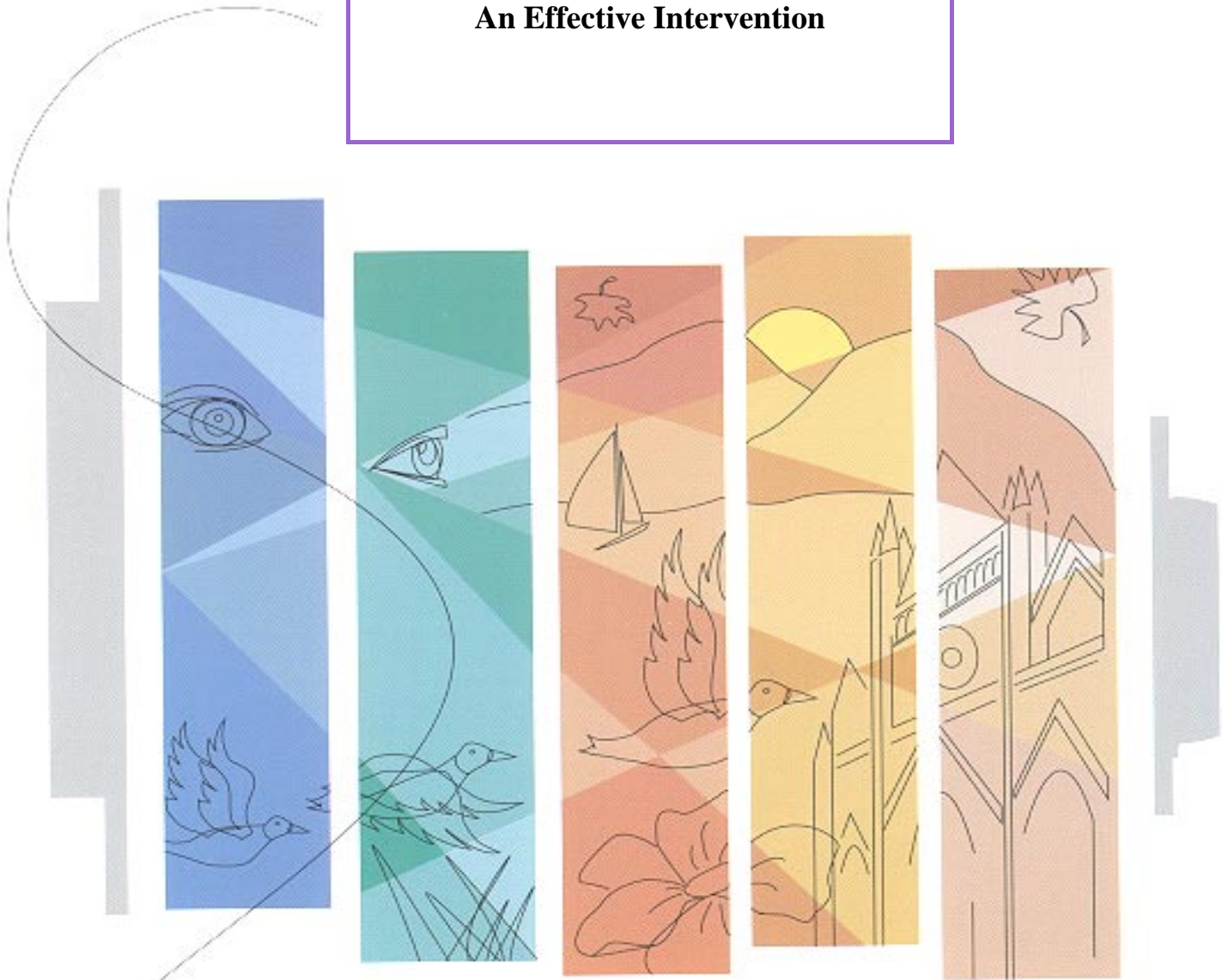




Research Branch  
Direction de la recherche

Corporate Development  
Développement organisationnel

**Anger Management Programming For  
Federal Male Inmates:  
An Effective Intervention**



**ANGER MANAGEMENT PROGRAMMING FOR FEDERAL MALE INMATES:  
AN EFFECTIVE INTERVENTION**

by

Craig Dowden, Kelley Blanchette, and Ralph Serin

Research Branch

Correctional Service Canada

April, 1999

## EXECUTIVE SUMMARY

It has been suggested that violent crime is more severe than other forms of criminal activity because of the harm to the victim as well as the greater costs incurred by society. Despite these concerns, very few treatment programs have been introduced which specifically target violent offenders. However, of those programs currently available, Anger Management appears to be the intervention of choice for this population. Unfortunately, there have been relatively few controlled studies that have evaluated the effectiveness of Anger Management programs with violent offenders.

This investigation compared a matched sample of 110 male federal offenders who completed the institutional Anger Management program to an untreated comparison group, the majority (86%) of whom were matched to the treatment group on age, Statistical Information on Recidivism (SIR) risk group and major admitting offence. Where it was not possible to match on all three criteria (14%), offenders were matched on age and SIR risk group. In comparing groups on post-release outcome criteria (non-violent and violent recidivism), survival analysis was used to equate groups for time-at-risk in the community.

The first set of comparisons compared 'treated' to 'comparison' subjects on non-violent recidivism (defined as any new conviction for a non-violent offence). Both groups of inmates were divided into higher- versus lower-risk groups based on SIR risk group ratings. Results revealed that for the lower-risk cases (n=54), completion of the Anger Management program was not significantly associated with reduced levels of non-violent re-offending. However, when analyses focused on higher-risk cases (n=56), significant reductions in non-violent recidivism were found. This translated into a 69% reduction in non-violent recidivism (i.e. 39.3% recidivism rate for the comparison group versus 12.5% of the Anger Management group).

Although the analyses of non-violent recidivism produced some encouraging results, the primary goal of Anger Management programs is to

reduce violent recidivism. Accordingly, groups were also compared on violent recidivism. As expected, completion of the Anger Management program failed to produce significant reductions in violent recidivism among lower-risk cases (base rate =7.4%). However, for the higher-risk group, completion of the Anger Management program was associated with significant reductions in violent re-offending. This translated into an 86% reduction in violent re-offending (25% violent recidivism rate for the control group versus 3.6% for the Anger Management group).

Another interesting finding was that some of the pre-post change scores on assessment measures were significantly correlated with reductions in both non-violent and violent recidivism. For non-violent recidivism, a decrease in “State Anger” was associated with a significant decrease in re-offending. Not surprisingly, when the outcome measure used was violent recidivism, more statistically significant associations were found. Analyses revealed that change scores on three of the six sub-scales were associated with violent re-offending. More specifically, increased insight into anger problems, increased knowledge of anger management skills and increased anger self-competence were each associated with significant reductions in violent re-offending. Again, these results suggest that positive treatment-related change is associated with more positive post-release outcome.

To conclude, the present study highlights several important points. First, the results demonstrate that institutional Anger Management programs show promise for reducing recidivism. Second, the results support the risk principle of case classification. The risk principle states that the most intensive levels of service should be reserved for the higher-risk cases whereas the lower-risk cases should receive minimal intervention and supervision. The findings of the current outcome study strongly support the delivery of treatment resources to higher-risk as opposed to lower-risk cases. Jointly, these findings point to the relative importance of pre-treatment assessment and appropriate designation of high and low-risk offenders to varying levels of treatment services.

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	<b>ii</b>
<b>TABLE OF CONTENTS</b> .....	<b>iv</b>
<b>LIST OF TABLES</b> .....	<b>v</b>
<b>LIST OF FIGURES</b> .....	<b>v</b>
<b>THE EFFECTIVENESS OF AN INSTITUTIONAL ANGER MANAGEMENT PROGRAM FOR FEDERAL MALE OFFENDERS</b> .....	<b>1</b>
<i>PAST RESEARCH</i> .....	2
<i>RATIONALE</i> .....	4
<i>DESCRIPTION OF THE PROGRAM</i> .....	5
<b>METHOD</b> .....	<b>7</b>
<i>MATCHING ‘TREATMENT’ TO ‘COMPARISON’ SUBJECTS</i> .....	8
<i>PROCEDURE</i> .....	9
<b>RESULTS</b> .....	<b>11</b>
<i>DEMOGRAPHIC INFORMATION</i> .....	11
<i>CRIMINAL RISK ASSESSMENT</i> .....	11
<i>CASE NEED IDENTIFICATION AND ANALYSIS</i> .....	12
<i>POST-RELEASE OUTCOME</i> .....	14
<i>NON-VIOLENT RECIDIVISM</i> .....	14
<i>VIOLENT RECIDIVISM</i> .....	16
<i>PRE/POST TESTS AND OUTCOME</i> .....	18
<b>DISCUSSION</b> .....	<b>19</b>
<b>REFERENCES</b> .....	<b>22</b>
<b>APPENDIX A</b> .....	<b>24</b>
<b>APPENDIX B</b> .....	<b>29</b>

## LIST OF TABLES

<b>Table 1:</b>	Overall Need Ratings for Anger Management and Comparison Groups .....	13
-----------------	---	----

## LIST OF FIGURES

<b>Figure 1:</b>	Comparison of Non-violent Recidivism Survival Rates for the High-Risk Anger Management and Matched Comparison Group Samples.....	16
<b>Figure 2:</b>	Comparison of Violent Recidivism Survival Rates for the High-Risk Anger Management and Matched Comparison Group Samples.....	17

## THE EFFECTIVENESS OF AN INSTITUTIONAL ANGER MANAGEMENT PROGRAM FOR FEDERAL MALE OFFENDERS

Within Canada, violent crimes account for a relatively small proportion of the criminal activity reported to the police each year. A recent review of the trends in violent offending in Canada reported that of the 2.7 million criminal acts committed in 1995, 10% of them involved violence. More importantly, minor (level 1) assaults accounted for the majority (60%) of all violent crime. However, an equally important finding from this study was that Canadians are more concerned about violent crime than any other form of criminal activity (Johnson & Boe, 1997).

Accordingly, violent crime is more severe than other forms of criminal activity because of the harm to the victim as well as the greater costs incurred by society (Smiley, Mulloy & Brown, 1997). Surprisingly, despite these concerns, relatively few treatment programs appear to be aimed specifically at violent offenders (Smiley, Mulloy & Brown, 1997). The importance of providing adequate correctional treatment resources for this population is highlighted in a study that examined violent federal offenders within Canada (Motiuk & Belcourt, 1997). Motiuk and Belcourt (1997) reported that federal offenders with violent offence histories were significantly more likely to be returned to federal custody (with a new offence or parole violation) than non-violent offenders. Importantly, violent offenders were also reincarcerated for a new violent offence at a significantly higher rate than their non-violent counterparts.

Over the past few years, the amount of research focusing on violent offenders has increased. For example, an entire issue of *Forum on Corrections Research* (1997) was dedicated to assessment and treatment of violent offenders. In addition, several internal Correctional Service of Canada reports have focused on the development of specialized treatment strategies for violent offenders (Correctional Service Canada, 1995; Serin, 1994).

Although very few treatment programs have been specifically designed for violent offenders, Anger Management seems to be the program of choice for dealing with this population (Serin, 1994). For example, a recent survey of the types of federal treatment programs offered to violent offenders revealed that Anger Management programs were the most frequently used intervention strategy within Canadian institutions (Serin & Brown, 1997). More specifically, Anger Management programs were offered by 31% of the institutions that responded. The prevalence of Anger Management programs was almost twice as high as that reported for the next most frequently used intervention strategy (Living without Violence).

Although Anger Management appears to be one of the most common forms of intervention offered to offender populations, very little treatment outcome research has been provided to formally evaluate its impact on recidivism (Hughes, 1993; Hunter, 1993; Serin, 1994). This is surprising given the current emphasis on “what works” and the call for empirically-validated intervention strategies. It may be that the strong intuitive appeal of this form of programming accounts for its popularity. For example, Hughes (1993) argued that Anger Management programs are widely adopted because of the underlying belief that feelings of anger, hostility and aggression are responsible for antisocial and criminal behavior and are especially important precursors to violent acts.

### ***Past Research***

Hughes (1993) conducted one of the first controlled outcome studies on the effectiveness of Anger Management programming for offenders. The author examined the effectiveness of an institutional Anger Management program by comparing recidivism data for a sample of treatment completers ( $n=52$ ) to an unmatched waiting list control group ( $n=27$ ). Although the non-violent and violent recidivism rates were somewhat lower for the treatment group, these differences did not reach statistical significance. However, Hughes (1993) noted that the reductions in violent re-offending in the treatment group approached significance.



More recently, Marquis, Bourgon, Armstrong and Pfaff (1996) conducted another program evaluation on two distinct samples of offenders who had received institutional Anger Management programming. The results derived from this study provide more promising evidence for the therapeutic potential of Anger Management interventions.

Marquis et al. (1996) compared the treatment and control groups of the first sample on several potential confounding variables such as age, Level of Service Inventory (LSI-R; Andrews & Bonta, 1995) score, and sentence length and failed to find any significant differences. The second sample of offenders was only compared on their LSI scores but once again, there were no significant differences between the groups. It should be noted that the LSI is a risk/need assessment instrument that is used to classify offenders based on their risk to re-offend as well as to aid in the allocation of correctional treatment resources. Based on the high degree of between-group similarity, the authors noted that any differences found in the recidivism rates could be more reasonably attributed to treatment rather than to other extraneous variables.

The first sample of offenders evaluated by Marquis et al. (1996) had completed either a Relapse Prevention program alone or in combination with an Anger Management program between 1991-92. The recidivism rate for these treated offenders was compared to that of a waiting list control group who did not gain entry into the treatment program. Results revealed that violent offenders who completed the Anger Management program combined with Relapse Prevention recidivated at a significantly lower rate (34%) than the waiting list control group (59%) of violent offenders. A similar pattern of results was also found with the non-violent offenders. Interestingly, the violent offenders who had received the Anger Management program in combination with Relapse Prevention also recidivated at a lower rate than a sample of violent offenders who only received the Relapse Prevention program. Statistical analyses were not conducted on this between-group difference which precludes the formation of any definitive conclusions.

The second sample of offenders had completed an Anger Management program either alone or in combination with Substance Abuse programming. Not surprisingly, both the Anger Management program (33%) as well as the composite Anger Management and Substance Abuse program (36%) yielded significantly lower recidivism rates as compared to the control group (60%). Both samples of offenders provided supportive evidence for the effectiveness of Anger Management programs.

Although these program evaluations have provided preliminary support for the effectiveness of Anger Management programs, the small number of studies makes it difficult to provide a definitive determination of the generalizability of these findings. A recent meta-analytic review conducted by Andrews, Dowden and Gendreau (under review) may provide a broader indication of the therapeutic potential of this form of treatment. Within this review, the authors examined the types of criminogenic and noncriminogenic needs targeted within the treatment program. One of the subcategories of criminogenic need was “Antisocial Feelings.” Programs that targeted “anger” or “feelings of frustration” were included within this category. Results revealed that programs that targeted “Antisocial Feelings” were associated with significant reductions in reoffending (mean  $r = .32$ ,  $k=62$ ). Although not all of the effect sizes included within this criminogenic need category focused on attending to Anger Management skills, the results suggest that addressing antisocial feelings (i.e. anger) is an appropriate treatment target for offenders. These results have important implications for the present investigation.

### ***Rationale***

The purpose of the present investigation is to conduct a preliminary evaluation of the effectiveness of an Anger Management program that was delivered to adult federal male offenders within an institutional setting. It is hoped that this evaluation will increase the knowledge base concerning Anger Management programs and will support more definitive conclusions regarding its therapeutic potential.

### ***Description of the Program***

Correctional Service of Canada's "Anger and Other Emotions Management" is a cognitive-behavioral intervention with particular emphasis on skill building and staff involvement. The primary goal of the program is to reduce aggressive behavior by developing emotion management skills. Consequently, the offenders selected for the program have high levels of hostility or aggression as evidenced by past or current violent behavior.

Although Anger Management is the primary emphasis of the program, other strong negative emotions such as anxiety, jealousy and frustration are also targeted. Ellis' Rational Emotive Therapy (RET) and Meichenbaum's Self-Instructional Training are two of the cognitive-behavioral approaches that have been incorporated into the program, which consists of 25 two-hour sessions delivered within a group setting. The sessions are offered between 2-5 times a week and the size of the group ranges from 4-10 participants. Program participants are taught a wide variety of skills encompassing the development of increased self-management and self-control skills, effective problem-solving, effective communication, identifying high-risk situations (within the context of a Relapse Prevention model) as well as examining and correcting the thinking errors that underlie emotions-based aggression through prosocial skills training.

The characteristics of effective correctional staff outlined by Andrews and Kiessling (1980) are followed in the selection of program staff. More specifically, the staff must be enthusiastic, prosocial, empathetic and firm, but fair. The facilitators are also instructed to involve themselves with the participants in an active, directive and collaborative manner. Further, the facilitators are selected based on their interpersonal skills and lack of cognitive deficits. Positive reinforcement is preferred to criticism when the facilitators are interacting with the clients. Each staff member has been trained and certified in the training model and regular supervision and scheduled site audits are also used to maintain the integrity of the program.

Although the actual methods used by staff are somewhat varied, the underlying approach used to teach the core skills is essentially the same. The first step of the process is a facilitator-led discussion regarding the skill of interest. Following this overview, the facilitator models the skill for the offenders, who later practice these skills with role-play exercises. The facilitator then provides constructive feedback on the performance of each of the group members and the session content is reviewed. The final step in the skill development process involves the facilitator providing the offenders with homework exercises to practice the skill outside of the group context.

## METHOD

The present investigation compared male federal offenders who had completed an Anger Management program with a matched comparison group of untreated offenders. More specifically, these groups were compared on a variety of criteria such as risk/need variables and post-release outcome. The data used for this study were collected from the Offender Management System (OMS; an automated database) and Canadian Police Information Center (CPIC) records.

OMS is an automated database that stores information relating to each federal offender currently (or previously) incarcerated in Canada. Most of the required information for the present study was obtained through this database. The two types of information extracted from OMS included the Correctional Plan and the offender Progress Summaries and other information relating to the successful and unsuccessful program completion for each offender. These data were used to determine whether potential comparison group candidates had participated in an Anger Management program during past or current incarcerations. If a (potential) comparison group member had participated in an Anger Management program at any point in time, he was excluded from the analyses to avoid contaminating the results.

Canadian Police Information Center (CPIC) records were used to determine the official offence history for each of the offenders included in the sample. A comprehensive coding manual (Appendix A) was developed to measure all offences that had resulted in the current federal conviction (i.e. post 1994) for each treatment subject. The information provided by the CPIC records was divided into three different conviction categories. Past history included all of the offences previously committed by the offender. The current offence category included all of the offences responsible for the present conviction and period of incarceration. The official recidivism column annotated any return to prison after release from the “current” sentence.

### ***Matching 'Treatment' to 'Comparison' Subjects***

The initial sample was extracted from OMS on July 15th, 1998 and included 691 federal male inmates who had successfully completed an Anger Management program during their most recent incarceration period. These individuals were then matched, retrospectively to a sample of federal offenders who had not participated in an Anger Management program.

Subjects were matched on admitting offence, age and Statistical Information on Recidivism risk score (SIR; Nuffield, 1982). It should be noted that if a treatment subject had multiple offences at admission, the most serious offence was selected for matching purposes. For example, violent offences such as sexual assault and armed robbery were considered more serious than non-violent offences such as break and enter or fraud.

For some participants, matching on all three variables was not possible. Therefore, to ensure that the final analysis included the maximum number of subjects, a small number of participants were matched on only two of the three variables. Specifically, if a subject could not be matched on all criteria, he was matched with another offender similar in age and SIR score. However, it should be stressed that the majority of the offenders were matched using all three criteria.

Not surprisingly, as a result of the matching procedure, many subjects were lost from the study. The initial sample of 691 treated subjects decreased to 445 when subjects with missing data (SIR score or date of birth) were excluded. These 445 men were then matched to a random sample of federal inmates based on the aforementioned selection criteria. It should be noted that 86% of this sample was matched on all three selection criteria.

Once the matching process was complete, additional subjects were lost as a result of missing data. Closer examination of the final matched pairs revealed that three comparison group subjects did not possess a corresponding Finger Print Serial (FPS) number. These individuals, along with their matched pairs, were excluded, as it would be difficult to obtain recidivism data without a

FPS on file. Finally, subjects in the treatment group who did not have an evaluation date listed in their data files were also dropped. These corrections decreased the total sample size to 348 matched pairs.

Although these 348 matched pairs were accomplished, only 190 of those had been released into the community at the time of the extraction date (July 15<sup>th</sup>, 1998). Furthermore, 60 of the matched pairs had to be excluded for other reasons such as death or deportation of one or both members. Finally, of the 130 matched pairs available for the final analysis, complete recidivism information was only available for 110 matched pairs.

### ***Procedure***

The final sample was evaluated on several criteria. First, both groups of offenders were compared on Offender Intake Assessment (OIA) data (Motiuk, 1997). Information included in the OIA details the criminogenic needs possessed by each offender as well as information relating to criminal history. Therefore, analyses were conducted to determine whether subjects selected for Anger Management programs differed in some way from the matched subjects who had not participated in an Anger Management program.

The treated and comparison subjects were also compared on recidivism data. Two different definitions of recidivism were used for the present investigation: non-violent recidivism and violent recidivism. In addition, the risk level of the treatment population was determined by using the SIR group scores for each subject. The SIR categorizes offenders into 5 groups according to risk-to offend. These five categories are very good (lowest risk), good, fair, poor and very poor (highest risk). For this study, we dichotomized these risk groups into a low and high-risk group. The low-risk group (n=108) was composed of the categories of the very good, good and fair risk categories. The high-risk group (n=112), was composed of the poor and very poor risk groups as defined by the SIR scale.

This within-sample differentiation allowed the investigators to test whether the risk principle of case classification (Andrews & Bonta, 1998; Andrews, Bonta, & Hoge, 1990) received empirical support in this study. The risk principle states that the higher-risk cases should be provided a more intensive allocation of resources and correctional treatment, whereas the lower-risk cases should be provided minimal levels of supervision and service. The risk principle argues that high-risk offenders must be targeted for correctional treatment to be most effective. Accordingly, it was hypothesized that the high-risk Anger Management completers would demonstrate significantly greater reductions in recidivism as compared to the lower risk cases. Finally, groups were compared on “time to recidivism” to determine whether completion of the Anger Management program was associated with an increase in the time an offender successfully resided in the community.

Since the OIA data played an important role in the comparative analyses, a brief description of the information obtained through the OIA process follows. The Correctional Service of Canada has been using the OIA since 1994. It is the standard intake assessment used by all federal institutions in Canada. The OIA procedure examines a broad range of factors pertaining to the offenders and it serves as the fundamental basis for determining their individualized correctional plans. The OIA has two main components: Criminal Risk Assessment (CRA) and Case Needs Identification and Analysis (CNIA). Both of these sections provide important information for offender assessment. These two components will be discussed in more detail in later sections.



## RESULTS

### ***Demographic Information***

To test the integrity of the matching procedure, analyses were conducted to compare the age ranges of both groups. As expected, the results indicated that the mean age of the Anger Management group ( $M=35.6$  years) was statistically indistinguishable from the comparison group ( $M=35.4$  years).

Analyses conducted on the racial composition of both groups revealed a significant difference. Interestingly, participants in the Anger Management program were more likely to be Aboriginal as compared to the comparison group. More specifically, 27% of the Anger Management group were Aboriginal as compared to 6% of the comparison group.

### ***Criminal Risk Assessment***

The Criminal Risk Assessment component of the OIA database provided detailed information pertaining to the criminal history record of each offender. More specifically, details of past and current criminal offences were extracted from this database for between-group comparisons. In addition, the overall risk level (low, medium, or high) assigned to each offender was also analysed for potential between-group differences.

Overall risk ratings were available for 92 of the Anger Management participants and 64 of the comparison group subjects. The distribution of risk level categorizations across groups maintained similar patterns. More specifically, 9% of the Anger Management group and 17% of the comparison group were classified as low-risk cases. In terms of moderate risk level, 41% of the Anger Management group and 36% of the comparison group were moderate risk while approximately 50% of the offenders in each group were classified as high risk. Not surprisingly, chi-square analyses failed to produce a significant between-group difference for risk level. This validates the effectiveness of the SIR scale matching procedure.

Analyses were also conducted on selected criminal history risk criteria. Between-group differences in youth and adult court history were examined. Results indicated that there were no significant differences present between the Anger Management group and matched comparison group on any of youth or adult court variables.

### ***Case Need Identification and Analysis***

The Anger Management and comparison groups were also compared for potential between-group differences in terms of criminogenic needs. The information used for these comparisons was obtained through the Case Needs Identification and Analysis (CNIA) component of the OIA process. The CNIA instrument records a wide variety of criminogenic need areas. These areas are grouped into seven domains, with each domain consisting of multiple individual indicators. These domains include associates/social interaction (11 indicators), attitude (24 indicators), community functioning (21 indicators), employment (35 indicators), marital/family (31 indicators), personal/emotional (46 indicators) and substance abuse (29 indicators). A complete list of the indicators is provided in Appendix B.

The CNIA rates offenders on a four-point continuum with the scores ranging from “asset to community adjustment<sup>1</sup>” to “significant need for improvement.” Ratings for each of these variables are provided by the case management officers after careful consideration of several sources of information such as the CNIA indicators, psychological evaluations, reports from staff and any other sources of pertinent information. CNIA data were available for 92 Anger Management participants and 64 of the comparison group offenders.

The scores on each of these domains were dichotomized to ease interpretation. More specifically, ratings of “asset to community adjustment” and “no need for improvement” were not considered to represent a problem area whereas ratings of “some need for improvement” and “significant need for

---

<sup>1</sup> This rating is not applicable to substance abuse domain and personal/emotional domain

improvement” were considered to represent a problem area for the offender. The percentages of Anger Management and comparison group offenders who had an identifiable problem in any of the seven domains are presented below.

**Table 1: Overall Need Ratings for Anger Management and Comparison Groups**

Type of Need	Anger Management (N=92)	Comparison Group (N=64)
Associates	76.1 %	81.2 %
Attitudes	62.0 %	54.7 %
Community Functioning*	54.4 %	70.3 %
Employment	77.2 %	81.2 %
Marital/Family	70.6 %	64.1 %
Personal/Emotional	94.6 %	93.8 %
Substance Abuse	85.9 %	81.2 %

Note: Chi-square test of significance; \* p<.05

Table 1 clearly indicates that both groups of offenders show difficulties in a large number of need areas assessed at intake. Moreover, only one of the seven need domains produced a significant between-group difference. More specifically, comparison group subjects had more problems in the community functioning domain than the Anger Management participants. These results suggest that both groups of offenders are comparable in terms of criminogenic need. This between-group similarity enables more confidence in the interpretation of the outcome data, as it suggests equality between the groups at outset (i.e. pre-treatment).

### ***Post-Release Outcome***

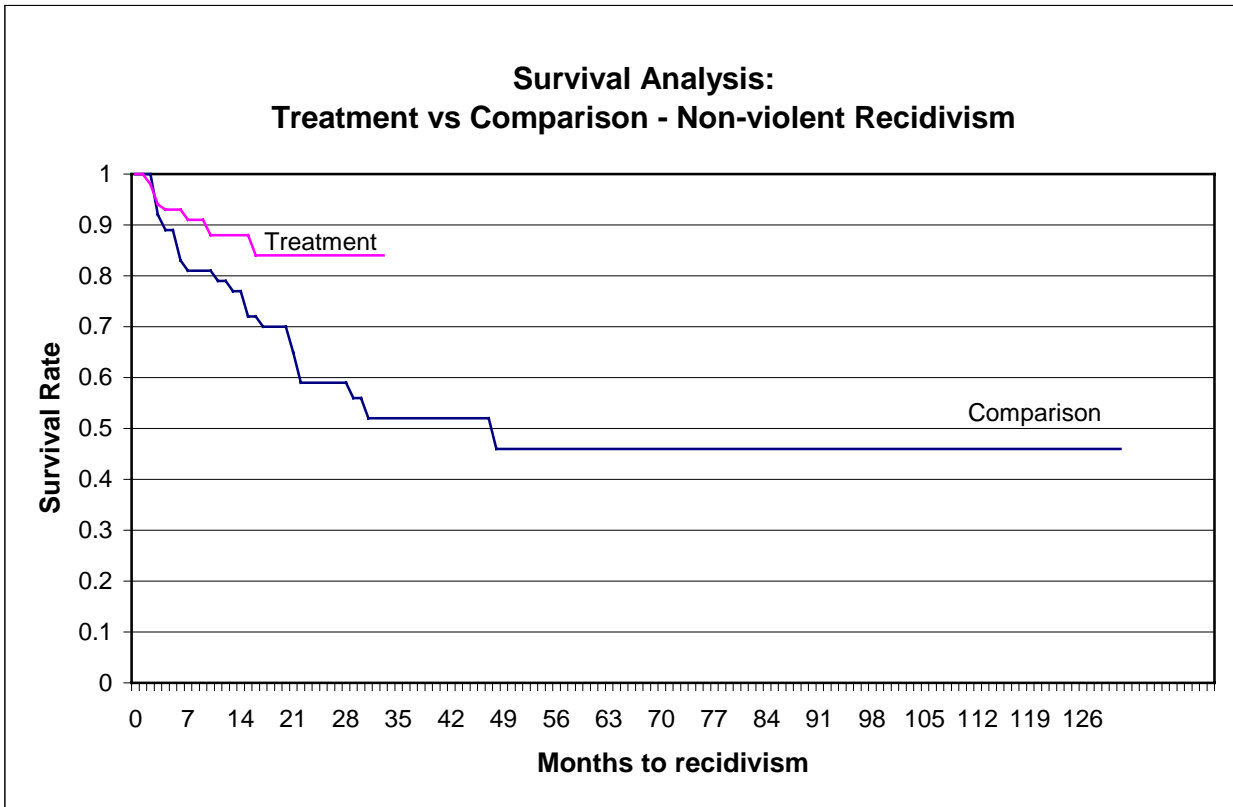
Although the between-group comparisons provided an interesting examination of the groups, the main focus of the present investigation was to examine the effectiveness of Anger Management programming in terms of its association with reduced recidivism. Consequently, both groups of offenders were followed up for varying periods within the community and recidivism information was obtained through official CPIC records. Separate analyses were conducted on both low- and high-risk populations for non-violent and violent recidivism respectively.

### ***Non-violent Recidivism***

For the present investigation, non-violent recidivism was defined as conviction for a new non-violent offence. Since random assignment of the participants to the treatment and comparison groups was not possible, offenders were compared on the mean time-at-risk in the community to ensure that there were no significant differences that would bias the results. The minimum time at risk for the treatment group was seven days and the maximum was 1063 days. For the comparison group, on the other hand, the minimum time at risk was 36 days with a maximum time at risk period of 4,323 days. Not surprisingly, a t-test revealed that the average time-at-risk (in days) for the comparison group ( $M=1,193$  days) was significantly longer than that for the Anger Management group ( $M=513$  days) ( $t_{123}=7.08$ ,  $p<.001$ ). This result made comparing the groups on a time-to-recidivism measure inappropriate. Therefore, to control for time-at-risk, a survival analysis was employed. Survival analysis reveals whether one group recidivates at a faster rate than the other while correcting for the differences in the time-at-risk. Survival analyses were conducted on the matched low and high-risk groups.

Preliminary analysis of the data revealed that within a three-year follow-up period, almost 30% of the comparison group had recidivated whereas only 10% of the treatment group recidivated. When the sample was differentiated according to low versus high-risk cases, the non-violent recidivism information provided some interesting results. For the low-risk cases (as identified by the SIR group rating), results revealed that although the Anger Management group re-offended at a lower rate than the comparison group, this difference failed to reach significant levels [ $\chi^2 = 1.03$ ,  $p > .05$ ]. However, when the analyses focused on the high-risk cases, completion of the Anger Management program was associated with significant reductions in non-violent recidivism as compared to the matched high-risk comparison group [ $\chi^2 = 4.06$ ,  $p < .05$ ]. These findings suggest Anger Management programming is more effectively allocated to individuals assessed as high-risk. The survival curves for both the treatment and comparison group subjects are presented in Figure 1.

**Figure 1: Comparison of Non-violent Recidivism Survival Rates for the High-Risk Anger Management and Matched Comparison Group Samples**

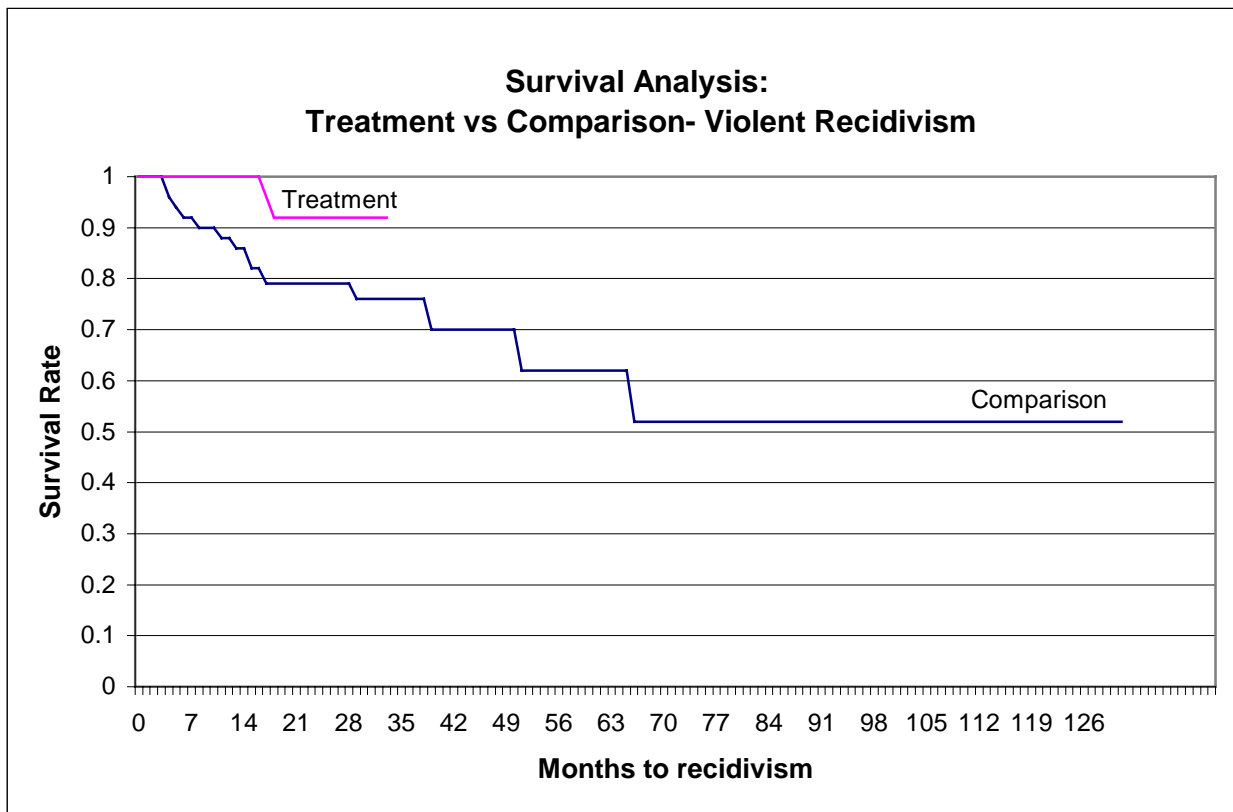


### ***Violent Recidivism***

Since one of the primary goals of the Anger Management program is to impact on the appropriate expression of anger in clients, further analyses were conducted to determine whether the Anger Management program was associated with a significantly lower violent recidivism rate compared to the controls. All new offences included as 'violent' are listed in the coding guide, Appendix A. As was the case for non-violent recidivism, separate analyses were conducted on the low- and high-risk cases.

For the sample of low-risk offenders, statistical analyses failed to reveal any significant difference between the violent recidivism rates of the treatment and comparison group [ $\chi^2=0.32$ ,  $p > .05$ ]. However, when analyses focused exclusively on the high-risk cases, completion of the Anger Management program was associated with significant reductions in violent re-offending [ $\chi^2=4.38$ ,  $p < .05$ ]. The corresponding survival rates for the Anger Management and comparison group subjects are presented in Figure 2.

**Figure 2: Comparison of Violent Recidivism Survival Rates for the High-Risk Anger Management and Matched Comparison Group Samples**



### ***Pre/Post Tests and Outcome***

The vast majority of the participants of the Anger Management program were administered the Anger and Emotions Management Questionnaire. This instrument measures a wide variety of indicators of Anger Management skills and was delivered before the participants had engaged in the treatment program. Once the Anger Management program had been completed, post-test scores were also collected. Since the pre-post-test changes were available for the majority of the offenders, statistical analyses were used to determine whether changes in sub-scale scores were associated with observed decreases in re-offending. The sub-scales included in this questionnaire were: "Trait Anger", "State Anger", "Insight into Anger Problems", "Knowledge of Anger Management Skills", "Anger Management Self-competence" and "Eysenck Impulsivity Scale".

A series of simple correlation coefficients between each of the sub-scale change scores (i.e. pre to post) and non-violent recidivism revealed that changes on only one of the six sub-scales was significantly associated with recidivism. More specifically, a decrease in "State Anger" was associated with significant decreases in re-offending ( $r=.20$ ,  $p=.05$ ). However, it should be noted that decreases in "impulsivity" (as measured by the Eysenck Impulsivity scale) approached significance ( $r=.19$ ,  $p<.06$ ). Although it is somewhat discouraging to find that change scores in only one of the six sub-scales was significantly associated with non-violent recidivism, these scales target skills related to Anger Management. Therefore, it was anticipated that change scores on these scales would be better predictors of reductions in violent as opposed to non-violent recidivism.

Not surprisingly, when the outcome measure used was violent recidivism, more statistically significant associations were found. Analyses revealed that change scores on three of the six sub-scales were associated with violent re-offending. More specifically, increased insight into anger problems ( $r=-.21$ ,  $p<.05$ ), increased knowledge of Anger Management skills ( $r=-.25$ ,  $p<.02$ ) and increased anger self-competence ( $r=-.28$ ,  $p<.01$ ) were each associated with significant reductions in violent re-offending.



## DISCUSSION

The purpose of the present investigation was to provide a preliminary examination of the effectiveness of an institutional Anger Management program. The program was delivered to a sample of 110 adult male federal offenders who were matched to a comparison group on SIR group rating, age and incoming offence (where possible). The predictive utility of an “Anger and Emotions Management” Battery (including six sub-scales) was also examined.

Perhaps one of the most important findings of the present investigation was that the significant reductions in re-offending observed in the Anger Management completers was dependent, in part, upon the risk level of the treatment population. More specifically, significant reductions in both non-violent and violent re-offending occurred in the high-risk sample of offenders. These findings provide support for the use of Anger Management programs as effective correctional interventions. Also, the results provide support for the risk principle of case classification (Andrews & Bonta, 1998; Andrews, Bonta & Hoge, 1990) in that the higher-risk cases reflected the largest positive effects of treatment. Collectively, these results suggest that Anger Management is indeed an effective correctional intervention in terms of reducing re-offending, especially when provided to high-risk cases. These findings have important policy implications for individuals involved in delivering Anger Management programs as well as correctional administrators who are involved in other forms of offender treatment.

Correlating the various sub-scales of the “Anger and Emotions Management” Battery with non-violent and violent recidivism also provided some very interesting results. Pre-post change scores on only one of the six sub-scales (State Anger) was correlated with non-violent recidivism. The fact that change scores on only one of these sub-scales was associated with non-violent recidivism makes intuitive sense as the primary purpose of these scales is to assess attributes and skills related to aggressive or violent behavior. Therefore, it is not surprising that change scores on these scales would not be associated with criminal acts that are unrelated to the primary areas of assessment.

The association between change scores on three of the sub-scales and violent recidivism for the Anger Management completers provides further support for the effectiveness of this program. These findings highlight an important point. By successfully associating the intermediate changes in the treatment targets to reduced violent re-offending, we are able to be more confident in attributing these reductions in re-offending to completion of the Anger Management program.

Results of the present investigation provide preliminary support for the effectiveness of Anger Management programming, especially for high-risk cases. Operational implications include ensuring comprehensive pre-treatment screening assessments where high-risk cases are assigned to Anger Management treatment and low-risk cases are diverted into lower intensity programs.

The present study has raised some important points for practitioners and researchers alike. First and foremost, the present investigation has illustrated that Anger Management programming is indeed an effective intervention strategy, especially for high-risk offenders. Second, when designing or evaluating a correctional treatment program, individuals must ensure that the risk level of the population is taken into consideration. For example, practitioners can assign high-risk cases into intensive treatment while transferring the low-risk cases to other services. Finally, the high proportion of Aboriginal offenders in the treatment group highlights the necessity of evaluating the effectiveness of this program for this particular offender population.

Overall, the results of the present study are encouraging. Notably, however, confidence in the findings presented will be increased with replication of these results. Planned prospective research will examine the effectiveness of Anger Management programming in more detail, using both intermediate (e.g., institutional incidences) and long-term (i.e., recidivism) outcome measures for between-groups comparisons. Moreover, a comparison of Anger Management 'completers' to 'drop-outs' will provide some indices for appropriate pre-treatment screening.

## REFERENCES

- Andrews, D.A. & Bonta, J. (1995). *The Level of Service Inventory-Revised*. Toronto: Multi-Health Systems.
- Andrews, D.A. & Bonta, J. (1998). *The Psychology of Criminal Conduct*. Second Edition. Cincinnati, OH: Anderson.
- Andrews, D.A., Bonta, J., & Hoge, R.D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior*, 17, 19-52.
- Andrews, D.A., Dowden, C., & Gendreau, P. (under review). Clinically relevant and psychologically informed approaches to reduced re-offending: A meta-analytic study of human service, risk, need, responsivity and other concerns in justice contexts. *Criminology*.
- Andrews, D.A. & Kiessling, J.J. (1980). Program structure and effective correctional practices: A summary of the CaVIC research. In R.R. Ross & P. Gendreau (Eds.), *Effective correctional treatment* (pp. 439-463). Toronto: Butterworth.
- Correctional Service of Canada (1995). Persistently violent (non-sexual) offenders: A program proposal. Research Report R-42. Ottawa: Author.
- Hughes, G. (1993). Anger Management program outcomes. *Forum on Corrections Research*, 5, 5-9.
- Hunter, D. (1993). Anger Management in the prison: An evaluation. *Forum on Corrections Research*, 5, 3-9.
- Johnson, H. & Boe, R. (1997). Violent crime trends in Canada since 1983. *Forum on Corrections Research*, 9, 2-7.
- Marquis, H.A., Bourgon, G.A., Armstrong, B., & Pfaff (1996). Reducing recidivism through institutional treatment programs. *Forum on Corrections Research*, 8, 3-5.
- Motiuk, L.L. (1997). Classification for correctional programming: The Offender Intake Assessment (OIA) process. *Forum on Corrections Research*, 9, 18-22.

- Motiuk, L.L., & Belcourt, R. (1997). Profiling federal offenders with violent offences. *Forum on Corrections Research, 9*, 8-13.
- Nuffield, J. (1982). Parole Decision-making in Canada: Research toward decision guidelines. Ottawa: Communications Division.
- Smiley, W.C., Mulloy, R. & Brown, C. (1997). Treatment and violent offenders: Reducing the risk to reoffend. *Forum on Corrections Research, 9*, 44-47.
- Serin, R.C. (1994). Treating violent offenders: A review of current practices. Research Report R-38. Ottawa: Correctional Service of Canada.
- Serin, R.C. & Brown, S.L. (1997). Treatment programs for offenders with violent histories: A national survey. *Forum on Corrections Research, 9*, 35-38.

## APPENDIX A

### Coding Manual for Official Criminal Convictions

FPS \_\_\_\_\_

#### Official Criminal History Record:

*Enter the number of offenses (i.e. charges and convictions) for each individual crime. If there are none, enter 0. This section is to be coded exclusively from the official records contained in CPIC files, and includes only charges and convictions **prior to admission date.***

#### Nonviolent Offenses

1. \_\_\_ \_\_\_ Theft, break & enter, possession of housebreaking tools, possession of stolen property, theft of telecommunications, disguise with intent, forcible entry, unlawfully in a dwelling house.
2. \_\_\_ \_\_\_ Drug offenses (i.e., possession and trafficking).
3. \_\_\_ \_\_\_ Criminal negligence (includes serious driving offenses such as impaired or dangerous driving, failure to stop at the scene of an accident, hit- and run).
4. \_\_\_ \_\_\_ Fraud, forgery, false pretenses, impersonation, uttering, possession of stolen credit card.
5. \_\_\_ \_\_\_ Escape, unlawfully at large, prison breach.
6. \_\_\_ \_\_\_ Obstruction of justice, perjury, contempt of court, resist arrest, give contrary evidence.
7. \_\_\_ \_\_\_ Fail to appear in court, fail to comply with recognizance, fail to comply with probation order, breach of probation, breach of recognizance.
8. \_\_\_ \_\_\_ Miscellaneous offenses: vandalism, causing a disturbance, mischief, willful damage, trespassing, conspiracy to commit a non-violent offence, vagrancy, prostitution, minor driving offenses (e.g., driving while license suspended), public intoxication.
9. Date of first non-violent offence (yymmdd) \_\_\_/\_\_\_/\_\_\_.

### Violent Offenses

10. \_\_\_ \_\_\_ Robbery, armed robbery, robbery with violence, extortion.
11. \_\_\_ \_\_\_ Arson, firesetting.
12. \_\_\_ \_\_\_ Uttering threats, participation in riot, intimidation.
13. \_\_\_ \_\_\_ Assault, assault causing bodily harm, wounding with intent, malicious wounding.
14. \_\_\_ \_\_\_ Possession of a weapon, possession of explosives, pointing a firearm.
15. \_\_\_ \_\_\_ Kidnapping, abduction, forcible confinement, forcible seizure.
16. \_\_\_ \_\_\_ Violent sex offenses (e.g., sexual assault)
17. \_\_\_ \_\_\_ Manslaughter.
18. \_\_\_ \_\_\_ Attempted murder, conspiracy to commit murder.
19. \_\_\_ \_\_\_ Second degree murder.
20. \_\_\_ \_\_\_ First degree murder.
21. Date of first violent offence (yymmdd) \_\_\_/\_\_\_/\_\_\_

### **Current (admitting) Offence(s):**

*Enter the number of offenses (i.e. charges and convictions) for each individual crime. If there are none, enter 0. This section is to be coded exclusively from the official records contained in CPIC files, and includes only charges and convictions in current term.*

### Nonviolent Offenses

1. \_\_\_ \_\_\_ Theft, break & enter, possession of housebreaking tools, possession of stolen property, theft of telecommunications, disguise with intent, forcible entry, unlawfully in a dwelling house.
2. \_\_\_ \_\_\_ Drug offenses (i.e., possession and trafficking).

3. \_\_\_ \_\_\_ Criminal negligence (includes serious driving offenses such as impaired or dangerous driving, failure to stop at the scene of an accident, hit- and run).
4. \_\_\_ \_\_\_ Fraud, forgery, false pretenses, impersonation, uttering, possession of stolen credit card.
5. \_\_\_ \_\_\_ Escape, unlawfully at large, prison breach.
6. \_\_\_ \_\_\_ Obstruction of justice, perjury, contempt of court, resist arrest, give contrary evidence.
7. \_\_\_ \_\_\_ Fail to appear in court, fail to comply with recognizance, fail to comply with probation order, breach of probation, breach of recognizance.
8. \_\_\_ \_\_\_ Miscellaneous offenses: vandalism, causing a disturbance, mischief, willful damage, trespassing, conspiracy to commit a non-violent offence, vagrancy, prostitution, minor driving offenses (e.g., driving while license suspended), public intoxication.

#### Violent Offenses

9. \_\_\_ \_\_\_ Robbery, armed robbery, robbery with violence, extortion.
10. \_\_\_ \_\_\_ Arson, firesetting.
11. \_\_\_ \_\_\_ Uttering threats, participation in riot, intimidation.
12. \_\_\_ \_\_\_ Assault, assault causing bodily harm, wounding with intent, malicious wounding.
13. \_\_\_ \_\_\_ Possession of a weapon, possession of explosives, pointing a firearm.
14. \_\_\_ \_\_\_ Kidnapping, abduction, forcible confinement, forcible seizure.
15. \_\_\_ \_\_\_ Violent sex offenses (e.g., sexual assault)
16. \_\_\_ \_\_\_ Manslaughter.
17. \_\_\_ \_\_\_ Attempted murder, conspiracy to commit murder.
18. \_\_\_ \_\_\_ Second degree murder.
19. \_\_\_ \_\_\_ First degree murder.



## Official Recidivism:

*Enter the number of offenses (i.e. charges and convictions) for each individual crime. If there are none, enter 0. This section is to be coded exclusively from the official records contained in CPIC files, and includes only charges and convictions **after release** date.*

### Nonviolent Offenses

1. \_\_\_ \_\_\_ Theft, break & enter, possession of housebreaking tools, possession of stolen property, theft of telecommunications, disguise with intent, forcible entry, unlawfully in a dwelling house.
2. \_\_\_ \_\_\_ Drug offenses (i.e., possession and trafficking).
3. \_\_\_ \_\_\_ Criminal negligence (includes serious driving offenses such as impaired or dangerous driving, failure to stop at the scene of an accident, hit- and run).
4. \_\_\_ \_\_\_ Fraud, forgery, false pretenses, impersonation, uttering, possession of stolen credit card.
5. \_\_\_ \_\_\_ Escape, unlawfully at large, prison breach.
6. \_\_\_ \_\_\_ Obstruction of justice, perjury, contempt of court, resist arrest, give contrary evidence.
7. \_\_\_ \_\_\_ Fail to appear in court, fail to comply with recognizance, fail to comply with probation order, breach of probation, breach of recognizance.
8. \_\_\_ \_\_\_ Miscellaneous offenses: vandalism, causing a disturbance, mischief, willful damage, trespassing, conspiracy to commit a non-violent offence, vagrancy, prostitution, minor driving offenses (e.g., driving while license suspended), public intoxication.
9. Date of first non-violent recidivism (yymmdd) \_\_\_/\_\_\_/\_\_\_.

### Violent Offenses

10. \_\_\_ \_\_\_ Robbery, armed robbery, robbery with violence, extortion.
11. \_\_\_ \_\_\_ Arson, firesetting.
12. \_\_\_ \_\_\_ Uttering threats, participation in riot, intimidation.
13. \_\_\_ \_\_\_ Assault, assault causing bodily harm, wounding with intent, malicious

wounding.

14. \_\_\_ \_\_\_ Possession of a weapon, possession of explosives, pointing a firearm.
15. \_\_\_ \_\_\_ Kidnapping, abduction, forcible confinement, forcible seizure.
16. \_\_\_ \_\_\_ Violent sex offenses (e.g., sexual assault)
17. \_\_\_ \_\_\_ Manslaughter.
18. \_\_\_ \_\_\_ Attempted murder, conspiracy to commit murder.
19. \_\_\_ \_\_\_ Second degree murder.
20. \_\_\_ \_\_\_ First degree murder.
21. Date of first violent recidivism (yymmdd) \_\_\_/\_\_\_/\_\_\_
22. Date of first revocation (yymmdd) \_\_\_/\_\_\_/\_\_\_

## APPENDIX B

### Listing of all Need Indicators as Assessed by the Offender Intake Assessment Process

#### *i) Education / Employment Indicators*

- 1) Has less than grade 8
- 2) Has less than grade 10
- 3) Has no high school diploma
- 4) Finds learning difficult
- 5) Has learning disabilities
- 6) Has physical problems which interfere with learning
- 7) Has memory problems
- 8) Has concentration problems
- 9) Has problems with reading
- 10) Has problems writing
- 11) Has problems with numeracy
- 12) Has difficulty comprehending instructions
- 13) Lacks a skill area/trade/profession
- 14) Dissatisfied with skill area/trade/profession
- 15) Has physical problems that interfere with work
- 16) Unemployed at time of arrest
- 17) Unemployed 90% or more
- 18) Unemployed 50% or more
- 19) Has an unstable job history
- 20) Often shows up late for work
- 21) Has poor attendance record
- 22) No employment history
- 23) Has difficulty meeting workload requirements
- 24) Lacks initiative
- 25) Has quit a job without another
- 26) Has been laid off from work
- 27) Has been fired from a job
- 28) Salary has been insufficient
- 29) Lacks employment benefits
- 30) Jobs lack security
- 31) Has difficulty with co-workers
- 32) Has difficulty with supervisors
- 33) Prior vocational assessment(s)
- 34) Has participated in employment programs
- 35) Completed an occupational development program

#### *ii) Marital Family Indicators*

- 1) Childhood lacked family ties
- 2) Mother absent during childhood
- 3) Maternal relations negative as a child
- 4) Father absent during childhood
- 5) Paternal relations negative as a child
- 6) Parents relationship dysfunctional during childhood
- 7) Spousal abuse during childhood
- 8) Sibling relations negative during childhood
- 9) Other relative(s) relations negative during childhood
- 10) Family members involved in crime
- 11) Currently single
- 12) Has been married/common law in the past
- 13) Dissatisfied with current relationship
- 14) Money problems affect relationship(s) past/present
- 15) Sexual problems affect relationship(s) past/present
- 16) Communication problems affects the relationship(s)
- 17) Has been a victim of spousal abuse
- 18) Has been a perpetrator of spousal abuse
- 19) Has no parenting responsibilities
- 20) Unable to handle parenting responsibilities
- 21) Unable to control the child's behaviour appropriately
- 22) Perceives self as unable to control the child's behaviour
- 23) Supervises child improperly
- 24) Does not participate in activities with the child
- 25) Lacks an understanding of child development
- 26) Family is unable to get along as a unit
- 27) Has been arrested for child abuse
- 28) Has been arrested for incest
- 29) Prior marital/family assessment(s)
- 30) Has participated in marital/family therapy
- 31) Has completed a marital/family intervention program

*iii) Associates / Social Interaction Indicators*

- 1) Socially Isolated
- 2) Associates with substance abusers
- 3) Many criminal acquaintances
- 4) Mostly criminal friends
- 5) Has been affiliated with a gang
- 6) Resides in a criminogenic area
- 7) Unattached to any community groups
- 8) Relations are described as predatory
- 9) Often victimized in social relations
- 10) Easily influenced by others
- 11) Has difficulty communicating with others

*iv) Substance Abuse Indicators*

- 1) Abuses alcohol
- 2) Began drinking at an early age
- 3) Drinks on a regular basis
- 4) Has a history of drinking binges
- 5) Has combined the use of alcohol and drugs
- 6) Drinks to excess during leisure time
- 7) Drinks to excess in social situations
- 8) Drinks to relieve stress
- 9) Drinking interferes with employment
- 10) Drinking interferes with marital / family relations
- 11) Drinking interferes with social relations
- 12) Drinking has resulted in law violations
- 13) Drinking interferes with health
- 14) Abuses drugs
- 15) Began using drugs at an early age
- 16) Used drugs on a regular basis
- 17) Has gone on drug-taking sprees
- 18) Has combined the use of different drugs
- 19) Uses drugs during leisure time
- 20) Uses drugs in social situations
- 21) Uses drugs to relieve stress
- 22) Drug use interferes with employment
- 23) Drug use interferes with marital / family relations
- 24) Drug use interferes with social relations
- 25) Drug use has resulted in law violations
- 26) Drug use interferes with health
- 27) Prior substance abuse assessments
- 28) Has participated in substance abuse treatment
- 29) Has completed substance abuse treatment

*v) Community Functioning Indicators*

- 1) Has unstable accommodation
- 2) Residence is poorly maintained
- 3) Has poor self-presentation
- 4) Has poor hygiene
- 5) Has physical problems
- 6) Had dental problems
- 7) Has dietary problems
- 8) Difficulty meeting bill payments
- 9) Has outstanding debts
- 10) Has no bank account
- 11) Has no credit
- 12) Has no collateral
- 13) Has problems writing
- 14) Unable to express self verbally
- 15) Has no hobbies
- 16) Does not participate in organized activities
- 17) Unaware of social services
- 18) Has used social assistance
- 19) Prior assessment for community functioning
- 20) Has participated in a community skills program
- 21) Has completed a community skills program

*vi) Personal / Emotional Orientation Indicators*

- 1) Feels especially self-important
- 2) Physical prowess problematic
- 3) Family ties are problematic
- 4) Ethnicity is problematic
- 5) Religion is problematic
- 6) Gang member
- 7) Unable to recognize problem areas
- 8) Has difficulties solving interpersonal problems
- 9) Unable to generate choices
- 10) Unaware of consequences
- 11) Goal setting is unrealistic
- 12) Has disregard for others
- 13) Socially unaware
- 14) Impulsive
- 15) Incapable of understanding the feelings of others
- 16) Narrow and rigid thinking
- 17) Aggressive
- 18) Assertion problem
- 19) Copes with stress poorly
- 20) Poor conflict resolution
- 21) Manages time poorly
- 22) Gambling is problematic
- 23) Has low frustration tolerance
- 24) Hostile
- 25) Worries unreasonably
- 26) Takes risks inappropriately
- 27) Thrill-seeking
- 28) Non-reflective
- 29) Not conscientious
- 30) Manipulative
- 31) Has difficulty performing sexually
- 32) Sexual identity problem
- 33) Inappropriate sexual preference(s)
- 34) Sexual attitudes are problematic
- 35) Low mental functioning
- 36) Diagnosed as disordered in the past
- 37) Diagnosed as disordered currently
- 38) Prior personal / emotional assessments
- 39) Prescribed medication in the past
- 40) Prescribed medication currently
- 41) Past hospitalization
- 42) Current hospitalization
- 43) Received outpatient services in the past
- 44) Received outpatient services prior to admission
- 45) Past program participation
- 46) Current program participation



*vii) Attitude Indicators*

- 1) Negative towards the law
- 2) Negative towards the police
- 3) Negative towards the courts
- 4) Negative towards corrections
- 5) Negative towards community supervision
- 6) Negative towards rehabilitation
- 7) Employment has no value
- 8) Marital / family relations have no value
- 9) Interpersonal relations have no value
- 10) Values substance abuse
- 11) Basic life skills have no value
- 12) Personal / emotional stability has no value
- 13) Elderly have no value
- 14) Women / men roles are unequal
- 15) Ethnically intolerant
- 16) Intolerant of other religions
- 17) Intolerant of disabled persons
- 18) Disrespectful of personal belongings
- 19) Disrespectful of public property
- 20) Disrespectful of commercial property
- 21) Supportive of domestic violence
- 22) Supportive of instrumental violence
- 23) Lacks direction
- 24) Non-conforming