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Critical Evaluation of the Validity of the Risk/Need Assessment with Aboriginal Young Offenders in Northwestern Ontario

Sandy Jung, B.Sc. ©

Lakehead University

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Abstract

A probation risk and need assessment instrument, Ministry's Risk/Need Assessment Form, was implemented in the province of Ontario and has been recognized by the Ministry of Community and Social Services as part of their mandate for appropriate correctional treatment for Phase I young offenders. The assessment of risk is required because the criminal justice system has a responsibility to the community to ensure safety and the assessment of need is pertinent to increase the benefits of rehabilitation. This relatively new instrument has not been validated in regions other than where it was developed, southern Ontario, and no published studies are yet available. It was felt that evaluating the instrument's validity in northwestern Ontario was important because the region is over-represented by aboriginal young offenders and previous studies have shown risk instruments to be invalid in different jurisdictions. Thus, the validity of the instrument was assessed with 263 northwestern Ontario young offenders. Moreover, 62 non-delinquent youths were assessed with the risk instrument by the researcher. Three hundred and twelve youths were followed-up at six months to determine if they had offended subsequent to their initial assessment. It was found that the total risk/need score and all of the risk/need factors could discriminate between delinquents and non-delinquents and more importantly, between recidivists and non-recidivists. It was also shown that although Native delinquents had more negative peer influence, greater substance abuse and less involvement in recreational activities than non-Native delinquents, race was inconsequential with regards to the prediction of recidivism. For both male and female delinquent youths, the findings supported the instrument's utility to assess risk, thereby predicting recidivism. The conclusion that can be drawn from this research is that the Risk/Need Assessment Form is robust to

ethnicity, sex and criminal status. Research and practical implications of these findings are discussed.

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Risk and need assessment instruments have become increasingly popular in correctional field services, despite some debate as to their efficacy. The traditional risk/need assessment approach has been to have a probation officer evaluate the offender's potential for further criminal behavior by preparing a predisposition report. There is an increasing interest in the usefulness of risk and need classifications and in the validity of instruments which measure risk and need. This is evident in the growing literature on risk assessment. Recently, however, assessment of risk and need have been more focused on the young offender population. The main reason for this focus is that treatments and rehabilitative efforts have been demonstrated to be more effective for higher risk groups of offenders and detrimental to lower risk groups (Andrews, Bonta, & Hoge, 1990). Thus, effective classification can save the institutions time and money if the young offenders who require attention are the ones who receive it and those who do not require clinical attention are not tainted or contaminated by those who are at a higher risk and are not pressed into receiving unneeded counseling.

Correctional institutions utilize different measures depending both on the jurisdiction and on the region in which the instrument is being used. Some researchers give reason for this discrepancy by arguing that an assessment instrument may have differential validity in different jurisdictions (Ashford & LeCroy, 1988; Ashford & LeCroy, 1990). Explanations include the homogeneity of the validation samples used to develop the instruments, thus, not accounting for the over-representation of ethnic minorities, such as aboriginal offenders, who may be culturally different and have different risk and need areas than non-Native offenders.

Previous research has emphasized the importance of evaluating the validity of any risk screening instrument (Ashford & LeCroy, 1988; Wormith & Gladstone, 1984). Some have further argued that risk instruments should be validated every 2 years (Wormith & Goldstone, 1984) because the use of any sort of risk screening device places the institution in a position of accountability for the manner in which it uses its resources to deal with clients (Ashford & LeCroy, 1988). However, some instruments have, in the past, been implemented without validation (see Clements, 1986). Some have even been evaluated years or decades after implementation and then shown that they are invalid with regards to both construct validity, the instruments' usefulness in classifying risk, and predictive validity, the use of the instrument to predict recidivism. Recidivism has been a widely used measure of the validity, or more specifically the predictive criterion validity, of an instrument. In the literature, it has been operationally defined as inprogram misconduct or violations, outprogram parole violations, and reoffenses subsequent to release. This list is not exhaustive of the definitions used in the literature; however, it allows one to see the definitions of recidivism which range from liberal to conservative meanings.

The Ministry of Community and Social Services (MCSS) of Ontario has recently implemented the Risk/Need Assessment for Phase I young offenders who are offenders between the ages of 12 to 15 years. No studies have been conducted on the validity of the instrument with the aboriginal population. Moreover, issues related to the gender of the aboriginal population have also not been investigated. Concern over the use of the instrument with young offenders in the northwestern region of Ontario may be understandable. This region is over-represented by aboriginal young offenders. It is unclear whether or not the instrument is differentially valid with male and female aboriginal young offenders. Some

investigation is needed to explore the validity of the instrument with these subpopulations.

The present study evaluates the validity of the Risk/Need Assessment with male and female aboriginal young offenders. This investigation is purely exploratory, since no studies using earlier attempts of assessing risk in young offenders have examined these subpopulations and no studies have been conducted investigating the validity of the Risk/Need Assessment. This exploratory programme of research endeavors to assess the validity of the instrument when used with aboriginal young offenders and to evaluate the predictive validity, or the ability of the instrument to forecast outcome upon subsequent release of the offender.

For the purposes of the present study, the validity of an instrument is defined as a measure's "truthfulness" or the degree of the relationship between what the instrument actually measures and what it intends to measure. If the degree of the relationship is high regardless of race or gender, the instrument will measure the risk and needs levels adequately enough to say it measures what it is intended to measure. Thus, for extremely low risk cases, such as non-delinquents, a valid risk instrument should demonstrate that offending youths have reliably higher risk scores than non-delinquent high school students. On the other hand, the predictive validity of an instrument is defined as the relationship between the current measure and the predicted outcome. In the case of the current study, the outcome for both delinquent and non-delinquent youths is whether the youth offended following the risk/need assessment.

Perspectives on the Rehabilitation of Young Offenders

Prior to the development of the Risk/Need Assessment (also known as the Youth Level of Service Inventory), there was a continued controversy in the juvenile treatment literature over the course of 20 years. The question has been asked

"What works?" in offender rehabilitation and this has initially stemmed from Martinson's (1974) frequently-cited article entitled "What works? Questions and answers about prison reform." In this, he reports a summary of his review of the literature, condensed from a 1400 page manuscript. He points out that treatment studies use various measures of offender improvement which include, but is not limited to, recidivism rates (that is, rates at which offenders return to committing an offense), adjustment to prison life, educational achievement, and personality and attitude change. His literature review focused on recidivism as the major goal and concern of most juvenile intervention programs. He concluded that "with few and isolated exceptions, the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism" (p. 25) and that he was "bound to say that these data, involving over two hundred studies and hundreds of thousands of individuals as they do, are the best available and give us very little reason to hope that we have in fact found a sure way of reducing recidivism through rehabilitation" (p.49). He goes on to suggest researchers should look at the possible effectiveness of deterrence instead.

Although Martinson has since partially refuted some of his initial conclusions by adding that behavioral therapies have some potential in offender rehabilitation (Martinson, 1979), Whitehead and Lab have submitted some consensus to Martinson's earlier publication. In their literature review (Lab & Whitehead, 1988), the outcome measure utilized was recidivism and 55 research reports were investigated. From these 55 studies, 85 comparisons were available which included a comparison between a behavioral group and a control, or comparison, group. When only examining comparisons tested for statistical significance, only 15 comparisons were in favor of the experimental group, 28 showed no difference between the experimental and the control group, and five revealed the experimental

to be associated with a higher recidivism rate than controls. Some caution should be made in interpreting their results. The range of intervention techniques examined in the review was diverse: ranging from diversion through to probation and behavioral therapies to scared straight programs. In fact, out of 55 studies, only a handful were behavior modification approaches (six studies which included two skills training, one contracting, two token economies, and one unspecified behavioral method).

In addition to their literature review, Whitehead and Lab (1989) conducted a meta-analysis of treatment research. They contributed to the controversy an even stronger conclusion than Martinsons. They concluded "that behavior interventions fare no better than other types of treatment at reducing recidivism for their experimental clients as compared to control group subjects" (p. 286).

Several rebuttals have since been issued, but none more adamantly invalidating Martinson, Whitehead, and Lab's claims that "nothing works" than those by Hollin (1990; 1993) and Andrews and his colleagues (Andrews, Bonta et al., 1990; Andrews, Zinger et al., 1990; Gendreau & Andrews, 1990; Leschied, Jaffe, Andrews, & Gendreau, 1992). Hollin (1993) lists several barriers to the success of any treatment program which include the client's resistance to treatment, institutional resistance, and the integrity of the treatment. He refutes the "nothing works" conclusion and emphasizes that such a conclusion is invalidated by the numerous studies which have given support to the effectiveness of juvenile treatment (e.g., Mayer, Gensheimer, Davidson, & Gottschalk, 1986).

Andrews and his colleagues have construed the literature in a much different light. In Mark Lipsey's (cited in Leschied et al., 1992) comprehensive review, 64% of the 443 studies reviewed had differences in recidivism that favoured treatment over comparison conditions. Hence, Andrews and his colleagues reached the

conclusion that there exists some promise in reducing recidivism and this resides in the delivery of appropriate correctional rehabilitative services to young people at risk. Andrews puts forth two hypotheses: the criminal sanction hypothesis and the appropriate correctional treatment hypothesis (Leschied et al., 1992; Andrews, Zinger et al., 1990).

The Criminal Sanction Hypothesis asserts that criminal sanctioning (imposing a penalty), without the delivery of correctional treatment services, would only be minimally associated with a reduction of recidivism. Thus, "without the delivery of correctional treatment services," reoffending is at a maximal probability.

The Appropriate Correctional Treatment Hypothesis asserts that the delivery of correctional treatment services was hypothesized to be of value, in particular when those services were clinically appropriate. "Clinically appropriate treatment" is defined as treatment that adhered to the following conditions: (1) treatment services are delivered to higher (as opposed to lower) risk cases; (2) criminogenic needs are targeted (for example, procriminal attitudes rather than self-esteem); and (3) styles and modes of treatment are employed that are capable of influencing criminogenic need and are matched to the learning styles of offenders (for example, cognitive-behavioral and social-learning approaches rather than relationship-based and insight-oriented counseling). These conditions ensue from Andrew's four principles of treatment as described in the next section.

Principles of Treatment

Andrews, Zinger, Hoge, Bonta, Gendreau, and Cullen (1990) replicated Whitehead and Lab's (1989) meta-analysis because they felt their analysis failed to look at why some programs worked while others did not. In their analysis, Andrews et al. point out that what works is the delivery of appropriate correctional service which is reflected by four psychological principles of treatment:

1. The delivery of service to higher risk cases.
2. Treatment should target the client's needs.
3. The use of style and modes of treatment (e.g., behavioral or cognitive-behavioral techniques that were matched with client need and learning styles).
4. Professional discretion to ensure treatment encompasses the above.

Each of these will be described in turn.

The first principle, the Risk Principle, as Andrews (1989) has stated, is "so obvious that it hardly needs to stated, and so subtle that it needs to be developed very carefully" (p. 14). It refers to the selection of the level of service. The literature has suggested that the effects of treatment are greater among higher risk cases than lower risk cases (e.g., Andrews, Zinger, et al., 1990). Therefore, the principle pertains to the premise that risk assessments are to manage sentences in such a way that the low risk cases remain low risk and the higher risk cases move in the lower risk direction. Furthermore, higher levels of service should be set aside for the higher risk cases. The reasoning behind the risk principle is that low risk cases exposed to higher risk cases may become "contaminated" in the sense that they may be drawn to become high risk cases (e.g., Andrews et al., 1990).

The second principle, the Need Principle is associated with the selection of appropriate intermediate targets. It refers to the criminogenic needs which are a subset of risk factors. Dynamic risk factors, or criminogenic needs, when changed, are associated with subsequent variation in the chances of criminal conduct. In other words, if the need factors are targeted in treatment, the risk of future reoffending may be reduced.

The third principle, Responsivity Principle concerns two types of responsivity: the modes or styles of service suggested to be effective for servicing offenders and

the interaction between the service and the characteristics of offenders. An example with regards to the former is whether one needs to evaluate the differential effectiveness of treatment if given a behavioral learning mode, or a social learning approach. Attention to these different modes of service can be critical for the effectiveness of treatment. The interaction between the offender's characteristics and the mode of service may also be important responsivity factors. Thus, for example, the offender's age, gender, and culture should be matched with different rehabilitation programs and their joint effectiveness should be examined (Andrews et al., 1990).

The fourth principle of Professional Discretion makes sure that the decision being made best reflects ethical, humanitarian, legal and effectiveness considerations. Furthermore, the judgments of informed and sensitive practitioners over-ride areas where there may be limitations in the available information and this may include any follow-ups to provide new insights to cases.

The Risk/Need Assessment Form

The Risk/Need Assessment is based on these four principles of risk classification: risk, need, responsivity, and professional discretion. As Bonta and Motiuk (1985) have stated, "ideally a classification tool in corrections should assess both risk and needs" (p. 336) and previous research suggests that there is a need for broad-based classification systems.

Andrews (1989) has also stressed that we need to assess or re-assess risk factors that are dynamic because once offenders enter the correctional system, they are subject to events and experiences which may produce shifts in their chance of recidivating. The Level of Supervision Inventory (LSI; Bonta & Motiuk, 1985) and a few other risk assessment models incorporate dynamic variables, such as drug abuse and family situations, in their instrument. Similarly, the Risk/Need Assessment also

incorporates these changeable variables (i.e., family circumstances/parenting, substance abuse, leisure/recreation).

The Risk/Need Assessment instrument (Hoge, Andrews, & Leschied, 1994b) is a broad-based classification tool which is theoretically- and empirically-based for assessing the risk and criminogenic needs of young offenders. The normative data of the instrument is based on a sample of 320 Phase I young offenders and preliminary validity and reliability information for items and the subscores are based on a second sample of 711 Phase I young offenders. These young offenders were sampled from the probation offices in Toronto, Ontario.

The instrument was derived from a social-psychological approach. Some evidence exists supporting the social-psychological approach in criminal assessments (Andrews, Wormith, & Kiessling, 1985). The current approach is the product and the culmination of an extensive review of the literature on the classification and treatment of young offenders (see Andrews, Hoge, & Leschied, 1992) and reflects earlier attempts in the classification of young offenders. Thus, the Risk/Need Assessment encompasses a wide range of variables which have been implicated as predictive of reoffending and institutional misconduct.

The Risk/Need Assessment was originally named the Youth Level of Service Inventory (YLSI, or the Youth Level of Service/Case Management Inventory), after its predecessor, the Level of Supervision Inventory for adult offenders and initially, the YLSI included ten subscales: delinquent history, education, family finances, family dynamics, parenting, accommodation, leisure and recreation, companions, personality/skills and attitudes/orientation. Reports have shown the original version of the YLSI to have adequate inter-rater agreement and to be psychometrically sound (see Andrews et al., 1992; Andrews, Robinson, & Balla, 1986; Simourd, Hoge, Andrews, & Leschied, 1994) and to be related to probation and custody dispositions

(Hoge, Andrews, & Leschied, 1995), but no published studies have examined the recent version of the instrument.

The current approach, renamed the Ministry's Risk/Need Assessment, was implemented July 1994 in the province of Ontario. It comprises of eight risk and need factors. The scored items under each factor are totalled and are given an overall score which assigns a risk classification level to the offender. This intake instrument is a multi-dimensional approach which incorporates information from semi-structured interviews, probation files, custody files and reports from other agencies relevant to the case.

This newly developed classification device has several strengths. Firstly, resources used in collecting information include not only a semi-structured interview, but also probation files and custody records. This multi-modal assessment overcomes some of the difficulties with interview-only approaches, such as halo effects and social desirability (Andrews, Kiessling, Mickus, & Robinson, 1986). Secondly, most of the risk screening devices available for young offenders are designed for the older group of young offenders ages 17 to 18 years. The situations and events in the lives of the younger group of offenders are quite different from the older group. For example, 17 and 18 year olds would most probably have begun employment and relationships, and have probably moved away from home or have more independence of their parents than 12 to 15 year old offenders.

Another strength pertains to the administrative qualities of the instrument. The 2-point system allows for little error to be made by the probation officer and maintains objectivity when making decisions. Although it is a more objective tool, it also allows the probation officer to override the instrument's classification providing that the officer records his/her reasoning for the decision. An important characteristic of the Risk/Need Assessment is the inclusion of dynamic variables or

criminogenic factors. These "changeable" or dynamic items enable the officer to re-assess young offenders and their improvement over the course of rehabilitation or treatment. Thus, the instrument appears to have several advantages over its predecessors.

As mentioned earlier, the Risk/Need Assessment is based on empirical and theoretical evidence. The development of the instrument would not have been complete without the influence of earlier attempts at developing risk classification tools for young offenders. The previous literature has provided extensive groundwork for the researchers who have developed the current approach. The following does not do justice to the immense and comprehensive research in the area, but does allow some insight into the issues and the forerunners of Hoge, Andrews and Leschied's (1994b) work.

Classification Models

An abundance of literature is readily available on numerous earlier classification instruments. The Risk/Need Assessment reflects these earlier attempts made in risk and need classification. Thus, a review of some risk and need assessment measures is appropriate at this point to understand some of the underlying concerns this thesis is attempting to address. First, research on young offender risk instruments are discussed. Second, research on selective adult risk measures are examined.

The Risk/Need Assessment Form is intended for use with young offenders ages 12 to 15 years who are classified as Phase I youths in Ontario. Many other instruments also focus on a selective age group in the young offender population. One such instrument is called the Young Offender - Level of Service Inventory (YO-LSI; Shields, 1990; Shields, 1993a). Similar to the Risk/Need Assessment Form, the YO-LSI was developed in the past decade, but it is only being used in southeastern Ontario. Unlike the Risk/Need Assessment Form, the YO-LSI was

developed for young offenders between the ages of 16 to 18 years (called Phase II young offenders). It is based on self-report of the offender, such that the self-report takes precedence over and above the files or records of the offender. The manual provides exact wordings of questions asked in the interview.

The YO-LSI form includes 76 quantitative items based on 2-point format, similar to the Risk/Need Assessment, and are grouped into seven factors: criminal history, substance abuse, education/employment, family, peer relations, accommodations, and miscellaneous variables (e.g., attempted suicide, poor attitude towards sentence, has tattoos). The total score can be classified under 4 risk levels, ranging from low to very high.

The instrument has demonstrated good inter-rater reliability and construct validity (Shields & Simourd, 1991). More importantly, the literature suggests the YO-LSI predicts delinquency (Whitehall, 1992), recidivism (Shields, 1993b), and predatory behavior (Shields & Simourd, 1991). The researchers' intentions were to place emphasis on criminogenic need and remediation rather than on custody and security (Shields, 1993b). Thus, the higher one scores on the YO-LSI, the higher is one's risk or one's propensity to violate rules. However, a difficulty exists with the YO-LSI.

The difficulty lies in the self-report interview approach to risk and need assessing. Andrews, Kiessling, Mickus, et al., (1986) points out that without file review and records confirmation, halo effects, leniency, and personal proclivity errors may exist. Thus, using interview-based assessment presents some problems which can be overcome by reviewing the offender's file records, but without confirmation of information, such approaches should be used with caution.

Unlike the YO-LSI, the Risk/Need Assessment Form can be used as an interview schedule, as a form for coding file information, or as a questionnaire (Hoge,

Andrews, & Leschied, 1994a). The authors emphasize that an interview with the youth in adjunct to corroborative collateral information are pertinent elements in any good risk assessment.

Another important consideration in validating a risk instrument includes examining an instrument's validity in jurisdictions different from where the instrument was developed and normed. This particular point is exemplified in a study by Ashford and LeCroy (1990). Ashford and LeCroy (1990) examined three instruments that are used with juvenile delinquents in central U.S.A. states. These three instruments base their assessment on parolee files.

The first instrument, the Contra Costa Risk Assessment Instrument, has eight variables including age at first referral, number of prior referrals, number of prior placements of 30 days or more, drug abuse, parental control, school behavior, peer relationships, and alcohol abuse. This risk instrument's classification above chance was 28%. The correlation between recidivism and the instrument's variables were not significant. The second instrument, the Orange Risk Assessment Instrument, has ten variables which include prior arrest record, prior placements of 30 days or more, age at the time of assessment, drug/chemical abuse, alcohol abuse, parental control/influence, school discipline, learning/academic performance, runaway/escape behavior, and negative peer influence. Classification above chance was shown to be 28% and again, the correlation between the instrument and recidivism was not significant. The third instrument, the Arizona Juvenile Risk Assessment Form, which included nine variables (age, prior referrals, prior parole violations, runaway behavior, offense type, school, peer associations, alcohol or drug abuse and family dynamics) was shown to have a classification above chance of 59%. With the Arizona system, the correlation between instrument and recidivism is much higher than the Contra Costa and Orange County assessment instruments. Although the

Arizona system appears to be the best model of the three examined to predict recidivism, the variance explained in the sample only accounts for a little over 10% and it is not suffice to say that it is the best instrument to discriminate between recidivists and nonrecidivists. However, as the researchers have stated, there is promise in using risk-prediction instruments with juveniles and this issue warrants further scrutiny if the instruments are used widely in various jurisdictions.

Another risk instrument evaluated by Ashford and LeCroy (1988) includes the Wisconsin Juvenile Probation and Aftercare Risk Instrument. The instrument is widely used in certain U.S. jurisdictions and comprises of eight variables in determining risk: age at first referral, number of prior referrals, number of prior placement of 30 days or more, drug abuse, parental control, school, peer relationships, and alcohol abuse. Ashford and LeCroy found that the total score used to classify juvenile delinquents was not able to discriminate between recidivists and nonrecidivists; in fact, the false positives were very high (i.e., 52% of nonrecividists were incorrectly classified as recidivists). A similar issue to the previous three instruments arose with this Wisconsin model and also its predecessor which is used with adult offenders (Wright, Clear, & Dickson, 1984) such that the instrument was not valid when used in different jurisdictions.

In addition to the risk assessments used primarily by probation workers, it is important to note that there exists several clinical assessment scales for use with young offenders (e.g., Jesness Inventory Classification System; Jesness, 1988; MMPI-crim; Megargee & Bohn, 1979; Motiuk, Bonta, & Andrews, 1986; Basic Personality Inventory; Austin, Leschied, Jaffe, & Sas, 1986; Psychopathy Checklist; Forth, Hart & Hare, 1990; Hare, 1991). Although clinical assessment scales are not risk assessment instruments, per se, they have a similar function to those of risk

assessments in directing and guiding correctional or mental health workers in planning and managing the treatment services required.

The classification models discussed have been validated on and designed for juvenile delinquents. Many of the instruments have been validated primarily on white young offenders and samples which are grossly over-represented by male youths. Although studies have suggested that some of these instruments possess construct or predictive validity, these approaches either have not investigated their validity with aboriginal and female young offenders, or have suggested they are not valid with these offenders. Thus, it remains unclear whether the instruments are differentially valid with use in male and female aboriginal populations.

Other Issues in Classification Approaches

Although it is unclear in young offender research whether the available risk instruments are valid with non-white and female offenders, some adult offender studies have explored these issues to some extent.

Nuffield's Statistical Information on Recidivism (SIR; Nuffield, 1989), previously called the Recidivism Prediction Scheme (RPS; Nuffield, 1982), is a statistical approach in predicting general recidivism. It contains 15 factors and uses a summation technique which makes the instrument simple and easy to administer. Its predictive power, or ability to separate offenders into groups with either "very high" or "very low" recidivism rates, enhances its usefulness with adult offenders.

The objective of the research which resulted in the SIR scale was to discover if certain factors were systematically associated with the outcome of adult parole decisions. Although the scale has shown to be a very effective classification system and has a very high inter-rater agreement of 0.97 (Nuffield, 1982), some difficulties exist with the system. The SIR scale has been shown to offer poor prognostic scores with Native offenders, but further revealed that higher scores were

associated with higher chances of recidivism in both non-Native and Native groups (Research and Statistics Branch, 1989; Wormith & Goldstone, 1984). Little conclusion can be made with regards to its use with aboriginal offenders. Moreover, the SIR scale has been applied to adult female offenders and has been indicated to be invalid with female offenders, since the relationship between the SIR scores and post-release recidivism for offenders is considerably weaker in the female sample (Research and Statistics Branch, 1989). An important element the instrument does not hold is a sensitivity to dynamic variables which has been argued to be important in any risk screening device (Andrews, 1989; Wormith & Gladstone, 1984). However, further studies are aimed at including dynamic variables (Research and Statistics Branch, 1989).

Although statistical measures, such as the SIR scale, are generally not used in Canada (Wormith & Gladstone, 1984), the U.S. Board of Parole uses the Salient Factor Score (SFS-81; Hoffman, 1983). The SFS-81 is a risk prediction scale which includes six items: prior convictions/adjudications (adult or juvenile), prior commitments of more than thirty days (adult or juvenile), age at current offense/prior commitments, recent commitment free period (three years), probation/parole/confinement/escape status violator this time, and history of heroin/opiate dependence. The scale has been shown to have excellent construct validity and inter-rater reliability and the simplicity of the system can be used with ease by nonresearchers, such as correctional workers (Hoffman, 1983). The predictive validity of the instrument used for parole prognosis has been examined up to a five year follow-up after release and has shown to retain its predictive power (Hoffman & Beck, 1985). The SFS-81 was validated using federal inmates who were predominantly male; thus, the SFS-81 applicability to female offenders is questionable. A study by Hoffman (1982) suggests that the SFS-81 is modestly

valid when used in a female offender population; however, the results should be interpreted with caution when one considers the small sample size used in the analysis. No investigation of its validity with aboriginals have been conducted.

The last classification model for adults to be discussed is the Level of Supervision Inventory (LSI; Bonta & Motiuk, 1985). The LSI is the predecessor to both the YLSI and the YO-LSI. It is a 58 item standardized interview schedule used as the standard classification instrument for Ontario's adult offender population. It comprises of the following 11 categories: criminal history, financial, accommodation, companions, alcohol/drug problems, emotional/personal, education/employment, family/marital, leisure/recreation, probation/parole conditions, and attitudes/orientation. The researchers emphasize that the "officer makes the decision" (Motiuk, Motiuk, & Bonta, 1992; p. 1), that is, the final decision rest with the probation or parole officer. The LSI is intended only as an aide to professional decision-making in correctional institutions and halfway houses.

The research on the LSI is extensive and covers almost every domain of evaluative research on risk assessment instruments. Some studies have shown that the LSI possesses some "meaning" in the traditional psychometric sense of construct validity and predictive criterion validity (Andrews, Kiessling, Mickus, et al., 1986) and demonstrates temporal and inter-rater reliability (Bonta & Motiuk, 1985).

Most studies conducted early in the development of the LSI focused on offenders diverted to halfway houses. Bonta and Motiuk's (1985) findings suggested that the LSI is predictive of outcome in the halfway houses and recidivism at a one year follow-up. Motiuk et al. (1986) further extended their earlier findings by illustrating that the LSI total score and classification levels were capable of predicting halfway house success, prison misconduct, and reincarceration. Their attempt at diversion of offenders to halfway houses using the LSI score was only

partially successful, such that not all identified inmates were diverted to halfway houses (although the LSI did divert more potential halfway house candidates than without using the LSI).

Studies also provide some evidence of the LSI's predictive validity with incarcerated adult and young adult offenders. Security levels assigned to inmates failed to demonstrate a relationship to recidivism, whereas the LSI scores were predictive of prison infractions (including assaultive misconduct) and recidivism (Bonta & Motiuk, 1992). These findings on the predictive validity of the LSI was further confirmed using the LSI scores of young adult probationers (Andrews, Kiessling, Mickus, & Robinson, 1986) to predict outcome and a modified paper-and-pencil version of the LSI (Self-Report Inventory, or SRI; Motiuk et al., 1992) to predict parole violation and reincarceration.

These studies described provide valid replication of the findings of Andrews (1982) in which he found that the LSI was suggested to possess internal consistency, temporal stability, and prediction of severity of disposition, of inprogram recidivism and of outprogram recidivism. One must keep in mind though, that the LSI is a probabilistic tool which merely tells the user that the offender has a high or low probability of reoffending and one must consider the professional discretion of the staff worker as part of the efficacy of the system the LSI is to function in. Aside from these qualifiers, the LSI by far is the most comprehensive tool for assessing risk and needs in the adult offender population.

The LSI score has demonstrated to be predictive of misconduct, parole violation and reincarceration with Native offenders, but the individual subcomponents were diffuse in their predictive validity (Bonta, 1989). Financial difficulties and accommodation needs predicted parole violation and further incarceration for non-Natives, but not Natives, and alcohol and drug abuse problems predicted parole

outcome for Natives only. Although more Natives were seen as higher risk than whites on the SIR scale, Natives neither received higher risk scores nor showed higher rates of prison misconduct or reincarceration than non-Natives on the LSI. Another interesting finding of Bonta's (1989) study was that alcohol offenses were not present in any of the offenses by Natives, contrary to previous studies (Birkenmayer & Jolly, 1981; Irvine, 1978; Verdun-Jones & Muirhead, 1979/80; Zitzow, 1990).

In conclusion, the minimal number of studies conducted with adult aboriginal offenders provides some disconcerting data. Due to the small number of studies and inadequate sample sizes used, it is too premature to make any comments or conclusions at this time regarding the validity of adult risk classification instruments with the aboriginal population of offenders, although the LSI is promising. In order to provide some insight into assessing the risk of aboriginal offenders, we need to look at the aboriginal population and its cultural differences and how this subgroup of offenders differ from other offenders in correctional institutions. A modest amount of literature examining the characteristics of aboriginal adolescents and the aboriginal population is available. Here, we will explore some of those characteristics which have been suggested to play a role in risk classification of aboriginals.

Ethnicity and Gender Issues

The literature on the aboriginal offender population is sparse and inconsistent, and most of the research has focused on the adult Native offender. Thus, this review represents a modest attempt to summarize this data and provides mainly information on the adult offender. Moreover, the reader should note that this review reflects the limitation that the author is not aboriginal and therefore, cannot accurately reflect the experience of the diverse Native groups.

In 1978, Irvine wrote a report on the Native inmate in Ontario and stated that "the incarcerated Native, because of cultural distinctions, poses unique problems for correctional jurisdictions" (p. 1). The Native inmate has also said to be "at a disadvantage because of his relative lack of power and influence, negative stereotypes with which he is associated, and because of his increased visibility" (Hall & Simkus, 1975, p. 203).

Early studies on aboriginal offenders focused on differential treatment of aboriginal offenders as opposed to white offenders in the correctional system. Many concentrated on discrepancies in sentencing (Hall & Simkus, 1975), in decisions to release on parole (Bynum, 1981) and in arrest rates (Reasons, 1972). Aboriginals have a higher chance of being incarcerated than getting a deferred sentence (Hall & Simkus, 1975), but does this mean they are more likely to be seen as high risk? This predicament leads the system into making the Native offender a poor risk for the judicial system. Bynum (1981) further asserts the crucial question: "Do Indians, in fact, have a higher recidivism rate and the parole board follows a policy of predictive restraint?" (p. 84). Indicated by Bienvenue and Latif's (1974) study, the recidivism rate of aboriginal offenders is comparable to non-aboriginals. On the other hand, Irvine (1978) found that 93% of adult Native inmates surveyed in Ontario were recidivists and 69% reported having been on probation at least once in the past (data is not available on a control group). Three years later, Birkenmayer and Jolly (1981) also found high recidivism rates in their sample in Ontario such that 63% recidivated after the study period and 84% reported they had received convictions prior to the present experience.

Few have looked at the aboriginal adolescent population and their characteristics. Zitzow's (1990) study on Ojibway adolescents had some interesting findings. Based on adolescents ages 12 to 18 years, he evaluated the quality and

quantity of family time Ojibway adolescents spent with their parents or elders. Forty-nine percent reported "feeling like running away" and 34% reported "feeling like hurting myself most or some of the time". Of the Ojibway adolescents included in the study, 29% of them indicated being arrested by law enforcement personnel. The study also suggested three indicators of court adjudication and delinquency experiences: substance abuse, negative well-being (e.g., lack of inner strength or values), and family dysfunction.

Birkenmayer and Jolly (1981) indicated that a large proportion of their Native sample were convicted at a very early age. Of the males in their sample, 37.4% were first convicted when they were 15 years or younger and 46.7% were convicted when they were between the ages of 16 to 18 years. Thus, the study suggests that 4 out of 5 aboriginal offenders begin their criminal careers during their adolescent and teen years.

The issues pertinent to the aboriginal offender are quite complex and unique. Dr. Clare Brant, a Native psychiatrist, discusses in his article entitled "Native Ethics and Rules of Behaviour" (1990) the possible misinterpretation of Native children's behaviour as resistant, passive-aggressive, oppositional, depressed, or displaying withdrawal. He outlines several important factors promoting harmony. These are only a few of many "ethics" or principles of behaviour embedded in Native culture as societal norms and they continue to influence Native life today.

The most important principle is referred to as the principle of non interference (Brant, 1990). This ethic promotes positive interpersonal relations by discouraging coercion of any kind, be it physical, verbal, or psychological. Such a high degree of respect for every human being's independence leads the Native to view instructing, coercing or attempting to persuade another person, as bad form. However, it may extend to adult relationships with children and manifest itself as permissiveness. For

example, a Native child may be allowed at the age of six to make the decision on whether or not he goes to school even though he is required to do so by law. Native parents will be reluctant to force the child into doing anything he does not choose to do.

Another influential principle of behavior includes non competitiveness. This practice suppresses conflict by averting intragroup rivalry and prevents any embarrassment that a less able member of the group might feel in an interpersonal situation. Non competitiveness in children could be misinterpreted as a lack of initiative or ambition. Similarly, the ethic of emotional restraint, or self-control of the expression of strong or violent feelings, could be misinterpreted as disinterest or blunted affect.

The Native attitude towards gratitude and approval differs from their white counterparts. Such expression is very rarely shown or even verbalized; hence, Native people have a great deal of difficulty accepting praise, reward, and reinforcement.

With respect to the first principle (e.g., non interference), Native tribes use modeling almost exclusively, as opposed to "shaping" (e.g., rewarding learners for successive approximations of the target behavior) which White people primarily use (Brant, 1990).

Although this list of Native ethics is "far from complete and would have to be expanded to promote the further demystification of Native behaviour" (Brant, 1990, p. 538), it does provide an initial understanding of both the ethics underlying behavior and the potential of possible misinterpretation from the correctional workers' points of view.

Many factors have been identified in the literature as contributing factors to delinquency and recidivism in Native offenders. Although most studies concentrate

on the Native adult, the findings allow some insight into the risk factors possibly characterizing Native young offenders.

The literature supports that a high degree of alcohol and substance abuse may be a significant risk factor. Zitzow (1990) suggested that substance abuse may be predictive of delinquency. In his sample of adolescents, 85% reported using alcohol and 53% reported smoking marijuana. Verdun-Jones and Muirhead (1979/80) emphasized in their review that a substantially greater percent of Indian and Metis offenders had drinking problems as compared to white offenders. Irvine (1979) found that alcohol related offenses were one of the most common offenses in the aboriginal sample. Although only 21% of all liquor convictions against males were registered against Natives in Birkenmayer and Jolly's (1981) sample, 84% reported they were consuming alcohol just prior to their offense and 94% of persons with previous convictions reported that alcohol contributed to their first difficulty with the law.

Another important issue in discussing aboriginal offenders would be to approach socio-economic concerns. Some see socio-economic levels as the source of the aboriginal population's problems (e.g., Verdun-Jones & Muirhead, 1979/80). High unemployment and high welfare dependency are strong characteristics of aboriginal offenders. Irvine (1978) found that 47% of unemployed Natives were on public assistance and 63% of inmates' dependent families were on welfare. Similarly, Birkenmayer and Jolly (1981) found almost half of inmates with dependent families were receiving public assistance. Another strong indicator of this view of the aboriginal population's economic plight refers back to their most common offense. In many studies, property-related offenses were shown to be the most common offense committed by aboriginals (e.g., Irvine, 1978; Bonta, Lipinski, & Martin, 1992).

A large proportion of Native inmates live on reservations. Irvine (1978) indicated that incarcerated aboriginals were an average 185.6 miles from home and that they receive little support after incarceration such that 65% did not receive visits from family. Forty-eight percent of Birkenmayer and Jolly's sample said that the distance contributed to the lack of family visits. Not only are aboriginal offenders placed in foreign and distant institutions, but they are alone where they receive little, if any, visits from family or friends. In keeping with this, 46% of aboriginal offenders indicated that they would like to see more programs for Natives in their institution. The lack of Native in-house programs and thus, the insensitivity of the institution to aboriginal needs could be detrimental to their rehabilitation and their post-release outcome. Native inmates tended not to participate to any meaningful extent in general rehabilitation programs within penitentiaries, but participation rate was higher for Native-specific programs (e.g., Native Brotherhoods and Sisterhoods, Sacred Circle) (Solicitor General Canada [SGC], 1988).

Aboriginal offenders in most cases are characterized by high percentage of property related offenses, high welfare dependency, high unemployment, living on reserves, and seldom receiving visits once incarcerated. From this it appears, they are at a relatively greater disadvantage than their non-aboriginal counterparts. However, what factors are involved in aboriginals who recidivate as opposed to those who don't? Bonta, et al. (1992) conducted a study looking at variables which differentiated between aboriginal recidivists and aboriginal non-recidivists. They found that five of 30 variables showed significant predictive validity. These included offense type-break and enter, prior convictions, prior incarcerations, age at first conviction and sentence length (where the lower the length, the higher risk of recidivating). Although the findings were consistent with earlier findings, it is uncertain as to why these results emerged.

A number of strong indicators of re-offending or delinquency-proneness are apparent in the literature. Many researchers stress that there is a need for future studies on factors contributing to the high degree of recidivism among aboriginal offenders. Nielsen (1990) indicated that Natives have a low rate of participating in general rehabilitative programs and thus, do not assist the institution to accomplish its main purpose, that of rehabilitation. Because of the scarcity of the research on young aboriginal offenders, some awareness of the cultural differences between aboriginal and non-aboriginal offender populations should be made and thus, aid in developing rehabilitative programs designed for aboriginals.

An interesting finding in the literature suggests that female aboriginal offenders are also over-represented in institutions. In a 1974 study by Bienvenue and Latif in Manitoba, 78% of female offenses were committed by Natives and 41% of male offenses were committed by Natives. Although the incidence of Native male offenders are relatively high, there is a strong over-representation of female Natives and it is of a greater magnitude. This is supported by other research (Hall & Simkus, 1975; Verdun-Jones & Muirhead, 1979/80). When one examines recidivating offenders, 28.2% of males were Native, but 69.6% of females were Native (Bienvenue & Latif, 1974). Only one study has shown conflicting evidence. Less than 14% of Belcourt and his colleagues' (1993) sample of women inmates were Native. Moreover, 44% of those Native female offenders recidivated as opposed to 19% of non-Native female offenders who recidivated. Because of the evident over-representation of female Native offenders in a majority of the studies, some interesting issues do arise. This brings the discussion to an examination of gender-related concerns in risk classification.

Landau wrote in her 1973 article that there was "no ongoing, accessible data collection system for obtaining information about delinquents in Ontario" and

furthers that "what does exist is incomplete and rarely allows for a comparison of sex differences" (p. 57). Over twenty years later, the literature still has yet to address the gender differences in the offender population. Almost all risk assessments developed for incarcerated offenders were based on a substantially larger proportion of male offenders than females. Few studies have examined the differences between female and male offenders in the prison population. The literature that exists suggests there are some differences between the risk and need of females and of males and that these needs should be addressed any time an assessment instrument is applied to a female offender population, including female young offenders.

Research indicates over 75% of all girls identified as juvenile delinquents have been sexually abused and that crimes of female delinquents are becoming more serious (see review by Calhoun, Jurgens, & Chen, 1993). In fact, recidivism rates of female offenders are quite comparable to male inmates. In one report, 43% of women were convicted of new offenses (Canfield, 1989). However, the data is inconsistent and conflicting. In another report, only 22% of women sampled recidivated (Belcourt et al., 1993).

Canfield (1989) conducted a study exploring the risk factors which are predictive of recidivism for female offenders. She found that some of the factors included criminal history variables, age at first adult conviction, and employment after release. These factors were very similar to predictive factors for males. Belcourt et al. (1993) also found that the younger the offender, the more likely she would be readmitted than older ones. The literature suggests that some of the factors used in parole and probation decisions for men may also apply to female inmates. Then why is the recidivism rate much higher for female aboriginal offenders than male aboriginal offenders and female non-aboriginal offenders?

Some studies have provided some interesting findings related to this question. Birkenmayer and Jolly (1981) found that the age of first conviction for female aboriginals is quite different from male aboriginals. For females, the onset of anti-social behaviors is later than males. Although the percent of females first convicted between the ages of 16 to 18 years is comparable to the males, only 5% were convicted at 15 years and younger (compared to 37.4% for males). Furthermore, they also found that a substantially larger percentage of females were unemployed. Seventy four percent of females were unemployed in the sample compared to 26% of male aboriginals.

Consistent with the findings with their male counterparts, female aboriginal offenders were found to commit more theft-related crimes than any other offense. However, when compared to their non-aboriginal counterparts, aboriginal females committed a larger percentage of serious offenses and community order offenses (Birkenmayer & Jolly, 1981). Again, the literature has yet to examine the underlying reasons for this pattern.

The literature on female aboriginal offenders and assessment of risk and need is incomplete and does not allow any firm conclusions to be issued. However, this does not imply that the female offender population is not different from their male counterparts. Clearly, some differences exist. However, the issue of differential validity of risks and needs instruments remains ambiguous and inconsistent without the warrant of any consolidating literature. As indicated by a major NIC report on prison classification (cited by Clements, 1986), the National Institute of Corrections specifies that classification and needs assessment systems for women cannot be simply mirror images of those systems which were designed and developed for male offenders and that the issue should be further investigated before arriving at any conclusion.

Too often studies in assessment of risk have simply surveyed criminal history and some basic social indicators such as age and one's legal Native status (as defined in the *Indian Act*). When information is collected about need factors of aboriginal offenders, very few areas are sampled and they typically focus on alcohol use. Rarely are these identified needs empirically linked to recidivism. The Solicitor General Canada (1975) held a conference proposing training standards be upgraded for correctional officers and these upgraded standards should be made for sensitizing staff to the needs and aspirations of Native inmates. This includes the sensitivity of approaches and instruments used to assess aboriginal offenders within the penal institution. But without the research to support or contradict the validity of any assessment device, correctional workers, mental health practitioners and researchers are unable to provide services utilizing a device, such as the Risk/Need Assessment, with confidence and assurance that their methods are conducive to effective classification and rehabilitation. The present investigation on the validity of the Risk/Need Assessment approach focuses on these concerns with aboriginal and female young offenders.

The next section addresses other relevant issues. There exists an over-representation of aboriginal young offenders in the northwestern region of the province of Ontario. As indicated earlier, the normative data and validation analyses of the Risk/Need Assessment was based on samples obtained from the probation offices in the southern region of Ontario. However, there exists some substantial differences between the northwestern and southern regions of the province. The following section will elaborate on these differences.

Northwestern Ontario

Canada is made up of a large population of very different people. Not only are the differences multicultural, but there are also differences in sex and differences in

age groups as well. Two and a half percent of Canada's population in 1991 comprised of aboriginal peoples (Bonta et al., 1992). When one looks at the inmate population, the aboriginal peoples are evidently over-represented. Twelve percent of all admissions to federal prisons in 1991 were aboriginal and 19% of all offenders sentenced to provincial custody were aboriginal (Bonta et al., 1992). Of the federal inmate population, they make up about ten percent of the male inmate population and 13 percent of the female federal inmate population (Nielsen, 1990). These figures are rising; from 1984 to 1989, the number of Caucasian offenders in federal institutions in Canada has risen by a little over six percent, whereas Native offenders have increased by almost 30% (Correctional Service Canada, 1989). The next question which arises is where are Native offenders most concentrated.

The percent of aboriginal peoples in the province of Ontario was reported in 1977 to be 2%. In other parts of the country, some provinces have reported to have a representation of aboriginal peoples of 12.7% (Saskatchewan; McNamara, 1993). Although Ontario's percentage may not be as high as the other provinces in Canada, Ontario does have the largest Native population in terms of numbers, 162,385 Indian and Metis residents (Birkenmayer & Jolly, 1981; Schmeiser, 1974). Irvine (1978) reported that Natives were responsible for 7.84% of all of the offenses committed in Ontario during 1977 reported by the police and a report issued by the Solicitor General Canada (1988) points out that 4% of all Ontario's inmate population are Native.

The aboriginal offender population is not only over-represented in Canada and in Ontario, but it is grossly exaggerated in the northwestern region of Ontario. The northwestern region of Ontario comprises of the area east of the Manitoba border to White River. In a report by Birkenmayer and Jolly (1981) entitled "The Native Inmate in Ontario", 45% of their sample of Native offenders in Ontario were from

the northwestern region of Ontario. This number is not far off from Irvine's (1978) finding of 62% in his sample. Thus, northwestern Ontario is a special region within the province in which aboriginal adult offenders make up a substantially larger percent of the population than the central, southern and southeastern parts of the province.

One cannot ignore this substantial difference between this region and the other parts of the province, let alone the country. Northwestern Ontario's uniqueness does not only apply to the adult offender population, but it further extends to include the young offender population as well.

There are some more recent statistics on the aboriginal young offender population in northwestern Ontario (MCSS, personal communication, December 20, 1994). During the period from April 1994 to November 1994, Natives comprise of 50% of the offenses committed by young offenders. If Metis are included in this data, the number reaches 51% of the offenses committed by young offenders. These numbers vividly illustrate the over-representation of aboriginals in the north west area and provide strong reasons for studying the validity of the Risk/Need Assessment with aboriginal offenders.

Previous research has provided some statistical data on the female young offender population in Ontario. A report by John C. Renner (1978) developed a descriptive profile of the average juvenile probationer and obtained a representative sample of Ontario's probationers. Of his sample of 1,189 juvenile probationers, 83.5% were male and only 16.5% were female. This number is similar to Magid and Goodstadt's (1983) report (82% male and 18% female young offenders) and a more recent report in which the sample of young offenders adjudicated to the youth courts in Canada was found to have 83% males and 17% females (Hendrick & Lachance, 1991).

Given the statistical view of the representation of male and female aboriginals in the northwestern region, there is reason to explore the validity of the Risk/Need Assessment with these populations. We cannot assume the validity of an instrument based on young offenders from the southern parts of Ontario would be mirrored in efficacy by young offenders, almost 50% represented by aboriginals, in northwestern Ontario.

Validity of the Risk/Need Assessment with Aboriginals

The Risk/Need Assessment has many strengths, as mentioned in an earlier section; however, there exists some outstanding considerations. These pertain to the usage of the instrument with the Native young offender population; more specifically, the applicability of each of the eight risk factors to assess Native youths.

As discussed in the section on the characteristics of aboriginal offenders, many of the aboriginal young offenders live far away from their home and are monitored less by probation officers due to the fewer visits made by both the officer and the offender. Thus, the offender may be assessed as having little failure to comply to their probationary guidelines and as a result, their risk level is under-estimated with respect to this item on the Risk/Need Assessment.

Another one of the risk factors, Family Circumstances/Parenting, may be overestimated with Native youths, depending on the level of awareness of the aboriginal culture the probation officer may have. As per Brant's (1990) ethic of non interference, parenting may be misinterpreted as permissiveness or neglect. Moreover, the behaviours parallel to Native attitude towards approval may be seen by probation officers as inappropriate parenting if there is a lack of praise and punishment in discipline.

Because some researchers have indicated that a large proportion of aboriginal adolescents live on reserves, aboriginal offenders may have a highly increased chance of having delinquent peers, since they come from smaller communities. Furthermore, the literature indicates a high abuse of substances, such as marijuana, alcohol, and sniffing gas fumes (e.g., Irvine, 1978; Verdun-Jones, 1979/80; Zitzow, 1990). These concerns may also contribute to a possible overestimation of the risk level of Natives.

Another example of the differences in societal views and the views of Native communities include the standards in considering activities as leisure or recreational. What Natives consider a "good" use of time may differ substantially from what a non-Native classifies as recreational. Again, this may exaggerate or underestimate the risk level.

Some items on the Risk/Need Assessment allude to help-seeking in part by the aboriginal young offender. As indicated by the literature, seldom do aboriginals seek help and in many cases, they actively reject it (e.g., Nielsen, 1990). Although it is uncertain as to why this is, it has been a consistent finding in the literature with respect to institutional treatment; however, where available, participation is much higher with Native-specific programs. Hence, considering that some young offender institutions may have little access to Native-specific programs, an overestimation of risk on this factor may subsist.

Hence, some consideration over the use or the validity of the instrument relate greatly to the higher chance of over-estimating the risk level the youth should be assigned. This may incorrectly attribute them to poor prognosis and thus, be given more intensive care and supervision. If this is the case, then lower risk offenders will be "contaminated" by the higher risk offenders (Risk Principle; Andrews, 1989; Andrews et al., 1990).

A further consideration supporting the issues above includes the design and development of the Risk/Need Assessment. The normative data and validation sample in developing the system was based on a sample of young offenders obtained in the southern region of Ontario. Compared to all other regions in Ontario, northwestern Ontario is made up of substantially more aboriginal offenders, almost 50% of incarcerated young offenders are aboriginal. Furthermore, there are substantially more females in the aboriginal population of young offenders than in non-aboriginal populations. The current instrument used a greater proportion of males in the normative sample than females. Therefore, it is important to be cautious as to its use with females, as well as aboriginals.

The Risk/Need Assessment was recently implemented in Ontario and no published evaluation of the instrument is yet available. In the U.S., the National Institute of Corrections (cited by Wright et al., 1984) stipulates that adopted risk screening instruments be validated during the early months of their use. Wright et al. (1984) goes on to say that few agencies take this precautionary step and instead adopt the model of risk assessment without any sort of statistical analysis. The danger, of course, is the potential that the instrument does not discriminate cases as the institution would expect them to; therefore, probation and parole agencies should not place their confidence in any instrument without proper validation (Wright et al., 1984). Investigating validity should not only evaluate the application of the instrument to discriminate between low and high risk cases within the young offender population, but also between young offenders and their non-offending low risk counterparts.

As discussed, there are some concerns regarding previous instruments used in offender populations. Thus, the concerns presented regarding the validity of the Risk/Need Assessment may be plausible given the issues warranted by previous

studies on aboriginal offenders. These concerns are perhaps more relevant given the uniqueness of the northwestern region of Ontario and its over-representation of aboriginal young offenders.

The Present Study

The present research explored the use of the Risk/Need Assessment with young offenders in northwestern Ontario. The study was primarily exploratory, since there have been no other studies conducted on assessing the validity of the instrument. There were three objectives in this programme of research.

The first objective was to examine if young offenders have reliably higher risk scores on the instrument than non-delinquent youths. It was hypothesized the instrument's overall total score and its eight factors would discriminate between offending and non-offending youths.

The second objective was to investigate the differences in scores between aboriginal youths and non-aboriginal youths and between male and female youths. This objective was felt necessary because the instrument was validated on a significantly larger proportion of white male offenders and the issues regarding ethnicity and sex outlined in the previous sections were important to address in risk assessment research. It was hypothesized that the instrument's scores and sub-totals (or factor scores) would be affected by ethnicity and by the sex of the youth and thus, discriminate between each group.

The third objective was to evaluate the predictive validity of the instrument, that is, whether the assessment tool predicts recidivism, or subsequent re-incarceration after release, based on the total score on the Risk/Need Assessment. Again, it was felt that based on the total risk/need score, one could differentiate between recidivists and non-recidivists and predict future offending behaviour equally well for delinquents and non-delinquents. However, it was also predicted that based on the

total risk/need score one could not predict recidivism for Native delinquents but could predict recidivism for non-Native delinquents. Similarly, it was also predicted that one could not predict recidivism for females but could for males based on the total score. Thus, the instrument would not be robust to ethnicity and sex.

The programme of research consisted of two parts. The first two objectives were explored in the first part of the study by examining the assessments of a large sample of young offenders and a group of non-offending youths. In the second part of the study, the third objective was examined by conducting a six month follow-up on both the young offender sample and non-offending sample. The present study will use a more conservative measure defining recidivism as any conviction for an offense committed up to six months subsequent to release or assessment. For the non-delinquent youths, the risk predictor variable will measure as any conviction for an offense committed up to six months subsequent to initial assessment.

Because the programme of research is exploratory, an uncertainty exists as to the results of the investigation. However, both studies are intended to provide some preliminary data regarding the risk and need characteristics of male and female aboriginal young offenders, regarding the instrument's ability to discriminate between offending and non-offending youths, and regarding the predictive validity of the instrument with respect to ethnicity and gender.

Method

Part 1

Subjects

Delinquent youths. Data was collected on a total of 263 young offenders who made up the delinquent sample. The average age was 14.3 years (SD = 1.11; range 12 to 17 years) at the time of assessment and all were Phase I young offenders under the jurisdiction of the MCSS. They were drawn from the client pool

of probation offices in northwestern Ontario over a nine month period. One hundred and seventy-three (65.8%) young offenders were male and 90 (34.2%) were female. At the time of the assessment, 214 (81.4%) youths were serving probationary dispositions, 42 (16.0%) were serving custody dispositions and information was unavailable on the remainder. There was almost an equal number of Native (n = 134; 51.0%) and non-Native (n = 129; 49.0%) young offenders.

Non-delinquent youths. A total of 62 non-delinquent youths participated. The average age was 14.26 years (SD = 2.48; range 12 to 16 years) at the time of the assessment. All were recruited from the public school system over a three month period with 14 from elementary schools and 48 from secondary schools. Twenty-three (37.1%) were males and 39 (62.9%) were females. The sample comprised of one Native youth and 61 non-Native youths.

Materials

Risk/Need Assessment. The Risk/Need Assessment form (see Appendix A) consists of six parts, two of which are relevant in the present study (for further description of the six components, see Andrews & Hoge, 1995). Part I includes 42 items which are grouped into eight factors. The eight factors are prior and current offenses/dispositions, family circumstances/parenting, education/employment, peer relations, substance abuse, leisure/recreation, personality/behavior, and attitudes/orientation (see manual for further description of each item, Hoge et al., 1994b). Part II provides an overall summary of Part I by totaling the subscores from each factor. The items are summed to yield a total score which ranges from 0 to 42. Each item is scored on a 2-point scale where 1 indicates that the item definitely applies and 0 indicates that the item may or does not apply. Risk classifications comprise of low risk, ranging from 0 to 8; moderate risk, ranging from 9 to 26; high risk, ranging from 27 to 34; and very high risk, ranging from 35 to 42.

Procedure

The use of the instrument for research purposes was supported by the head office of MCSS-Probation Services Division in Toronto and in particular, Mr. Brendon Stacey, who was instrumental in securing this approval in conjunction with the local probation offices in northwestern Ontario. Upon meeting the appropriate ethical criteria, the present programme of research was approved by Lakehead University upon the recommendations of the Ethics Advisory Committee (Appendix B and C). The proper agencies were approached and permission was granted to approach the youths in their care and where necessary, to use their premises for data collection (Appendix D).

Delinquent Sample. The sample of young offenders were drawn from the client pool of all the probation offices in northwestern Ontario. The probation officers from each branch have had several years experience in the corrections field. They have been given extensive training on the usage of the risk/need assessment in a three day seminar encompassing a review of the literature, use of the form and its application to case studies, and goal setting (or case management).

Probation officers assessed young offenders as part of the mandatory supervision and case management procedures for probation personnel; thus, the data collected on the young offender sample were assessed by these officers and were held in anonymity.

The sources which were used in assessing young offenders included record reviews (criminal, academic, probation), interviews (with the youth and if possible, immediate family members), and report reviews (e.g., Children's Aid Society). The probation officers had 30 days to complete the form. Completed Risk/Need Assessment forms were given to the researcher and were encoded with a number in which only probation services have access to the identification key to ensure

confidentiality.

Non-delinquent sample. After obtaining consent from the principals of selected schools, the parents of prospective students from these schools were contacted by means of an information letter and a consent form sent home by teachers with the students (see Appendix E). If the parents were interested in allowing their child to participate, they were asked in the letter to return the consent form to the teacher.

The researcher then called the consenting parents to inform them of any further details of the study, any risks or benefits, and how to obtain the results of the study once completed (see Appendix F). They were also asked if they had any questions pertaining to the study or their child's participation. Then, an appointment to meet with their child was made.

At the beginning of the meeting with the youth, the researcher obtained the youth's voluntary consent to ensure that the student understood what the study entailed (see Appendix G). Then the researcher interviewed and assessed the youth on the Risk/Need Assessment form asking semi-structured non-leading questions. At the end of the interview, the researcher debriefed the youth on the nature of the study and asked if there were any questions. The parent was also interviewed by phone and asked questions pertaining to the youth. Moreover, the youth's school records were reviewed to corroborate interview information and to provide additional data.

Part 2

Subjects

Both the young offender sample and the non-delinquent sample were drawn from Study 1. There were two criteria for the selection of subjects for Study 2. First, they must reside in the province of Ontario at the time of the review. Second, they must have prior offense histories available upon follow-up, otherwise no data

can be obtained.

From this selection of young offenders, a subgroup of 250 was drawn. From the selection of non-delinquents, all 62 were included in the sample.

Materials

The Risk/Need Assessment as described above was used to assess the risk category the youth falls under.

The risk predictor variable for the young offender sample was recidivism defined for the purpose of this study as follows: any conviction for an offense committed up to six months subsequent to release. Recidivism was measured by reviewing the young offender's records in his/her probation records and/or on the Young Offender Strategic Information System (YOSIS), a databank with information pertaining to the young offender's criminal record, convictions information and demographic information. YOSIS can access young offender data via a code and thus, maintain anonymity of the young offender.

The risk predictor variable for the non-delinquent sample was defined for the purpose of this study as follows: any conviction for an offense committed up to six months subsequent to initial assessment by the researcher.

Procedure

After careful selection of the young offender subjects from part 1 and after a 6 month period from release from custody, each young offender's probation record and record on YOSIS were reviewed. The researcher then assessed whether the young offender recidivated according to the operational definition given above.

With respect to the non-offending youths, the risk predictor variable was assessed for each participant by searching probation databases for both Phase I and and Phase II offenders for any record of conviction. Informed consent from the parents and the youth was obtained at the assessment and interview completed in

Study 1. A debriefing letter outlining the results of the study was distributed following completion of the study (see Appendix H).

Results

Preliminary Analysis

For all of the preliminary procedures and analyses, both SPSS for Unix and SPSS for Windows were employed.

Prior to analysis, the items for each of the eight risk/need factors were examined for accuracy of data entry and missing values. The subscores of each risk/need factor were also checked for accuracy. None of the 325 youths were missing data. The eight risk/need factor scores and the overall total score were evaluated for the whole sample of youths, including both delinquent youths and non-delinquent youths.

Pairwise linearity was checked using within-group scatterplots and found to be satisfactory. The correlation matrix of all eight risk/need factors showed no problems with multicollinearity as the correlations coefficients ranged from 0.35 to 0.66. Analysis of the total score was conducted separately to meet the assumption of singularity.

There were 12 cases with univariate outliers and they appeared to be randomly scattered throughout the eight risk/need factor scores. Allison, Gorman and Primavera (1993) suggest that analyses both with and without outliers should be performed to prevent interpreting results which are significantly influenced by these outliers. Thus, several of the multivariate analyses involving the risk/need factors were conducted and reported both with and without the 12 cases with univariate outliers. No cases were identified as multivariate outliers with $p > .001$.

Examination of the assumptions of linearity and normality showed the distributions of some risk/need variables to be deviated in skewness and kurtosis.

Upon further scrutiny, it was determined that these deviations were not affected by the univariate outliers. However, analysis of the data was continued for several reasons.

First, skewness was expected as the targeted population is Phase I young offenders (12 to 15 year old) and they are most likely to score at lower levels of risk, thus attributing to the positively skewed distributions. Another explanation for the observed frequencies is that the sample distribution included non-delinquent youths who are assumed to be at low risk. Moreover, a majority of the delinquent youths were on probation (81.4%) at the time of assessment and therefore, present as a relatively lower risk than youths in custody (16%). This difference between risk levels of youths in custody as opposed to on probation is supported by similar findings in the normative data for the instrument (Hoge & Andrews, 1995). Also, the normative data also suggests a positive skewness and a positive kurtosis with respect to the eight risk/need variables and the total score on the Risk/Need Assessment Form. Thus, it was felt that evaluation of assumptions of linearity, normality, and homogeneity of variance matrices revealed no threat to multivariate analysis.

The statistical analyses included several methods. First, the extent to which one could differentiate between delinquent and non-delinquent youths, between Native and non-Native delinquents, and between male and female delinquents based on the total risk/need score was examined. Three one-way analyses of variances (ANOVA) were conducted on the dependent variable, the overall total risk/need score. The independent variables in each ANOVA were as follows: delinquency, ethnicity, and sex.

Second, the extent to which each risk/need factor differed between delinquents and non-delinquents, between Natives and non-Natives, and between males and

females, was examined. As a result, MANOVAs were carried out on the risk/need factors. Moreover, the extent to which each risk/need factor contributed to the differences between each pairing was studied by performing discriminant function analyses. This method allows one to predict which set of variables is best in determining a particular group membership. Three analyses were conducted on each of three independent variables: delinquency, ethnicity, and sex.

Third, to investigate the differences between recidivists and non-recidivists, a one-way ANOVA procedure was performed on the total score, and a MANOVA and a discriminant function analysis were conducted on the eight risk/need factors.

The final analyses looked at the robustness of the instrument with respect to delinquency, ethnicity and sex. Three 2 x 2 ANOVAs were performed on the dependent variables, the risk/need factors. The independent variables were future offending and, in each analysis, delinquency, ethnicity, and sex.

Total Risk/Need Scores

One way ANOVAs were conducted on the overall total risk/need score (Cronbach's alpha of 0.93). The independent variable in each analysis was delinquency (delinquent and non-delinquent), ethnicity (Native and non-Native), and sex (male and female).

Delinquency. Delinquent youths (M = 11.38; SD = 8.32) were scored at a higher risk than non-delinquent youths (M = 1.95; SD = 2.48), $F(1,324) = 77.51$, $p < .001$. However, the finding must be interpreted with caution as the assumption of homogeneity of variances was violated according to the Levene Test, $F(1,261) = 78.54$, $p < .001$.

Ethnicity. The ANOVA on ethnicity revealed that Native delinquents (M = 12.66; SD = 8.38) were significantly scored higher on their overall score than non-Native delinquents (M = 10.05; SD = 8.11), $F(1,262) = 6.62$, $p < .05$. The

assumption of homogeneity of variances was satisfactory, $F(1,261) = 0.98$, ns.

Sex. There was no significant difference between male ($M = 11.09$; $SD = 8.31$) and female ($M = 11.93$; $SD = 8.40$) delinquent youths, $F(1,262) = 0.60$, ns. The assumption of homogeneity of variance was satisfactory, $F(1,261) = 0.07$, ns.

Risk/Need Factors

Separate MANOVAs and discriminant function analyses (DFA) were performed on the risk/need factors with delinquency, ethnicity and sex as the independent variables. Analyses, both with and without the 12 cases with univariate outliers, were conducted. The results with these cases will be outlined and the results without these cases will be briefly reported.

Delinquency. A between-subjects MANOVA was performed on seven dependent variables (DV): family circumstances/parenting, education/employment, peer relations, substance abuse, leisure/recreation, personality/behaviour, and attitudes/orientation. One risk/need factor, prior and current offenses/dispositions, was not included since there would be an obvious difference between the delinquent and the non-delinquent sample (e.g., all non-delinquent youths would score zero since they were never convicted for an offense). The independent variable was delinquency status of the youth (delinquent and non-delinquent).

Pillai's F statistic was used because it is more robust than other criteria and this robustness is most critical when the research design is less than ideal (e.g., unequal sample sizes, violation of the assumption of homogeneity of variance matrices) (Tabachnick & Fidell, 1989). The results of the analysis showed that the combined DVs were significantly affected by the delinquency status of the subjects, Pillai's criterion = .25, $F(7,317) = 15.38$, $p < .001$ (Canon corr = 0.50; Eigenvalue = 0.34). Univariate ANOVAs were performed on each DV to investigate the impact of

the main effect on the individual DVs. A more stringent alpha was used to determine significance and to reduce Type I errors ($\alpha = .01$). Table 1 lists the results of the univariate analyses. Univariate stepdown analysis was avoided since the DVs were equally important in the analysis and could not be prioritized.

All seven risk/need factors significantly ($p < .001$) contributed to the discrimination between offending and non-offending youths. Also listed in Table 1 are the means for both delinquent and non-delinquent youths. On each of the seven risk/need factors, delinquent youths scored higher than the non-delinquent youths. However, results have to be interpreted with caution because the assumption of equal covariance matrices was not met (Box's M = 461.29, $F(28,43261) = 15.77$, $p < .001$).

A MANOVA was executed again, but without the 12 cases with univariate outliers. Similar significant results were found. Combined DVs were significantly affected by delinquency, Pillai's criterion = .26, $F(7,305) = 15.17$, $p < .001$ (Canon corr = .51; Eigenvalue = .35). Univariate analyses also support a main effect on all seven risk/need factors: FAM, $F(1,311) = 37.32$, $p < .001$; EDUC, $F(1,311) = 76.56$, $p < .001$; PEER, $F(1,311) = 78.20$, $p < .001$; SUB, $F(1,311) = 19.84$, $p < .001$; LEIS, $F(1,311) = 34.78$, $p < .001$; and ATT, $F(1,311) = 33.31$, $p < .001$. Again, on each factor, delinquent youths scored higher than non-delinquent youths.

According to Borgen and Seling (1978), although univariate ANOVA is useful and desirable for specifying the individual contribution of each variable to group separation, the results should be combined with those of discriminant analysis to indicate group separation in multivariate space and it is the most comprehensive method of data analysis available for following up a significant MANOVA. Therefore, a discriminant function analysis (DFA) was also conducted to address

Table 1

Means of Delinquent and Non-Delinquent Groups for Seven Risk/Need Factors

	Group				
	Delinquent (n = 263)		Non-Delinquent (n = 62)		
Variables	M	SD	M	SD	Univariate F (1,323) df
FAM	1.94 (6)[a]	1.72	0.48 (5)	0.95	41.23*
EDUC	2.21 (6)	1.70	0.24 (2)	0.56	80.27*
PEER	1.75 (4)	1.21	0.34 (4)	0.67	80.76*
SUB	0.84 (5)	1.12	0.03 (2)	0.25	31.93*
LEIS	1.34 (3)	1.09	0.61 (3)	1.01	22.93*
PERS	1.56 (7)	1.68	0.23 (5)	0.76	37.13*
ATT	1.03 (5)	1.32	0.03 (1)	0.18	35.24*

* $p < .001$.

Note. Predictor variables (FAM - Family Circumstances/Parenting; EDUC - Education/Employment; PEER - Peer Relations; SUB - Substance Abuse; LEIS - Leisure/Recreation; PERS - Personality/Behaviour; ATT - Attitudes/Orientations).

[a] Values in brackets refer to the maximum score observed in the group.

these issues.

Results of the DFA revealed one significant linear discriminant function (LDF; thus, accounting for 100% of the variance between groups), χ^2 (7) = 93.41, p < .001, with a Wilks' Lambda of 0.75. The discriminant results showed that the delinquent group was located at the positive end of the discriminant dimension with a group centroid of 0.282, while the non-delinquent group was located at the negative end with a group centroid of -1.196.

Pooled within-groups correlations among the predictor variables (risk/need factors) are shown in Table 2. All of the 21 correlations were significant at the α = .01 level.

The loading matrix of correlations between predictors and the discriminant function, as seen in Table 2, suggests that all seven risk/need factors are good predictors for distinguishing between delinquent and non-delinquent youths. Delinquent youths have more family difficulties, more educational problems, greater negative peer influence, more substance usage, a limited involvement in recreational activities, more behavioural problems and greater negative attitudes than non-delinquent youths (see Table 1 for group means on each factor). The most influential variables in distinguishing between the two groups are education/employment and peer relations.

Discriminant function analysis without the univariate outliers was also conducted and significant results were also found, Wilks' Lambda = 0.74, χ^2 (7) = 91.93, p < .001. Similarly, all seven risk/need predictor variables were found to be influential in discriminating between delinquent and non-delinquent groups.

Aside from the significance of the function, it is important to evaluate how accurately the discriminant function differentiates the groups. Since the actual group membership is known for each subject, one method of evaluation is to predict

Table 2

Results of Discriminant Function Analysis of Risk/Need Variables for Delinquent and Non-Delinquent Groups

Predictor Variable	Correlations of predictor variables with discriminant function	Pooled within-group correlations among predictors					
		EDUC	PEER	SUB	LEIS	PERS	ATT
FAM	.61	.55	.57	.43	.56	.52	.54
EDUC	.86		.52	.37	.50	.60	.53
PEER	.86			.46	.52	.42	.56
SUB	.54				.43	.38	.43
LEIS	.46					.46	.56
PERS	.58						.63
ATT	.57						
Canon R	.50						
Eigenvalue	.34						

Note. Predictor variables (FAM - Family Circumstances/Parenting; EDUC - Education/Employment; PEER - Peer Relations; SUB - Substance Abuse; LEIS - Leisure/Recreation; PERS - Personality/Behaviour; ATT - Attitudes/Orientations). All pooled within-group correlations among predictors were significant, $p < .01$.

group membership based on the discriminant function just calculated, and compare it with the actual group membership. Table 3 presents the classification results. The results showed 75.4% observed agreement and 69.1% chance agreement, resulting in a final classification above chance of 20.1%.

A factor that affects the accuracy of the discriminant function is the structure of the group variance-covariance matrices. Since the technique of linear discriminant analysis pools these matrices as an estimate of error, inequality of these matrices tends to reduce the accuracy of the function (Tabachnick & Fidell, 1989). The test for equality between the variance-covariance matrices of the delinquent and non-delinquent groups indicated that the matrices were not equal, as reported previously (recall Box's M). This inequality may have contributed to the 24.6% misclassification rate of the function.

Despite the promising results, Huberty (1984) suggests that the maximum chance criterion (MCC) should be used in cases where the group sizes are substantially unequal. Thus, the MCC would be 80.9% ($\underline{n}/\underline{N}$ = 263/325) and the final classification is shown to be less than chance. Therefore, the results should be cautiously interpreted.

Ethnicity. A between-subjects multivariate analysis of variance was performed on all eight dependent variables: prior and current offenses/dispositions, family circumstances/parenting, education/employment, peer relations, substance abuse, leisure/recreation, personality/behaviour, and attitudes/orientation. The independent variable in this analysis was ethnicity of the youth (Native and non-Native delinquents).

The results of this analysis indicated an overall multivariate main effect, Pillai's criterion = .14, $\underline{F}(8,254) = 5.11$, $\underline{p} < .001$ (Canon corr = 0.37; Eigenvalue = 0.16). Examination of the eight individual risk/need factors revealed univariate main

Table 3

Percentage of Delinquents Correctly Classified

	Predicted Group Membership From Linear Discriminant Function	
Actual Group Membership	Delinquent	Non-Delinquent
Delinquent (n = 263)	71.9% (189)	28.1% (74)
Non-Delinquent (n = 62)	9.7% (6)	90.3% (56)

Note. Percentage of "grouped" cases correctly classified is 75.38%.

effects for three variables with $\alpha = .01$ to reduce Type I errors. Native delinquents have greater negative peer relations ($M = 2.04$; $SD = 1.19$) than non-Native delinquents ($M = 1.46$; $SD = 1.16$), more substance usage ($M = 1.11$; $SD = 1.26$) than non-Native delinquents ($M = 0.57$; $SD = 0.88$), and greater lack of involvement in proactive recreational activities ($M = 1.54$; $SD = 1.07$) than non-Native delinquents ($M = 1.14$; $SD = 1.08$). All other effects were nonsignificant. Table 4 lists the means for each group on all variables and the results of the univariate analyses. The population covariance matrices were found to be equal for each group (Box's M = 69.44, $F(36, 228531) = 1.87$, ns.) and therefore, did not violate the assumption of homogeneity of dispersion matrices.

Similar results were obtained when the analysis was executed again without the 12 cases with univariate outliers. Combined DVs were significantly affected by delinquency, Pillai's criterion = .13, $F(8,242) = 4.40$, $p < .001$ (Canon corr = 0.36; Eigenvalue = 0.15) and univariate analyses also supported a main effect on peer relations, $F(1,249) = 12.93$, $p < .001$, substance abuse, $F(1,249) = 11.35$, $p < .01$, and leisure/recreation factors, $F(1,249) = 7.05$, $p < .01$. Again, Native delinquent youths scored greater than non-Native delinquents on each of these three risk/need factors.

A linear discriminant function analysis was conducted on the entire sample of delinquent youths and showed that one LDF accounted for 100% of the variance between ethnicity groups, Wilks' Lambda = 0.86, $\chi^2 (8) = 38.37$, $p < .001$. The discriminant results showed that the Native group was located at the positive end of the discriminant dimension with a group centroid of 0.392, while the non-Native group was located at the negative end with a group centroid of -0.407.

Pooled within-groups correlations among the predictor variables (risk/need

Table 4

Means of Native and Non-Native Delinquent Groups for Eight Risk/Need Factors and the Results of the Discriminant Function Analysis

	Group					
	Native (n = 134)		Non-Native (n = 129)			Correlations of predictor variables with discriminant function
Variables	M	SD	M	SD	Univariate F (1,261) df	
OFF	0.75 (5)[a]	1.20	0.67 (5)	1.27	0.22	.07
FAM	2.19 (6)	1.79	1.68 (6)	1.62	5.74*	.37
EDUC	2.39 (6)	1.72	2.01 (6)	1.67	3.17	.27
PEER	2.04 (4)	1.19	1.46 (4)	1.16	15.99***	.62
SUB	1.11 (5)	1.26	0.57 (4)	0.88	16.45***	.63
LEIS	1.54 (3)	1.07	1.14 (3)	1.08	8.96**	.46
PERS	1.18 (7)	1.38	0.87 (6)	1.23	3.71	-.12
ATT	1.48 (5)	1.63	1.64 (4)	1.74	0.64	.30
Canon R						.37
Eigenvalue						.16

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

Note. Predictor variables (OFF - Prior and current offences/dispositions; FAM - Family Circumstances/Parenting; EDUC - Education/Employment; PEER - Peer Relations; SUB - Substance Abuse; LEIS - Leisure/Recreation; PERS - Personality/Behaviour; ATT - Attitudes/Orientations).

[a] Values in brackets refer to the maximum score observed in the group.

factors) were performed and of the 28 correlations, all would show statistical significance at $\alpha = .01$ if tested individually.

The loading matrix of correlations between predictors and the discriminant function, as seen in Table 4, suggest that four risk/need factors are the best predictors for distinguishing between Native and non-Native delinquents: family circumstances/parenting, peer relations, substance abuse, and leisure/recreation. In addition to the latter three predictor variables which were shown to have a main effect in the multivariate analysis, Native delinquents have greater family difficulties ($\underline{M} = 2.19$; $\underline{SD} = 1.79$) than non-Natives ($\underline{M} = 1.68$; $\underline{SD} = 1.62$). Loadings less than 0.30 are not interpreted.

The univariate outliers did not influence the results of the DFA, since significant results were also found for the combined predictor variables, Wilks' Lambda = 0.88, χ^2 (8) = 32.24, $\underline{p} < .001$, and for the individual predictor variables: family circumstances, $\underline{r} = .30$, peer relations, $\underline{r} = .59$, substance abuse, $\underline{r} = .53$, and leisure/recreation, $\underline{r} = .42$.

Examination of the classification results, displayed in Table 5, indicate that 64.6% were correctly classified with chance agreement at 50%. This resulted in a final classification above chance of 29.2%. Thus, an overall "hit-rate" of 64.6% indicates a very good fit with respect to ethnicity.

Sex. A between-subjects MANOVA was performed on all eight dependent variables (or risk/need factors). The independent variable in this analysis was sex of the youth (male and female delinquents).

The analysis indicated an overall multivariate main effect, Pillai's criterion = .07, $\underline{F}(8.254) = 2.29$, $\underline{p} < .05$ (Canon corr = 0.26; Eigenvalue = 0.07). Univariate analyses of each risk/need factors revealed no main effects with $\alpha = .01$. Table 6 lists the means for each group on all variables and the results of the

Table 5

Percentage of Native and Non-Native Delinquents Correctly Classified

	Predicted Group Membership From Linear Discriminant Function	
Actual Group Membership	Native Delinquent	Non-Native Delinquent
Native Delinquent (n = 134)	60.4% (81)	39.6% (53)
Non-Native Delinquent (n = 129)	31.0% (40)	69.0% (89)

Note: Percentage of "grouped" cases correctly classified is 64.64%.

Table 6

Means of Male and Female Delinquent Groups for Eight Risk/Need Factors

	Group					
	Male (n = 173)		Female (n = 90)			Correlations of predictor variables with discriminant function
Variables	M	SD	M	SD	Univariate F (1,261) df	
OFF	0.79 (5)[a]	1.27	0.57 (5)	1.14	1.88	.32
FAM	1.82 (6)	1.72	2.18 (6)	1.71	2.64	-.37
EDUC	2.25 (6)	1.73	2.12 (6)	1.65	0.33	.13
PEER	1.71 (4)	1.20	1.83 (4)	1.24	0.61	-.18
SUB	0.76 (5)	1.15	1.01 (5)	1.06	3.05	-.40
LEIS	1.25 (3)	1.10	1.51 (3)	1.07	3.29	-.42
PERS	1.57 (6)	1.69	1.53 (7)	1.68	0.03	.04
ATT	0.95 (5)	1.25	1.18 (5)	1.42	1.81	-.31
Canon R						.26
Eigenvalue						.07

Note. All univariate F-ratios are ns. Predictor variables (OFF - Prior and current offences/dispositions; FAM - Family Circumstances/Parenting; EDUC - Education/Employment; PEER - Peer Relations; SUB - Substance Abuse; LEIS - Leisure/Recreation; PERS - Personality/Behaviour; ATT - Attitudes/Orientations).

[a] Values in brackets refer to the maximum score observed in the group.

univariate analyses. The assumption of equal covariance matrices was met (Box's M = 49.53, $\underline{F}(36,115248) = 1.32$, $\underline{p} = .09$).

When the analysis was executed again without the univariate outliers, multivariate main effect of the combined DVs on the sex of the youths was found again, Pillai's criterion = .07, $\underline{F}(8,242) = 2.33$, $\underline{p} < .05$ (Canon corr = 0.27; Eigenvalue = 0.08). Furthermore, no significant univariate main effects were found.

A linear discriminant function analysis was conducted on the entire sample of delinquent youths and showed that one LDF accounted for 100% of the variance between male and female delinquents, Wilks' Lambda = 0.93, χ^2 (8) = 17.93, $\underline{p} < .05$. The discriminant results showed that the female delinquent group was located at the positive end of the discriminant dimension with a group centroid of 0.371, while the male delinquent group was located at the negative end with a group centroid of -0.193.

Pooled within-groups correlations among the predictor variables (risk/need factors) were performed and of the 28 correlations, all would show statistical significance at $\alpha = .01$ if tested individually.

Table 6 presents the loading matrix of correlations between predictors and the discriminant function. Only five predictor variables have loadings greater than 0.30. Thus, the best predictors for distinguishing between male and female delinquent youths are prior and current offences/dispositions, family circumstances, substance abuse, leisure/recreation, and attitudes/orientation. Males were assessed with higher scores on prior and current offences/dispositions ($\underline{M} = 0.79$; $\underline{SD} = 1.27$) than females ($\underline{M} = 0.57$; $\underline{SD} = 1.14$), with fewer family/parental difficulties ($\underline{M} = 1.82$; $\underline{SD} = 1.72$) than females ($\underline{M} = 2.18$; $\underline{SD} = 1.71$), with lower substance abuse ($\underline{M} = 0.76$; $\underline{SD} = 1.15$) than females ($\underline{M} = 1.01$; $\underline{SD} = 1.06$), with more involvement in recreational activities ($\underline{M} = 1.25$; $\underline{SD} = 1.10$) than females ($\underline{M}$ =

1.51; SD = 1.07), and with less negative attitude/orientation (M = 0.95; SD = 1.25) than females (M = 1.18; SD = 1.42). Loadings less than .30 are not interpreted.

The classification results which are presented in Table 7 indicate 60.1% observed agreement and 55% chance agreement, resulting in a final classification above chance of 11.3%. But according to the maximum chance criterion (Huberty, 1984), the final classification yielded was no better than chance.

Recidivism by Total Scores and Risk/Need Factors

Recidivism and total score. A one way ANOVA was conducted on the overall total risk/need score. The independent variable was recidivism (recidivist and non-recidivist). There was a significant main effect on recidivism, F(1,249) = 38.55, p < .001. Young offenders who recidivated were assessed at a higher overall total risk score (M = 15.74; SD = 8.01; n = 76) than those who did not recidivate (M = 9.22; SD = 7.46; n = 174). The assumption of homogeneity of variances was sufficiently met, Levene Test F(1,248) = 0.41, ns.

Recidivism and the eight risk/need factors. A between subjects MANOVA was performed on the eight risk/need factors. The independent variable was recidivism. The analysis showed that the combine DVs were significantly affected by recidivism, Pillai's criterion = 0.16, F(8,241) = 5.94, p < .001. Univariate analyses revealed that all eight risk/need factors were significantly affected by recidivism. Table 8 lists the results of the analysis. Recidivists scored higher than than their non-recidivating counterparts on all risk/need areas. Results should be interpreted with caution, since the assumption of equal covariance was violated (Box's M = 102.48, F(36, 76658) = 2.73, p < .001).

A discriminant function analysis showed that a discriminant function significantly accounted for 100% of the variance, χ^2 (8) = 43.88, p < .001, with a

Table 7

Percentage of Male and Female Delinquents Correctly Classified

	Predicted Group Membership From Linear Discriminant Function	
Actual Group Membership	Male Delinquent	Female Delinquent
Male Delinquent (n = 173)	63.0% (109)	37.0% (64)
Female Delinquent (n = 90)	45.6% (41)	54.4% (49)

Note. Percentage of "grouped" cases correctly classified is 60.08%.

Table 8

Means of Recidivists and Non-Recidivists for Eight Risk/Need Factors and the Results of the Discriminant Function Analysis

	Group					
	Recidivists (n = 76)		Non-Recidivists (n = 174)			Correlations of predictor variables with discriminant function
Variables	M	SD	M	SD	Univariate F (1,248) df	
OFF	1.09 (5)[a]	1.57	0.52 (5)	1.00	12.18*	.50
FAM	2.50 (6)	1.59	1.64 (6)	1.71	13.88**	.53
EDUC	2.99 (6)	1.55	1.84 (6)	1.63	26.90**	.74
PEER	2.28 (4)	1.28	1.52 (4)	1.07	23.57**	.69
SUB	1.17 (5)	1.27	0.67 (4)	0.97	11.77*	.49
LEIS	1.79 (3)	1.02	1.12 (3)	1.06	21.48**	.66
PERS	2.21 (7)	1.72	1.24 (6)	1.55	19.30**	.63
ATT	1.71 (5)	1.49	0.68 (4)	1.03	40.22**	.91
Canon R						.41
Eigenvalue						.20

* $p < .01$. ** $p < .001$

Note. Predictor variables (OFF - Prior and current offences/dispositions; FAM - Family Circumstances/Parenting; EDUC - Education/Employment; PEER - Peer Relations; SUB - Substance Abuse; LEIS - Leisure/Recreation; PERS - Personality/Behaviour; ATT - Attitudes/Orientations).

[a] Values in brackets refer to the maximum score observed in the group.

Wilks' Lambda of 0.84. All pooled within-groups correlations were significant at $\alpha = .01$.

The loading matrix of correlations between predictors and the discriminant function, as seen in Table 8, suggest that all eight risk/need factors are good predictors for distinguishing between recidivists and non-recidivists, such that recidivists are scored much higher than non-recidivists on all areas of risk and need. The most influential predictor variables in discriminating between the two groups are negative attitudes and orientations and low performance in school and in employment.

The classification results found 69.6% observed agreement and 57.7% chance agreement, resulting in a final classification above chance of 28.2%, as shown in Table 9. But according to the maximum chance criterion in which 69.6% is chance agreement, the final classification yielded was the same as chance.

Recidivism and Total Scores

Three 2 x 2 ANOVAs were conducted on the overall total score of the Risk/Need Assessment Form. Recidivism was one of the independent variables in all three analyses and the other IV in each analysis was delinquency, ethnicity or sex of the youth. The objective of these ANOVAs is to determine whether the instrument's ability to assess risk (or as defined in this study, predict future offending) is the same for each group of each pair of IVs (delinquency, ethnicity, sex). This is achieved by interpreting any interactional effects, as main effects have been addressed in previous analyses.

Delinquency. Analysis of the interactional effect between future offending and delinquency could not be examined. None of the non-delinquent youths offended during the six month follow-up and therefore, a factorial ANOVA (which requires non-empty cells) could not execute higher order interactions.

Table 9

Percentage of Recidivists and Non-Recidivists Correctly Classified

	Predicted Group Membership From Linear Discriminant Function	
Actual Group Membership	Recidivist	Non-Recidivist
Recidivist (n = 76)	61.8% (47)	38.2% (29)
Non-Recidivist (n = 174)	27.0% (47)	73.0% (127)

Note. Percentage of "grouped" cases correctly classified is 69.60%.

Ethnicity. The two way ANOVA on the total score for the delinquent sample (n = 250) revealed main effects of ethnicity, $F(1,249) = 5.40$, $p < .05$, and recidivism, $F(1,249) = 37.83$, $p < .001$, both of which were discussed in earlier sections. However, the two way interaction between ethnicity and recidivism was nonsignificant, $F(1,249) = 1.21$, $p = .272$. Thus, the instrument does not predict recidivism differently for Native and non-Native delinquents as shown in Figure 1.

Sex. Similar results were found with the overall total score by sex and recidivism. Analysis showed that the main effect of sex was not significant, $F(1, 249) = 1.44$, ns, and the main effect of recidivism was significant, $F(1,249) = 35.55$, $p < .001$. Again, these findings were discussed previously. However, there was no interactional effect found between the two IVs, $F(1, 249) = 6.33$, $p = .742$, and therefore, the Risk/Need Assessment does not predict recidivism differently for male delinquents compared to female delinquents as shown in Figure 2.

Summary

In summary, the Risk/Need Assessment Form has demonstrated that it is capable of discriminating between delinquent youths and non-delinquent youths by its overall total score and by seven of its risk/need factors (prior and current offences/dispositions is expected to differentiate between the groups). In addition, it is also capable of distinguishing between Native and non-Native delinquent youths by the overall total score and three of its risk/need factor scores (peer relations, substance abuse, leisure/recreation). However, the instrument shows no main effect with respect to both total score and factor scores on the sex of the delinquent youth.

The results support the contention that the instrument's overall scores and all of its subscales are associated with recidivism, although the correct classification was

Figure 1.

Mean of the overall total score by recidivism and ethnicity of the young offender (n = 250)

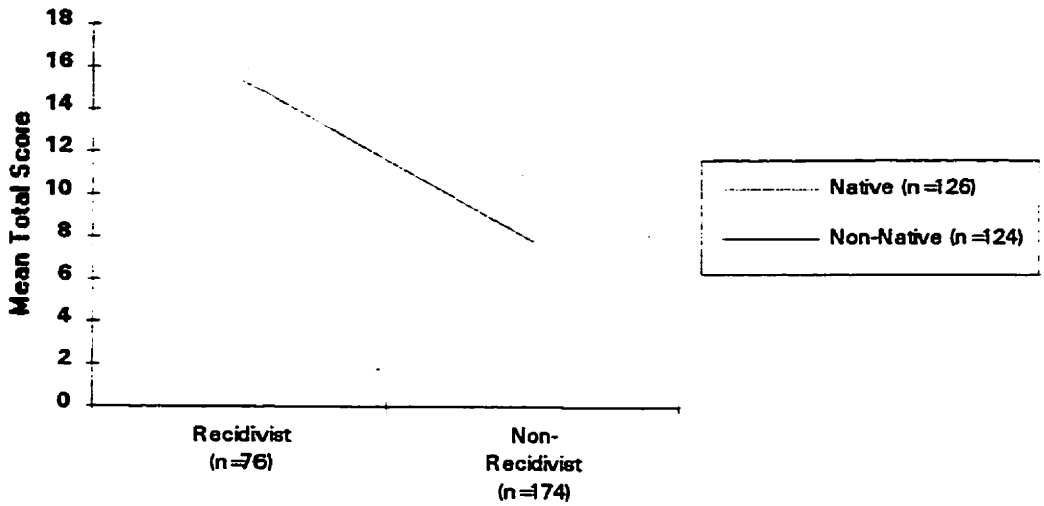
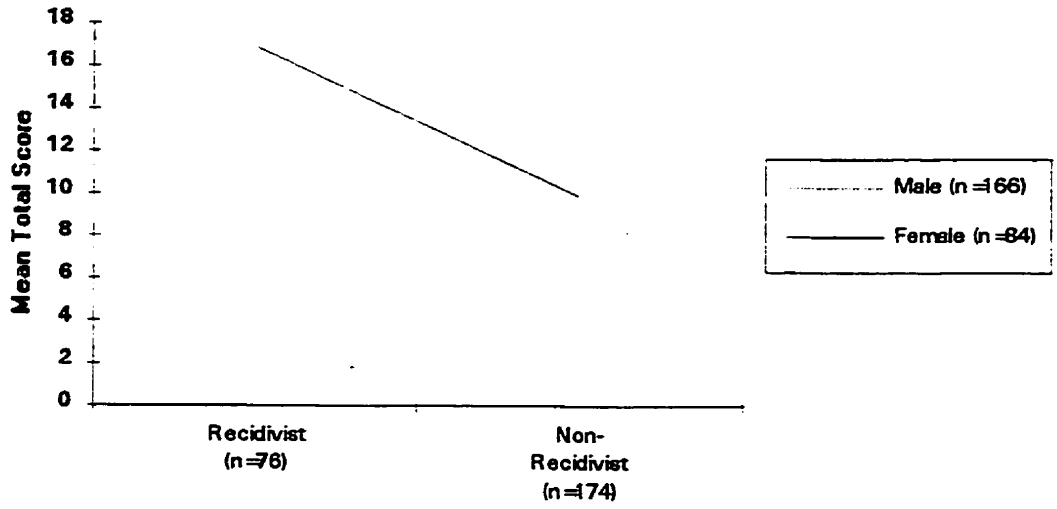


Figure 2.

Mean of the overall total score by recidivism and sex of the young offender (n = 250)



not above the stringent maximum chance criterion. Interestingly, the 2 x 2 ANOVAs did not produce any interactional effects of delinquency, ethnicity and sex, with offending behaviour and thereby, suggests that the instrument may predict risk for all youths regardless of criminal status, ethnicity, and gender.

Discussion

The Ministry's Risk/Need Assessment Form for predicting risk of reoffending was evaluated using a group of young offenders recruited from probation offices in Northwestern Ontario. Results indicated that the overall total score discriminated between delinquents and non-delinquents. Moreover, each of the seven factors (excluding prior and current offences/dispositions) were also shown to significantly discriminate between the two groups, both combined and individually. These results suggest that the Risk/Need Assessment is a relevant tool in addressing risk and need factors of delinquency and is able to classify delinquents 20% better than chance.

Unfortunately, analysis could not be conducted to evaluate whether the instrument functioned equally for delinquent and non-delinquent youths in predicting future offending behaviour because of the inadequate number of non-delinquent youths who offended. However, all youths, except for one, were in the low risk category and perhaps this may have accounted for the absence of offending.

Most relevant to the instrument's risk assessment was that it was able to differentiate between recidivists and non-recidivists: the higher the total risk/need score, the greater chance of the youth to have recidivated. Also, each of the eight risk/need factors were shown to significantly discriminate between the two groups. Although these findings are similar to Hoge and Andrew's (1995) original findings, other studies have demonstrated that there is a need to re-evaluate risk prediction instrument in other regions or jurisdictions. Since the model has been implemented

in all of Ontario and the instrument was validated in southern Ontario, there was some cause for concern with respect to the validity of the instrument in a region where the proportion of Native youths were grossly over-represented. Previous studies have emphasized that models developed in one population do not necessarily transfer readily to other populations (Ashford & LeCroy, 1990; Wright et al., 1984). But the results strongly maintain the contention that the instrument is capable of predicting recidivism, with 28% correct classification above chance, in a different region with a disproportionate number of ethnic minorities, thereby supporting that the instrument is a robust measure of risk.

Interestingly, the best predictor variable of recidivism was found to be attitudes and orientation of the youth. This perhaps is a promising finding in that the best way to address such issues (i.e., negative attitudes) is by cognitive models of treatment and it has been shown that cognitive-behavioural modes of rehabilitation are most influential in treating young offenders (Hollin, 1993). The second best predictor of recidivism was shown to be education and employment difficulties; this was also the best discriminator of delinquency. Although this area of concern is beyond the scope of this investigation, it is a subject which certainly requires further examination in the prevention of both delinquency and recidivism. Another risk factor worthy of discussion is negative peer relations which was strong predictor of delinquency and recidivism. Although little research has approached this area, its relevance to adolescent research is crucial and it is probably the most influential variable, primarily because of the importance it holds with 12 to 15 year old youths.

Delinquency and recidivism have been treated in this research as strongly associated concepts. However, the reader should keep in mind that many researchers and published studies address these issues separately and with different measures. Therefore, just because these issues are dealt with together in this

thesis, they are not necessarily concepts which are completely aligned with each other in terms of risk and need factors. For example, the risk factors which affect whether an adolescent is later involved with the criminal justice system may be different from the predicting risk factors which predisposed a juvenile delinquent from committing another offense.

This thesis focused on two critical subgroups within the young offender population that has been underevaluated in risk assessment research. Firstly, several analyses were conducted pertaining to ethnicity, specifically Native youths. Unfortunately, the inadequate sample of Native non-delinquent would not allow for any comparisons of Native delinquents and Native non-delinquents; hence, only between group comparisons could be drawn from the data.

The overall total risk/need score was shown to be able to discriminate between Native and non-Native delinquent youths such that Natives were scored much higher than their non-Native counterparts. Further elucidation of this difference was addressed by examining the individual risk/need factors and significant differences were indicated for peer relations, substance abuse, and leisure and recreational activities. Moreover, the combination of the eight factors were able to classify Natives and non-Natives 29% above chance.

Although this research does not address rural versus city youths, this perhaps may play a role in defining the differences between Native and non-Native youths with respect to their peer influence. Native youths recruited in this sample may be primarily from reserves and due to such an enclosed community, there may be too few positive peer relations for many Native youths, thus creating a large discrepancy in this risk/need factor score. Similarly, perhaps for this same reason, Native delinquents are less inclined to participate in organized activities or productive recreation. However, the problem with this explanation is that the definition of

"organized activity" or "proactive recreation" for non-Native children who live in the city may be different for Native youths who live on reserves. For example, Native involvement in "powwows" may be construed as not "organized participation."

The other risk/need factor that discriminated the two broad ethnic groups was substance abuse. In adult offender research, it was shown that substance abuse is predictive of parole violations and reincarceration, but for non-Natives, it was only predictive of reincarceration (Bonta, 1989). Moreover, there was no difference in substance usage between the two groups of adult offenders. The current study showed that there exists a difference between the two groups of juvenile offenders such that Native delinquents abuse substances greater than non-Natives. Although this generalization apparently seems undisputed, there lies a difficulty in its interpretation. Increased substance abuse among Native delinquents does not necessarily mean that all Native youths are abusing, nor does this mean that they are at a higher risk for future offending. It simply implicates that Native *delinquents* abuse substances more than their non-Native *delinquent* counterparts.

Previous research has suggested that family dysfunctional factors share a relationship with juvenile delinquency behaviours in Ojibway adolescents (Zitzow, 1990). Interestingly, family and parenting difficulties were not significantly different for Native delinquents and non-Native delinquents; however, it was an important predictor variable in the discriminant analysis. A similar misunderstanding to family problems may occur as with the leisure and recreation factor. As discussed in an earlier section, cultural differences in parenting may be misinterpreted, such as non-interference in parenting used by some Natives construed as "inadequate supervision" or "inconsistent parenting."

Hence, higher scores on certain risk and need factors and on the total score may not necessarily imply that Native delinquents are at a greater risk for re-offending,

but rather, it may indicate a cultural bias in the instrument or in the assessor. To address whether the instrument is biased or not, further analysis was conducted on comparing Native recidivists with non-Native recidivists. Based on the overall total score, the ability to predict recidivism for Native delinquents was shown to be comparable to non-Native delinquents, thus suggesting that the instrument does not assess risk significantly different for either group. Therefore, the results suggest that although there may be some differences in the risk and need factors for Natives and non-Natives, these differences do not bias the instrument's use in assessing risk or predicting recidivism.

The second subgroup of youths in the juvenile delinquent system pertains to female young offenders. Little research has been conducted on female young offenders to date and many published studies focus solely on male young offenders. The current investigation found that male and female delinquents did not differ on their total risk/need score and the eight risk/need factors, thus supporting the objectivity of the instrument with respect to both genders. The use of the eight factors to classify male and female youths was a moderate association with classification only 11% above chance.

The results of the analysis is consistent with the meta-analysis of gender differences and delinquency risk factors by Simourd and Andrews (1994). They found the same pattern of correlation between each sex and each risk factor for the 60 studies reviewed.

In addition to the comparative analysis between males and females, the instrument's utility in predicting recidivism for each group was examined. It was found that the instrument predicted recidivism no differently for female delinquents compared to male delinquents. Thus, not only did males not differ from female

delinquents on the risk and need factors of the instrument, but also, the overall total score was able to assess risk, thereby predict recidivism, for both sexes equally.

The findings of this research investigation suggest that the Risk/Need Assessment is not a biased instrument with respect to ethnicity or gender of the delinquent being assessed. In fact, the instrument is not only robust in its application with non-delinquent youths, but also in its usage with aboriginal delinquents and female delinquents as well.

It is at this point that it is important to acknowledge some of the limitations and shortcomings of the research investigation. There are four important inadequacies with the research design. Firstly, the findings do not address interobserver reliability which may play a significant role in the differences seen between Native and non-Native youths or between delinquents and non-delinquents. This would elucidate whether any discrepancies seen are due to the instrument's individual items or the assessor's subjectivity.

Secondly, the follow-up conducted was only six months due to time constraints on the part of the researcher. Perhaps a long-term follow-up of at least two years would be a more adequate allowance of time. On the other hand, this may be a positive aspect of the study, since the Ministry of Community and Social Services mandates that each youth be re-evaluated with a review form of the Risk/Need Assessment at every six months; thus, the use of the instrument to predict recidivism in the interim of 6 months may be more important than a long-term evaluation.

Thirdly, confounding variables may have affected the results. Relevant variables, such as treatment exposure during the six months following assessment, are unknown in this study. But nonetheless, the findings suggest that the instrument still adequately predicts recidivism despite these confounds.

The fourth and perhaps the most influential limitation in this study was the unequal sample sizes of each group of each independent variable. Thus, the analyses were conducted individually for each IV, instead of a simple factorial analysis. Also, risk factors predictive of delinquency for Native youths could not be evaluated, since there was a grossly inadequate number of Native non-delinquents to conduct such an analysis. Unequal sample sizes for each IV also contributed to the questionable classification results, such that discrepantly unequal numbers produced grossly large maximum chance criterions which make it difficult for the observed percent agreement to exceed (Huberty, 1984).

Despite these shortcomings, the findings contribute much to the understanding of risk and need factors relevant to delinquency and recidivism and more specifically, to the validation of the Ministry's Risk/Need Assessment.

In conclusion, this critical evaluation of the Risk/Need Assessment Form has yielded evidence suggesting that although it is a simple tool, it is also a robust instrument. The findings indicate that the eight risk/need factors target areas which are strongly associated to delinquency and to recidivism, thereby capturing the essence of risk assessment measures. Furthermore, this empirically based tool is robust to ethnicity and gender. It has shown to be useful in predicting recidivism for both Native and female young offenders - subgroups of young offenders which the previous literature has demonstrated to be treated differently by most risk measures. This study also supports the use of the Risk/Need Assessment Form in a relatively different jurisdiction with a composition of young offenders differing from the normative sample in which the instrument was based upon.

Before drawing more definitive conclusions, however, possible fruitful avenues of future research include evaluating the interrater reliability of the instrument and pursuing the concept of early predictors of delinquency in aboriginal populations by

evaluating delinquent and non-delinquent Native youths. Such research would further clarify some of the issues which underscore some of the unexplained findings. Albeit, the results have, thus far, provided overwhelming support for the robustness of and the validity of the instrument's use in a unique region, such as northwestern Ontario.

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Appendix A

Risk/Need Assessment Form

Ministry of Community and Social Services
Ontario

Risk/Need Assessment - Intake

Young Offender Name	Date of birth

Part I - Assessment of Risks and Needs

1. Prior and current offenses/dispositions		Comments (include any mitigating/aggravating factors)
a. Three or more prior convictions		
b. Two or more prior failures to comply		
c. Prior probation		
d. Prior custody		
e. Three or more current convictions		
Total		

Risk Level:
- Low (0) ___
- Moderate (1-2) ___
- High (3-5) ___

Source(s) of Information — Date

2. Family Circumstances/Parenting		Comments
a. Inadequate supervision		
b. Difficulty in controlling behaviour		
c. Inappropriate discipline		
d. Inconsistent parenting		
e. Poor relations/father-child		
f. Poor relations/mother-child		
Total		

Strength ___

Risk Level:
- Low (0-2) ___
- Moderate (3-4) ___
- High (5-6) ___

Source(s) of Information — Date

3. Education/Employment		Comments
a. Disruptive classroom behaviour		
b. Disruptive schoolyard behaviour		
c. Low achievement		
d. Problems with peer relations		
e. Problems with teacher relations		
f. Truancy		
g. Unemployed/not seeking employment		
Total		

Strength ___

Risk Level:
- Low (0) ___
- Moderate (1-3) ___
- High (4-7) ___

Source(s) of Information — Date

4. Peer Relations		Comments
a. Some delinquent acquaintances		
b. Some delinquent friends		
c. No or few positive acquaintances		
d. No or few positive friends		
Total		

Strength ___

Risk Level:
- Low (0-1) ___
- Moderate (2-3) ___
- High (4) ___

Source(s) of Information — Date

Part I Assessment of Risks and Needs

5. Substance Abuse

a. Occasional drug use	
b. Chronic drug use	
c. Chronic alcohol use	
d. Substance use interferes with functioning	
e. Substance use linked to offence(s)	
Total	

Strength ___

Risk Level:

Low (0) ___

Moderate (1-2) ___

High (3-5) ___

Comments

Source(s) of Information Date

6. Leisure/Recreation

a. Limited organized participation	
b. Could make better use of time	
c. No personal interests	
Total	

Strength ___

Risk Level:

Low (0) ___

Moderate (1) ___

High (2-3) ___

Comments

Source(s) of Information Date

7. Personality/Behaviour

a. Inflated self-esteem	
b. Physically aggressive	
c. Tantrums	
d. Short attention span	
e. Poor frustration tolerance	
f. Inadequate guilt feelings	
g. Verbally aggressive, imprudent	
Total	

Strength ___

Risk Level:

Low (0) ___

Moderate (1-4) ___

High (5-7) ___

Comments

Source(s) of Information

8. Attitudes/Orientation

a. Antisocial/procriminal attitudes	
b. Not seeking help	
c. Actively rejecting help	
d. Defies authority	
e. Callous, little concern for others	
Total	

Strength ___

Risk Level:

Low (0) ___

Moderate (1-3) ___

High (4-5) ___

Comments

Source(s) of Information Date

Part II - Summary of Risk/Need Factors (from page 1)

	Prior and Current Offences/ Disposition	Family Factors	Education	Peer Relations	Substance Abuse	Leisure/ Recreation	Personality	Attitudes/ Orientation	Overall Total
Total									
Risk Level									___ Low (0-8)
Low									___ Moderate (9-26)
Moderate									___ High (27-34)
High									___ Very High (35-42)

Part III - Assessment of Other Needs/Special Considerations

1. Family/Parents

___ Chronic history of offence(s)
___ Emotional distress/psychiatric
___ Drug-alcohol abuse
___ Marital conflict
___ Financial/accommodation problems
___ Uncooperative parents
___ Cultural/ethnic issues
___ Abusive father
___ Abusive mother
___ Significant family trauma
(specify) _____
___ Other _____

Comments

2. Youth

___ Health problems
___ Physical disability
___ Low intelligence/Developmental delay
___ Learning disability
___ Underachievement
___ Poor Problem solving skills
___ Victim of physical/sexual abuse
___ Victim of neglect
___ Shy/withdrawn
___ Peers outside age range
___ Depressed
___ Low self-esteem
___ Inappropriate sexual activity
___ Racist/sexist attitudes
___ Poor social skills
___ Engages in denial
___ Suicide attempts
___ Diagnosis of psychosis
___ Third party threat
___ History of sexual/physical assault
___ History of assault on authority figures
___ History of weapon use
___ History of fire setting
___ History of escapes
___ Protection issues
___ Adverse living conditions
___ Other _____

Comments (note any special responsivity consideration including the need for culturally specific services)

Part IV - Your Assessment of the Client's General Risk/Need Level

___ Low Reasons:
___ Moderate
___ High
___ Very High

Part V Contact Level		
Administrative supervision		Comments (note placement considerations and court expectations, if applicable)
Minimum supervision		
Medium supervision		
Maximum supervision		

Probation Officer's Signature/Date | Supervisor's Signature/Date | Provincial Director's Signature/Date

Part VI Case Management Plan	
Goal 1	Means of Achievement
Goal 2	Means of Achievement
Goal 3	Means of Achievement
Goal 4	Means of Achievement

Appendix B

Letter of Ethical Approval for Part 1 from Lakehead University

LAKEHEAD UNIVERSITY
955 Oliver Road, Thunder Bay, Ontario, Canada P7B 5E1

Critical Evaluation
86

Office of the President
Telephone (807) 343-8200

31 May 1995

Ms. Sandy Jung
Department of Psychology
Lakehead University
THUNDER BAY, ONTARIO
P7B 5E1

Dear Ms. Jung:

Based on the recommendation of the Ethics Advisory Committee, I am pleased to grant ethical approval to your research project entitled: CRITICAL EVALUATION OF THE RISK/NEED ASSESSMENT WITH ABORIGINAL YOUTHS.

Best wishes for a successful research project.

Sincerely,

ROBERT G. ROSEHART
President

/lw
cc: Dr. E. Rawana

Appendix C

Letter of Ethical Approval for Part 2 from Lakehead University

LAKEHEAD UNIVERSITY
955 Oliver Road, Thunder Bay, Ontario, Canada P7B 5E1

Critical Evaluation
88

Office of the President
Telephone (807) 343-8200

31 May 1995

Ms. Sandy Jung
Department of Psychology
Lakehead University
THUNDER BAY, ONTARIO
P7B 5E1

Dear Ms. Jung:

Based on the recommendation of the Ethics Advisory Committee, I am pleased to grant ethical approval to your research project entitled: CRITICAL EVALUATION OF THE PREDICTIVE VALIDITY OF THE RISK/NEED ASSESSMENT WITH ABORIGINAL YOUNG OFFENDERS.

Best wishes for a successful research project.

Sincerely,

ROBERT G. ROSEHART
President

/lw
cc: Dr. E. Rawana

Appendix D

Letter of Approval from Lakehead Board of Education

THE LAKEHEAD BOARD OF EDUCATION

2135 Sills Street
Thunder Bay, Ontario P7E 5T2
Telephone (807) 625-5100
Fax (807) 623-5833

SCHOOLS FOR THE FUTURE

1995 06 22

Lakehead University
Dept. of Psychology
955 Oliver Road
THUNDER BAY, Ontario
P7B 5E1

Gentlemen:

I am pleased to advise you that your research project, entitled "**Critical Evaluation of the Validity of the Risk/Need Assessment with Aboriginal Young Offenders in Northwestern Ontario**", has been approved.

A copy of your application and relevant information must be provided by you to the principals at the schools highlighted on the attached list.

Please contact them directly. Final approval for this research rests with each individual principal. Their decision will be based on factors such as the number of projects in which their school is asked to participate; their opinion of the relevance of the research; and the staff's time considerations.

Best wishes for success with your project. This office requires a list of the schools participating and would appreciate receiving a copy of your report upon completion.

Sincerely,

John Lester
Education Officer

JL:jg
6wLET\L-lkhd.

Attach.

Appendix E

Information Letter/Informed Consent Form

/Authorization to Release Student Information for the Subjects' Parents

LAKEHEAD UNIVERSITY
...r Road, Thunder Bay, Ontario, Canada P7B 5E1

Department of Psychology
Telephone (807) 343-8441

Dear Parent/Guardian,

My name is Sandy Jung and I am in the Master of Arts program in Clinical Psychology at Lakehead University. I am conducting a research study entitled "Critical Evaluation of the Validity of the Risk/Need Assessment with Delinquents and Non-delinquent Youths," supervised by Dr. Edward Rawana of the Lakehead Regional Family Centre and Lakehead University.

Recently, the Ministry of Community and Social Services has begun using a new form to look at the risk level of young offenders ages 12 to 15 years. This form is to help probation officers make decisions about the young offender's level of supervision and what potential treatment would be useful to him/her. Because the form is fairly new, the usefulness of the form has not been examined. For example, we are unsure as to whether the form can help tell the difference between youths who have offended and those who have not offended.

My research will look at the usefulness of the tool with young offenders and identify some characteristics which differ between young offenders and non-delinquent students. In addition to the young offenders who will take part in this study, I also need some non-offending students with whom to compare the young offenders. This will help me to discover some of the ways in which young offenders differ from non-offending students on risk and need factors. I would like to invite your child to be part of this non-offender comparison, or control, group.

Participation will include an hour long interview with your child in which I will ask questions regarding his/her school behavior, peer relations, personality, behavior, and, if any, substance abuse. In addition to the interview, I may also need to ask you more questions about your child and his/her behaviour at home and may need to review school record information as well. If you give permission for your child to participate, I will provide more details about the interview by telephone.

Please note that this interview with your child is for research purposes only and will not affect the school board's academic classification of any of the children. Yours and your child's participation is voluntary, so you and your child may withdraw from participation at any time without penalty. All individual test results, and names of you and your child will be kept confidential.

At a follow-up of 6 to 10 months after interviewing your child, I would like to contact you and your child and in a short meeting, I would ask both of you whether your child has had any interaction with the police. With your consent, I would also check such information from Probation Services. **However, such information will only be requested from Probation Services with yours and your son/daughter's informed consent.**

There are no anticipated risks, but there may be some benefit to you and your child. With your child's help and your help we can come to better understand the risk factors which may lead to a child to delinquency. This may assist parents such as yourselves to be more aware of those factors and, hopefully, prevent delinquency from occurring.

If you are interested in the results of the study, we would be more than happy to share them with you at the end of the study. If you are interested in having your child participate, please fill out and return the attached Informed Consent Form. I will collect it from the teacher and telephone you within the next few weeks. At that time, you are welcome ask any questions about the research and the procedures. If you remain interested in the study,

we will set up a time convenient to you and your child. If you have questions or concerns at present time regarding this study, please contact myself, Sandy Jung, at 346-8501 (or 343-8476), or my supervisor, at 343-5000.

Many Thanks,

Sandy Jung, B.Sc.

LAKEHEAD UNIVERSITY
... Road, Thunder Bay, Ontario, Canada P7B 5E1
Department of Psychology
Telephone (807) 343-8441

Informed Consent Form

1. Title of research: Critical Evaluation of the Validity of the Risk/Need Assessment with Delinquents and Non-delinquent Youths

2. I give consent to allow my son/daughter, _____, to participate in this study on the evaluation of the Risk/Need Assessment form.

3. Sandy Jung has informed me by an information letter the procedures in this project. My child will be requested to participate in a one hour interview at a mutually convenient time. I have been given a letter explaining to me the details and the nature of the study. The names and numbers of the researcher and her supervisor have been given to me in the letter.

4. All of my responses and my child's responses will be kept anonymous and confidential by the researcher.

5. I also consent to the researcher reviewing my child's school records, speaking to school staff, and calling myself if the occasion should arise that she need further information. It has been made clear in the information letter that any information given is for research purposes only and will not affect the school board's academic classification of my son/daughter in any way.

6. I also understand and consent to the researcher in contacting myself at a follow-up period ranging from 6 to 10 months after the initial assessment to determine whether my son/daughter has had any contact with the police. If the researcher finds it necessary, I give consent allowing her to obtain such information, if available, from the Probation Services Branch of the Ministry of the Community and Social Services.

7. There is no anticipated risk to either myself or my child for participation.

8. If for some reason I wish to discontinue my child's participation in the study once the session has begun, I am free to do so without explanation or penalty even after I have signed this consent form.

I have read the above pertaining to my child's participation in the study and I agree to allow my child to participate.

_____ _____
Signature of Parent/Guardian Date

Parent/Guardian's name: _____
(please print)

Phone number: _____

Best times to reach you: _____

LAKEHEAD UNIVERSITY
...ad, Thunder Bay, Ontario, Canada P7B 5E1

Department of Psychology
Telephone (807) 343-8441

AUTHORIZATION TO RELEASE STUDENT INFORMATION

_____ _____
Name of Student School

I, _____, authorize The Lakehead Board of Education to
(please print name)

release to Sandy Jung / Dr. Edward Rawana the following student information:

1. **Report Cards**
2. **Psychological Reports from The Documentation File, if any**

for the purpose of a research study entitled "Critical Evaluation of the Validity of the Risk/Need Assessment with Delinquents and Non-delinquent Youths".

_____ _____
SIGNATURE OF PARENT/GUARDIAN DATE

_____ _____
SIGNATURE OF STUDENT DATE

RECORD OF DISCLOSURE
(To be completed by employee releasing information)

Details of student information released:

_____

_____

_____

_____ _____
SIGNATURE OF EMPLOYEE DATE

********** Please RETURN this page to the classroom or homeroom teacher **********

Appendix F

Telephone Script

Hello, this is Sandy Jung from the Department of Psychology at Lakehead University. I am following up on a letter I had sent to you a few weeks ago regarding the study on evaluating the Risk/Need Assessment form used with young offenders. Do you remember the letter? (if yes, continue). I received your written consent from your son/daughter's teacher and was wondering if you were still interested in having your son/daughter participate? (if yes, continue).

Is this an okay time to talk to you about the study and set an appointment with your son/daughter? (if yes, continue; otherwise, set up another time for you to call)

Do you have any questions about the study? (if no, continue)

Okay, I just want to tell you a little more about the study than what was in the information letter. As the letter had told you, the Risk/Need Assessment is used in the province of Ontario with Phase I young offenders which are offenders between the ages of 12 to 15 years. The instrument is used to assess the risk level of the youth. This means that the probation officers use 8 critical risk and need factors to evaluate the potential of the youth to re-offend. In addition to using these factors to predict whether the youth re-offends or not, these factors are also used to determine what rehabilitative method is best to deter them from re-offending by seeing which needs should be addressed in therapy. As I said, there are 8 risk factors and these include prior and current offenses/dispositions, family circumstances/parenting, education/employment, peer relations, substance abuse, leisure/recreation, personality behavior, and attitudes orientation. Thus, questions in the interview with your child will be items related to these areas.

Before I continue, I would just like to remind you that all the information that you and your child give me, including the information you give me by phone, are strictly confidential. That is, only I will have access to the information you and your child give.

Do you have any questions at this point? (if no, continue)

I just have a few more questions regarding what the kinds of information I may need and inform you about this. As stated in the letter, in addition to the interview, I may require information on your child's behavior from yourself to corroborate your child's answers in the interview. Would that be okay with yourself? (if yes, continue)

And also, I may need to review your child's school records and ask your child's teacher questions pertaining to his performance in school. Would this be okay with you? (if yes, continue)

At a 6 to 10 months follow-up, would it be alright with you if I contacted you again and meet with your son/daughter for a few minutes to ask a few questions? (if yes, continue)

Again, in the letter you have read, would it be alright if I obtained information on your son/daughter from the Probation Services Branch if they have any information regarding your son/daughter? (if yes, continue)

As a reminder, participation is voluntary and you may withdraw your child from the study at any time without penalty. This also includes if after the assessment you change your mind about continuing participation and thus, severing any contacts I may have with yourself in the follow-up.

After I have assessed your son/daughter, I will provide him/her with an information sheet with some further information about the study. Would you like to have the results of the study when completed? (if yes, get address to send information; if no, continue)

Okay, let's set up a time for me to meet your son/daughter, preferably during school hours.

Appendix G

Informed Consent Form for Child/Youth

LAKEHEAD UNIVERSITY
... Road, Thunder Bay, Ontario, Canada P7B 5E1
Critical Evaluation 99
Department of Psychology
Telephone (807) 343-8441

Informed Consent Form

1. Title of research: Critical Evaluation of the Validity of the Risk/Need Assessment with Delinquents and Non-delinquent Youths

2. I, _____, consent to participating in this study on the Risk/Need Assessment Form.

3. The researcher, Sandy Jung, has told me what I am supposed to do in this project. She will ask me questions about how I am in school, with my friends, and at home. I understand that she might look at my school records and that she may ask questions to my teacher about how I am doing in school.

4. I told her that it is okay for her to look at my school records and ask my parents for more information about me. I know that she will keep this information confidential, this means that my teachers, my principal, and anyone else, except for Sandy Jung, will NOT know my responses to Sandy's questions, the information she collected from talking to my teacher and my parents, and the information from my school records. All this informations will not be shared with anybody.

5. It is okay for Sandy Jung to call my parents and me after 6 months from today and ask me questions. These questions are about whether I have had any contact with the police. It is also okay for Sandy Jung to get this information from Probation Services.

6. Sandy has told me that there are no dangers that she can see happening if I consent.

7. If for some reason I do not want to continue in the study once Sandy has started to ask questions, I am free to leave. I do not have to explain and I will not be punished even after I sign this consent form.

I have read the above about my participation in the study and I agree to participate in the study.

_____ _____

Signature of Student Date

Appendix H

Process of Dissemination of the Research Results:

Debriefing Letter to Parents

LAKEHEAD UNIVERSITY
er Road. Thunder Bay. Ontario. Canada P7B 5E1

Department of Psychology
Telephone (807) 343-8441

31 July 1996

Dear Parent or Guardian:

My name is Sandy Jung and I am writing to you regarding a study that your child participated in at their school this past year. Recall that your child was interviewed at their school sometime in December or in January and you were interviewed over the phone. This letter serves to share some of the findings from the study. The study is entitled

CRITICAL EVALUATION OF THE VALIDITY OF THE RISK/NEED ASSESSMENT WITH DELINQUENT AND NON-DELINQUENT YOUTHS

As mentioned to you in an information letter distributed by the school, the study evaluated the usefulness of a form used by the Probation Division of the Ministry of Community and Social Services. This form is to help probation officers make decisions about a young offender's level of supervision and what potential treatment would be useful to him/her. The form called the Risk/Need Assessment Form is only used with kids who have gotten themselves in trouble with the law. It is the probation officer's responsibility to complete the form based on interviews with the youth, file reviews and family information.

The form comprises of eight areas which are risk and need factors. Risk factors (e.g., previous offenses, impulsivity) are important in determining whether a young offender is in danger of committing an illegal offense. Therefore, risk factors are assumed to predict the risk for future offending. On the other hand, need factors are important for the probation officer and/or social worker to target in treatment (e.g., educational problems). The eight factors on the form are (1) previous and current offences/dispositions, (2) family and parenting, (3) education, (4) peer relations, (5) substance abuse, (6) leisure and recreational activities, (7) personality and behaviour, and (8) attitudes.

To evaluate whether the instrument is doing an adequate job in determining a young offender's risk/need level, each youth was follow-up at 6 months to check whether he/she committed an offense after the probation officer or the researcher assessed him/her.

Young offender Risk/Need Assessment Forms were completed by probation officers and 263 forms were obtained. In addition to the young offender sample, a non-offending sample was gathered by myself from schools in the Lakehead Board of Education. Participation was voluntary and included an interview with the youth, a phone interview with the parent, and a review of the school records. Consent was obtained by both the parent and the student. The purpose of obtaining a non-offender sample was to examine the Risk/Need Assessment Form's ability to discriminate between delinquent and non-delinquent youths and to see if the instrument would work the same for both samples (e.g., predict future offending behaviour). As a result, 62 non-offending students participated and were included in the following results.

There were three objectives in the investigation and each will be examined in turn.

Delinquency. The first objective was to determine if the form was able to tell the difference between delinquent and non-delinquent youths and also, if it could equally predict future offending behaviour for both groups.

The analysis showed that non-delinquent and delinquent youths differed on all of the risk/need factors and on the overall total risk/need score. Thus, the form demonstrates that it is capable of assessing risk and need factors that are important and relevant to delinquency. Interestingly, the most important factors which discriminated between the two groups (delinquent youths scoring higher than non-delinquent youths) were educational problems, negative peer relations, and family/parenting difficulties.

Ethnicity. The second objective was to see if the form worked the same for different ethnicities. Because northwestern Ontario is comprised of more aboriginal persons than most other parts of Ontario, it was felt that the instrument's usefulness with aboriginal delinquents should be examined. Thus, the total score on the form and each of its eight risk/need factors were examined to see if there were any large differences in how the form assessed aboriginal and non-aboriginal young offenders. Also, the Risk/Need Assessment Form's ability to predict re-offending for delinquent youths was analyzed for both youths of aboriginal descent and youths of non-aboriginal descent ("non-aboriginal" was used due to the small number of other minority youths).

It was found that although aboriginal and non-aboriginal youths differ on some risk/need factors (e.g., family and parenting, peer relations), race was unimportant with regard to the instrument's ability to predict re-offending behaviour. Thus, the findings suggest that these eight risk/need areas are relevant to young offenders of different ethnicities.

Gender. The third objective was to examine if the form worked the same for both male and female young offenders. The results showed that the form is objective in its use with male and female youths. On all eight risk/need factors and on the total risk/need score, there were no significant differences between the two groups. The form also equally predicted future offending for both male and female young offenders.

I hope this information has answered some of your initial questions when first informed of the research. However, if you have any questions regarding the study, please feel free to call the supervisor for the project, Dr. Edward Rawana at (807) 343-5000 (c/o LRFC) or myself at (807) 346-8501.

I would like to thank-you again for your participation, for without it, this research investigation would not be possible.

Many thanks,

Sandy Jung, B.Sc.
M.A. Candidate

Appendix I

Normative and Reliability Data for the Risk/Need Scales and Subscales

	Delinquent		Non-Delinquent	
	f	%	f	%
1. Prior and current offences/ dispositions				
a. Three or more prior convictions	34/263	12.9	NA[a]	
b. Two or more prior failures to comply	19/263	7.2	NA	
c. Prior probation	65/263	24.7	NA	
d. Prior custody	27/263	10.3	NA	
e. Three or more current convictions	42/263	16.0	NA	
Mean	0.71		NA	
Standard Deviation	1.23		NA	
Coefficient Alpha = .77				
2. Family Circumstances/Parenting				
a. Inadequate supervision	74/263	28.1	1/62	1.6
b. Difficulty in controlling behaviour	138/263	52.5	1.62	1.6
c. Inappropriate discipline	47/263	17.9	3/62	4.8
d. Inconsistent parenting	105/263	39.9	5/62	8.1
e. Poor relations/father-child	74/263	28.1	12/62	19.4
f. Poor relations/mother-child	72.263	27.4	8/62	12.9
Mean	1.94		0.48	
Standard Deviation	1.72		0.95	
Coefficient Alpha = .72				
3. Education/Employment				
a. Disruptive classroom behaviour	77/263	29.3	2/62	3.2
b. Disruptive schoolyard behaviour	51/263	19.4	0/62	0
c. Low achievement	135/263	51.3	6/62	9.7
d. Problems with peer relations	70/263	26.6	1/62	1.6
e. Problems with teacher relations	82/263	31.2	1/62	1.6
f. Truancy	135/263	51.3	5/62	8.1

	Delinquent		Non-Delinquent	
	f	%	f	%
3. Education/Employment				
g. Unemployed/not seeking employment	30/263	11.4	0/62	0
Mean	2.21		0.24	
Standard Deviation	1.70		0.56	
Coefficient Alpha = .68				
4. Peer Relations				
a. Some delinquent acquaintances	173/263	65.8	15/62	24.2
b. Some delinquent friends	158/263	60.1	3/62	4.8
c. No or few positive acquaintances	63/263	24.0	1/62	1.6
d. No or few positive friends	67/263	25.5	1/62	1.6
Mean	1.75		0.34	
Standard Deviation	1.20		0.67	
Coefficient Alpha = .64				
5. Substance Abuse				
a. Occasional drug use	73/263	27.8	1/62	1.6
b. Chronic drug use	16/263	6.1	0/62	0
c. Chronic alcohol use	33/263	12.5	0/62	0
d. Substance use interferes with functioning	34/263	12.9	1/62	1.6
e. Substance use linked to offence(s)	66/263	25.1	0/62	0
Mean	0.84		0.03	
Standard Deviation	1.12		0.25	
Coefficient Alpha = .62				

	Delinquent		Non-Delinquent	
	f	%	f	%
6. Leisure/Recreation				
a. Limited organized participation	145/263	55.1	18/62	29.0
b. Could make better use of time	146/263	55.5	12/62	19.4
c. No personal interest	62/263	23.6	8/62	12.9
Mean	1.34		0.61	
Standard Deviation	1.09		1.01	
Coefficient Alpha = .69				
7. Personality/Behaviour				
a. Inflated self-esteem	6/263	2.3	1/62	1.6
b. Physically aggressive	76/263	28.9	0/62	0
c. Tantrums	58/263	22.1	4/62	6.5
d. Short attention span	55/263	20.9	2/62	3.2
e. Poor frustration tolerance	96/263	365	3/62	4.8
f. Inadequate guilt feelings	35/263	13.3	3/62	4.8
g. Verbally aggressive, impudent	84/263	31.9	1/62	1.6
Mean	1.56		0.23	
Standard Deviation	1.68		0.76	
Coefficient Alpha = .72				
8. Attitudes/Orientation				
a. Antisocial/procriminal attitudes	49/263	18.6	1/62	1.6
b. Not seeking help	67/263	25.5	0/62	0
c. Actively rejecting help	22/263	8.4	0/62	0
d. Defies authority	91/263	34.6	1/62	1.6
e. Callous, little concern for others	41/263	15.6	0/62	0
Mean	1.03		0.03	
Standard Deviation	1.32		0.18	

	Delinquent		Non-Delinquent	
	f	%	f	%
8. Attitudes/Orientation				
Coefficient Alpha = .71				

[a] NA = not applicable; coefficient alpha only includes delinquent sample