of the origin, design and validity of each scale.

The Wisconsin Assessment Of Client Risk Scale.

As mentioned earlier this scale was designed by Baird Heinz and Bemus in the late 1970s. The scale's 11 items were selected using multiple regression analysis, which was based on information collected on approximately 250 randomly selected closed or revoked cases. The weight assigned to each scale item depended on the strength of its relationship with criminal behavior. High correlations were obtained between initial risk assessment scores and revocations. Baird, Heinz and Bemus (1984) p.41 point out that by using cut off points of 8 and 15 1.98 per cent of low risk clients and 9.15 per cent of moderate risk clients and 26 per cent of high risk clients were later revoked.

**The Nuffield General Recidivism: Scoring system.**

The Nuffield scale was derived from research with a random sample of 2500 male inmates released from Canadian federal institutions in the years 1970, 1971 and 1972. Data was collected from: the inmate records system of the Canadian penitentiary service and records of arrests and convictions noted by police and court agencies and centrally collated in Ottawa ( Nuffield, 1982 ).

Information was gathered on the offender's crime as it appeared in the formal charge of conviction, his criminal history and certain social characteristics such as marital status and education. Regression and predictive attribute analysis and simple summation were used to determine which case factors or inmate characteristics are most closely associated with the outcome of parole decisions. The results were used to create the 15 items on the Nuffield scale, each comprising sub-items which are scored from -7 to + 6. The 15 items weight categorical differentiation of traditional static factors, both legal and life history in nature, additively combined to arrive at a total risk score ( Porporino & Zamble, 1987 ). Nuffield (1982) collapsed risk scores for her validation sample into one of five prognostic categories, obtaining success rates ranging from 84 % for cases falling in her very good group to 33.6 % for cases falling in her very poor group ( Porporino & Zamble, 1987 ).

**The Salient Factor Score.**

This scale was designed by The United States Parole Commission. It has been used since 1972 to assess parole prognosis. The current version: SFS became effective in august of 1981. The salient factor score includes six items which when added together produce a score with a range from 0 to 10. The higher the score, the higher the expected likelihood of a favorable outcome upon release (i.e. the lower the probability of recidivism) (Hoffman, 1983).

Hoffman (1983) showed that 88% of a group of federal inmates in the "very good risk category" (scores of 8 to 10) had a favorable release outcome e.g. they were not committed for 60 days or more for a new criminal offence, they did not have a return as a parole or treatment center violator, or parole violation warrant outstanding and were not killed while committing a criminal act. The results are based on a sample of 2339 inmates.

### The Michigan Property And Assault Risk Screening Scales.

Monahan, 1981 and Kime, 1983 explain that the Michigan property and assault screening scales are actuarial devices that were implemented by that state's department of corrections in 1978 in order to deal with the problem of prison overcrowding by sorting cases for parole release or supervision on parole more effectively. The scales were derived from data collected on 2500 male inmates released on parole in 1971. Monahan, 1981 explains that: "statistical analyses were performed on the data for half the subjects to derive an actuarial device relating to arrest for a new violent crime while on parole. The resulting factors were then applied to the other half of the subjects to validate the predictive validity of the scale" (p.103). A 40 % degree of accuracy was obtained with The Michigan Assault Risk screening Scale on the basis of the type of crime committed, the nature of institutional behavior and whether an arrest was made before the inmate's 15th birthday. The recidivism rates of the different risk groups obtained in their 1974 study are distributed as follows: 8.9 % (very low) 11.1 % (low) 17.4 % (middle) 27.9 % (high) and 40% (very high).

Research with the property risk scale led to the identification of only three risk categories: low, middle and high because property crime is more difficult to predict. Also the differences that exist between offenders in the low and high

risk categories are not as large as those that might be expected with the assault scale. There is no data on the predictive validity of The Michigan Property Risk Screening Scale.

#### Description of Dichotomous Outcome Measure

In the review of files for the study, a range of information was used to assess post-release outcome. This included information on the number and severity of criminal convictions incurred during the period of supervision. However, the present study relied exclusively on a dichotomous outcome measure; cases who completed their period of community supervision up to the warrant expiry date were classified as successes, while cases who were revoked or reincarcerated were classified as failures.<sup>3</sup>

Although more sophisticated measures of outcome have been used in recidivism prediction studies (see for example Klein & Caggiano, 1986), these generally have been found to add little to predictive validity beyond a success/failure dichotomy (Gottfredson & Gottfredson, 1985). As well, the success/failure dichotomy has much more practical appeal in that it is the major

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<sup>3</sup> when an offender is re-arrested he is suspended from parole or mandatory supervision. A post-suspension hearing is held to determine whether he should be revoked based on an appraisal of the nature of the violation or offence committed. Thus an offender may commit a minor offence and still be permitted to resume his period of parole or mandatory supervision to the warrant expiry date.

concern of the correctional and parole agencies.

### Summary of Analyses

A series of descriptive statistics were computed in order to obtain a framework for the analysis and interpretation of other data on predictive validity and distribution of risk scores. The descriptive variables that were examined are outlined in Table 1.

For both the anglophone and francophone groups, percentages were computed for all discrete variables. Chi-square tests were conducted to determine whether both groups differed significantly on most discrete variables. Chi-square tests were not conducted for the following discrete variables: major offence and nature of the index offence. The chi-square tests were conducted using the absolute values of each group on the different variables. For most variables this involved two by two contingency tables. However the contingency tables were two by five for the degree of forcible contact variable, two by seven for the employment status at the time of the index offence variable and the marital status at the time of the index offence variable and two by four for the skilled employment experience variable. The group means and standard deviations were computed for all continuous variables. t-tests were conducted to determine whether the means of each group differed significantly.

TABLE 1

Summary of Descriptive Variables

**A. Social and Life History Variables.**

- 
- employment status at the time of the index offence
  - age at last release
  - vocational and apprenticeship training
  - skilled employment experience
  - educational level
  - marital status at the time of the index offence

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**B. Criminal Background and Index Offence.**

- 
- age of first conviction
  - length of time spent conviction free prior to the index offence
  - number of prior convictions
  - convictions for assaultive offences in the five years preceding the index offence
  - sentence length in months
  - major index offence
  - the number of index offences
  - the circumstances of the index offence

---

**C. Incarceration and Supervision History**

- 
- number of prior periods of incarceration
  - number of prior periods of probation, parole and mandatory supervision
  - number of prior revocations of parole, probation or mandatory supervision
-

The next phase of the analysis involved the examination of the distribution of risk scores for the anglophone and francophone groups on the five risk prediction scales. The cut-off points published for these scales were used in this phase of the analysis. Chi-square tests were conducted to examine differences in the distribution of risk scores for the two groups. These tests were conducted using the absolute number of subjects of each group which appeared in the different risk categories of each scale. The chi-square tests involved contingency tables which were two by the number of categories on any particular scale. In this phase of the analysis, t-tests were also conducted to examine differences in the mean risk scores for each group.

A set of analyses was then conducted in order to examine the relative predictive validity of the various risk assessment scales. This involved the computation of correlations between risk scores on each of the scales and the dichotomous measure of release outcome. The strength of the relationship noted between the criterion variable (risk scores) and the predictor variable (release outcome) is an indicator of the predictive validity of the various scales when applied to an anglophone or francophone sample of offenders. To supplement these correlational analyses mean risk scores were calculated for those cases who were revoked or who reached WED. This was done separately for the anglophone and francophone group and a series of t-tests was conducted to

examine the significance of the differences in these mean risk scores.

CHAPTER 4

RESULTS

Descriptive Analyses

Table 2 compares the anglophone and francophone groups on a number of social and life history variables. As can be noted from the Table, in both the anglophone and francophone samples of offenders, most of the offenders did not have vocational or apprenticeship training or skilled employment experience. The educational achievement of these offenders was also relatively low ( below grade 10 ).

When we compare the anglophone and francophone groups, Table 2 also shows that there were no statistically significant differences on any of the social/life history variables considered. The difference between the groups approached statistical significance for only one variable: employment status at the time of the index offence ( chi-square: 10.864 p= 0.093 ), with the anglophone group showing a higher proportion of cases employed at the time of the index offence.

In Table 3 the anglophone and francophone groups are compared with regards to variables relating to criminal background and index offence.

Table 2

Social and Life History

Descriptive Variable	Offender Group		Chi-square <sup>4</sup> or t
	anglophone % or mean (s.d.)	francophone % or mean (s.d.)	
employed at time of offence <sup>5</sup>	37 %	13 %	n.s.
age at release	29.33	28.38	n.s.
vocational/ apprenticeship training	28 %	20 %	n.s.
skilled employment experience ( > 1 year )	19 %	17 %	n.s.
educational level ( grade )	9.3 ( 2.3 )	8.7 ( 2.2 )	n.s.
marital status			
married/common law	36 %	21 %	n.s.
separated/divorced	16 %	11 %	n.s.
widowed			
single	48 %	67 %	n.s.

<sup>4</sup> Contingency tables with the absolute values of each group on the discrete variables were used to compute the chi-square values.

<sup>5</sup> The offenders which, at the time of the offence, had full time, part time, casual or seasonal employment or were enrolled in school training. The difference between groups on this variable does approach statistical significance. However, because the error variance is spread across the seven levels of the variable, the difference between the groups must be larger in order to be significant.

Table 3

Criminal Background and Index Offence

Descriptive Variable	Offender Group		chi-square <sup>6</sup> or t
	anglophone % or mean (s.d.)	francophone % or mean (s.d.)	
age at first conviction	19 (3.43)	20.33 (2.89)	n.s.
period conviction free prior to index		16.5**	offence
< 6 months	17 %	46 %	
> 6 months < 2 years	42 %	22 %	
2 years or more	40 %	33 %	
number of prior convictions	10.52 (9.69)	7.33 (7.22)	2.09*
convictions for assaultive offences within the last 5 years	34.5 %	47 %	n.s.
sentence length (months)	3.05 (3.33)	3.02 (3.35)	n.s.
number of index offences	2.69 (2.09)	3.94 (2.74)	3.31**
Major offence			
murder/manslaughter	3 %	4 %	
assaultive (non-sexual)	7 %	13 %	
assaultive (sexual)	11 %	0 %	
robbery	16 %	35 %	
drug offences	8 %	9 %	
property offences	39 %	26 %	
parole/m.s.revocation	6 %	2 %	
other	10 %	11 %	

\*\* p < 0.001

\* p < 0.05

<sup>6</sup> Contingency tables with the absolute values of each group on the discrete variables were used to compute the chi-square values.

A statistically significant difference between the groups was noted with regards to the amount of time spent in the community conviction free in the period immediately preceding the index offence (chi-square=16.5  $p < 0.001$ ). A larger proportion of the francophone group did not remain conviction free in the six months immediately preceding the index offence. (46 % versus 17 %), while a larger proportion of the anglophone group remained conviction free for more than six months but less than two years (42 % versus 22 %) and two years or more (40 % versus 33%).

The groups also differed significantly with regards to the total number of prior convictions; the anglophone group had a higher mean number of prior convictions ( $t= 2.09$   $p < 0.05$ ).

The differences between the groups was not statistically significant with regards to the number of convictions for assaultive offences in the five years preceding the index offence or age at first conviction.

Both groups did not differ significantly with regards to sentence length in months. However, the groups differed significantly with regards to the mean number of index offences committed as well as the severity of the index offences. The francophone group was involved in a significantly higher mean number of index offences ( $t=3.31$   $p < 0.001$ ). For the major

offence, a larger proportion of the anglophone group was involved in property offences (39 % versus 26 %) and sexual assault (11 % versus 0 %); while a larger proportion of the francophone group was involved in robbery (35 % versus 16 %) and non-sexual assaultive offences (13 % versus 7 %)<sup>7</sup>.

Table 4 compares the francophone and anglophone groups in terms of the circumstances of the major index offence and other index offences. As can be noted, similar proportions of both groups were under the influence of alcohol or drugs. As well, similar proportions of both groups were under community supervision at the time of the index offence. Some rather large differences between the groups were observed with regards to every other factor that was examined. For example, the major offence involved "category 1" offences for a substantially larger proportion of the francophone group (48 % versus 15 %), while a slightly larger proportion of the anglophone group committed "category 2" offences (19 % versus 13 %) (as defined in Table 4).

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<sup>7</sup>. The robbery category includes: armed robbery, attempted armed robbery, robbery with violence and robbery.

The drug offences category includes: conspiracy to traffic or import hard or soft drugs and simple possession of hard or soft drugs.

The property offences category includes: break and enter, theft or possession of stolen property under or over two hundred dollars, extortion, bribery, forgery impersonation, fraud and false pretenses.

The other category includes all those offences which were committed by a small percentage of offenders and dont fit any specific category.

Table 4

Circumstances of the Index Offence

Descriptive Variable	Offender Group		chi-square <sup>8</sup>
	anglophone	francophone	
	%	%	
nature of major offence			
NPB "category 1" <sup>9</sup>	15 %	48 %	
NPB "category 2"	13 %	15 %	
use of weapon			
for major offence	23 %	54 %	16.11*
for other index offences	8 %	36 %	14.07*
degree of forcible contact in major offence			26.68*
none	68 %	37 %	
threat only	7 %	37 %	
force	6 %	9 %	
minor injury	15 %	16 %	
serious injury	4 %	4 %	
death	1 %	0 %	
use of threats			
for major offence	7 %	37 %	
for other index offences	0 %	30 %	
alcohol/drug use	74 %	76 %	n.s.
under community supervision	46 %	51 %	n.s.

\*\* p < 0.001

<sup>8</sup> Contingency tables with the absolute values of each group on the discrete variables were used to compute the chi-square values.

<sup>9</sup> NPB "category 1" and NPB "category 2" refer to the percentage of each group whose most severe index offence falls into the category 1 or category 2 offences of the National Parole Board's Risk Assessment Policy for release decisions ( National Parole board, 1988 p.6).

A larger proportion of the francophone group used a weapon in committing both the major offence and other index offences (54% versus 23% and 36% versus 8% respectively). A significant difference was noted between both groups with regards to the degree of forcible contact used by the offender during the commission of the most severe index offence (chi-square= 29.7  $p < 0.01$ ). A substantially larger proportion of the francophone group made use of some degree of forcible contact (63% versus 32%). This entailed primarily the use of threats (37% versus 7%).

In Table 5 the anglophone and francophone groups are compared on a number of factors relating to their incarceration and supervision history.

With regards to incarceration history, we see that the anglophone group had been incarcerated for a significantly higher mean number of periods ( $t=2.41$   $p < 0.05$ ) as well as mean number of periods of 90 days or more ( $t=2.45$   $p < 0.05$ ). There was very little difference between both groups with regards to supervision history. A significant difference was noted in only one instance : the anglophone group had a significantly higher mean number of prior revocations of probation supervision ( $t=3.72$   $p < 0.001$ ).

Table 5  
Incarceration and Supervision History

Descriptive Variable	Offender Group		t
	anglophone mean (s.d.)	francophone mean (s.d.)	
<hr/>			
prior periods of incarceration			
total no.	3.7 ( 3.52 )	2.3 ( 0.71 )	2.41*
> than 90 days	2.9 ( 2.5 )	1.8 ( 1.24 )	2.45*
prior periods of community supervision			
probation	1.28 ( 1.34 )	1.34 ( 1.32 )	n.s.
parole	0.83 ( 0.97 )	0.7 ( 0.91 )	n.s.
mandatory supervision	0.42 ( 0.9 )	0.32 ( 0.53 )	n.s.
prior revocations of community supervision			
probation	0.80 ( 1.1 )	0.13 ( 0.34 )	3.72**
parole	0.39 ( 0.70 )	0.38 ( 0.55 )	n.s.
mandatory supervision	0.25 ( 0.60 )	0.19 ( 0.46 )	n.s.

\* p < 0.05

\*\* p < 0.001

Distribution of Statistical Risk Scores by Group for each Risk Assessment Scale

Tables 6 through 10 present the proportion of the anglophone and francophone groups that fell in each risk category. The significance of the difference between the distributions of scores across groups is indicated by a chi-square value at the bottom of each table.

Significant differences in the distribution of scores of both groups were noted for only two scales: the Wisconsin Assessment of Client Risk Scale ( chi-square= 6.68  $p < 0.05$  ) and the Michigan Assault Screening Scale ( chi-square =13.002  $p < 0.05$  ).

For the Wisconsin scale, the difference is due to the fact that there is a substantially larger proportion of the francophone group in the low risk category ( 15.22 % versus 4.4% ) and a somewhat smaller proportion in the high risk category ( 74 % versus 81 % ). For the Michigan assault scale, the difference can be best explained by variation across groups at the extreme of the risk categorization. For example, a much larger proportion of anglophones are categorized as very low risk ( 19.5 % versus 6.52 % ). However, at the other extreme, a much larger proportion are categorized as very high risk ( 6.52 % versus 0.63 % ).

Table 6

The Wisconsin Assessment Of Client Risk Scale

Risk Categories	percentage by risk category*	
	anglophone	francophone
low	4.4	15.22
medium	14.47	10.87
high	81.13	73.91

\*chi-square=6.68, p < 0.05.<sup>10</sup>

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<sup>10</sup> contingency tables with the absolute values of each group for the different risk categories were used to compute the chi-square values.

Table 7.

The Nuffield General Recidivism Scoring System

Risk Categories	percentage by risk category*	
	anglophone	francophone
very good	16.98	26.09
good	13.21	15.22
fair	20.13	21.74
fair to poor	16.98	8.70
poor	32.7	28.26

\*chi-square= 3.55, p > 0.25<sup>11</sup>

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<sup>11</sup> contingency tables with the absolute values of each group for the different risk categories were used to compute the chi-square values.

Table 8.

The Salient Factor Score

Risk Categories	percentage by risk category*	
	anglophone	francophone
very good	33.34	19.57
good	53.45	56.52
fair	11.95	21.74
poor	1.26	2.17

\* chi-square= 7.314, p > 0.25<sup>12</sup>

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<sup>12</sup> Contingency tables with the absolute values of each group for the different risk categories were used to compute the chi-square values.

Table 9  
The Michigan Assault Screening Scale

Risk Categories	percentage by risk category*	
	anglophone	francophone
very low	19.5	6.52
low	16.35	28.26
middle	60.38	54.35
high	3.14	4.35
very high	0.63	6.52

\* chi-square= 13.002, prob < 0.05<sup>13</sup>

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<sup>13</sup> contingency tables with the absolute values of each group for the different risk categories were used to compute the chi-square values.

Table 10.

The Michigan Property Risk Screening Scale

Risk Categories	percentage by risk category*	
	anglophone	francophone
low	41.51	50
middle	16.35	21.74
high	42.14	28.26

\* chi-square= 2.94, p > 0.10<sup>14</sup>

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<sup>14</sup> Contingency tables with the absolute values of each group for the different risk categories were used to compute the chi-square values.

Overall, the distribution of risk scores across scales followed similar patterns for the anglophone and francophone groups. However, some differences were still noted. For example on The Salient factor Score, a smaller proportion of francophones were categorized as very good risks ( 19.57 % versus 33.34 % ). On the other hand, on the Nuffield, a larger proportion of francophones were categorized as very good risks ( 26.09 % versus 16.98 % ).

Table 11 shows the mean risk scores for the anglophone and francophone groups on each of the risk assessment scales. The mean risk scores of both groups did not differ significantly for the Wisconsin, Nuffield, Michigan Property and Assault risk scales. However, a significant difference was noted for The Salient Factor Score.

In general, then, we see differences across risk scales with some scales classifying more francophones as high risks and other scales classifying fewer francophones as high risk. A similar pattern was noted at the other extreme. As well, on particular scales, The Wisconsin Assessment of Client Risk Scale and The Michigan Assault Risk Screening Scale, we see substantial differences across all levels of risk for the two groups.

Table 11

Mean Scores on Risk Assessment Instruments for the Anglophone and Francophone Group

Scale	Offender Group		t	p
	anglophone mean	francophone mean		
Wisconsin	26.69	26.04	0.31	0.76
Nuffield	3.84	1.78	1.43	0.16
Salient factor score <sup>15</sup>	3.4	4.11	2.49	0.01
Michigan property	2	1.78	1.47	0.14
Michigan assaultive	2.49	2.76	1.85	0.07

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<sup>15</sup> Unlike the other scales, a high score means low risk on The Salient Factor Score.

This brings us to the issue of the predictive validity of these scales for the two groups. The next section of the results examines differences in this respect.

#### Relationships with Outcome by Group

In order to assess whether there was a relationship between risk scores and conditional release outcomes, correlation coefficients were computed between risk scores on each of the scales and the dichotomous criterion of outcome. These correlations are presented in Table 12 separately for the anglophone and francophone groups.

For the anglophone group, risk scores on The Nuffield General Recidivism Scoring System, The Michigan Property and Assault Risk Screening scales correlated significantly with outcome. For the francophone group, only risk scores on the Michigan Assault Risk Screening scale correlated significantly with outcome.

T-tests were done for each separate group to determine whether the mean risk score of those cases reaching the warrant expiry date differed significantly from that of those who were revoked. These results are presented in Table 13. For the anglophone group, the mean risk score of those who reached WED

was significantly lower than that of those who were revoked for three of the five scales, namely the Nuffield (  $p= 0.007$  ), the Michigan property (  $p= 0.0003$  ) and the Michigan assault scale (  $p= 0.0001$  ); for the francophone group, this was the case for one scale only ,namely; the Michigan assault scale (  $p= 0.004$  ).

Table 12  
Correlations of Risk Scores with Outcome by Group

Scales	anglophone	francophone
	correlation	correlation
Wisconsin	0.12	0.16
Nuffield	0.21**	0.16
Salient factor score	0.12	0.16
Michigan property	0.30***	0.20
Michigan assaultive	0.28***	0.42**

\*\* p < 0.01  
\*\*\* p < 0.001

Table 13

Mean Scores of Different Outcome Groups on Risk assessment Instruments

Scale	Offender Group					
	anglophone		p	francophone		p
	revoked	WED		revoked	WED	
mean	mean		mean	mean		
Wisconsin	28.2	25.4	0.14	28.9	24.2	0.28
Nuffield	5.8	2.1	0.0007 t=2.75	3.5	0.7	0.3
Salient Factor Score	3.2	3.6	0.13	3.8	4.3	0.3
Michigan Property	2.3	1.8	0.0003 t=3.7	2	1.6	0.18
Michigan Assaultive	2.8	2.3	0.0001 t=3.99	3.2	2.5	0.004 t=3.03
	N=74	N=85		N=18	N=28	

## CHAPTER 4

### DISCUSSION AND CONCLUSION

This thesis set out to assess whether the predictive validity of various risk assessment scales might be influenced by the language and socio cultural background of the offender. Consequently, this thesis involved the comparison of an anglophone and francophone group on five risk assessment scales. Correlational analyses and t-tests were used to evaluate predictive validity.

#### SUMMARY AND INTEGRATION OF RESULTS

##### Relationships with outcome.

In general the results support the notion that there are socio-cultural differences between groups with regards to the performance of the various risk assessment scales tested. The results indicate that the risk assessment scales were slightly more accurate in predicting recidivism for the anglophone group. While outcome correlated significantly with the risk scores of the anglophone group on the Nuffield, Michigan Assault and Property Risk scales, it only correlated significantly with the risk scores of the francophone group on the Michigan Assault Risk

scale. The same observations hold in the interpretation of the t-tests conducted on the different outcome groups.

As mentioned in the introduction, few studies have, to date, sought to compare various risk assessment scales for predictive validity. Those that have have relied primarily on correlational analyses. The correlations between the risk scores and outcome obtained in the present study were at least as significant but slightly lower than those reported in Porporino & Zamble ( 1987 ). The correlations obtained in the present study are also comparable to those reported by Klein & Caggiano ( 1986 ).

In order to interpret the significance of the correlations one must refer to the descriptive data. As mentioned earlier, both groups differed significantly in terms of the index offence: while a larger proportion of the anglophone group was involved in property offences ( 39 % ), a larger proportion of the francophone group was involved in robbery ( 35 % ). This may explain why the risk scores of the anglophone group correlated significantly with outcome on the Nuffield and Michigan Property Risk scales since these scales appear to put more emphasis on property crime in risk assessment. It is also possible that the risk scores of the Nuffield scale correlated significantly with outcome for the anglophone group because it is more comparable to the original validation sample than to the francophone group.

Outcome correlated significantly with the risk scores of the francophone group on the Michigan Assault Risk Scale. This can perhaps be best explained by the more serious and assaultive nature of the index offences committed by the larger proportion of that group.

**The distribution of risk scores.**

The following observations concern differences and similarities between the distribution of risk scores of both groups on each scale. The distribution of risk scores differed significantly on The Wisconsin and Michigan Assault Risk scales. We may note that the groups were extreme in their categorization on The Wisconsin scale: while relatively low proportions of each group appeared in the low risk categories, very high proportions of each group appeared in the high risk category. Based on a review of the descriptive data one may attribute this to the high scores of both groups on most of the items on that scale. This scale places considerable emphasis on criminal background.

Although the differences might not always be significant, the distribution of risk scores begin to vary when less emphasis is put on prior convictions and more emphasis is put on current offence. For example, one may attribute the higher proportion of anglophone offenders appearing in the high risk categories of the Nuffield and the Michigan Property Risk scale to the fact that a

larger proportion of that group committed property offences. A larger proportion of francophone offenders might appear in the high risk categories of The Michigan Assault Risk scale because a larger proportion of that group committed an index offence which fits the definition of assaultive offences used for that scale.

The distribution of risk scores of the groups on the Salient Factor Score is the opposite of that on the Wisconsin scale: a small proportion of both groups appears in the poor risk category while comparatively larger proportions appear in the very good risk categories. This difference may be interpreted as follows: while The Wisconsin Risk scale emphasizes prior convictions, The Salient Factor Score includes items on which the groups did not score highly nor differ significantly ( e.g. recent commitment free period ( three years ), heroin and opiate dependence, prior commitments of more than thirty days, age at current offence, prior commitment, probation, parole, confinement escape status violator at the time of the index ).

**The disparity versus predictive validity issue.**

The disparity versus predictive validity issue was proposed as a context for this study in the latter portion of the introduction. Previous research on this issue ( e.g. Petersilia & Turner, 1987 ) suggests that the emphasis on "crime related factors" in most U.S. risk assessment scales may create racial

disparity. It has been suggested that black offenders might be more consistently denied parole relative to white offenders because they tend to score higher on these variables. Further, these higher scores may simply reflect the greater vigilance of most crime control agencies to black crime.

The following question was raised in the introduction. Does a disparate treatment of francophone offenders result from the use of the scales i.e. is a larger proportion of francophone offenders being classified as high risk without reason ?

In view of the greater number and severity of the index offences committed by the francophone offenders as well as their unstable community history in the two years which preceded the index offence, a larger proportion of these individuals should have appeared in the high risk categories of those scales which do emphasize such variables. This was the case for The Michigan Assault Risk scale only. The differences between the groups noted for this scale are not great enough to raise concern about a possible bias towards francophone offenders. Moreover, the two scales which appeared to put more emphasis on property crime singled out a larger proportion of anglophone offenders as high risks. Thus, the results do provide some evidence of cultural disparity in risk categorization on the risk assessment scales tested. This disparity can be explained by the differences between groups in terms of the index offences committed.

However, the dominant issue remains to be that of predictive validity. A number of implications seem to follow from inconsistencies noted in this regard.

### IMPLICATIONS

#### Practical implications.

Assuming that both groups are representative of their respective offender populations in Correctional Services Canada, the use of certain scales would mean the release of fewer francophone offenders while the use of other scales would mean the release of fewer anglophone offenders; that is, assuming the use of the same cut-off scores. Moreover, because of a lack of consistency in risk categorization across scales, the same offenders might be released if scored on one scale, but not released if scored on another.

The results suggest that the use of the scales would bring slightly more accurate results if used with an anglophone offender population. Based on the results, The Nuffield scale, the only Canadian risk assessment scale currently used, might prove to be a more accurate decision making tool with anglophone offenders. This supports a point cited in the introduction which suggests that risk assessment scales are most accurate when used with offenders which belong to the same population as the

validation sample. The transfer of a risk assessment scale whether Canadian or American, from one offender population to another may compromise its validity.

#### **Policy implications.**

The second contextual question raised in the introduction was: Is it fair and equitable to use risk assessment scales designed with anglophone offenders to evaluate francophone offenders coming up for parole ?

Based on points made about the results earlier in the discussion, there are no policy implications concerning the fair and equitable use of risk assessment scales with francophone offenders. However, policy implications having to do with equity and fairness are raised by the lack of consistency in risk categorization for the total sample, from one scale to another. This lack of consistency suggests that an offender's release may depend more on what scale he is scored on than on his general criminal profile. The release or continued imprisonment of potentially dangerous offenders might also hinge on similar factors.

#### **Implications for theory.**

The poor predictive validity of risk assessment technology

noted in this study and in previous research suggests that they may be based on an inadequate consideration of the causes of crime and recidivism. For practical reasons, risk must be appraised on the basis of an offender's individual characteristics. Unfortunately, this implies treating the offender as though he existed in a "social vacuum". Crime is a multivariate phenomenon involving the interplay of individual and social factors ( Monahan, 1981; Gabor, 1986 ). Efforts to predict recidivism accurately are doomed from the start if one set of factors is considered in isolation of the other.

#### **Implications for research.**

Future research would need to compare groups of larger and more equal size in order to clarify more precisely the role played by the language and socio-cultural background of the offender in risk assessment. Future research should also compare groups of offenders belonging to other ethnic and socio-cultural minorities. Such research might serve to identify the variables which contribute most to accurate risk prediction for different ethnic and social groups.

## METHODOLOGICAL LIMITATIONS OF THE PRESENT STUDY

### Group size

While not a major methodological problem, the difference in group size does put certain limits on our interpretation of the results. For example, it is not possible to compare the absolute size of the correlations of both groups.

The scores of the two different outcome groups ( successes, failures ) differed significantly ( in the expected direction ) in a greater number of cases for the anglophone group. However, it may be that the difference between those means for the francophone group did not reach the level required by its smaller size for there to be significance.

### The dichotomous measure of outcome

As mentioned earlier in the chapter on methodology, it is necessary to use a dichotomous measure of outcome to facilitate research on the predictive validity of risk assessment instruments. Such a dichotomy suggests that the two outcome groups are distinctly different. However, the differences between the two outcome groups are blurred by the possibility that those who reached the warrant expiry date might have committed an offence or violation but not been apprehended while those who were revoked might have been revoked for less serious

reasons than before.

**The language of the offender.**

Both groups were created on the basis of the spoken language of the offender indicated on record. Unfortunately, no other source of information was available on the socio-cultural background of the offender ( the region or province of origin, the nationality of the parents, etc. ). Thus, socio-cultural differences between groups were assumed but not established definitely. Since little information was available on the precise nature of these socio-cultural differences, there are limits to what may be concluded on their basis.

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**APPENDIX A**

**THE WISCONSIN ASSESSMENT OF CLIENT RISK SCALE**

"Wisconsin Scale"

Department of Health and Social Services  
 Division of Corrections  
 DOC-552 (Rev. 5-83)

State of Wisconsin

ADMISSION TO ADULT FIELD CASELOAD  
 ASSESSMENT OF CLIENT RISK

Client Name	Last	First	All	Date of Birth
Probation Control Case or Institution Release Date (Month, Day, Year)			Agent Last Name	Area Number

Select the appropriate answer and enter the associated weight in the score column. Total all scores to arrive at the risk assessment score.

		SCORE
Number of Address Changes in Last 12 Months: (Prior to incarceration for parolees)	0 None 2 One 3 Two or more	---
Percentage of Time Employed in Last 12 Months: (Prior to incarceration for parolees)	0 60% or more 1 40% - 59% 2 Under 40% 3 Not applicable	---
Alcohol Usage Problems: (Prior to incarceration for parolees)	0 No interference with functioning 2 Occasional abuse, some disruption of functioning 4 Frequent abuse, serious disruption, needs treatment	---
Other Drug Usage Problems: (Prior to incarceration for parolees)	0 No interference with functioning 1 Occasional abuse, some disruption of functioning 2 Frequent abuse, serious disruption, needs treatment	---
Attitude:	0 Motivated to change, receptive to assistance 3 Dependent or unwilling to accept responsibility 5 Rationalizes behavior, negative, not motivated to change	---
Age at First Conviction: (or Juvenile Adjudication)	2 21 or older 3 18-20 4 19 or younger	---
Number of Prior Periods of Probation/Parole Supervision: (Adult or Juvenile)	0 None 4 One or more	---
Number of Prior Probation/Parole Revocations: (Adult or Juvenile)	0 None 4 One or more	---
Number of Prior Felony Convictions: (or Juvenile Adjudications)	0 None 2 One 4 Two or more	---
Convictions or Juvenile Adjudications for: (Select applicable and add for score. Do not exceed a total of 5. Include current offense.)	2 Burglary, theft, auto theft, or robbery 3 Worthless checks or forgery	---
Conviction or Juvenile Adjudication for Assaultive Offense within Last Five Years (An offense which involves the use of a weapon, physical force or the threat of force)	15 Yes 0 No	---
<b>TOTAL</b>		---

**APPENDIX B**

**THE NUFFIELD GENERAL RECIDIVISM SCORING SYSTEM**



Item	Description	Scoring	
7	<b>AGE AT FIRST ADULT CONVICTION (continued)</b> Was between 31 and 40 inclusive at time of first adult conviction Was between 41 and 49 inclusive at time of first adult conviction Was over 49 at time of first adult conviction	-3 -6 -7	
8	<b>PREVIOUS CONVICTIONS FOR ASSAULT</b> Has 1 previous conviction for assault Has 2 or more previous convictions for assault		+2 +3
9	<b>MARITAL STATUS</b> Is married or has common-law spouse	-1	
10	<b>INTERVAL AT RISK SINCE LAST OFFENCE</b> If it has been less than 6 months between the inmate's current conviction and his last offence (or his release from his last imprisonment, if he was jailed for his last offence) If it has been 2 years or more between the inmate's current conviction and his last offence (or his release from his last imprisonment, if he was jailed for his last offence)	-2	+1
11	<b>NUMBER OF DEPENDENTS</b> Has 3 or more dependents (includes dependents from common-law marriage)	-2	
12	<b>AGGREGATE SENTENCE</b> Aggregate sentence is 5 years Aggregate sentence is 6 years or more	-3 -2	
13	<b>PREVIOUS CONVICTIONS FOR VIOLENT SEX OFFENCES</b> Has 1 previous conviction for forcible rape, attempted rape, or indecent assault		+4
14	<b>PREVIOUS CONVICTIONS FOR BREAK AND ENTER</b> Has no previous convictions for break and enter, or being unlawfully in dwelling Has 1 or 2 previous convictions for break and enter Has 3 or 4 previous convictions for break and enter Has 5 or more previous convictions for break and enter	-2	+2 +3 +6
15	<b>EMPLOYMENT STATUS AT TIME OF ARREST FOR CURRENT OFFENCE</b> Was employed at time of arrest for current offence	-1	

## INMATE SCORING SHEET: GENERAL RECIDIVISM

Item	Description	Score
1	Current offence	
2	Age at admission	
3	Previous imprisonments	
4	Previous breach of parole or mandatory supervision	
5	Previous history of escape	
6	Security classification	
7	Age at first adult conviction	
8	Previous convictions for assault	
9	Marital status	
10	Interval at risk since last offence	
11	Number of dependents	
12	Aggregate sentence	
13	Previous convictions for violent sex offences	
14	Previous convictions for break and enter	
15	Employment status at time of arrest for current offence	
Final Score		

**APPENDIX C**

**THE SALIENT FACTOR SCORE**

Burnout—Age at Release from Prison and Recidivism

SALIENT FACTOR SCORE (SFS 81)

Register Number \_\_\_\_\_ Name \_\_\_\_\_

Item A: Prior Convictions/Adjudications (Adult or Juvenile) .....

- None ..... = 3
- One ..... = 2
- Two or three ..... = 1
- Four or more ..... = 0

Item B: Prior Commitment(s) of More Than Thirty Days (Adult or Juvenile) ...

- None ..... = 2
- One or two ..... = 1
- Three or more ..... = 0

Item C: Age at Current Offense/Prior Commitments .....

- Age at commencement of the current offense:
- 26 years of age or more ..... = 2 \*\*\*
  - 20-25 years of age ..... = 1 \*\*\*
  - 19 years of age or less ..... = 0

\*\*\*Exceptions: If five or more prior commitments of more than thirty days (adult or juvenile), place an "x" here \_\_\_\_\_ and score this item ..... = 0.

Item D: Recent Commitment Free Period (Three Years) .....

- No prior commitment of more than thirty days (adult or juvenile) or released to the community from last such commitment at least three years prior to the commencement of the current offense ..... = 1
- Otherwise ..... = 0

Item E: Probation/Parole/Confinement/Escapes Status Violator This Time .....

- Neither on probation, parole, confinement, or escape status at the time of the current offense; nor committed as a probation, parole, confinement, or escape status violator this time ..... = 1
- Otherwise ..... = 0

Item F: Heroin/Opiate Dependence .....

- No history of heroin/opiate dependence .. = 1
- Otherwise ..... = 0

TOTAL SCORE .....

NOTE: For purposes of the Salient Factor Score, an instance of criminal behavior resulting in a judicial determination of guilt or an admission of guilt before a judicial body shall be treated as a conviction, even if a conviction is not formally entered.

**APPENDIX D**

**THE MICHIGAN ASSAULT RISK SCREENING SCALE**



**APPENDIX E**

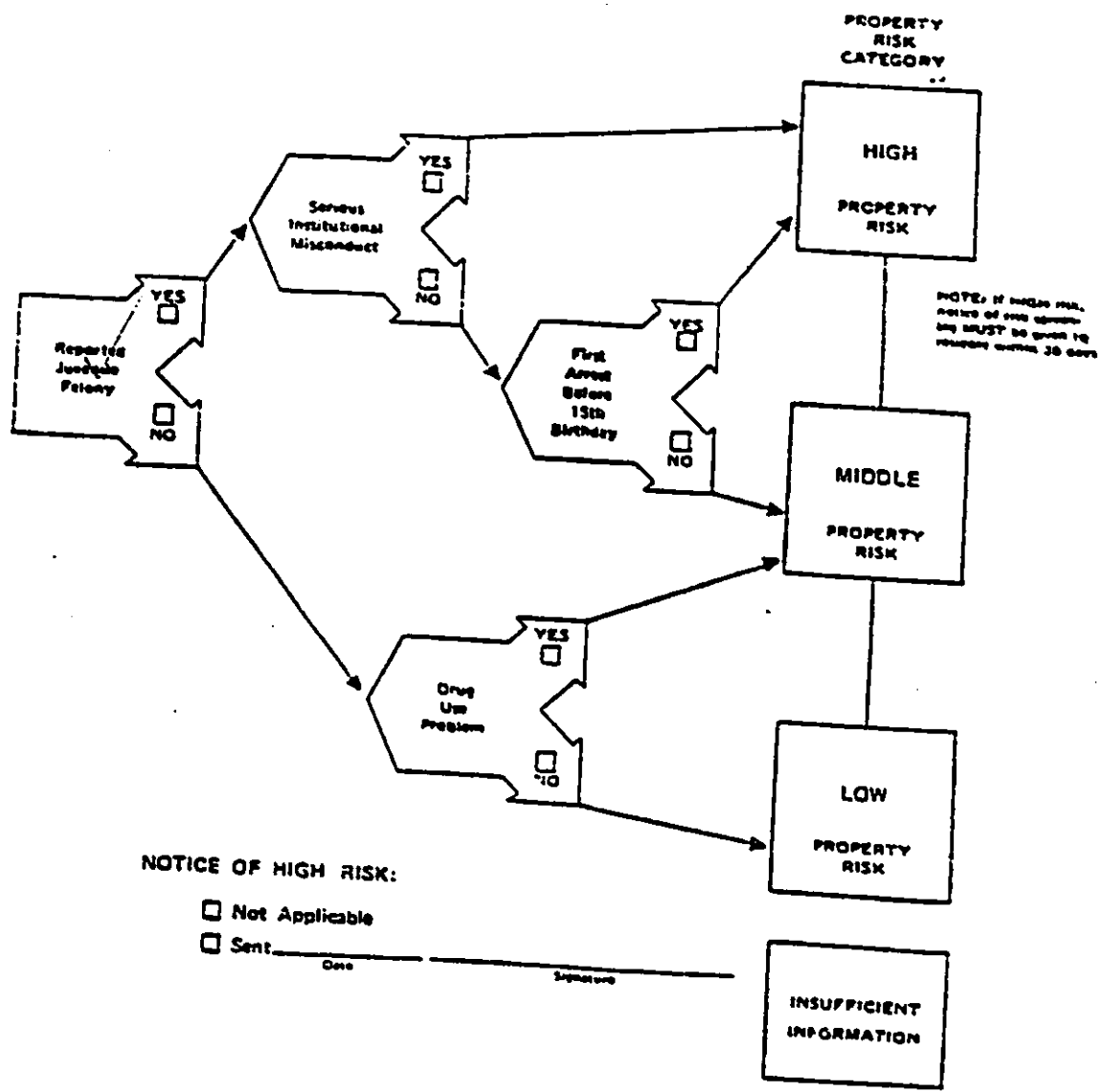
**THE MICHIGAN PROPERTY RISK SCREENING SCALE**

MICHIGAN DEPARTMENT OF CORRECTIONS  
PROPERTY RISK SCREENING SHEET

RESIDENT'S NAME \_\_\_\_\_ NUMBER \_\_\_\_\_

SCREENED BY \_\_\_\_\_ LOCATION \_\_\_\_\_ DATE \_\_\_\_\_

INSTRUCTIONS: Starting at left, check  "yes" or "no" at each item. This directs you to next item. When a risk category is reached at right, circle that category. If information is missing or conflicting, circle insufficient information box and refer to classification director. See definitions on reverse side.



Yes = 1  
No = 0