

**ASSESSMENT AND  
LARGE-GROUP TREATMENT OF CRIMINALITY**

by

Reg Reynolds and Douglas Quirk  
with Verna Nutbrown

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The opinions and positions expressed in this paper are those of the authors, and don't necessarily represent the opinions of any other organizations or individuals.

Further information about the STFB and the treatments derived from it may be obtained by writing to Dr. R.M. Reynolds, 113 - 2125 Itabashi Way, Burlington, ON L7M 0A1.

# Executive Summary

## ASSESSMENT AND LARGE-GROUP TREATMENT OF CRIMINALITY

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A ten-year research project to understand and treat criminality (i.e., “crookedness”) has led to (1) the development of a new test of criminal thinking, the *Survey of Thoughts, Feelings and Behaviours (STFB)* and (2) a new understanding of criminality as six sets of angry distress-rejecting attitudes and behaviours on the part of offenders -- behaviours which put them into conflict with society and get them in trouble with the law. This new understanding of criminality suggested the development of six different treatment programs, one for each of these six separate components of criminality; and these treatment programs were delivered in six day-long (i.e., 4½ hour) large-group treatment workshops. None of those inmates who were assigned to and received three or more of these treatment workshops recidivated (i.e., relapsed into crime) within the two years following release from prison. In contrast, almost half of a control group of inmates who received none of these criminality workshops were back in prison within two years of being released. It was concluded that this particular approach to understanding and treating criminality would seem to warrant further investigation and application.

## ASSESSMENT AND LARGE-GROUP TREATMENT OF CRIMINALITY

"Research is not done the way people who write books about research say that it is done."

-- Bachrach's First Law of Research

### The Context of this Research:

This assessment and treatment program was carried out within the context of the Ontario Correctional Institute (OCI), a modern 220-bed medium security prison opened in late 1973. The OCI's inmate population is composed primarily of alcoholics, drug addicts and sex offenders, all of whom are serving "provincial" sentences. In Ontario, this means that their maximum imposed sentence is two years less a day, plus any additional probation time which may have been imposed upon sentencing. Few of these inmates are considered to be "career criminals," although a majority of them are recidivists at the time of their admission to the OCI, with significant numbers exhibiting long histories of criminal involvements of many types.

The OCI's mission statement commits it and all its staff to direct service, research and community education in the areas of classification, assessment, treatment, training and safe confinement of adult male incarcerated offenders. In addition, as the premier correctional treatment setting in Ontario, it had been charged specifically with the task of exploring criminality as it is related to its inmate population. And what an interesting task that has turned out to be!

### The Historical Background:

In 1976, shortly after the OCI opened, Samuel Yochelson, Director of the Program

for the Investigation of Criminal Behaviour at St. Elizabeth's Hospital in Washington, D.C., and Stanton Samenow, a clinical research psychologist, published the results of a study of criminal thinking in which they claimed to have identified the errors of thinking that characterize the criminal mind. In this publication, they divided the thinking errors *that they had observed* into three broad clusters. The first cluster, composed of 16 thinking errors, they called "Criminal Thinking Patterns". A second cluster of thinking errors was labelled "Automatic Errors of Thinking," while a third cluster of thinking errors, "From Idea Through Execution," was concerned with the actual execution of criminal activity. These three clusters and the behaviours they subsume seemed to have a certain face validity and, regardless of whether or not these characteristics really portrayed criminal thinking or whether they were merely general attributions that could be acknowledged by many other people as well, workers in the criminal justice system were quick to recognize in these descriptions the offenders with whom they were familiar.

A year after their treatise on the criminal mind, Yochelson and Samenow (1977) published a description of a treatment programme they designed to modify these supposedly criminalistic patterns of thought and behaviour. In so doing, they were following the cognitive tradition which has become identified with Ellis (1962), Meichenbaum (1977) and Beck (Beck, Rushton, Shaw and Emory, 1979), and which was destined to become the bandwagon of the 1980's. Their treatment program placed the criminal in "a group with three to five participants. Attendance in this group every weekday is part of a disciplined life in which time is programmed. ... *The group meets for three hours a day, five days a week, for at least a year.*" [italics added] (Yochelson and Samenow, Vol II, pp. 179, 180). Their work was primarily cognitive: "In summary, we work with the raw data of thinking.

We extract thinking errors, establishing the fact that each error is part of a broader criminal pattern. We teach the criminal new corrective, responsible thinking patterns here and now, and prepare him for future situations." (op. cit., p. 176). Success was reported in terms such as the following: "As of May 1976, thirteen men who were hard-core criminals are now living in the community and fulfil our strict criteria of responsible functioning." (op. cit., p. 436).

In 1986, Anupama Bhardwaj (now Bhardwaj-Keats), a student intern at the OCI, decided to test the validity of Yochelson and Samenow's observations by attempting to construct a paper-and-pencil psychological test to measure forty-six of the criminal thinking errors that they had "identified." This research, which subsequently became her doctoral dissertation, demonstrated a robust difference in the scores obtained on her test by normal community college students and by men incarcerated in provincial correctional facilities. That is, *she demonstrated that, in Yochelson and Samenow's terms, not only the criminally insane, but "garden variety" incarcerates as well, could be said to possess "the criminal mind."*

#### Development of the Survey of Thoughts, Feelings and Behaviours:

However, there were a few problems with the test that she had developed. Some of the items were sexist. For example, one of the items read, "My idea of good sex is to conquer a woman's body," which would seem to make it less than ideal for use with females. Another item was, "When I'm doing crime, I've more energy than most people," which would seem to presuppose what the test might be attempting to discover. In an attempt to produce a measure of criminal thinking that might be used for clinical purposes, therefore, the present authors repeated and extended the test development process which had been followed by Bhardwaj-

Keats; and over the next five years, items were written and either retained or discarded depending upon their ability to differentiate between successive samples of Normals and Career Criminals. The eighth and final version of this new test, designated a "Survey of Thoughts, Feelings and Behaviours" (STFB), contains only two of Bhardwaj-Keats' original 181 items in their original form, and another dozen or so in altered form. It consists of one hundred items -- two items for each of fifty different kinds of "thinking errors," one of which is scored if answered in the True direction while the other is scored if answered in the False direction.

Next, fifty students from a university psychology class were asked to rate the STFB items for their social desirability, using a seven-point scale ranging from Very Socially Desirable to Very Socially Undesirable. From among those items judged to be relatively neutral with respect to Social Desirability (mean ratings between 3.5 and 4.5), sixteen items were selected such that eight of the items were scored if answered in the True direction and eight were scored if answered in the False direction. The mean Social Desirability rating for these 16 items was 4.00. In a similar way, from among those items rated by the university students as "very socially undesirable," another sixteen items were selected. Again, half of these items were scored if answered in the True direction, and half were scored if answered False. The mean rating for these items on the seven-point scale of social desirability was 5.8.

#### Factor Structure and Meaning in the STFB:

Factor analysis of the fifty 2-item sets of "thinking errors" comprising the STFB produced an acceptable six factor solution that accounted for 67 percent of the variance in a sample of 355 inmate subjects and which, with a slight adjustment for content, resulted in six interpretable "factor scales" having satisfactory internal

consistencies (alpha's ranging from 0.75 to 0.85).

STFB factor scale scores and MMPI data were then obtained for a separate sample of 340 inmate subjects, and MMPI item endorsements were determined for subjects who scored high -- at or above a T-score of 65 -- on each of the STFB factor scales. Then, assembling together the items from each of the six STFB factors along with the MMPI items associated with high scores on each, the six sets of STFB and MMPI items were characterized in terms of the possible developmental sequence of both the cognitive and reactive mechanisms (the STFB items) and the motivational and psychopathological features (the MMPI items) common to each array, which provided a more refined understanding of the psychodynamics underlying each of the criminality factors than could have been obtained from examination of the items in each of the STFB factors alone.

The postulated psychodynamics portrayed the six factors as representing a series of reactions to perceived life experiences, the internal processing of which eventuates in various forms of **angry distress-rejecting reactions** on the part of offenders, as follows:

Factor 1: Hypersensitivity to and rejection of feelings of Guilt

Factor 2: Hypersensitivity to and rejection of feelings of Failure

Factor 3: Hypersensitivity to and rejection of Emotional Distress

Factor 4: Hypersensitivity to and rejection of Sensitivity to Others

Factor 5: Hypersensitivity to and rejection of Closeness

Factor 6: Hypersensitivity to and rejection of Discipline

For purpose of illustration, the postulated psychodynamics for the first STFB factor (hypersensitivity to and rejection of feelings of guilt) are as follows:



- (a) One or more significant others was perceived by the child as overemphasizing the child's mistakes and wrong-doing.
- (b) The child reacted with a sense of rejection, a sensitivity to guilt and a readiness to feel guilty.
- (c) The child accepted the felt guilt and felt rejection, and reacted with a kind of compulsive cautiousness, with depressive over-tones, which led to some inhibition of activity.
- (d) The felt rejection, combined with the inhibition of activity and energy use, fostered in the child a build-up of resentment and anger at the perceived injustice of his situation, feelings which also could not be expressed too directly.
- (e) The combination of guilt and anger feelings created strong negative feelings about emotions, with a suppression of emotions, which, in turn, may have led to boredom. Nevertheless, anger could not be suppressed fully, and it was evoked particularly by the elicitation of guilt feelings, which were immediately rejected.
- (f) The elicitation of guilt and anger feelings created increased Autonomic Nervous System (ANS) arousal which, with the rejection of guilt, seemed to override the previous inhibition of action. The result involved a heightened excitability of the person, an increased intensity of anger, and a search for relief in excitement-seeking activities, some of which others might consider would lead naturally to feelings of guilt.
- (g) The excitement-seeking and/or the angry pursuit of action that normally might be considered guilt-evoking enhanced the risk of involvement in criminal behaviour.
- (h) In effect, the individual is seems to be saying, "I refuse to feel guilty about what I do! In fact, I am going to do whatever the hell I please, and I'll *show*

you that I don't feel guilty about it."

Preparing to Test the Validity of the Postulated Psychodynamics of the STFB:

Is there any validity in these formulations? Obviously, some of our conjectures about how all of this works are speculative. However, although ordered to suit a kind of psychological view of development, the various steps in the developmental sequences offered are taken fairly directly from the contents of the items endorsed by offenders who scored in the upper range of each of the factors. Of course, the real question of importance in such formulations lies in their value in directing the prevention and treatment of the thinking, feelings and behaviours implied in each of the criminality factors, and in the eventual determination of the effects, if any, of interventions derived either to prevent or to reduce the criminal behaviours attributable to these cognitive-affective components of criminality.

So, onward to treatment. Although, like many others, we had frequently considered offenders to have characteristics similar to the "neurotic" patients with whom we had worked during the early parts of our careers, except that offenders tended to act out their internal conflicts rather than accepting their distress within, we had not really thought very much about how that difference came about. But what if offenders merely had reached the point at which they felt the distress of each factor's dynamics too poignantly, and simply could not tolerate the negative experiences which ensued? Or what if the pressures to which they had been subjected were imposed at a developmental stage more appropriate to acting out than to acceptance of the neurotic distress? -- an idea which harks back to the concept of the "neurotic character disorder" and the work of early researchers in the field of delinquency.

Gradually, the idea that the angry, distress-rejecting reactions common to the psychodynamics postulated to underlie each of the STFB factors represented an intolerable “burden” that the offender was not about to bear became the focus around which each of our treatment programs was organized; and we began to consider the task of treatment as involving the attempt to decrease the pressure of the underlying distress implied in each factor's dynamics, rather than seeking to enhance or increase the apparent deficiencies implied by the offender's defensive acting out behaviours. For example, to the extent that criminal behaviour is motivated by a sensitivity to (and, hence, a rejection of) feelings of guilt, perhaps that sensitivity is the problem which should be addressed. If sensitivity to failure is the issue, perhaps that is what needs to be addressed, and so on.

#### Finding a Suitable Treatment Modality:

Just how might this treatment be done? Obviously, if an attempt was to be made to evaluate any treatment undertaken and at the same time to evaluate the modifiability of the STFB factors, it would require that (1) a large number of offenders be treated, (2) each in more-or-less the same way, and (3) in relatively short intervals of time. The concept of the treatment workshop seemed to provide one way in which that might be accomplished.

Even though the Ontario Correctional Institute is viewed as the “flagship” correctional treatment centre in Ontario, it has been provided with clinical resources at less than one-quarter of the level called for in hospital standards for a treatment centre of its size -- Correctional Services administrators tend to think of staffing levels in terms of what is needed for the average jail. As a result, for some years, psychology staff at the OCI had been exploring the upper limits in size

of a treatment group that might be conducted without loss of therapeutic benefits. The present authors had begun with 20 inmate participants, increased to 25, increased to 35, increased to 50 and, finally, increased to 75 -- the largest number that could be accommodated in the largest group room to which they had access. Each successively-larger group was administered a battery of monitoring tests before and after treatment to measure therapeutic changes, if any, which took place. The results obtained in these "large-group treatment workshops" had proven to be most auspicious. In treatment program after treatment program, far from finding a "ceiling effect" above which treatment effects could not be demonstrated, it was observed that as group size was increased, so did measurable amounts of therapeutic benefit to the average inmate subject (Quirk and Reynolds, 1991), as if some sort of mobilizing effect (or contagion) increases with group size. Eventually, we concluded that satisfactory treatment effects could theoretically be accomplished in groups of any size which could be accommodated in a suitably appointed room -- a conclusion which would not be inconsistent with the large-group results that have been achieved by, for example, the commercially-available Smokenders program. Moreover, within limits, the duration of a treatment program could apparently be extended to fill an entire working day. The limits appeared to bear upon subjects' attention spans. That is, a day-long program could be run without loss of therapeutic effects as long as ample provision was made for "breaks", as long as no session lasted more than an hour or so, and as long as ample provision was made to capture and maintain both attention and motivation in the participants. These requirements, however, turned out to be little more than quite manageable technical issues.

#### The Large-Group Treatment of Criminality:

Since inmates are admitted to the OCI, and from the intake unit to the treatment

units, on the basis of bed availability, and since they are released from the treatment units upon the completion of their sentences, the assumption was made that assigning inmates to treatment groups according to their discharge dates would provide a satisfactory basis for randomization of group assignment. Thus, on a particular day, the inmates who were residing at the OCI were listed in order according to their discharge dates -- after first having excluded those half dozen inmates identified by their case management staff as possessing too little by way of criminalistic traits to warrant their inclusion in a criminality treatment program -- and were assigned sequentially to treatment and control groups as shown in Table 1.

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 Table 1  
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It should be noted that, although neither of the two sets of Control Group subjects were invited to attend (and none of the Control Group subjects did attend) any of the STFB-related treatment programs, like all of the other inmates at the OCI, they did participate in other regular treatment programs throughout their incarceration.

Day-long programs were designed to address the motivations presumed to underlie each of the six criminal thinking factors, and presented in large-group treatment workshop format; and changes in factor scale scores from pre- to post-treatment were examined to determine the extent to which we were successful in modifying criminal thinking.

The six separate treatment-of-criminal-thinking workshop program plans (each one addressing a different criminal thinking factor) were as follows:

1. **Guilt** was the target of the first workshop, and the attempt was made to *reduce* the amount of guilt feeling and guilt proneness -- on the assumption that this would have the effect of reducing guilt intolerance.
2. **Failure** was the target of the second workshop, and the attempt was made to *reduce* the amount of failure feeling and failure proneness -- on the assumption that this would have the effect of reducing failure intolerance.
3. **Distress** was the target of the third workshop, and the attempt was made to *reduce* the amount of felt distress (affect) and distress proneness -- on the assumption that this would reduce distress intolerance.
4. **Sensitivity** was the target of the fourth workshop, and the attempt was made to *reduce* sensitivity to others -- based on the assumption that this would reduce sensitivity intolerance.
5. **Obsessive Rumination** was the target of the fifth workshop, and the attempt was made to *reduce* introspection and worries -- on the assumption that this would reduce the associated closeness intolerance.<sup>1</sup>
6. **Discipline** was the target of the sixth workshop, and the attempt was made to *reduce* the subjective experience of external discipline and to increase the subjective experience of freedom -- on the assumption that this would reduce discipline intolerance.

#### Immediate Effects of the Criminality Treatment Workshops:

Examination of the relationship between change in STFB Total score as a function of total hours attended at criminality treatments found that change (decrease) in

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<sup>1</sup> One previously-unmentioned aspect of this treatment programme involved the desire to utilize a variety of treatment methodologies. Targeting the obsessive rumination, instead of sensitivity to either closeness or rejection, allowed us to test a variety of cognitive methods which we had not previously employed.

criminality was directly related to the total number of hours of treatment received, as shown in Table 2. That is, improvement in the STFB Total score is directly related to the total number of criminality treatment workshop hours received.

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 Table 2  
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Next, residual gains scores were calculated to represent pre- to post-test changes on the six STFB factors and on the STFB Total, Neutral and Undesirable scales, and change scores were examined for each STFB factor for each workshop, to see if the treatments chosen for inclusion in each workshop were appropriately selected and/or differentially effective.

Given the brief time allowed for each treatment program (little more than four hours), it was concluded that, in analyses involving comparisons between the Treatment and Control groups, an inmate should have attended the treatment program for at least three of the four approximately-hour-long segments (i.e., for at least 3 hours) to be included in the treatment group. Thus, groups were assembled containing only those inmates who had attended either for at least 3 hours (the treatment groups) or for 0 hours (the Control group) for each treatment program; and Treatment and Control groups were compared using between-groups t-tests. The results of these analyses are summarized in Table 3.

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 Table 3  
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This table presents the probabilities that there is no relationship (the so-called "null hypothesis") between each treatment and its effect on each of the STFB factor

scale scores. In order to emphasize the rather arresting pattern of results obtained in these analyses, significant probabilities are highlighted in the tables. It can be seen that the overall differences from pre- to post-treatment on five of the six STFB factor scale scores were significant<sup>2</sup> (i.e., beyond the .05 level of confidence), for comparisons between those inmate subjects who received all or most of their particular criminality treatment workshops (3-4 hours) and those who received no criminality-related treatment at all. The exception was Workshop E, which was intended to modify STFB Factor 5 -- and we will return to that result shortly.

These treatment results clearly indicate that at least reasonably appropriate treatments were selected *and that, to a considerable extent, "differential treatment" was accomplished*. That is, as a general rule, the treatments modified primarily the STFB factor scores at whose underlying dynamics they were directed. Workshops were generally successful in effecting change in their targeted criminality factors, and occasionally effective in changing other criminality factors as well. The only exception to this finding was Treatment E, which does not appear to have managed to affect its targeted STFB factor to any significant degree. As will be seen, however, this failure of Treatment E to effect changes in its targeted STFB factor is more apparent than real.

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<sup>2</sup> In this table, significances at the  $p < 0.10$ , two-tailed (i.e., at  $p < 0.05$ , one-tailed) level of confidence were accepted for the effect of a treatment workshop on its targeted (hypothesized) STFB factor score (i.e., Workshop A on Factor 1, Workshop B on Factor 2, etc.). And significances were accepted at the  $p < 0.05$ , two-tailed level for the effects of all other criminality workshops on other STFB factor scores (i.e., those which were not targeted or hypothesized to be changed in a given direction by the particular workshop, that is, Workshop A on Factors 2 through 6, Workshop B on Factor 1 and Factors 3 through 6, etc.). For the sake of clarity, N's (number of subjects) given in each table are for the targeted factor comparison. N's for other comparisons often differed slightly.



The following three tables present the pre-test to post-test change scores of three groups of subjects, those receiving:

- three or more hours of criminality treatment (Table 4),
- three or more hours of Relapse Prevention Workshop only, the first of our two control groups (Table 5)
- no treatment workshop at all, the second of our two control groups

(Table 6).

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 Tables 4, 5 and 6  
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From these tables, it can be seen that subjects who participated in three or more hours of each of the specific criminality treatments showed a significant decrease in the STFB factor targeted by that treatment; subjects who participated in three or more hours of the Relapse Prevention workshop (and no other criminality treatment hours) showed a significant decrease in STFB Factor 5, and no change in any of the other STFB factors; and subjects who received no treatment workshop hours at all showed no change in any of the STFB factors at all. Thus, apparently Treatment E did effect changes in Factor 5, and the initial apparent failure of Treatment E to affect its targeted STFB factor can be attributed to the fact that Factor 5 was also modified by the Relapse Prevention program which was used in this study as a "control" treatment and which was received by some of the no-criminality-treatment (or "control") subjects -- which, of course, blunted the statistical test comparing the experimental and control group subjects.

Measuring the Long-Term Effects of Correctional Treatment:

The fact that treatments based on the psychodynamics postulated to underlie and "drive" each of the aspects of criminality measured by the STFB resulted in

significant changes on each of their targeted factors might be said to provide some support for the predictive validity of the STFB. However, as we all know, the ultimate test of the effectiveness of correctional treatment resides in its ability to influence recidivism rates and, for that, it was necessary to await the release and subsequent re-offence or non-offence of those inmates who participated in this study (which required that we wait two years post-release before doing follow-up on the inmates who participated in the study). That two year waiting period has now been fulfilled, and the results are now in. Before we get to them, however, it is necessary to say a few words about recidivism.

In most correctional outcome evaluation work, program effectiveness is determined by differential recidivism rates for treated and untreated offenders. Too frequently, recidivism has been expressed as a dichotomous variable established by the presence or absence of specific outcome criteria such as further arrests, further convictions or further incarcerations. Researchers have long recognized the inadequacies of such all-or-none measures and of the recidivism rates derived from them (Maltz, 1984). The usual criticism is that the dichotomous nature of the recidivism variable ignores a substantial amount of relevant information about the recidivistic event, which reduces the ability of researchers to discriminate among groups and lowers the likelihood of being able to document varying degrees of impact of correctional programs on individual offender's post-release performance.

It has been suggested that improved discrimination might be achieved by examining the distribution of survival times, represented by time on the street before recidivism -- a sort of "resistance to recidivism" measure of outcome, as it were -- and we have used this measure as one of our outcome criteria. Another

measure that we considered was the Sellin & Wolfgang (1964) Offence Seriousness Index, which has been investigated extensively (Blumstein, 1974; Bridges & Lisagor, 1975; Figlio, 1975; Gottfredson, Young & Laufer, 1980; Hindelang, 1974; Kelly & Winslow, 1973; Lesieur & Lehman, 1975; Rose, 1966; Wagner & Pease, 1978; Walker, 1978; Wellford & Wiatrowski, 1975) and replicated internationally (Akman & Normandeau, 1968; Hsu, 1973; Normandeau, 1966; Rossi, Waite, Bose & Berk, 1974; Velez-Diaz & Megargee, 1971) and which has gained wide recognition as an index of crime in society. It is probably the most sophisticated method available for measuring offence seriousness, and its use of behaviour descriptions of criminalistic events means that, in principle, transferral across jurisdictions should be possible. However, its utility for correctional treatment research purposes is limited, at least in Ontario, by the difficulty of transforming the categories used in the prison records available to us into the behavioural descriptions that the Offence Seriousness Index uses as its scoring criteria. That is, as a general rule, the only records available to us and, we suspect, to most correctional researchers, tend to contain only category of offence, number of counts and the sentence imposed. And even if police occurrence reports are available, they rarely contain the kind of detail needed to score offenses on the Offence Seriousness Index. Thus, for most program evaluation research, the usefulness and accuracy of this scale in measuring offence seriousness is seriously limited by the descriptive information in the records available.

However, this paper is not intended to be about the Offense Seriousness Index or its next generation development, The National Survey of Crime Severity (Wolfgang, Figlio, Tracy & Singer, 1985). Suffice it to say that a comparison between the National Survey of Crime Severity and the simple and readily

available criterion of Offence Seriousness, as indicated by length of sentence imposed, found the latter measure to be a much better criterion of recidivism, and that is the measure which was used in this study.<sup>3</sup>

#### Effect of the Criminality Treatment Workshops on Recidivism:

Examination of two year post release records of the subjects included in this study found significant relationships between the number of treatment workshops attended<sup>4</sup> and two separate indicators of recidivism (time on the street, i.e. until re-offence, and severity of re-offence), as shown in Table 7.

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 Table 7  
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In fact, almost half of the subjects who received no treatment workshops at all recidivated, as might have been expected, while **none** of the subjects who were assigned to and participated in three or more of the criminality treatment workshops recidivated within the two year post release follow-up period!

Significant relationships were also found between changes in STFB scores as a result of treatment and all three of our indicators of recidivism (re-conviction, time on the street and severity of re-offence), as shown in Table 8.

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<sup>3</sup> Further discussion of the issues involved in their use can be obtained from the Research Department at the OCI, P.O. Box 1888, Brampton, Ontario, L6V 2P1 as an Ontario Correctional Institute Research Report (RR91-1): Quirk, D.A., Nutbrown, V. and Reynolds, R.M. (1991) *Sentence severity: A practical measure of offence seriousness*.

<sup>4</sup> For three or more hours.

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Table 8

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It had been thought that final STFB scores would also be related to recidivism, but here the relationship is somewhat less robust, as shown in Table 9, where the only statistically significant relationships are between time on the street and the final scores on Factor 6 and the STFB Social Undesirability scale.<sup>5</sup>

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Table 9

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### Summary and Conclusions:

In summary, then, the Survey of Thoughts, Feelings and Behaviours (STFB) has been shown to be a useful measure of criminality. It provides meaningful, if unexpected, views of the roots of criminality. Its scores have been shown to be modifiable by treatment methods that are both brief and capable of being delivered in cost-effective large-group format; and both the amount of treatment provided and the extent to which STFB scores are modified by these treatment workshops have been shown to be related to two-year-post-release recidivism. That is, the treatment workshops both lowered STFB criminality scores and resulted in lower recidivism rates, as measured by whether or not subjects re-offended, time on the street until re-offence, and seriousness of re-offence in the two years post-release.

It is apparent that the effects of the treatments provided in this study, even though

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<sup>5</sup> Although there is a significant relationship between the logarithm of severity of re-offence and the final score on Factor 6.

significant, were not large. On the other hand, given the scant amount of treatment provided, it is *amazing* that any effect at all is still measurable at two years post-release. And since even the token amount of treatment provided in this study did, in fact, lower recidivism, the particular approach to thinking about, measuring and treating criminality that was taken in this assessment and treatment program would seem to warrant further investigation and application.

Table 1: Assignment of Subjects to Groups

	STFB or Other TARGET							
Group Assignment (sequentially by release date)	Relapse Prevention ("Control")	STFB Factor 1	STFB Factor 2	STFB Factor 3	STFB Factor 4	STFB Factor 5	STFB Factor 6	Values
Control Group 1								
Trx Group A								
Trx Group B								
Trx Group C								
Trx Group D								
Trx Group E								
Trx Group F								
Trx Group ACE								
Trx Group BDF								
Trx Group A - F								
Trx Group A - F plus Values *								
Control Group 2								

\* Because of the possible confounding effect of the Values workshops, the data from this group are not considered in this paper.

Table 2: Change in STFB Total Score  
As a Function of Total Workshop Attendance Hours

Hours Attended	0	1-6	7-12	13-18	19-24
N	68	83	29	6	14
Total Change	1.27	1.27	3.62	4.16	4.77

Table 3: Summary of Probabilities of Effects of Treatments A to F  
(independent variables) on STFB Factors 1 to 6 (dependent variables)

STFB Factor: Tx Workshop	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Treatment A	<b>.05</b>	.18	.07	.11	.68	<b>.04</b>
Treatment B	.13	<b>.00</b>	.18	.30	.28	<b>.00</b>
Treatment C	.60	.35	<b>.10</b>	.42	.99	.13
Treatment D	.34	<b>.01</b>	.29	<b>.07</b>	.38	<b>.00</b>
Treatment E	.12	.09	.39	.44	.42	.62
Treatment F	.08	.06	.36	.39	.51	<b>.00</b>



Table 4: Change in STFB Factor Scores  
as a Function of Criminality Treatments

	N	Change: Factor 1	Change: Factor 2	Change: Factor 3	Change: Factor 4	Change: Factor 5	Change: Factor 6
Targeted Treatment	N's Vary	0.88	1.12	0.84	1.02	0.78	1.14
2-tail Sig		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>0.00</b>

Table 5: Change in STFB Factor Scores  
as a Function of Relapse Prevention Only

	N	Change: Factor 1	Change: Factor 2	Change: Factor 3	Change: Factor 4	Change: Factor 5	Change: Factor 6
Relapse Prevention Only	18	0.60	0.39	-0.22	0.87	0.69	0.12
2-tail Sig		0.18	0.21	0.63	0.17	<b>0.03</b>	0.79

Table 6: Change in STFB Factor Scores  
With No Treatment Workshops At All

	N	Change: Factor 1	Change: Factor 2	Change: Factor 3	Change: Factor 4	Change: Factor 5	Change: Factor 6
No Workshop At All	29	0.12	-0.22	0.48	0.31	0.35	-0.47
2-tail Sig		0.73	0.44	0.14	0.38	0.33	0.08

Table 7: Recidivism as a Function of Treatment

	Conviction or Not	Time on the Street	Seriousness of Offence
Number of Treatment Workshops Attended <sup>1</sup>	- 0.10	0.14	- 0.14
Significance <sup>2</sup>	p = .15	p = .03	p = .04

1 Controlling for attendance at Workshop A, the “Control” workshop.

2 Two-tailed

Table 8: Recidivism as a Function of Change in STFB Scores <sup>1</sup>

Residual Gain Scores	Conviction or Not	Time on the Street	Seriousness of Offence
Factor 1	<b>0.15 *</b>	<b>- 0.15 *</b>	0.10
Factor 2	0.08	- 0.09	0.04
Factor 3	0.03	0.02	- 0.09
Factor 4	0.09	- 0.08	0.10
Factor 5	<b>0.18 *</b>	<b>- 0.18 *</b>	<b>0.15 *</b>
Factor 6	<b>0.22 **</b>	<b>- 0.17 *</b>	0.12
STFB Total	<b>0.19 *</b>	<b>- 0.16 *</b>	0.09
STFB Neutral	<b>0.17 *</b>	- 0.12	<b>0.19 *</b>
STFB Undesirable	<b>0.17 *</b>	<b>- 0.19 *</b>	0.10

<sup>1</sup> Controlling for Age

\* p < 0.05 (two-tailed)

\*\* p < 0.01 (two-tailed)

Table 9: Recidivism as a Function of Post-Treatment STFB Scores <sup>1</sup>

Post-Treatment STFB Scores	Conviction or Not	Time on the Street	Seriousness of Offence
Factor 1	0.07	- 0.06	0.00
Factor 2	0.07	- 0.04	0.02
Factor 3	- 0.01	0.02	- 0.09
Factor 4	- 0.03	0.00	0.02
Factor 5	- 0.04	0.03	- 0.06
Factor 6	0.10	- 0.11	0.09
STFB Total	0.03	- 0.03	- 0.01
STFB Neutral	- 0.00	0.06	0.01
STFB Undesirable	0.08	- 0.11	0.05

<sup>1</sup> Controlling for Age.

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