THE COGNITIVE SKILLS PROGRAM AND OFFENDER RECIDIVISM IN SWEDISH PROBATION

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Abstract

This study is an evaluation of the rehabilitative effects of the Cognitive Skills program, an accredited correctional treatment program offered by the Swedish probation service since 1995. Whereas the program has previously been studied in Swedish prison settings, this is the first Swedish study in a non-custodial setting. All 117 male probationer program participants 1995-2000 were closely matched to 349 controls in a survival analysis of long-term recidivism in the sample. Program completers did not show lower relative risk of relapse than the control group, consisting of probationers who did not enter the program. A survival analysis of a violent offender subsample was inconclusive due to sample size but suggests a potential program effect on this type of offender.

Introduction

The Swedish Probation Service

Each year there are roughly 12,000 persons on probation within the Swedish judicial system, almost 90% of which are male (Kriminalvården, 2005a). A fundamental concept in Swedish criminal justice policy is to minimize sanctions involving imprisonment. There is a clear focus on treatment and rehabilitation of offenders rather than on punishment. Non-custodial sanctions are seen as more humane and constructive than prison terms. They are also far less expensive. Accordingly, the majority of crime sentences in Sweden involve probation in one form or the other.

The Swedish probation service is part of the Swedish National Prison and Probation Administration, or Kriminalvården in Swedish (formerly Kriminalvårdsverket). Forty three probation offices, located around the country, serve the regional courts. The probation offices take an active role in the criminal justice system throughout the judicial process. Courts regularly address the probation offices to order personal investigations on detained suspects awaiting a sentence. The probation offices also make statements in which they suggest suitable sentences on the basis of these personal investigations. Once there is a crime sentence and a court order, the probation office co-operates in planning for the rehabilitation of the offender from the start together with other institutions involved, such as remand prison and prison.

Offenders who fall under the direct responsibility of the probation offices are called clients. There are several types of clients or, differently put, several ways to become a client of the probation service. First, if it seems unlikely that an offender receiving his first sentence will continue to commit crimes and the first crime was not very serious, then a court may issue a conditional sentence, placing the offender under a two-year trial period, without any formal supervision by the probation office. Avoiding a prison term is then conditional on that no new crimes are committed during the trial period.
Second, most prison sentences in Sweden end in conditional release involving one year of supervision by a parole officer. Thus most inmates are transferred from the prison system to the probation system sooner or later. One exception is prison sentences up to two months, which are always served for the full duration without any further obligations for the offender. By contrast, an offender serving a three month prison sentence will usually be conditionally released after two months but will also be supervised for a full year after that.

Third, probation, in the strict sense, is another type of sentence that falls under the responsibility of the probation office. Probation sentences are supervised. Sometimes the court orders some form of community service or contract treatment (for substance abuse) in such a sentence, in which case the probation office is responsible for monitoring that the client fulfills his obligation to participate. Probation under supervision is also a type of sentence in itself, a stronger sanction than a conditional sentence. The most extreme form of supervision is the electronic cuff, monitoring the client’s movements. The use of an electronic cuff requires not only a court sentence specifying that one should be used, but also a request from the person under sentence. In most cases, however, supervision is carried out by the parole officers and supervisors without any electronic aids.

In the probation office, the parole officer has an administrative function but also serves as supervisor. Each client is assigned a supervisor, which can be either parole officer or a lay supervisor, a volunteer supervisor recruited externally. During 2006 around 45% of the clients were assigned lay supervisors (Kriminalvården, 2007). Typically, a lay supervisor has only one or a few clients to monitor and can dedicate more time to the task than the probation office staff.

The supervisor builds a relationship with the client. He monitors probation and spots violations, but he also supports the client in breaking away from a criminal lifestyle. The client may need help and encouragement in dealing with authorities, securing a home, finding employment, etc. (Kriminalvården, 2004). Having a good relationship with the supervisor reduces the risk of failing probation (Berman, 2005).

Relapse Prevention

Between 1995 and 1999 approximately 38% of all offenders who were clients within the probation service following a sentence were convicted for new crimes within 3 years (Kriminalvården, 2005b). Male clients were more prone to relapse than females. Clients on probation for property crimes were consistently more likely to relapse than clients with a sentence for a person crime, as previously concluded by Svensson (2002).

Active measures to prevent relapse, other than the supervisor-client relationship and the deterring effect of the sentence itself, come in the form of various activities during prison terms or probation. An ambition of the Swedish criminal justice system is to give as many offenders as possible the means to change their way of life through work, education and treatment programs.

In prison participation in certain scheduled activities, like in-house work, is often compulsory, provided that there are any activities offered at all. Community service among probationers is compulsory if it is part of the sentence, but only about a third of all probationers are given community service sentences (Kriminalvården, 2005a). Other relapse prevention measures
within the probation service, such as drug or alcohol addiction contract treatment programs\(^1\), are compulsory once admitted to, but there are also several voluntary behavioral treatment programs aimed at reducing the risk of criminal relapse. Some of the relapse prevention programs are aimed at offenders in general, whereas others target a particular group, like young violent offenders.

In the past there has been a rather open and experimental attitude in Sweden and elsewhere towards trying new rehabilitation programs on a small scale. Following the transformation of society in the 1960’s, with its various liberation movements, there was an early sense of optimism within the modern correctional services. As a result there were many novel efforts to address the crime prevention issue in a shift towards higher emphasis on rehabilitation rather than punishment. In the 1970’s the correctional systems of the Western world went through a major crisis and optimism turned into despair as a deeply pessimistic summary report of an evaluation study, covering 231 American treatment programs, was published (Martinson, 1974) and the press announced that “Nothing Works!” Later in the 1980’s, as the Martinson report was criticized and the initial shock was overcome, researchers prudently concluded that there may be some effective treatment programs after all. Only a minority of the programs studied could be considered effective and their positive treatment effects were typically quite small. Nevertheless, through a scientific approach it should be possible to select or develop worthwhile programs, researchers argued. Thus the rash statement “Nothing Works!” was changed into the question “What Works?” and a new movement in crime prevention research evolved.

Nowadays in Sweden, although some untested experimental program initiatives still exist on a local scale, an accrediting panel within the Swedish Prison and Probation Administration, made up partly of external researchers, evaluate programs to ensure high quality in treatments. In order for a program to be used on a national scale, it has to reach accredited status in the evaluation, which means certain criteria have to be met. For example, there has to be scientifically documented evidence of a program’s effectiveness. Currently, there are six accredited treatment programs. Of those six, the most widely spread and well-documented is the \textit{Cognitive Skills} program.

\textit{Cognitive Skills}

The Cognitive Skills program, developed by Ross and Fabiano (1986), embodies the spirit of the What Works initiative. The program was a result of research conducted within the Canadian criminal justice system setting during the 1980’s (Ross, Fabiano and Ewles, 1988). The underlying research was an examination of available studies on North American rehabilitation programs in the 1970’s in order to find out what distinguished successful programs from those that did not show any positive effects on recidivism. A review of forty years of empirical research further showed that many offenders seem to have developmental delays in the acquisition of certain cognitive skills essential to social adaptation. This was particularly true of the \textit{high-risk} offenders.\(^2\) The common denominator for the most effective

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\(^1\) Contract treatment is a fairly uncommon type of probation, where an offender is admitted to a treatment program under probation, typically for substance abuse, as an alternative to a prison sentence. If the treatment plan is violated, the sentence may be reverted to a prison sentence (Kriminalvården, 2006).

\(^2\) There is some confusion to the term “high-risk”. In the original sense it is a classification denoting offenders who have committed a violent or a sexual crime in the past and who are considered a risk to public safety due to the risk of relapse in a similar crime. Some authors, however, use the term to describe the offenders’ propensity to relapse regardless of crime labels. In this study the term is used strictly in the former sense.
programs in the research review was that they not only targeted behavior and vocational issues but also offenders’ cognitive capacities through intervention techniques that addressed cognitive deficits.

By identifying and refining empirically effective cognitive training procedures, practices and techniques, an outlined program took shape, which was named the Reasoning & Rehabilitation (R&R) program. In Scandinavia, the program is also known under the name Cognitive Skills (CS). Although built on a foundation of concepts from cognitive psychology and therapy, for the R&R/CS program to make any impact on the criminal justice system, it still had to be simple and structured enough to be deliverable by line staff at correctional institutions.

The Cognitive Skills program is tailored to suit a broad range of offenders. The program duration is roughly three months, with 36 two-hour lessons usually given three times per week. The lessons are typically attended by six to eight participants and led by two facilitators, staff who have undergone intensive two-week training. The lessons are a mix of education and various practices, group discussions and role play (Ross, Fabiano and Ross, 2000).

Cognitive Skills is currently in use in Canada, US, UK, New Zealand, Spain, Latin America, and all of Scandinavia. It was introduced in Sweden in 1995 and has been running ever since in both prison and probation settings. The cost of maintaining the program is roughly the same as for any other accredited treatment program. Total cost per participant has been estimated to 12,500 Swedish Kr, according to Micaela Bengtsson, co-ordinator of the Swedish CS program in 2007.

Previous Research on the CS Program

There are many studies on the CS program. Most of the previous evaluating research has been carried out in prison settings. However, the CS program is also used within the probation services in several countries and research on program effects on a probation clientele is still somewhat lacking.

The results of previous studies are mixed. Ross, Fabiano and Ewles (1988), the first evaluation study, sparked a world-wide interest in the newly devised program. The post-reconviction rate of the experimental group of offenders was 18.1% in a nine-month follow-up period, whereas the post-reconviction rate of the controls was 69.6%. Later studies have not been able to replicate such a wide discrepancy in reconvictions between treated offenders and controls. In a later Canadian study by Robinson (1995) the gap in reconviction rates was considerably narrower: 34.7% for the experimental group and 41.6% for controls in a study on low-risk offenders under community supervision. In a UK study by Raynor and Vanstone (1994) the R&R program did not seem to have any positive effects on reconvictions in the probation services at all, since the reconviction rate of the experimental group exceeded that of the controls by nearly 4% (43.9% for the experimental group vs. 40% for controls).

In the first major Swedish evaluation, Berman (2004) studied outcomes of the Swedish CS program in an all-male prison setting from the program introduction in 1995 to 2000. Reconviction rates were 46% for the experimental group and 49% for controls. When excluding program dropouts, the reconviction rate dropped to 42% for the experimental group and 45% for their respective controls. The difference between program completers and
controls only showed tendency towards statistical significance however \( \chi^2 = 3.1, p < .10 \).

When studying subgroups, offenders with a violent crime as the last adjudication prior to the programme showed proportionately lower recidivism compared to the full sample (31% for violent program participants vs. 43% for the matched controls).

In Tong and Farrington (2006), the first meta-analysis of CS program evaluations, covering four countries and 16 separate evaluations of high scientific quality, there was a 14% average reduction in recidivism for program participants compared to controls for the entire sample. The programs showed significant effects in Canada, US, UK and Sweden.

In addition to giving evidence of a significant treatment effect, the Tong and Farrington meta-analysis provides answers to important questions regarding the CS program. First, most studies cover prison programs mainly and there has been less research on treatment of the probation clientele. Although treatment of prisoners in prison and open treatment of probationers in the community are two very different settings for the program, the meta-analysis suggests that the CS program was effective in both settings.

Second, some studies have indicated that the program may not be well-suited to all types of offenders. In the Robinson (1995) study the offenders who received high scores in a risk-of-recidivism scale did not respond as well to the CS program treatment as those that were at low risk of relapsing. The Tong and Farrington meta-analysis concludes that both offenders at high and low risk of relapse benefit from the programs. The effect size was greater with the offenders at low risk of relapsing, possibly due to there being fewer program dropouts in the subsamples covered by the meta-analysis, coupled with the observation that dropouts tend to have worse prognoses than program completers.

**The Present Study – Aims and Hypotheses**

The Berman (2004) study included all imprisoned male participants in the Swedish CS program between the introduction in 1995 and the year 2000. The female participants for the same period were studied by Konradsson (2004). The purpose of the present study is to evaluate the CS program effects on all the male participants from 1995 to 2000 who were under probation while receiving the program treatment.

**General short-term effects.** The present study focuses on two main points in the evaluation of the CS program. The first point is the short-term effects in terms of the program impact on participant cognitive and social skills and attitudes. Cognitive, social and attitude variables of interest here are ones that could be considered linked to criminality and which can be measured through various inventories. The CS program aims to train subjects in new uses of cognition, in dealing with emotions in more constructive ways, in changing attitudes regarding crime and justice, and so forth. The hypothesis is therefore that there should be some sort of cognitive changes or changes in attitudes, as measured through inventories, as a result of the program. These changes should be discernable already in the short term.

**General long-term effects.** The second, and most important point of focus in the study is the long term effects of the program in terms of impact on recidivism rates among male probationer program participants. The CS program manual does not explicitly state that its aim is to prevent recidivism (Ross, Fabiano and Ross, 2000). Instead aims such as “social adaptation” are mentioned. However, a direct consequence of successful social adaptation is
of course living within the boundaries of the law. It would therefore not be unreasonable to argue that in order to motivate the yearly costs associated with running the CS program in Sweden, there should also be a tangible reduction in reconvictions among participants compared to convicts who do not receive the CS treatment.

As was discussed above, evidence supports the CS program having at least some relapse reducing properties, although most of the research concerns prison settings and although the available Swedish research results so far are somewhat discouraging. The program effects on a probation clientele should therefore be tested against the null hypothesis that there is no difference in recidivism between probationer program participants and non-participants in the long term.

**Long-term effects on a high-risk subsample.** Although the Swedish CS program is not aimed at any particular group of criminals, the Berman (2004) study indicates that imprisoned high-risk offenders who participate in the CS program show proportionately lower recidivism compared to matched controls than non-violent offenders. Whether also violent, and in that sense high-risk, probationer recidivism in Sweden is particularly affected by the program is tested as well as an extension of testing general long-term effects.

**Method**

**Participants**

All 118 clients on probation that entered the CS program between 1995 and 2000 are included in the present study. These clients were recruited to the program via 8 of the 43 probation offices in Sweden. All were male but otherwise of varying ages, backgrounds, and criminal records. The participants entered either of the semi-annual CS program classes in the year 1995 or in the years 1997-2000. The classes from 1996 were excluded from the study since there were no data from that year in the register of the Swedish National Council of Crime Prevention (Kriminalvårdsstyrelsen). The participants had applied to the CS program after receiving information about its existence and content through e.g., brochures, bulletin boards, probation officers or other probationers.

**Matching of Controls**

A set of controls was matched against each of the 118 cases. The controls were probationers that had not entered the CS program. Out of a population of 603,321 possible controls, comprising of the total number of entries in the Swedish National Council of Crime Prevention register between 1990 and 2001, 349 controls were selected in a complex selection process based on a set of matching criteria. The ambition was to match 3 controls to each case while still retaining a close match. If a sufficiently close match could not be achieved, a smaller number of controls matched to a case would still be acceptable. Thus for two of the cases only two suitable controls were available and for one case there were no suitable controls at all.

The matching criteria were variables spanning the lives and criminal careers of the cases and controls. More specifically, the variables used fell into four categories, which can be labelled
socio-demographics, first crime in the criminal career, second crime in the criminal career, and last crime previous to entering the CS program.

The socio-demographics category consisted of the two variables sex and age. All controls would have to be male and also have the same birth year. The second category, dealing with the first crime, comprised the variables offender age when convicted, crime type, and penalty sentence. The age variable was divided into the four groups 15-17, 18-20, 21-25, and 26+ years. Crime type indicated one of 19 types of crimes ranging from violent crimes, via serious property or traffic crimes, down to minor crimes such as petty theft. Penalty sentence was a four-level variable describing the sentence type (prison, probation or community service, commitment or treatment alone, and fines and conditional sentence), thus reflecting the severity of that particular crime in itself and in relation to the crime type it belonged to. The third category of the matching criteria was similar to the previous one, except that it dealt with the second crime in the criminal career, if applicable. The fourth and last category, the last recorded conviction, was partly similar to the two previous categories and included variables for age at the last conviction, crime type, and penalty sentence. It also included a variable for the total number of recorded crimes before the CS program. As mentioned, the controls did not participate in any CS class. Instead the release date from the last sentence was used as a cut-off point in the criminal career history.

A matching level hierarchy was established and used in the matching of each respective case. Ideally, at least three controls fit a very tight match on all accounts (all variables in each of the four categories) for each case. If not, then the matching process proceeded to the next lower level in the hierarchy, and so on down to a set of minimum requirements. According to the minimum matching requirements for inclusion, controls had to be of the same sex, be of the same age within a one-year difference, belong to the same age group at crimes 1 and 2, have the same conviction types for both crime 1 and 2 (the conviction types were person crime, property crime, other more serious crime, and other less serious crime) and similar for the last-crime category, with the addition that they shared the same variable level in a simplified total number of legal decisions variable (3-10, 11-20, and 21+ convictions).

Procedure

Short-term tests. The impact of the CS program on participants was measured both as effects on cognitive and social skills and attitudes, and on recidivism. Three personality inventories were used – the Sense of Coherence scale, SOC, (Antonovsky, 1987), the Impulsiveness, Venturesomeness and Empathy Questionnaire, IVE, (Eysenck, Pearson, Easting and Allsopp, 1985) and the Criminal Sentiments Scale, CSS, (Rettinger, 1994). The reason for using these three inventories was that they were the chosen evaluation instruments in the Swedish Prison and Probation Administration’s ongoing internal program evaluation (Chylicki, personal communication, 2001) and thus test results were obtainable from their archives.

The effects on cognitive and social skills and attitudes were studied for the short-term only. The three inventories were used in a straightforward test-retest setup with distribution before the start of the program and after its completion. In all, there were 64 complete test and retest protocols, from the program completers exclusively. The program dropouts are missing in the retest data and no controls were tested either. Thus no comparisons between CS program completers and controls or dropouts have been possible.
In this study the pre-program results were compared to the post-program results with paired-samples t tests for all subscales in the three personality inventories completed by 64 CS program completers.

**Long-term tests.** The long-term measure of program impact consists of a survival analysis on participant and control conviction and reconviction data in order to study recidivism. Convictions previous to the program were recorded with regards to dates, types of crimes and types of sentences. Reconvictions for participants and controls after the CS program completion dates were monitored up to five years and were recorded with dates and types of sentences. The later a participant and his controls entered the program, the shorter the follow-up period until the date of data extraction in March 15, 2002.

For the survival analysis of recidivism a follow-up period of 36 months was used as a cut-off. Other cut-offs have been used in some other studies, but 36 months is arguably the most common one, dating back to 1973 and the recommendations of the U.S. government agency National Advisory Commission on Criminal Justice Standards and Goals (1973). A subject was considered to have relapsed into crime if there was a reconviction with a sentence to probation or prison within 36 months of release from a prior conviction. Thus, as in many other studies, a relapse does not actually denote the criminal act itself but rather the conviction of the act once reported and successfully prosecuted – a necessity due to the nature of available data. Obviously, there is room for hidden statistics in the form of crimes that did not end in convictions. Further uncertainty is introduced by the fact that the time it takes to prosecute a crime may vary from one year to another, from one regional court to another and from one crime category to another. However, a follow-up period of 36 months should in a vast majority of cases provide enough time to show whether a subject succeeds in leaving a criminal lifestyle behind or not. All post-program crimes may not have been detected and successfully prosecuted of course, but a fair assumption is that there should be no significant differences in the ratio of unsuccessfully prosecuted crimes to successfully prosecuted crimes between the experimental group and the control group.

Although the controls were closely matched to the experimental group in terms of age, prior crime categories, number of past sentences, etc., it would have been impossible to find suitable controls with sentence lengths and sentence dates matching the probationers in the experimental groups, especially in a small country like Sweden. Therefore, the release dates for the controls, which define the start of their respective follow-up periods, are not always synchronous to those of the experimental group. In other words, a certain case may have been monitored 36 months between September 1997 and August 2000, whereas one of its matched controls may have to be followed from December 1997 to November 2000, if he was not released from a sentence until December 1997. The survival analysis rests on the assumption that the timing of follow-up periods for cases and controls introduces no significant artifacts. This assumption is somewhat similar to the proportional hazards assumption discussed below, which, in turn, is a precondition for the type of survival analysis used in this study.

The survival analysis method used was Cox regression (Cox and Oakes, 1984). The Cox regression is a non-parametric multiple-regression technique for analyzing how one or more variables influence survival time with censored observations in a sample. Survival in the present study means not relapsing in a new reconviction during the follow-up period. Thus survival time is either the time until a program participant or control relapses after program completion and is reconvicted or, if there is no relapse, the time until the terminal event, the end date of the follow-up period, at which point a case that has still survived is censored. The
dependent variable in a Cox regression is the proportion of cases in the sample that has still survived at each point in time in a longitudinal data set, i.e., the cases that have not relapsed.

The Cox regression is similar to multiple logistic regressions in that it can be used to determine how a number of tentatively interesting independent variables (e.g., age, past crime record or program completion) affect the probability of survival at the terminal event. Both methods allow for multi-factorial models to be fitted. The Cox regression is a superior method for studies of recidivism, though, in that it does not treat survival as a binary occurrence but also incorporates information that the logistic regression ignores, namely the time to the binary event (Chung, Schmidt and Witte, 1997).

The statistical model for the Cox regression assumes proportional hazard. This implies that the effect on survival of each independent variable must not vary with time and also that the ratio of hazards for any two groups in a sample are constant over time. In practice, this means that if age is found to be an important factor in explaining recidivism, then the exact impact of age must not vary from year to year in the study. Also, if program completers are found to have a lower rate of recidivism than dropouts in the first year of the follow-up study, then valid conclusions can only be drawn if the survival rates are the same in year 2.

If proportional hazard can be assumed, the advantage of the Cox regression is that the method allows both for staggered real-time entry of cases into the study and for variable follow-up lengths. In the present study, it has been necessary to incorporate each new set of program participants as new classes entered the program semi-annually, since the number of participants from any single program start would make for far too small a data set. Further, due to the choice of a 36-month follow-up period, the latter classes in the study are not actually followed up for the entire duration. For example, the classes starting in the spring half of 2000 are only followed up a little over two years, since the follow-up study was terminated on March 15, 2002. Under the proportional hazards assumption, all cases may still contribute to a model of recidivism among probationers and, thus, to conclusions concerning the CS program and the factors that influence its success (or lack thereof).

Results

Short-term Results

All the program completer short-term pre-program tests were compared to the post-program tests using a paired samples t test. The three indexes in the SOC scale – Comprehensibility, Manageability and Meaningfulness – showed improvements in the short-term testing of CS program participants, but only the improvement in Comprehensibility was significant ($p < .01$).

In the IVE scale, there was a statistically significant change ($p < .001$) in the Impulsiveness index towards a lower average degree of impulsiveness among participants. Neither in the Empathy nor in the Venturesomeness indexes were there any significant changes in the means. The mean of the Venturesomeness index was virtually unchanged in the retest. The significant improvement in Impulsiveness was expected.
In the results of the Criminal Sentiments Scale testing, of five indexes only Tolerance for Law Violations was not statistically significant ($p < .10$). There was a change in means in the expected direction, i.e., towards test score “improvement”, in all five indexes. Identification with Criminal Others was statistically significant ($p < .05$). Attitudes towards Law, Courts and Police respectively were all three statistically significant too ($p < .01$).

Table 1. Paired samples $t$ tests of the CS program completer group test-retest changes in the SOC, IVE and CSS indexes.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>t</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensibility</td>
<td>.228</td>
<td>.679</td>
<td>-2.69</td>
<td>.009</td>
</tr>
<tr>
<td>Manageability</td>
<td>.136</td>
<td>.676</td>
<td>-1.61</td>
<td>.113</td>
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<tr>
<td>Meaningfulness</td>
<td>.167</td>
<td>.812</td>
<td>-1.65</td>
<td>.104</td>
</tr>
<tr>
<td>IVE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impulsivity</td>
<td>-.087</td>
<td>.185</td>
<td>3.78</td>
<td>.000</td>
</tr>
<tr>
<td>Venturesomeness</td>
<td>.001</td>
<td>.108</td>
<td>-0.81</td>
<td>.936</td>
</tr>
<tr>
<td>Empathy</td>
<td>.029</td>
<td>.180</td>
<td>-1.31</td>
<td>.196</td>
</tr>
<tr>
<td>CSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude towards Law</td>
<td>.059</td>
<td>.092</td>
<td>-5.15</td>
<td>.000</td>
</tr>
<tr>
<td>Attitude towards Courts</td>
<td>.059</td>
<td>.106</td>
<td>-4.46</td>
<td>.000</td>
</tr>
<tr>
<td>Attitude towards Police</td>
<td>.056</td>
<td>.121</td>
<td>-3.71</td>
<td>.000</td>
</tr>
<tr>
<td>Criminal Identification</td>
<td>-.026</td>
<td>.094</td>
<td>2.23</td>
<td>.030</td>
</tr>
<tr>
<td>Tolerance for Law Violations</td>
<td>-.026</td>
<td>.107</td>
<td>1.92</td>
<td>.059</td>
</tr>
</tbody>
</table>

Running Spearman rank correlations between the six statistically significant test-retest subscale improvements, on the one hand, and recidivism, on the other, all correlations showed the correct signs, i.e., towards test score improvements coinciding with post-program prosocial adaptation. Only the CSS subscales Attitudes towards the Law ($r = -.382, p < .01$) and Attitudes towards the Police ($r = -.270, p < .05$) showed statistically significant negative correlation with relapse within 36 months of program completion. In other words, participants with more positive attitudes towards the law and the police were less likely to relapse within the long-term follow-up period and, vice versa, those who did relapse also had somewhat worse attitudes on average towards the law and the police than those who did not relapse. This significant relationship was not accompanied by any significant correlations between relapse and attitudes towards courts or with identification with other criminals. In the Eysenck IVE subscale Impulsiveness there was a tendency towards statistically significant correlation with relapse within 36 months ($r = -.215, p < .10$), i.e., lowered impulsivity is correlated with lowered risk of relapse.

Table 2. Spearman rank correlations between long-term recidivism and the six test indexes found to be significant in the paired samples $t$ tests.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Spearman</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC</td>
<td>- .154</td>
<td>n.s.</td>
</tr>
<tr>
<td>Manageability</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Meaningfulness</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>IVE</td>
<td>-.215</td>
<td>.089</td>
</tr>
<tr>
<td>Venturesomeness</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Empathy</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>CSS</td>
<td>- .382</td>
<td>.002</td>
</tr>
<tr>
<td>Attitude towards Law</td>
<td>- .270</td>
<td>.031</td>
</tr>
<tr>
<td>Attitude towards Courts</td>
<td>-.007</td>
<td>n.s.</td>
</tr>
<tr>
<td>Attitude towards Police</td>
<td>- .71</td>
<td>n.s.</td>
</tr>
<tr>
<td>Tolerance for Law Violations</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>
Long-term Results

In preparation of the survival analysis of the whole sample, the recidivism of 118 program participants was compared to that of 349 matched controls. Of the 118 participants, 64 (54%) completed the program. The remaining 54 dropped out of the program prior to its set end date and thus did not take part of its full content.

In total, 46 (39%) program participants relapsed during a 36-month follow-up period. In the control group 107 (31%) individuals relapsed. One program completing participant had a relapse during the program and was dropped in the analysis, reducing the effective number of program participants studied to 117.

Table 3. Recidivism among program completers, dropouts and controls.

<table>
<thead>
<tr>
<th></th>
<th>Relapse</th>
<th>No relapse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completer (n = 63)</td>
<td>20 (32%)</td>
<td>43 (68%)</td>
</tr>
<tr>
<td>Dropout (n = 54)</td>
<td>26 (48%)</td>
<td>28 (52%)</td>
</tr>
<tr>
<td>Control (n = 349)</td>
<td>107 (31%)</td>
<td>242 (69%)</td>
</tr>
</tbody>
</table>

The Cox regression survival analysis on the whole sample was statistically significant ($\chi^2 = 6.16, p < .05$). The regression was run as to distinguish controls from program completers and dropouts respectively, treating the subsamples as three separate variables. Whereas the relative risk (RR) of reconviction for the dropouts was clearly higher than for controls, the dropout RR being 1.71 ($p < .05$) times that of controls, the program completers and the controls were not significantly different from each other in their recidivism patterns.

Table 4. Results from the full-sample Cox regression on recidivism.

<table>
<thead>
<tr>
<th></th>
<th>Wald</th>
<th>p</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controls</td>
<td>6.02</td>
<td>.049</td>
<td>–</td>
</tr>
<tr>
<td>Dropouts</td>
<td>5.95</td>
<td>.015</td>
<td>1.71</td>
</tr>
<tr>
<td>Completers</td>
<td>.029</td>
<td>.866</td>
<td>1.04</td>
</tr>
</tbody>
</table>

The conclusion is that probationers who have undergone the CS program do not seem to run less risk of relapsing than controls who did not receive the program treatment. Program dropouts, on the other hand, are at a considerably greater risk than controls (and program completers), as expressed through the RR scores.
Studying recidivism among high-risk offender CS program participants in comparison to high-risk offender controls proves difficult with the available sample. Typical high-risk offenders in the sample would be individuals who committed a violent crime as the last crime before program start and who also had one or more earlier adjudication of a violent crime. The violent crimes defined as high-risk in this study were the five crime types in the variable level person crime of the conviction types variable from the matching procedure discussed earlier. The five violent crime types were assault or aggravated assault, sexual assault, robbery, unlawful threat, and violent crime other than assault or unlawful threat.

However, the total sample of individuals with both a recent and a past adjudication of any person crime, as per definition, was too small to run a regression on. Typical high-risk offenders are proportionately fewer in the probation service setting than in prison. Only 3 program participants and 11 controls fit the high-risk criteria of this study. Limiting the high-risk criteria to concern only the last committed crime resulted in 14 participants and up to 52 controls. This was still too little for within-group comparisons. Instead, an even wider criterion was adopted, where any violent crime record, early or recent, would qualify an individual for the high-risk recidivism study. The resulting subsample is made up of 24 program participants, 10 completers and 14 dropouts. There are 65 remaining controls that both fit the high-risk crime criterion and are matched to any of the 24 selected participants. A sample of this size, with subgroups the sizes of 10-14, is generally too small to reach any
valid statistical conclusions. Nevertheless, a regression may at least give an idea of whether it could be worthwhile to continue the study of CS program treatment for the high-risk probationer clientele.

Table 3. Recidivism among program completers, dropouts and controls.

<table>
<thead>
<tr>
<th></th>
<th>Relapse</th>
<th>No relapse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completer (n = 10)</td>
<td>1 (10%)</td>
<td>9 (90%)</td>
</tr>
<tr>
<td>Dropout (n = 14)</td>
<td>6 (43%)</td>
<td>8 (57%)</td>
</tr>
<tr>
<td>Control (n = 65)</td>
<td>18 (28%)</td>
<td>47 (72%)</td>
</tr>
</tbody>
</table>

As expected, the Cox regression on the violent subsample was not significant ($\chi^2 = 3.41, p > .10$) and no variables in the modelled equation were significant ($p > .10$). It can be noted that if the regression had been statistically significant, the relative risk of being a program dropout compared to controls (RR = 1.72) would have resembled the relative risk in the full-sample regression closely (RR = 1.71). What sets the violent subsample regression apart from the full sample regression is that the program completer group shows considerably higher survival in total compared to controls, 90% compared to 72%, and a RR of 0.31 times that of the controls, even as the concept of high-risk was watered down considerably in the final, rather lax selection criterion. It should be stressed, however, that no valid conclusions can be drawn from the results. The regression function pattern may or may not persist in a larger sample.

Table 5. Results from the Cox regression on violent offender recidivism.

<table>
<thead>
<tr>
<th></th>
<th>Wald</th>
<th>p</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controls</td>
<td>2.93</td>
<td>.23</td>
<td></td>
</tr>
<tr>
<td>Dropouts</td>
<td>1.32</td>
<td>.25</td>
<td>1.72</td>
</tr>
<tr>
<td>Completers</td>
<td>1.27</td>
<td>.26</td>
<td>0.31</td>
</tr>
</tbody>
</table>
Discussion

Summary of Results

The results of the short-term testing are mixed and since there was no control group, the positive conclusions that can be drawn from them are very limited. The Comprehensibility index in the SOC scale increased, while Impulsivity in the IVE scale decreased. In the CSS scale five out of six indexes showed statistically significant prosocial changes. The collective impression of the short-term testing is that, in spite of some mixed results, there are nevertheless several distinct changes to participant cognitive and social skills and attitudes. It cannot be ruled out that there is a program effect behind these changes. However, to prove that the changes are indeed program effects and, further, that the effects persist over time, a different experimental design is required. The overall conclusion can therefore only be that the Swedish CS program may possibly achieve what it sets out to do in the class room, i.e., to teach new ways of thinking and to change attitudes, in some specific cognitive areas.

Nonetheless, certain indexes did not show any significant changes in the post-program personality testing. In the SOC scale, Manageability and Meaningfulness were both non-
significant. The Comprehensibility index, which did show significant post-program changes, is generally thought of as the cognitive scale of the three (Antonovsky, 1987). One would expect to see an improvement in this index among program participants, since the CS program targets the cognitive structure of the participants. Manageability, on the other hand, is considered the behavioral or instrumental index, and Meaningfulness is the motivational index. The latter two indexes may not have been valid measures of program effects.

In the study of post-program changes in the three indexes of the IVE scale, there was a significant improvement in Impulsiveness, but no improvements in Venturesomeness and Empathy. The improvement in Impulsiveness was expected. The CS program aims to teach participants to deal better with impulses, to weigh in consequences in actions and avoid “acting first and thinking later”. If the program is successful in this ambition, there should be an improvement in Impulsiveness among program participants.

As opposed to Impulsiveness, the Venturesomeness trait of the IVE scale is not specifically addressed in the CS program and hence any change should not be expected. The CS program manual does, however, contain elements aimed at developing empathy in participants. One could further argue that strengthening the ability to empathize with others, such as crime victims, ought to be a crucial factor in preventing relapse among offenders. Still, as in the Berman (2004) study of imprisoned CS program participants, there was no corresponding significant change in the Empathy subscale. This could be viewed as a shortcoming of the program. However, in similarity with the Berman results, a closer scrutiny reveals an already high pre-program mean score in the Empathy index, slightly higher, in fact, than the mean for any male age group of the normation in Eysenck, Pearson, Easting and Allsopp (1985). One could argue that it might be too much to ask of the CS program that it raise participant empathy above the population mean.

The underlying reason for the high pre-program Empathy scores could be explained by the selection process for admission into the program. Applicants with psychopathic traits were excluded (Berman, 2002). Another possible reason could be that the IVE instrument is less valid for a criminal subpopulation. Being a cognitive instrument, the IVE scale measures how people view themselves, and not necessarily how they behave towards others. The experimental group may simply consider themselves more empathic compared to how people in general think about themselves. In other words, there could be a wider discrepancy between self-reflection and behavior among offenders. If so, then the lack of post-program change in Empathy is problematic.

In the CSS scale, changes in all five indexes were expected. The changes in Tolerance for Law Violations was not statistically significant however. The index in question should be valid and should also be considered an important one. With a larger sample there may have been a significant change at the 5%-level, but even so the index differs from the remaining four. Overall, however, significant changes in five out of six indexes in a scale with high content validity are not bad results.

The correlation study between short-term program effects on cognitive and social skills and attitudes, and long-term effects on recidivism, yielded only two statistically significant correlations, between recidivism and the Attitude towards the Law index, as well as the Attitude towards the Police index, both of the CSS scale. Other than that there was only a tendency towards significance for the IVE Impulsiveness index. The remaining indexes were all non-significant.
A striking fact is that there is no explicit mention in the program material (Ross, Fabiano and Ross, 2000) about the purpose of the Swedish CS program. It would be difficult to motivate the costs of the program unless Kriminalvården expected the program to have reasonable rehabilitating effects on the participants and, hence, ultimately some effect on recidivism. Only Kriminalvården seems reluctant to speak in those terms, perhaps since it would imply making claims that the CS program does indeed live up to this purpose in Sweden, something they could not be certain of when starting up the program in 1995.

Regardless of the lack of a clear program purpose, the negative short-term and long-term results could be highly problematic for the CS program. The program structure implicitly tries to improve the cognitive and social skills and to change attitudes of the program participants. Motivating and facilitating such changes are the only tools the program has to work with, but if it cannot be proved that there is a correlation between recidivism and these main variables that the program targets, then the program must consequently be insufficient.

If any of the three inventories used in this study are valid and suitable measures in evaluating the CS program effects, then the lack of significant correlations between recidivism, on the one hand, and cognitive and social skills and attitudes, on the other, can only be interpreted as a sign that there may be other important factors in explaining recidivism that the program does not or cannot target. The strongest predictor of recidivism that researchers have been able to find is simply past offending (e.g., Lloyd, Mair and Hough, 1994), although that finding seems somewhat tautological. A more complex description was given by Taylor (1999), who concluded that the reason for criminal history having strong predictive properties is probably that it acts as a proxy for social and behavioral problems. In May (1999) and in Harper, Man, Taylor and Niven (2005) other important predictors of relapse following community penalties were identified, e.g., drug addiction and social factors such as employment, accommodation and finances. Thus, while cognitive structure could help explain why some individuals become criminals and remain criminals, there might still be other, more important factors outside both the scope of the present study and even the realm of psychology. It was estimated that roughly 60% of the offenders were drug addicts in the sample of the present study. In 2001, where the follow-up period ended, only 21% of all the clients of the probation service were employed on the open market and 28% did not have permanent housing (Kriminalvården, 2005a). What effects these factors may have had on the reconviction rates in the sample is beyond the scope of this study, but they may still be highly relevant in explaining recidivism.

In the full-sample Cox regression, the survival pattern for program completers is very similar to that of controls, who did not attend the CS program. The conclusion must therefore be that, regardless of whatever other merits the program may have, the Swedish CS program is either inefficient or insufficient in reducing recidivism when offered to a wide range of offenders. Most probationers simply do not run a lower risk of relapsing after completing the program.

There is a subgroup, the probationers with a past record of violent crimes, which could possibly benefit from the program as it was designed and implemented 1995-2000. The post-program survival pattern shows a considerably lower risk of reoffending in any type of crime for violent offenders who completed the program compared to violent offender controls, although the regression is not statistically significant. It would be interesting to see if the survival pattern persists in a larger sample. Since the dropout rate in this subgroup seems to be no better than in the full sample, a similar but statistically significant survival pattern would
indicate that the program suits this subgroup better than non-violent offenders. It would then perhaps be wise to limit the program to only the probationers with a record of violent offences. It could also be argued that the program should be prescribed by court order rather than remain voluntary for this group, since the meta-analysis by Tong and Farrington (2006) shows that there is no difference in treatment effects between compulsive and voluntary recruitment to CS-type programs.

**Issues**

A peculiar detail in the Cox regression results, that has not been addressed so far, is that the program dropout recidivism and relative risk is higher than even that of the closely matched controls. This is not unique for this sample and has been observed in previous studies. Hanson and Bussière (1998) went so far as to describe failure to complete treatment as a predictor of recidivism. McMurran and Theodosi (in press) come to the startling conclusion that program dropouts may even be disadvantaged by treatment, since it is difficult to explain away the discrepancies in studies with random or risk-matched controls. Although a finding in need of further careful study, it would raise some serious doubts around the participant selection process if the dropouts in the experimental group (46%) were in fact disadvantaged by participation somehow, especially given the meagre long-term recidivism results.

Another issue is the puzzling fact that program results for probationers differ so much from study to study. Although there are various R&R programs in circulation, they are all largely similar in content and, since all the programs are highly structured and manual based, one will further have to assume that care is taken to make sure that each program is administered in a fairly consistent fashion from year to year. Why did this study, along with e.g., Raynor and Vanstone (1994), fail to show any treatment effects for probationers in general? There are various possible explanations, some of which fall outside the scope of this and other studies. One explanation could be subtle cultural differences, making the program less viable in Swedish society than in North America. There may also be differences in how the program is organized and administered, and also in how the program locks into the probation system in each respective country. A qualitative study by Clarke, Simmonds and Wydall (2004) gives clues to various factors that may influence a successful or unsuccessful delivery of the CS program, such as participant motivation, program management and institutional support for the program staff. The possible differences in delivering the programs can be hard to distinguish and difficult to capture in data though. Important variables that would help make one program more comparable to others may be hard to spot and remain missing in the data sets.

As an example of important hidden variables, there is one circumstance about the Swedish probationer CS program that may quite possibly have led to a negative selection bias regarding which probationers ultimately decided to volunteer in the program. In the Swedish version of the program the participants attend three two-hour class sessions per week and these sessions are generally held during office hours. Although the program has a limited duration, it could still be difficult for a probationer with an employment to fit the program with a work schedule. Berman (2005) showed the importance of work employment in preventing recidivism among Swedish probationers. Regardless of whether employment is to be considered a sign or a means of readaptation to a non-criminal lifestyle, probationers with a full-time employment may be under-represented among the program participants in the data of this study. The employment status of the participants and controls is one hidden variable missing in the data set that could affect the evaluation of the Swedish CS program and
complicate valid comparisons with other similar programs. There may be other hidden variables still.

Limitations

The present study is somewhat hampered by data availability. Without matched controls to the subjects in the short-term testing of cognitive changes, and with no long-term follow-up on personality test data, it is not possible to reach positive conclusions concerning what impact on participant cognition the Swedish CS program may have. Thus the question of which specific changes in a probationer and his living conditions that will make him less likely to commit new crimes after release is not brought further towards a clear answer. In addition, even though the sample for the long-term recidivism study comprised all probationers that attended the CS program 1995-2000, the sample size is too small for conclusions regarding program effects on recidivism for subsets of the sample, most importantly offenders with a record of violent crimes.

Conclusions

With the limitations in mind, two less firm conclusions and one firm conclusion can still be drawn from this study. First, although there is neither proof that any cognitive changes, as a result of attending the Swedish CS program, are durable and resilient, nor that the changes actually contribute to lower risk of relapse, it is nevertheless quite possible that the program does lead to change. It would be of interest to examine this possibility with an experimental design including personality testing of the matched controls and an additional later post-program retest. Any significant discrepancies between participants and controls thus discovered would also give rise to new interesting variables and selection criteria for the definition of subgroups in further long-term recidivism analysis.

Second, the recidivism study of program participants with a past record of violent crimes implies that the Swedish CS program could in fact be an effective form of treatment in order to lower overall risk of future relapse – regardless of crime type – for this subgroup. A larger data set would likely allow for definite conclusions. Thus there are strong reasons to study violent offenders in the CS program further. If violent offenders benefit from the CS program, then perhaps Swedish courts should start including the program in sentences for this group of offenders.

Third, the most important finding of the present study is the discouraging results from the recidivism survival analysis of the full sample. The conclusion can only be that, with the possible exception of violent offenders, probationers in general are simply not less likely to relapse in criminality after attending the Swedish CS program. Since reducing recidivism ought to be the most important reason for funding the program, the probation service will have to look elsewhere for incentives to maintain it, if it should be maintained at all in its present form.
References


