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**A Meta-Analytic Examination of the Risk, Need and Responsivity Principles and
their Importance Within the Rehabilitation Debate**

by

Craig Dowden

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements
for the degree of
(Master of Arts)
Department of Psychology

Carleton University

Ottawa, Ontario

August 1998

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Acceptance of the thesis:

**“A Meta-Analytic Examination of the Risk, Need and Responsivity Principles and
their Importance within the Rehabilitation Debate”**

submitted by

Craig Dowden

in Partial fulfillment of the requirements for
the degree of Master of Arts

Chair

Thesis Supervisor

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Abstract

The effectiveness of correctional treatment programs has been extensively debated. Although the earlier literature reviews examining this topic mainly supported an antirehabilitation theme, recent research using meta-analytic techniques has provided positive support for rehabilitation. The present investigation consisted of a meta-analysis conducted on the rehabilitation literature with the goal of providing a more systematic analysis and definition of the principles of risk, need and responsivity. The goal of this project was to provide a comprehensive answer to the question 'what works'. Results indicated that each of these principles play an important role in reducing general recidivism in offender treatment populations. However, only the principles of need and responsivity maintained significant contributions to treatment success when examining violent recidivism. An appropriate treatment variable based on these principles proved highly significant in predicting treatment outcome. This construct maintained its importance when various threats to validity were introduced. Results clearly indicate that rehabilitation produces mild positive effects within an offender population. However, if the end goal of the program is to evoke the highest level of behavioral change possible, the principles of risk, need and responsivity must be addressed.

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Table of Contents

Abstract.....	ii
Acknowledgements.....	iii
Table of Contents.....	iv
List of Tables.....	vii
List of Appendices.....	ix
Introduction.....	1
The Rehabilitation Debate: Round 1 ‘Nothing Works’	1
Problems with Literature Reviews.....	6
Meta-Analysis.....	9
Advantages of Meta-Analysis.....	10
Weaknesses of Meta-Analysis.....	16
The Rehabilitation Debate: Round 2 ‘What Works’	18
Contributions of the Present Investigation.....	33
Method.....	39
Coding Manual and Method of Classification.....	41
Development of New Variables.....	42
Risk.....	42
Responsivity.....	43
Need.....	43
New Appropriate Treatment.....	44

Control Variables.....	45
Restorative Justice.....	46
Procedure.....	47
Calculation of Effect Size.....	48
Analyses.....	48
Results.....	50
Study Descriptives.....	50
General Findings.....	50
Risk.....	52
Responsivity.....	54
The Need Principle - Noncriminogenic Targets.....	55
The Need Principle - Criminogenic Targets.....	57
Risk, Need and Responsivity: Toward New Appropriate Treatment.....	60
Internal Validity Considerations.....	63
Program Integrity.....	64
Setting and Organizational Factors.....	65
Case Characteristics.....	67
External Validity Considerations.....	68
Overall Model.....	69
Violent Recidivism.....	72
General Findings - Violence.....	73
Risk, Need, Responsivity and New Appropriate Treatment.....	74

Core Correctional Training.....	77
Restorative Justice.....	83
Restorative Justice: Violent Recidivism.....	86
The Importance of Setting in Delivering Effective Correctional Treatment.....	86
Discussion.....	88
General Findings.....	88
Risk Principle.....	89
Responsivity Principle - General.....	90
Need Principle.....	90
New Appropriate Treatment.....	92
Violent Recidivism.....	94
Core Correctional Training.....	96
Restorative Justice Considerations.....	97
Implications and Directions for Future Research.....	98
References.....	102
Appendices.....	123

List of Tables

Table 1: Intercorrelation Matrix, Correlations with Phi Coefficients (n=374) and Mean Phi Coefficients for the Risk, Need, Responsivity and Any Treatment Variables.....	53
Table 2: Noncriminogenic Needs Targeted: Rank Ordered by Frequency and Percentage of Targeting and their Correlations with Effect Size.....	57
Table 3: Criminogenic Needs Targeted: Rank Ordered by Frequency and Percentage of Targeting and their Correlations with Effect Size.....	59
Table 4: Simple, Partial and Multiple Correlations of Internal Validity Considerations and New Appropriate Treatment with Effect Size.....	64
Table 5: Simple, Partial and Multiple Correlations of Program Integrity Considerations and New Appropriate Treatment with Effect Size.....	65
Table 6: Simple, Partial and Multiple Correlations of Setting and Organizational Considerations and New Appropriate Treatment with Effect Size.....	66
Table 7: Simple, Partial and Multiple Correlations of Case Characteristic Considerations and New Appropriate Treatment with Effect Size.....	67
Table 8: Table 4: Simple, Partial and Multiple Correlations of External Validity Considerations and New Appropriate Treatment with Effect Size.....	68
Table 9: New Appropriate Treatment and Mean Effect Size for Each Level of the Most Powerful Control Factors.....	72
Table 10: Risk, Need and Responsivity and the Mean Violent Effect Sizes Corresponding to Each Level of Each Variable.....	75
Table 11: Mean Effect Sizes for the Criminogenic Need Targets Corresponding to Each Level of Each Variable: Violent Recidivism.....	76
Table 12: Mean Effect Sizes for the Noncriminogenic Need Targets Corresponding to Each Level of Each Variable: Violent Recidivism.....	76
Table 13: Core Correctional Training.....	82
Table 14: Mean Effect Sizes for Restorative Justice and Non-Restorative Approaches Corresponding to Each Level of Any Treatment Variable.....	85

List of Figures

Figure 1: Importance of Type of Setting.....	87
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List of Appendices

A:	Original Coding Manual Used by Andrews, Zinger, Bonta, Hoge, Gendreau & Cullen (1990).....	123
B:	Criminogenic Need Coding Manual.....	145
C:	Methodological Considerations, Restorative Justice and Other Concerns.....	153

Introduction

The Rehabilitation Debate: Round 1. 'Nothing Works'

The question concerning the effectiveness of correctional treatment programs has been extensively debated. However, the majority of the studies and literature reviews examining this subject have mainly promoted an antirehabilitation theme. This pessimistic view was particularly evident in the earlier reviews (Gendreau & Ross, 1987). Unfortunately, many of these earlier reports (Kirby, 1954; Bailey, 1966; Logan, 1972) have been plagued by negative conclusions regarding the effectiveness of correctional treatment programs even though there has been considerable empirical evidence to the contrary (Cullen & Gendreau, 1989). The authors of these reports placed more emphasis on the presentation of ideological theories rather than the discussion of the available evidence. These predominantly antirehabilitation sentiments resulted in the creation of the "knowledge destruction" techniques frequently used to discount positive evidence for rehabilitation (Andrews & Wormith, 1989). However, recent research using the more objective and empirically defensible techniques of meta-analysis has provided strong support for the positive effects of rehabilitation. Many of the meta-analyses conducted over the past ten years illustrated the effectiveness of rehabilitation within a broad range of offenders, under a number of different circumstances and within a variety of settings (Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990; Hill, Andrews, & Hoge, 1991; Lipsey, 1989, 1992, 1995; Garrett, 1985; Izzo & Ross, 1990).

Many of the earliest studies examining the correctional treatment literature espoused negative conclusions regarding the effectiveness of offender rehabilitation

programming. Many authors such as Kirby (1954), Bailey (1966), and Logan (1972) reviewed the rehabilitation literature at different time periods and concluded that correctional treatment programs failed to demonstrate any significant impacts on the post-release behavior of offenders. These views are puzzling in that other authors noted that closer examination of the studies included in these reviews provided mostly positive support for rehabilitation (Andrews et al., 1990; Andrews & Bonta, 1994).

Robert Martinson produced the most damaging paper concerning the topic of rehabilitation effectiveness. This report is consistently referenced by the defenders of the antirehabilitation rhetoric. In this study, Martinson reviewed 231 studies that examined the effectiveness of various correctional treatment programs. His conclusions sparked the introduction of the term 'nothing works' into the rehabilitation arena. Martinson remarked that "with few isolated exceptions . . . the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism" (1974:25). This negative view of correctional treatment programs pervaded the mainstream criminological literature and influenced legislative decisions throughout the 1980's (Cullen & Gendreau, 1989; Andrews et al., 1990; Andrews & Bonta, 1994).

The above example provides an excellent example of the "knowledge destruction" techniques presented by Andrews and Wormith (1989). In other words, a study that reached a negative conclusion regarding rehabilitation was accepted without question whereas a study demonstrating positive evidence was subjected to intense criticism. These 'knowledge destruction' techniques plagued the 'what works' debate throughout most of the 1970's and early 1980's (Andrews & Bonta, 1994).

Martinson derived his report from the sample of studies to be included within a larger research project. The purpose of this larger project was to obtain a comprehensive sample of rehabilitative studies published over a 30-year time period within the criminological literature and comment on their effectiveness. The results of this project were published in a book entitled "The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies" (Lipton, Martinson, & Wilks, 1975). The basic conclusion presented was that "... the field of corrections has not as yet found satisfactory ways to reduce recidivism by significant amounts" (Lipton et al., 1975: p.627).

Although the overall conclusion was somewhat discouraging, the views presented throughout the book regarding rehabilitation effectiveness were not nearly as pessimistic as those presented by Martinson in 1974. Lipton et al. (1975) reported that some of the surveyed programs produced positive effects on post-release behavior whereas others only demonstrated beneficial impacts for certain types of offenders but not others. This kind of treatment specificity supported many of the later theories of criminal behavior provided by many of the scholars within the rehabilitation field (Andrews et al., 1990; Andrews & Bonta, 1994; Hill, Andrews, & Hoge, 1991; Cullen & Gendreau, 1989; Gendreau & Ross, 1979, 1987; Antonowicz and Ross, 1994). Furthermore, this finding illustrated the important point that the complex processes that underlie criminal behavior cannot be effectively addressed within a single generic form of treatment.

Notwithstanding the book's more tempered conclusions, Martinson's strong attack on the utility of correctional treatment programming created serious repercussions in the

field of criminal justice psychology. The paradigm adopted immediately following the publication of this article mainly supported a punishment-oriented philosophy with an emphasis on just deserts, incapacitation and deterrence. Many scholars within the field of criminal justice argued that this dramatic shift to punishment evolved as a direct result of the social climate of the time (Andrews et al., 1990; Andrews & Bonta, 1994; Cullen & Gendreau, 1989). Cullen and Gendreau (1989) observed that

“ . . . the doctrine of ‘nothing works’ is best seen as a socially constructed reality {rather than} an established scientific truth.”

Although the conclusions presented by Martinson were quickly assimilated into mainstream criminology and correctional practice, many of the leading experts in the field strongly challenged their credibility. Many researchers strongly criticized his extremely negative conclusions and argued that he was selectively biased in his review of the literature (Palmer, 1975; Gendreau & Ross, 1987; Cullen & Gendreau, 1989).

Ted Palmer, a prominent scholar within the rehabilitation field, emphatically challenged the work of Martinson and his colleagues. Palmer asserted that Martinson had made many fundamental methodological mistakes in his review of the literature and that these mistakes contributed to the biased conclusions. Palmer (1975) maintained that the potential beneficial impact of rehabilitative programming for offenders was far greater than the bleak picture presented by Martinson. Palmer (1975) also focused criticism on the interpretations of the studies included in the review. Palmer strongly countered the arguments presented by Martinson by illustrating the essential characteristics of an effective correctional intervention program through the quotation of direct statements

from the Martinson article. This form of criticism effectively highlighted the questionable nature of Martinson's conclusions. However, despite these strong and damaging criticisms, the 'nothing works' doctrine continued to dominate the mainstream criminological literature.

Thornton (1987) also provided a strong challenge to the negative viewpoints expressed by Martinson. Thornton reexamined many of the studies used by Martinson and his colleagues (1974, 1975) and reported many of them produced positive outcomes related to offender treatment. In particular, Thornton noted approximately 50% of the studies employing psychological therapy for offenders demonstrated positive effects in terms of reduced recidivism for the treatment group. Although Thornton conceded more questions needed to be answered regarding the effectiveness of correctional treatment, he reported the only unjustifiable conclusion was, 'nothing works'.

Although Thornton (1987) successfully challenged Martinson's perspective on rehabilitation conclusions, Martinson himself had already recanted his original conclusions eight years previous (Martinson, 1979). Martinson reevaluated his original interpretation of the data and pointed out he had been incorrect in assuming 'nothing works'. Unfortunately, this change of heart did not receive much attention from professionals within the field and the notion of 'nothing works' continued to influence the correctional practices of the day (Gendreau & Cullen, 1989).

Although many of the earlier literature reviews reported negative views regarding rehabilitation, two influential narrative literature reviews conducted by Paul Gendreau and Robert Ross highlighted the positive aspects of rehabilitative programming. In their first

article, Gendreau and Ross (1979) reviewed a total of 95 studies published on correctional treatment programs between 1973-1975. The authors reported that 86% of the studies demonstrated positive benefits from program participation in terms of reduced recidivism. This review successfully challenged the proponents of the antirehabilitation ideal to reexamine the available evidence and to reevaluate their conclusions (Andrews & Bonta, 1994).

Gendreau and Ross conducted another narrative literature review in the late 1980's (Gendreau & Ross, 1987). Although this review entailed an entirely different set of studies, their conclusions regarding the effectiveness of correctional treatment still remained intact. These two separate narrative literature reviews prompted the authors to forcefully conclude that "it is downright ridiculous to say 'nothing works'."

Although these earlier narrative literature reviews provided contradictory evidence regarding the effectiveness of correctional rehabilitation, a substantial problem existed in terms of the methodology used to derive these conclusions. Each of these studies was based on a traditional narrative literature review and was not based on any objective or systematic method of analyses. The problems inherent in an unsystematic narrative literature review are highlighted in the next section.

Problems with Narrative Literature Reviews

One of the fundamental characteristics of psychology as a science relates to its ability to use statistical analyses to provide answers to a research question. However, it is ironic that statistical analyses did not play a role within the primary technique used to provide an overall examination of a large section of the research literature in the past. This

situation is even more perplexing when one considers the paramount importance of effectively and appropriately summarizing a large body of research. Although many researchers have commented on the problems associated with traditional narrative literature reviews, Wolf (1986) neatly categorised five clear disadvantages of this approach.

The first disadvantage reported by Wolf (1986) is fairly intuitive. He argued that narrative literature reviewers selectively include studies based on the researcher's own interpretations of what constitutes an appropriately conducted experiment. In other words, the researcher could decide which studies should be included in the review based on their own views regarding methodological quality or other considerations. A potential bias could be created in that studies contradicting the viewpoint of the researcher may be excluded because the author determines that they possess various methodological flaws or other problems that precludes them from being examined in the review. This type of unreported and subjective inclusion/exclusion criteria makes the replication of findings presented within narrative literature reviews difficult. This problem is also magnified when one considers the lack of universally accepted standards for determining the methodological quality of a particular study.

Two other disadvantages reported by Wolf (1986) focus on potential problems in interpreting the data. First, authors of narrative literature reviews routinely weight the value of certain studies to reach their conclusion. Once again, this practice is problematic since the reviewer could differentially weight only those studies supporting their own viewpoints. Although this problem may not surface in every narrative literature review,

the potential for it to surface is certainly present.

Another related but more serious problem is misinterpretation of the findings entirely. As seen earlier within the history of the rehabilitation literature outlined earlier within this study, authors such as Logan (1972), Martinson (1974), and Bailey (1966) presented negative conclusions regarding rehabilitation whereas other authors provided a different interpretation of the same data. The above example provides an excellent example of this problem in practice.

The final two criticisms levelled against the traditional narrative literature review highlight the limited application of this technique to the scientific literature. For example, Wolf (1986) argued that narrative literature reviewers often fail to examine various characteristics of the studies, such as methodological considerations, that could possibly explain the inconsistencies in the data.

To illustrate this point, one of the predominant problems present within scientific research with human subjects is attrition. Consequently, it is possible that attrition differentially affected the results present within a particular study. More specifically, closer examination of the data may reveal studies suffering from attrition produce an inflated treatment effect whereas studies not affected by attrition problems produced negligible treatment outcomes. The author of the narrative literature review would probably miss this finding because of his or her concern with statistically significant results. Further, even if narrative literature reviewers wished to examine these concerns, systematic procedures were not available to test their effects on the results. This explicit failure to examine these methodological or other considerations could potentially contribute to misleading

conclusions regarding the area under investigation.

A final concern raised by Wolf (1986) regarding the limited application of narrative literature reviews highlighted their inability to examine potential moderating variables involved in the relationship of interest. This type of intensive systematic evaluation is beyond the scope of the traditional narrative literature review. Wolf (1986) argued meta-analytic techniques effectively confronted each of these concerns methodologically.

The introduction of meta-analytic techniques into the field of correctional rehabilitation marked a significant step forward. Although meta-analytic techniques are not without some form of potential bias, they are more appropriate in that they provide a much more objective arena within which to evaluate the question at hand. Meta-analysis also systematically allows researchers to provide quantitative evidence on a particular phenomenon and are more reliable because they can be replicated by other reviewers. Although the use of meta-analytic techniques within the rehabilitation literature has received support by many researchers, there have also been several criticisms raised. Therefore, an examination of the issues surrounding the use of meta-analysis is warranted before discussing the meta-analytic results produced within the rehabilitation literature to the present.

Meta-Analysis

A meta-analysis is the statistical aggregation of the results derived from many independent studies in order to integrate the findings. These studies may differ in a number of important characteristics such as the choice of independent and dependent variable, sample size, sample selection techniques, design quality etc. However, during this

assimilation process, each of the uniquely confounding or potentially moderating variables tend to average out across the sample. Another way to deal with this concern is through the utilization of statistical controls (Lipsey, 1995). These corrections increase the chances of finding a significant effect if one is present.

The primary unit of analysis in a meta-analysis is the “effect size.” An effect size reflects the degree to which the control and treatment groups differ on a particular measure. Variations in effect size can be calculated for several different dependant variables. Furthermore, the relationships between many different independent variables can be examined. Independent variables such as the type of treatment used, the size of the sample as well as gender composition can be used to determine their relationship with the outcome measure of interest. These specific relationships would be impossible to tease out otherwise if an individual relied solely upon a traditional narrative literature review.

Advantages of Meta-Analysis

Several authors have provided compelling reasons why meta-analysis should be the statistical method of choice for researchers within any scientific field when confronted with organizing a particular body of research. These reasons are routinely presented by many different researchers, many of whom are not directly involved in psychological research.

One of the premiere advantages of meta-analysis concerns its effective use of the information available within the primary research studies. Durlak and Lipsey (1991) noted that a meta-analysis appropriately uses all of the outcome information included in these studies whereas traditional narrative literature reviews were only concerned with statistical

significance. They argue that focusing on statistical significance is detrimental to research development because it results in an all-or-none categorization. In other words, if the studies reviewed by a narrative literature reviewer fail to reach statistical significance, they are discarded or are categorized as demonstrating treatment ineffectiveness. This type of categorisation could create potential problems in terms of possible Type II errors caused by the primary study not having enough power to detect a significant result. In other words, the effect size was fairly large but there was not enough power, in terms of sample size, to translate this effect into a significant result. However, by using all of the outcome information, a meta-analysis enables us to expand our focus to include a discussion of the magnitude, the direction and the distribution of the effect sizes within as well as across studies.

A second advantage of meta-analysis involves the more detailed and explicit coding procedures used by meta-analytic reviewers. By coding all of the variables included in the study, it allows meta-analytic reviewers to examine a larger collection of variables as well as the relationships between them. This characteristic of meta-analysis allows a researcher to answer one of the criticisms presented against narrative literature reviews. Meta-analysis can examine various methodological variables such as subject attrition and can statistically test whether the presence or absence of subject attrition had a significant impact on the results. In other words, meta-analytic reviewers are able to examine effects of various methodological factors on the obtained results. The ability of meta-analysis to test these methodological concerns enables researchers to obtain a clearer picture of the relationship of interest and allows for more informed conclusions.

The explicit coding procedures and the availability of many variables for statistical analysis also combats the problem encountered within narrative literature reviews whereby moderating variables possibly affecting the relationship of interest could not be teased out. Within meta-analysis, these variables can now be isolated and tested along with the outcome variables of interest to see whether these moderating factors enhance or diminish the reported effects.

The use of statistical analyses to formulate the final conclusions is the third advantage routinely cited by many different researchers. The utilization of statistical analyses increases the validity of the conclusions presented and this procedure is also more closely aligned with psychology's emphasis on the utilization of statistical analysis to produce more reliable conclusions. This characteristic of meta-analysis effectively eliminates the problems associated with the subjective conclusions reached by narrative literature reviewers. In addition, this characteristic of meta-analysis also prevents the reviewer from biasing the results by subjectively weighting the value of certain studies.

Finally, meta-analytic reviews are superior to traditional narrative literature reviews because they can be more reliably replicated by other researchers. In other words, meta-analytic reviews allow other researchers to test the findings presented provided the initial reviewer included a copy of his/her coding manual, the sample used, as well as the details of the selection procedure. This type of replication ensures that meta-analytic reviews can be subjected to a form of scientific scrutiny not possible with narrative literature reviews. Relatedly, meta-analytic findings can be replicated to determine whether the conclusions are based on the biases introduced by the meta-analytic reviewers or

whether they are based on the available empirical evidence.

Although these arguments support the use of meta-analytic techniques in general, Frederic Losel (1995) provided a list of specific advantages for using meta-analytic techniques in the area of program evaluation and, more specifically, within the field of correctional rehabilitation. Losel (1995) presented three main arguments to support his position.

First, Losel (1995) argued meta-analysis should be the statistical method of choice for evaluating correctional treatment programs because the integration of a large number of studies with smaller sample sizes provides a much more reliable estimate of treatment effectiveness compared to a single study with a large sample size. Losel used two different pieces of evidence to support his claim.

The first reason produced by Losel (1995) related to the idea of therapeutic integrity. Losel argued the benefits of participating in a treatment program implemented in a smaller and more personal setting would be far greater as compared to programs delivered in an impersonal and larger atmosphere. An example that could be used to support his point would be the university learning environment. One of the strong criticisms used to attack universities is that learning occurs within an anonymous and impersonal atmosphere where the student feels isolated from the professor and fails to develop a sense of community within the classroom. This type of situation could potentially diminish the amount of knowledge acquired by certain antisocial or unmotivated students. This type of argument has strong intuitive appeal when transferred to the context of correctional treatment programs.

Another point that supports the therapeutic integrity argument involves the decreased burden of managing a smaller project. In other words, programs implemented across different sites with several individuals involved in their incorporation will undoubtedly suffer from differential application of the treatment program. It is highly probable the program will be implemented differently across settings because each of the implementers will add his or her own "personal touch" to the program. This possibly interferes with the therapeutic integrity of the program and could seriously undermine the reliability of the results.

A second advantage of meta-analytic techniques highlighted by Losel (1995) is their use of an effect size as the ultimate measure of treatment success. The utilization of an effect size as the measure of treatment success is superior to that of statistical significance for several reasons.

First, Losel (1995) pointed out effect sizes provide a much more accurate representation of the practical utility of the findings. For example, Rosenthal (1991) discussed the utilization of the Binomial Effect Size Display (BESD). He reported a mean effect size of $+0.10$ would suggest a failure rate of 45% for the treatment group compared to a 55% failure rate for the control group. This type of practical assessment informs the reader of the direction, the magnitude and the practical utility of the findings. This type of information is invaluable to program developers and the general public alike, especially within the highly politicized climate which entails the correctional treatment debate.

There have been other reasons presented for the use of effect size as the preferred outcome measure. For example, the effect size is much more appropriate than statistical

significance because it is independent of sample size. In other words, if a researcher has included an enormous sample within their study, the chances of finding a significant result are greatly increased. However, regardless of the sample size used in meta-analytic studies, the initial effect size obtained will not be directly affected by it. Thus, it is possible that previous narrative literature reviews dismissed certain nonsignificant findings due to their lack of statistical significance when this lack of significance was created by a low level of power rather than the lack of an important effect. These two points illustrate the benefits derived from using the effect size as the measure of treatment outcome rather than relying on significance levels.

One final point raised by Losel (1995) regarding the benefits of meta-analysis focused on the results provided by this type of analysis. Losel (1995) demonstrated that a meta-analysis is a very effective technique for providing an illustration of the differential impacts of treatment. Meta-analysis can provide information describing what types of treatment are effective, under which circumstances and for what clientele. This advantage has been well-illustrated in various meta-analysis conducted on the correctional treatment literature (see Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990; Hill, Andrews, & Hoge, 1991; Lipsey, 1992, 1995).

Clearly meta-analytic reviews are superior to narrative literature reviews in terms of their objectivity as well as their employment of rigorous statistical procedures. Various researchers (Wolf, 1986; Rosenthal, 1991; Glass et al. 1981) provided evidence supporting these claims. More important for the present paper, meta-analyses also have distinct advantages for evaluating treatment programs. These advantages certainly support

the use of meta-analysis for examining the correctional treatment literature.

Although meta-analytic techniques have many inherent advantages over qualitative or "literary" reviews, this technique has not been void of criticism. Many researchers have challenged the widespread applicability of meta-analysis and have voiced these concerns. Glass and his colleagues placed these criticisms into four distinct categories (Glass, McGaw, & Smith, 1981).

Weaknesses of Meta-Analytic Reviews

The first criticism of meta-analytic techniques argues that it is impossible to derive an accurate conclusion from a sample of studies based on methodologically different studies. In other words, critics argue these studies invariably differ on important design issues such as: selection of the independent and dependent variable, sampling units, size of the sample, design, treatments imposed, and the subjects used. Therefore, it is impossible to provide an appropriate conclusion due to the heterogeneity of the sample set. This problem has been popularly termed the "apples and oranges" problem. However, supporters of meta-analysis such as Glass argued that since we generalize across different subjects within a particular design, we should also be allowed to have the same freedom to generalize across different studies. Wolf (1986) also suggested this issue can be addressed empirically by coding the characteristics involved in each of the studies in the sample. These characteristics can be analysed to determine whether the differences in the results can be attributed to these potentially influential characteristics. In other words, the presence of moderating factors can be controlled and tested to determine their relationship with the outcome variable of interest.

A second criticism argues that the results of a meta-analysis are questionable because "poorly" designed studies are included with the "higher" quality research designs. Although this may be true, these concerns can be empirically tested. The researcher can avoid this potential problem by explicitly coding the quality of each of the studies included in the analysis. Statistical tests can be conducted to determine whether the quality of the design characteristics produced a significant impact on the outcome (Wolf, 1986; Rosenthal, 1991; Glass et al. 1986). However, it should be noted that past reviews of various meta-analyses failed to discover a relationship between the effect sizes found within "poor" and "well-designed" research studies (Wolf, 1986).

A third criticism levelled against meta-analysis relates to 'publication bias.' In other words, research published in the scientific literature tends to be biased in favour of significant results. The argument here is that including too many published studies may artificially inflate the effect size estimate. Since this is a valid criticism, two potential solutions are available to deal with this concern.

The first potential solution is for the meta-analytic reviewer to pool articles from sources other than journal articles (Wolf, 1986; Glass et al., 1981; Rosenthal, 1991). In other words, book chapters, doctoral dissertations, and other unpublished articles conference papers and presentations should all be accessed if possible. This type of comprehensive search would avoid the potential publication bias created if a meta-analysis only included published studies in its sample. A second technique statistically controls for this problem and it involves the calculation of the fail-safe N (Rosenthal, 1991). In this procedure, the researcher calculates the number of studies needed to reverse the direction

of the findings. In other words, the meta-analytic reviewer would calculate the number of studies needed to change a significant difference into a nonsignificant result.

The final criticism of meta-analyses is the contention that many meta-analyses often use multiple results from a single study. Critics argue that this is inappropriate because it biases the results due to the lack of independence between the individual results reported. This non-independence of data may bias the findings of a particular meta-analytic review. Problems can arise because if there are unsystematic differences contributing to the outcome of a group of subjects from a particular study, these biases will contribute multiple pieces of evidence to the review. However, it should be noted that meta-analysts can counteract this criticism by including only one outcome measure from each study of interest. In addition, separate meta-analyses could also be conducted on each individual set of outcome measures.

The preceding discussion heavily focused on the advantages of meta-analysis over traditional narrative literature reviews. Arguments were also presented that highlighted the disadvantages of meta-analytic techniques used by various researchers. However, it was demonstrated that each of these criticisms could be avoided by a conscientious meta-analyst who appropriately addressed these concerns.

The Rehabilitation Debate: Round 2. 'What Works'

Although there have been various methodological concerns raised about the appropriateness of using meta-analysis in general, concerns have also been raised about the results presented by many meta-analytic reviewers (Whitehead & Lab, 1989; Andrews et al. 1990; Hill, Andrews & Hoge, 1991; Lipsey, 1989, 1992, 1995; Losel, 1995). Garrett

(1985) pioneered the introduction of meta-analysis into the rehabilitation literature with her meta-analysis on the effectiveness of rehabilitation for juvenile offenders. Her review focused on 111 effect sizes comparing treatment and control groups on multiple outcome measures. The findings revealed some forms of treatment, and behavioral programs in particular, had significant impacts on reducing recidivism. Garrett also reported the studies included in her sample generally provided positive support for rehabilitation. This classic meta-analysis forced a new era of debate between the rehabilitative and antirehabilitative camps. These debates now focused on the collection of quantitative evidence to support positions rather than on the discussion of differing theoretical viewpoints.

The most complete meta-analytic review of the rehabilitation literature concerning juvenile offenders was conducted by Mark Lipsey (1989, 1992, 1995). This meta-analysis was comprehensive because of its large sample size ($N=443$) and the addition of several unpublished works within the review. Other researchers duly noted the unpublished research articles greatly enhanced the external validity of the findings (Andrews & Bonta, 1994). More than 64% of the studies reported by Lipsey demonstrated positive effects of rehabilitative programming. This is an impressive finding based on the sheer number of studies involved as well as the fact that not all of the studies were derived from published sources.

Although these two meta-analyses demonstrated promising support for offender rehabilitation, a meta-analysis conducted by Whitehead and Lab (1989) presented strong empirical evidence against the rehabilitative ideal. This evaluation was even more discouraging than the original papers written by Martinson and his colleagues in that

Whitehead and Lab (1989) supported "a very firm version of the 'nothing works' perspective" (Andrews et al. 1990).

This highly pessimistic outlook on rehabilitation prompted D.A. Andrews and his colleagues to conduct a meta-analysis of their own. Andrews et al. (1990) performed a meta-analysis on 154 treatment comparisons gathered from a wide range of studies within the rehabilitation literature. They also included the sample of studies used by Whitehead and Lab (1989) to empirically test their conclusions as well. The results of the Andrews et al. (1990) meta-analysis demonstrated that rehabilitation could be effective provided it was based on the clinically and theoretically relevant principles of risk, need, and responsivity. They reported that their Appropriate Service category (a program that properly implemented these three principles) was associated with a significantly higher mean phi coefficient (.30) than the Unspecified Correctional Service category (.13). Furthermore, Andrews et al. (1990) also revealed that these two preceding groups were more successful at reducing recidivism as compared to Inappropriate Service (-.06) or Criminal Sanctioning (-.07). It should be noted that the three categories other than the Appropriate Correctional Service category only partially applied the principles of risk, need, and responsivity or did not apply them at all. The results provided by Andrews et al. (1990) were important because it provided positive support for the clinically relevant principles of risk, need, and responsivity in addition to promoting the value of rehabilitation. These three principles of risk, need, and responsivity are essential for the present investigation and will be briefly examined below.

The risk principle states that the highest level of services should be reserved for the

higher-risk cases whereas low-risk cases should be assigned minimal levels of supervision and intervention. Evidence suggests that those clients categorized as low-risk have a very low base rate of recidivism compared to high-risk cases and any type of therapeutic intervention will not significantly alter the recidivism rate of these low-risk cases.

However, the application of appropriate treatment programs to higher-risk clients is associated with a significant reduction in recidivism. Therefore, the risk principle argues that if the end goal of therapeutic intervention is reduced recidivism, then high-risk cases must be targeted in order to obtain the full positive effects of treatment.

The need principle, on the other hand, is concerned with the types of dynamic needs targeted by the rehabilitative program. There are two categories of needs and they are defined as criminogenic and noncriminogenic needs respectively. Criminogenic needs, by definition, are those dynamic risk factors that, when changed, are associated with reduced levels of criminal activity (Andrews & Bonta, 1994, Andrews et al., 1990). Noncriminogenic needs, on the other hand, are also dynamic, but if these particular needs are targeted within an individual they are not associated with a subsequent reduction in the criminal activity of their clients. Therefore, the need principle asserts that programs targeting the criminogenic needs of offenders will be more successful in reducing recidivism than those programs that do not. For example, programs that target changing the antisocial attitudes of offenders will be more effective in reducing recidivism compared to programs targeting the self-esteem level of an offender. The types of criminogenic and non-criminogenic needs presented in the literature have been frequently provided within several different sources (Andrews, Bonta, Hoge, 1990; Andrews & Bonta, 1994;

Andrews, Bonta, & Hoge, 1990). The main criminogenic and noncriminogenic need targets are listed below.

Criminogenic needs include changing antisocial attitudes, feelings, reducing antisocial peer associations, promoting identification with antirriminal role models, increasing familial affection/communication and supervision, increasing self-control and self-management skills, reducing chemical dependencies, shifting the rewards and costs for criminal and noncriminal activities in academic and vocational settings, and changing other attributes of behavior associated with criminal behavior.

Noncriminogenic need targets, on the other hand, include increasing self-esteem, focusing on vague emotional/personal problems unrelated to criminal activity, increasing the cohesiveness of antisocial peer groups, and using a fear of official punishment approach. The definitions used for each of these needs were derived directly from “the Psychology of Criminal Conduct” (Andrews & Bonta, 1994).

The third principle examined in the Andrews et al. (1990) meta-analysis was responsivity. Both general and specific responsivity considerations must be addressed for correctional treatment to be effective. The general responsivity principle is concerned with the actual characteristics of service delivery. It argues that the styles and modes of treatment must be able to directly influence the intermediate criminogenic needs targeted within the treatment program. The treatment approaches generally found to be effective in accomplishing this goal are cognitive-behavioral in origin, focus on skill enhancement, and evoke cognitive change. The best techniques to produce these desirable outcomes include “modeling, graduated practice, rehearsal, role playing, reinforcement, resource provision,

and detailed verbal guidance and explanations (making suggestions, giving reasons, cognitive restructuring)” (Andrews et al., 1990). The five techniques of effective correctional intervention (Andrews & Kiessling, 1980) are also subsumed under the general responsivity principle.

There are also other specific aspects of the responsivity principle as well. The principles of specific responsivity argue for the importance of matching the styles and modes of service to the styles and modes of learning used by the offender. In other words, in order for treatment to be effective, the style and orientation of a correctional intervention program must be designed such that the program participants will be able to successfully learn from the information presented. For example, as Andrews et al. (1990) point out “The success of highly verbal, evocative, and relationship-dependent services seems to be limited to clients with high levels of interpersonal, self-reflective, and verbal skill.” Intuitively, it makes sense that effective correctional programs would be those tailored to the styles and modes of information integration of the offender. Although the responsivity principle has not received as much attention within the research literature as the risk and need principles, it is certainly an important contributor to the rehabilitative potential of a correctional treatment program.

The Andrews et al. (1990) systematic meta-analysis provided strong support for the positive effects of appropriate correctional service. However, their conclusions were not accepted without a great degree of scepticism from a wide number of researchers. Lab and Whitehead (1990) provided an extensive critique cited in the same issue as the Andrews et al. (1990) article. The Lab and Whitehead critiques are especially relevant to

the current meta-analysis due to their arguments relating to the principles of risk, need, and responsivity.

Lab and Whitehead (1990) strongly criticized the techniques used by Andrews and his colleagues (1990). They objected to the techniques used by Andrews and his colleagues (1990) to determine criminogenic versus non-criminogenic needs. They also argued Andrews and his colleagues were biased in their coding of several studies included within the review. Lab and Whitehead also charged the conclusions reached by Andrews et al. (1990) were "tautological". The points raised concerning each of these criticisms will be presented separately.

Regarding the Andrews et al. (1990) coding for need, Lab and Whitehead (1990) argued that "the determination of need is (similarly) questionable in the study." In addition Lab and Whitehead argued Andrews and his colleagues were biased in their assignment of various studies into the Appropriate Treatment category. They stated "it appears that the authors make the determinations more out of convenience for their argument than based on hard proof that the distinctions reflect 'objective' decisions." These charges of bias challenged the validity of the Andrews et al. (1990) results.

The main criticism used by Lab and Whitehead (1990) to attack the Andrews et al. (1990) meta-analysis was their claim that the principles of risk, need, and responsivity were supported in the meta-analysis by a "tautological" argument. Lab and Whitehead (1990) reasoned that the findings of the Andrews et al. (1990) should be dismissed due to their circularity. They asserted the only reason the principles of risk, need, and responsivity demonstrated importance was because these principles were derived from the

very sample that was supposed to be used to prove their validity. These criticisms called into question the results reported by Andrews et al. (1990).

Andrews et al. (1990) wrote a rejoinder to the Lab and Whitehead (1990) critique. The Andrews et al. (1990) rejoinder targeted and discounted a number of the criticisms presented by Lab and Whitehead concerning their meta-analysis. However, the present discussion will only focus on the responses provided by Andrews and his colleagues concerning the main criticisms presented by Lab and Whitehead regarding their potential bias and the “tautological” validation of the principles of risk, need, and responsivity.

Andrews et al. (1990) “applauded” the criticisms directed at their meta-analysis by Lab and Whitehead. However, Andrews et al. (1990) believed these criticisms could be addressed and furthermore, they did not believe that criticisms decreased the forcefulness of the original conclusions. Andrews and his colleagues admitted Lab and Whitehead were correct in stating some of the studies possessing similar characteristics were not coded consistently across the sample. However, after Andrews et al. (1990) fixed these coding errors and re-analysed the data they found that “... the testable discrepancies and errors proved not to have favoured our hypothesis” (p.422). Therefore, although they accepted there were some minor inconsistencies within the coding of certain studies, these oversights did not affect the validity or direction of their conclusions regarding the positive effects of correctional treatment.

The Andrews et al. (1990) disagreed with the charges forwarded by Lab and Whitehead (1990) concerning the “tautological” nature of their argument. Andrews and his colleagues pointed out that these principles were derived long before their meta-

analysis and the Whitehead and Lab (1989) sample provided a perfect opportunity to test their validity.

Although Andrews and his colleagues successfully refuted the criticisms presented by Lab and Whitehead (1990), other researchers in the field continued to attack the credibility of the findings. These other researchers continued to charge that the results presented by Andrews and his colleagues were biased as well as “tautological.” For example, Logan and Gaes (1993) maintained that the meta-analysis had several problems but agreed with Lab and Whitehead that the most serious problem found within the Andrews et al. (1990) report was the “tautological” nature of the argument. Logan and Gaes (1993) argued Andrews et al. (1990) assigned various treatment programs to the “appropriate treatment” category based on their knowledge of the corresponding effect sizes for each of the programs. Logan and Gaes (1993) also challenged the consistency found within the definitions of “risk” and “responsivity” across studies. They argued these definitions constantly changed depending on the nature of the experimental design and these decisions were based on the subjective biases of the researchers.

However, it should be noted Logan and Gaes (1993) mainly challenged the results of Andrews et al. (1990) on theoretical grounds. They conceded their philosophy strongly disagreed with the theoretical foundations expressed by Andrews and his colleagues and was not based on the availability of new data. In fact, Logan and Gaes (1993) argued that even if meta-analytic research produced significant positive effects for treatment, these results should be unimportant because the primary purpose of the criminal justice is to administer punishment. They further contended that the issue of punishment should be

debated on a moral rather than empirical basis. These ideas contradict those put forth by the Andrews et al. (1990) study that attempted to find the most effective way for dealing with an offender population.

However, despite these concerns, with the exception of Whitehead and Lab (1989), it is generally accepted that the focus should not be 'nothing works' but 'what works'. Evidence for this position is derived from a synthesis of the meta-analytic research on correctional treatment effectiveness conducted by Losel (1995).

Losel (1995) produced an overview of the meta-analytic research to date. Losel summarized that the effect sizes found within the meta-analyses on correctional treatment ranged from an r of 0.05/0.08 (depending on the method used to weight the sample; Lipsey, 1992) to 0.18 (Garrett, 1985). Losel (1995) pointed out that although these positive effect sizes contradicted the 'nothing works' perspective, these effect sizes are nonetheless relatively small. Losel (1995) illustrated that effect sizes produced in meta-analyses conducted on different psychological, social and educational interventions were much higher than those found in the area of offender rehabilitation (Lipsey & Wilson, 1993). Losel theorized this finding demonstrated that problems relating to antisocial behavior are particularly complex in terms of designing appropriate treatment programs.

Although Losel (1995) reported there were small effect sizes found within the rehabilitation literature, he maintained these results should not be interpreted as meaningless. He indicated that Rosenthal (1991) and Lipsey and Wilson (1993) have all demonstrated that many of the medical techniques used today generate relatively small effect sizes. Losel (1995) effectively pointed out these small effect sizes do not preclude

these techniques from being used in the medical profession. In addition, Losel stated that in terms of cost-effectiveness, offender treatment programs producing a small effect are still more desirable than programs that have no effect at all.

Losel (1995) concluded by stating that "If the meta-analysis show some systematic patterns despite the extremely heterogeneous data material, and the wide range of methods, this should not be viewed as a definitive reply to the question 'What works'." Losel suggested these results should be used to initiate new studies within the rehabilitation literature focusing on theoretically driven experimental designs. Losel conceded it would be worthwhile to continue research within this area even though he stated not to possess the "missionary zeal of believers in rehabilitation criticized by Logan et al. (1991)."

Although the review presented by Losel (1995) provided an overview of the meta-analytic research up to that time, several important meta-analyses have been conducted that also significantly impact on the focus of the present study.

Andrews and his colleagues (1996) conducted a more recent meta-analysis of the correctional treatment literature. This meta-analysis was conducted on an expanded sample including 294 treatment comparisons. It should be noted this expanded sample also included the entire sample used in the original meta-analysis (1990).

Andrews (1996) also reported the same pattern of results for this new expanded sample as he did for the original 1990 paper. However, the magnitude of some of the effect sizes was slightly reduced. Notwithstanding this slight decrease, it should be noted these findings still remained statistically reliable and provided strong positive support for

rehabilitation.

Andrews (1996) once again reported the effect sizes found for the Type of Treatment category. The results mirrored those reported in the original meta-analysis in that both Criminal Sanctions (-.02) and Inappropriate Service (-.03) were negatively associated with recidivism. Unspecified and Appropriate Service, on the other hand, produced positive effect sizes of +0.13 and +0.25 respectively and these effects were significantly greater than those produced by the two preceding categories. These results provided additional support for the positive impacts of correctional treatment on recidivism.

Another highly influential meta-analysis conducted during the past year entailed a widespread examination of the effectiveness of correctional treatment. Charles Cleland is involved in an enormous research project entitled CDATE (Correctional Drug Abuse Treatment Effectiveness) funded by the National Institute on Drug Abuse. Cleland reported a large segment of the findings within his doctoral thesis (Cleland, 1997). The CDATE project has been the most extensive meta-analysis conducted to date with an expanding sample of 564 studies. In addition, the CDATE project also included many unpublished reports and doctoral dissertations. The CDATE meta-analysis also examined outcome measures other than recidivism. However, for the purposes of the present meta-analysis, only those results examining the relationship between the effects of correctional treatment and recidivism will be discussed.

The findings reported within this dissertation closely mirrored the results presented by Andrews and his colleagues (1990, 1996). One of the variables included within the

Cleland meta-analysis was the appropriateness of treatment variable used by Andrews et al. (1990, 1995). Cleland found that studies categorized as appropriate accounted for a significant amount of the recidivism effect size variance. In addition, Cleland (1997) found the same pattern of results reported by Andrews et al. (1990, 1996) in terms of the ordering of the effect sizes for the other treatment categories. In other words, there was a linear increase in effect sizes from Criminal Sanctions right up through to Appropriate Service.

The Cleland (1997) study also strongly focused on the need principle. Once again, the results were similar to those found by Andrews et al. (1990, 1996). The results indicated that treatments programs focusing on appropriate intermediate targets yielded significantly higher mean effect sizes than other types of programs. This result remained significant even after methodological controls were introduced for several potentially moderating variables found within the analysis. This finding supported the importance of the need principle within correctional treatment interventions.

Cleland also examined one of the major variables included within Andrews et al. (1990, 1996) appropriate treatment category, type of behavioral intervention. This variable is also one of the major contributors to the responsivity principle. Cleland (1997) reported those treatment programs employing behavioral or cognitive-behavioral strategies produced significantly higher effect sizes than programs that used non-behavioral modes of intervention. As was the case with the need variable, this relationship was maintained even when methodological controls were introduced for eight other potentially moderating factors.

However, two main discrepancies were found between the Cleland (1997) meta-analysis and the original Andrews et al. (1990) study. First, Cleland (1997) reported the comparison between the Appropriate and Unspecified Service categories did not remain significant after controls were introduced for other variables within the analysis. However, Cleland conceded that this finding may have been created by the lack of reliable coding present among the coders themselves regarding these variables.

The second discrepancy between the two meta-analyses involved the substantial differences in effect size reported for the appropriate treatment category. Andrews et al. (1990) reported the effect size calculated for appropriate treatment was .30 ($N=54$) and the updated sample produced an effect size of (.25). The measure of effect size reported within the Cleland (1997) study regarding appropriate treatment was quite low ($r=.08$). This is a dramatic decrease between the effect sizes presented across both studies. Cleland attempted to account for this differential by illustrating that his sample included a much larger sample of unpublished research documents and that this could have invariably decreased the observed effect size for effective treatment. Although this argument may be partially valid, a .22 drop in effect size is quite substantial. If the rationale used by Cleland is extended to its limits, one would expect if you further increased the sample of unpublished samples, the effect size would continually approach zero. This rationalization supports the argument that publication bias is responsible for the evidence of correctional treatment effectiveness.

A final paper derived from the CDATE project has produced more discouraging findings regarding the effectiveness of correctional treatment. Cleland, Pearson, Lipton,

and Yee (1997) asserted there was an age effect present within their meta-analysis. More specifically, Cleland et al. (1997) reported that although correctional treatment programs produced significant effect sizes for younger offenders, this result disappeared in the adult sample. In other words, the type of treatment provided to adult offenders did not have an impact on recidivism rates. This result strongly challenged the findings of many other researchers. Many criminological scholars such as Andrews and his colleagues (1990, 1996) reported the effectiveness of rehabilitation programs consistently generalized across different age categories.

Although the results by Cleland and colleagues present dissenting views regarding the effectiveness of correctional treatment, it should be noted, at this time, their results are at odds with other researchers in the area. For example, Losel (1998) produced another synthesis of the meta-analyses conducted on the correctional treatment literature. Losel (1998) reported the mean effect size for treatment across studies was +0.10. In addition, Losel (1998) also revealed the mean effect size for appropriate treatment, as defined by Andrews and his colleagues did, in fact, reach the .30 level. This finding contradicts the results presented by Cleland and his colleagues. Although the CDATE studies provide, in some cases, produced some contradictory results, these should be viewed as relative outliers within a treatment literature with predominantly positive effects. Furthermore, other aspects of their coding procedures (e.g. coding any form of alcohol treatment as appropriate) undermine the integrity of the appropriate treatment variable. The updated synthesis reported by Losel (1998) must be kept in mind when examining the results presented by Cleland and associates (1997).

Each of these meta-analyses has contributed some important information to the debate concerning the effectiveness of correctional treatment programs. However, the evidence does not provide clear and reliable conclusions. Although most of the meta-analyses conducted on the effectiveness of correctional treatment programs presented positive evidence for rehabilitation, (Garrett, 1985; Lipsey, 1989, 1992, 1995; Andrews et al., 1990; Izzo & Ross, 1990; Hill, Andrews, & Hoge, 1991; Losel, 1995, 1998) questions still remain about the clarity of the findings and critics (Eckberg, 1997; Lab and Whitehead, 1990; Logan & Gaes, 1993) remain sceptical about the procedures used to classify risk and need in the most promising of these meta-analyses. In addition, the recent meta-analytic evidence provided by Cleland and his colleagues (1997) suggested that the need and responsivity principles may not be generalizable across age groups and the only offenders benefitting from correctional interventions are juvenile offenders. Therefore, although there are results available promoting the value of rehabilitation, these perspectives are not universally accepted. This situation has prompted the present meta-analysis to deal with these concerns and provide a theoretically relevant and empirical-driven derivation of 'What works.'

Contributions of the Present Investigation

One of the main goals of the present meta-analytic review is to improve upon the coding procedures used by Andrews and his colleagues to develop more systematic coding guidelines for these studies. Therefore, many distinct purposes have been identified for the present study. These will be discussed in the order of presentation in the results to ensure continuity. It should be noted that information regarding any special developmental

procedures used in the creation of these variables will be discussed in the next section. However, a discussion of the importance of these variables to the present meta-analysis will be provided here.

The first major contribution of the present meta-analytic review has been the addition of 80 new effect sizes comparing correctional treatment effectiveness. As the sample of studies continues to expand, the external generalizability of these results will be greatly improved. These new additions will also include unpublished studies as well.

The most important contribution made by the present meta-analysis involves the more systematic analysis of the principles of risk, need and responsivity and the subsequent development of a more systematic and identifiable Appropriate Treatment variable. Although the Andrews et al. (1990) meta-analysis categorized the programs into Appropriate, Unspecified, Inappropriate Services along with Criminal Sanctioning based on the principles of risk, need, and responsivity, other researchers would be unable to determine how overall coding decisions were made. In other words, a consistent method of classification was not used for defining appropriate service. Further to this point, Andrews and his colleagues (1990, 1996) only separately examined the general responsivity principle (in terms of behavioral programs) in their original and updated meta-analyses. Separate tests for the risk and need principles were not available (need) or reported (risk). This may have provided evidence to refute the claims by many of the critics of the Andrews papers (1990, 1996).

For the present meta-analysis, separate tests were available for each of the principles of risk, need and responsivity. A new dichotomous risk variable (i.e. high-

versus low-risk) was introduced into this meta-analysis. This variable provided an opportunity to test the validity of the risk principle and to define its role in the delivery of effective correctional service. Both aggregate and within-sample risk differentiation were used to develop this measure.

In addition to the improvements made with the risk principle, the general responsivity principle was also examined more specifically in the present study. For this meta-analytic review, behavioral programs were coded as appropriately addressing the general responsivity principle as per the original coding of Andrews and associates (1990, 1996). In addition, the present meta-analysis aimed at taking the behavioral principle coded by Andrews and his colleagues one step further. More specifically, the type of behavioral intervention employed was coded as well. In other words, coding was introduced for behavioral programs such that the predominant emphasis of the behavioral approach, (radical behavioral, social learning, or cognitive-behavioral) could be teased out and examined. Due to the complexities of criminal behavior, it is logical to assume that the answer to the question, 'what works' will be found within diverse areas.

One of the major contributions of the present research is the introduction of coding for the need principle. Although the principles of risk and responsivity were available within the two Andrews (1990, 1996) meta-analyses, no variables existed directly relating to need. For the present meta-analysis, a dichotomous need variable was also introduced. The purpose of this variable was to reveal the types of criminogenic and noncriminogenic targets focused on within treatment as well as to provide an indication of how appropriately the need principle was addressed within treatment. This variable provided an

opportunity to examine the role of the need principle in the delivery of effective correctional service.

Therefore, the present meta-analysis provided, for the first time, a chance to separately evaluate the principles of risk, need and responsivity and their role in correctional treatment. However, a major contribution resulted from the creation of the New Appropriate Treatment variable by combining these three separate variables. This variable was developed by using the information available within the composite risk, need and responsivity variables as well as the any treatment variable. This newly created Appropriate Treatment variable allowed an opportunity to tease out the influences of each of the three principles and how they interacted with one another in determining treatment outcome. In addition, this new composite Appropriate Treatment variable allowed the present researcher to test the validity or accuracy of the Andrews et al. (1990, 1996) coding based on this new composite score.

Although the present meta-analysis has introduced some very important constructs for identifying the correlates of effective correctional treatment programs, the main focus of the Andrews (1990, 1996) meta-analyses was the effect of treatment on the reduction of general recidivism. However, one of the primary concerns of the general public at this time is violent reoffense risk. Therefore, the present meta-analysis also examined the effects of correctional treatment in reducing violent recidivism. This type of analysis provided a crucial test of the applicability of correctional treatment across another outcome measure and could potentially provide additional evidence for cynics of the rehabilitative ideal.

Another area of interest was identified for the present meta-analysis. Since the goal of the present meta-analysis was to determine 'what works' in terms of correctional treatment, additional attention focused on the five principles of effective correctional practices as defined by Andrews and Kiessling (1987) within the CaVIC (Canadian Volunteers In Corrections) project. The five principles introduced by Andrews and Kiessling (1987) were effective modeling, effective disapproval, effective reinforcement, effective problem- solving and effective use of authority. These principles are different ways of measuring the constructs of risk, need and responsivity. More specifically, these five effective correctional practices are related to the characteristics of the program and the format of delivery whereas the underlying principles of risk, need and responsivity are related to the offender.

These five principles of effective correctional treatment were expanded and operationalized within a training manual entitled "Core Correctional Training" (Andrews & Carvell, 1997). These core practices are defined in terms of the effective use of modeling, graduated practice, role play, empathy, providing feedback to the clients and other considerations identified as important within the delivery of effective correctional treatment. It is possible that these core correctional practices may shed more light on the rehabilitation literature in terms of "what works".

One of the unique contributions of this meta-analytic review was the examination of restorative justice programs. Restorative justice programs are relatively recent approaches to juvenile and adult justice where the damage done to the community and the victim is attempted to be repaired through victim offender mediation, restitution

agreements, performing community service, or using reintegrative shaming. Although several evaluations have been conducted regarding the effectiveness of restorative approaches in reducing recidivism, a systematic meta-analysis has not yet been provided within this area of research. Therefore, the present investigation marked the first attempt at synthesizing this burgeoning area of research.

To summarize, the purpose of the present paper is to expand on the original meta-analysis conducted by Andrews et al. (1990) to provide an expanded analysis of the "black box" (Cullen & Gendreau, 1989) of treatment. This type of assessment will allow the researcher to examine the roles of risk, need and responsivity in the delivery of effective correctional treatment. In addition, the roles of each of the aforementioned principles also will be tested to determine their importance in reducing violent reoffending. Furthermore, the New Appropriate Treatment variable will be analysed and subjected to various control procedures to determine its relationship with treatment outcome. Finally, other approaches such as restorative justice and the core correctional training will be examined to determine their effectiveness in reducing recidivism.

Method

Sample of Studies

The present study combined four distinct samples of studies. The first sample was derived from the Whitehead and Lab (1989) sample and it was modified slightly based on the conditions outlined by Andrews et al. (1990). The second sample of 143 studies was the adult sample Andrews and his colleagues (1990) added to the Whitehead and Lab (1989) sample. The third sample was collected by Andrews and his colleagues following the publication of their (1990) meta-analysis. It included any treatment evaluations excluded from their initial 1990 paper. A fourth and final sample of studies were collected by the present reviewer and focused on any recent studies concerning correctional treatment programs or any other studies omitted by the initial two computer data base searches conducted by Andrews (1990, 1996).

The current sample was combined with the three previous samples outlined previously. Computer searches of both the PsycLIT and National Criminal Justice Reference System (NCJRS) data bases were conducted using the following key words: offender, criminal, crime, treatment, rehabilitation, recidivism, reconviction, recidivist, reoffend, reoffense, and reincarceration. In addition, a "hand-search" of the journals most frequently publishing research concerning the effectiveness of correctional rehabilitation programs was also conducted. This "hand-search" produced many additional studies not uncovered through the initial PsycLIT and NCJRS literature searches. The reference sections of the reports included within the Andrews (1996) expanded sample were also checked for other potential studies. Finally, several unpublished governmental reports

were examined at the Correctional Service of Canada's headquarter's located in Ottawa, Ontario, Canada.

Articles selected to be included in the present analysis possessed the following characteristics:

a) Included a sample of offenders. Only those studies focusing on correctional treatment programs directed toward an offender population were targeted.

b) A follow-up period must be included. Any length of follow-up period was accepted. If several follow-up periods were reported, data from the longest follow-up period was coded to ensure maximum at-risk exposure in the community.

c) The study used a group of offenders who received some form of intervention and were compared to some form of a control group not receiving the same intervention. The control group could receive a 'diluted' form of the treatment program and could even receive alternate services as long as these services could be differentiated from those received by the treatment group. The form of intervention used need not be psychologically based and ranged from probationary efforts to intensive cognitive-behavioral skill building programs.

d) The study included a description of the intervention to be used. Programs that did not contain any information concerning the type of intervention program used were excluded from the analysis.

e) Included a measure of recidivism in the report. Recidivism could be defined in several ways. Acceptable definitions included rearrest, reconviction, as well as parole failures or revocations. If multiple recidivism data were reported, the most serious

definition of recidivism was used.

f) Qualified studies included the number of participants involved within the treatment and control groups to ensure appropriate calculation of the effect size measure. The phi coefficient was used as the proposed measurement of effect size to replicate the same statistical procedures utilized by Andrews et al. (1990) to determine treatment success.

Coding Manual and Method of Classification

Three main coding manuals were used for this meta-analytic review. The first coding manual was originally used by Andrews et al. (1990). This manual focused on several important variables such as Type of Treatment, Evaluator Involvement, Type of Behavioral Intervention, Amount of Power, Sample Size, Treatment Setting, and other related variables. This manual was also used the new sample of studies as to ensure the comparability of the samples and to allow cross-over analyses to be conducted.

The second coding manual was adopted by Andrews and his colleagues from Mark Lipsey. This second manual included various important methodological considerations and is concerned with certain components of the risk principle. This coding manual was also used in the new sample of studies.

The third and final coding manual was developed to expand on the original coding manual provided by Andrews et al. (1990). One of the major areas of focus for the new coding manual was the more precise coding of the principles of risk, need, and responsivity to reduce the ambiguity traditionally associated with examining these factors. First, this manual focused on the specific types of criminogenic or noncriminogenic factors

targeted by each of the correctional treatment programs included within the current meta-analysis. The responsivity principle was also coded more specifically to include the specific form of behavioral intervention (i.e. cognitive-behavioral versus social learning model) used within the treatment program. In addition, the five principles of effective correctional treatment introduced by Andrews and Kiessling (1980) were also examined within this manual. These principles were operationalized by referencing the training manual developed by Andrews & Carvell (1997) Entitled “Core Correctional Training.”

Development of New Variables

Risk

Although there was a within-sample measure of risk available in the Andrews meta-analyses (1990, 1996), an overall examination of the risk principle was not available for the entire sample. For the present meta-analysis, the aggregate approach to coding risk was used. This variable was dually concerned with the degree of formal contact with the justice system encountered by the offender for the present offense as well as past offense history. More specifically, offenders were classified as high risk if they had a previous offense history and/or had formally penetrated the justice system. Finally, where permitted, a within-sample risk score was used to maintain the integrity of this measure. It should be noted that the within-sample estimate of risk would be the most appropriate test of the need principle as it directly examines the differential impacts of treatment across low- and high-risk samples. The new dichotomous risk variable created was based on a combination of these three separate measures of risk. To ensure the integrity of the construct, only the highest risk cases were coded as high-risk.

Responsivity

The only changes made to the original coding scheme used by Andrews and his colleagues related to the introduction of a behavioral variable to record the type of behavioral intervention used. This four level variable consisted of non-behavioral, radical behavioral, social learning approach and cognitive-behavioral approaches.

Need

A major point of emphasis for the present paper was the examination of the intermediate targets found within each individual treatment comparison. In particular, each individual treatment comparison was examined to determine whether any type of need had been targeted within the treatment program. This was done on a yes/no basis. The criminogenic and noncriminogenic needs were also divided into two distinct categories of "more promising" and "less promising" intermediate targets respectively (Andrews, Bonta, & Hoge, 1990). Once all of the needs targeted in a particular treatment comparison were coded, the treatment group was categorized into three separate overall need categories. These three overall need categories were:

1) Overall Number of Criminogenic Needs Targeted (Range = 0-6)

- This category examined the number of criminogenic needs targeted irrespective of the number of noncriminogenic needs targeted.

2) Overall Number of Noncriminogenic Needs Targeted (Range = 0-3)

- This category examined the number of noncriminogenic needs targeted irrespective of the number of criminogenic needs targeted.

3) Overall Need Principle Variable

- This Overall Need variable was determined by the difference score between the number of criminogenic minus noncriminogenic needs targeted within a particular treatment comparison. The variable was used as a binary measure where:

0 = the difference score was less than or equal to 0.

1 = the difference score was greater than or equal to 1.

This variable was considered to be an appropriate test of the need principle. In other words, programs targeting more criminogenic than noncriminogenic needs were considered as appropriately addressing the need principle. A program targeting an equal or greater number of noncriminogenic needs to criminogenic needs was considered to not be appropriately addressing the need principle.

New Appropriate Treatment

Since the present investigation allowed the principles of risk, need and responsivity to be separately examined, the next logical step involved the development of a New Appropriate Treatment variable. This variable was created by using the same selection criteria used by Andrews and his colleagues whereby Appropriate Service entailed a program that utilized a behavioral approach focusing on the criminogenic needs of high-risk offenders. Following this definition, New Appropriate Treatment was created using the information from the composite risk, need and responsivity variables in combination with the any treatment variable originally included within the Andrews et al (1990, 1996) meta-analyses. The New Appropriate Treatment variable was also a four-level variable where:

0 = criminal sanctioning without service or programs not appropriately addressing the

principles of risk, need and responsivity.

1 = Human service interventions appropriately addressing one of the three principles of risk, need and responsivity.

2 = Human service interventions appropriately addressing two of the three principles of risk, need and responsivity.

3 = Human service interventions appropriately addressing each of the principles of risk, need and responsivity within the program framework.

This variable was examined to determine its relationship with recidivism and various control variables were introduced to determine their effect, if any, on this composite measure. Finally, the procedures used in the development of this variable were transferred to the original 1990 coding of Andrews and his colleagues to see how well they predicted the original coding of Type of Treatment.

Control Variables

Although the development of the New Appropriate Treatment variable allowed a more systematic examination of the characteristics of effective correctional service, additional variables were identified and tested to determine their effects on the relationship between New Appropriate Treatment and recidivism. For example, various researchers have argued factors such as the age of the treatment population, the gender composition, and the size of the sample are all important moderators of treatment impact. The various control factors to be introduced include:

- *Internal Validity Considerations* such as attrition, randomness of design, comparable treatment and control groups, no treatment control groups and involved evaluator.

- *Program Integrity Factors* such as Monitoring, presence of printed materials, specificity of the treatment model, staff and supervisors appropriately trained in program delivery and clinical supervision of staff.
- *Setting and Organizational Factors* such as interagency cooperation, treatment setting, type of treatment administrators, and program sponsor.
- *Case Characteristics* such as age, ethnicity, gender composition and treatment populations involving violent offenders.
- *External Validity Considerations* such as sample size, length of follow-up period, academic affiliation, program age and sample of studies.

Each of these variables will be tested along with the New Appropriate Treatment variable to determine their individual and combined relationships with treatment success.

Restorative Justice

One of the newest variables introduced into the present meta-analysis was the variable examining restorative justice principles. Although coding for each of the individual components of reintegrative shaming, financial restitution, community service and victim offender mediation was introduced, an overall restorative justice variable was created which attended to a composite score derived from these four separate components. This dichotomous variable was created by summing the number of restorative components present within a particular program. If there were one or more restorative elements present within a particular intervention, it was coded as restorative whereas other interventions focusing on other considerations were coded as non-restorative in focus. It should be noted the restorative justice ideology framework has not

yet been empirically validated and this meta-analysis attempted to aggregate the studies testing this construct.

Procedure

The entire sample was re-coded using these manuals. An honours student in psychology was trained in the scoring of these manuals and he was given a preliminary sample of five studies to code. Once these studies were completed, the honours student and the present author discussed any existing discrepancies in scoring. This procedure was used to ensure the other rater fully understood the underlying constructs present within the coding manuals. Once the other coder felt comfortable with the coding manual, the present author provided a random sample of 29 studies to the additional coder. These studies were equally drawn from the Justice, Inappropriate, Unspecified and Appropriate Service based on the initial codes used by Andrews (Andrews et al., 1990). Equal numbers of studies in each level of Type of Treatment ensured the other coder had sufficient opportunity to code studies across each level of treatment. These studies were coded independently by the other rater without any input from the present author.

The interrater reliability ratings were calculated by dividing the total number of correct classifications by the total number of classified variables. The rates of agreement for the core variables were 100% (Any Treatment, $r = 1.00$) and 90% for each of Behavioral ($r = .79$), Risk Level ($r = .79$), and Criminogenic Need ($r = .79$). The interrater agreement rate was 86% ($r = .87$) on the three-level New Appropriate Treatment (a composite of risk, need and responsivity to be introduced in the Results section).

Calculation of Effect Sizes

The effect sizes used in the current meta-analysis were computed based on the information provided within the primary studies composing the expanded sample. The techniques used to calculate the effect size were those reported by many of the leading experts in the field of meta-analytic research (Wolf, 1986; Glass et al. 1981; Rosenthal, 1991). The effect size measure to be used in the current study will be the phi coefficient used by Andrews et al. (1990) in their original meta-analyses in order to maintain consistency across studies.

Analyses

Each of the principles of risk, need and responsivity were subjected to an analysis of variance to determine their relationship with recidivism. Furthermore, each of the preceding variables were forced into a multiple regression analysis with the Any Treatment variable using multiple classification analysis to determine the unique contribution of each variable to recidivism reduction. Finally, intercorrelations between these variables were examined for any significant relationships providing further important information regarding treatment effectiveness.

The New Appropriate Treatment was also subjected to numerous analyses. First, analyses were conducted to determine the mean effect size for each level of this newly created variable to compare these results with the original results reported by Andrews and his colleagues (1990, 1996). In addition, the composite variables of Risk, Need and Responsivity were introduced into a multiple regression analysis along with the Any Treatment variable to predict the original 1990 coding. Finally, analyses were conducted

using various potential moderating variables to determine how New Appropriate Treatment responded to these controls.

It should be noted that one of the dependent variables of interest for the present investigation was violent recidivism. Where possible, the same pattern of analyses will be conducted using violent recidivism as the dependent variable as opposed to general recidivism.

Finally, each of the core correctional practices and restorative justice components were subjected to further analyses to determine their relationships with effect size. Overall variables for each of these approaches were also created to provide a general test of the importance of each of these constructs.

Results

Study Descriptives

The present meta-analysis consisted of a final sample 374 effect sizes extracted from 225 unique studies examining the effectiveness of correctional treatment programs on recidivism. Not surprisingly, the gender composition of the majority of the treatment studies were entirely (46.5%) or predominantly (26.2%) male.

Approximately 80% of the effect sizes were based on studies conducted in the United States and the predominant ethnicity of the sample was Caucasian. Over 50% of the studies focused on juvenile offenders and only 40% treated adults. The remaining 10% of the studies were composed of mixed or unspecified age ranges. An interesting final result is the finding that one-third of the studies were conducted within an institutional setting with the remainder using other non-residential settings.

General Findings

The overall mean effect size in the sample was $+0.08$ ($SD=.19$) with a 95% confidence interval of $+0.06$ to $+0.10$. This value closely corresponds to the overall mean effect size reported by Losel (1995) in his synthesis of the meta-analytic literature dealing with correctional treatment effectiveness. In addition, this value is identical to the value reported by Cleland (1998) in his unpublished doctoral dissertation.

There was a considerable range present within the effect sizes within this data set. They ranged from -0.43 to $+0.83$ ($SD=.189$). Not surprisingly, some of the variability present with this range was accounted for by examining the type of intervention used. More specifically, the mean effect size for criminal sanctioning was $-.03$ ($n=101$; $SD=.126$;

95% confidence interval: -.05 to .00) compared with a significantly different and non-overlapping effect size of +0.12 ($n=273$; $SD=.193$; 95% confidence interval: .10 to .14) for human service interventions, $F(1,372)=50.81$, $p<.000$, $Eta=.35$ (see Table 1).

A procedure outlined by Rosenthal (1991), the Binomial Effect Size Display (BESD), provides a more meaningful interpretation of the mean effect size measures derived from meta-analytic reviews. This value is calculated by dividing the mean effect size value by two and then adding this result to, and subtracting it from, the initial mean effect size. For example, using the mean effect size measure of .12 for any human service interventions, the BESD would reveal that a program using any form of human service intervention would yield a recidivism of 44% in the treatment group compared to a recidivism rate of 56% in the controls. This calculation provides a more meaningful interpretation of the available data and provides important policy information in terms of the tangible impacts of treatment. This transformation can be applied to any of the mean effect size measures provided within the present meta-analysis.

One important point must be made before a more detailed discussion of the results is provided. It is interesting to note that without considering the theoretically relevant principles of risk, need, responsivity or other factors, the mean effect size for any form of human service is mildly positive. Clearly, the 'nothing works' doctrine is not in touch with the available empirical evidence. These findings highlight emphasis should be placed on 'what works' rather than 'nothing works'. Although threats to validity will be tested in the proceeding sections, since the data suggest 'something works', the next step was to examine the theoretically relevant principles of risk, need and responsivity to determine

their role in the delivery of effective correctional treatment.

Risk

One of the important contributions of the present meta-analysis was the introduction of aggregate coding for risk level. In addition, studies differentiating clients on risk level (e.g. first and repeat offenders) were coded using a within-sample approach. Unfortunately, the majority of the studies surveyed did not allow for within-sample analysis of risk.

The overall correlation between risk level and effect size was $+0.17$ ($p < .001$) (see Table 1). However, 22 of the studies allowed risk differentiation within their sample. Isolating these cases, the correlation between risk level and effect size increased to $.46$ ($n=44$). An analysis of variance revealed, as expected, within sample risk differentiation produced stronger support for the risk principle as compared to the aggregate coding and this difference was statistically significant, $F(1,371)=4.06$, $p < .05$.

Table 1 Intercorrelation Matrix, Correlations with Phi Coefficients (N=374) and Mean Phi Coefficients for the Risk, Need, Responsivity and Any Treatment Variable

	A	B	C	D
Any Tx (A)		.11*	.53**	.30**
Risk (B)			.05	.10*
Need				.10*
Responsivity (D)				
Simple Unadjusted Correlation with Phi (Mean Phi = .08, SD = .189)				
	.35***	.17**	.54***	.40***
Unadjusted Mean Phi Coefficient (n) at Each Level of Each Variable				
0.	-.03 (101)	.03 (96)	-.01 (205)	.04 (297)
1.	.12 (273)	.10 (278)	.19 (169)	.23 (77)
F Values for Unadjusted Effects				
	52.06***	11.24**	155.53***	71.87***
Partial Correlations With Phi, Controlling for Other Variables				
	.07 (p<.10)	.12**	.42***	.17***
Adjusted Mean Phi Coefficients (n) at Each Level of Each Variable				
0.	.06	.04	.08	.06
1.	.09	.09	.17	.14
F Values for the Adjusted Effects				
	1.66	8.46**	60.04***	12.00***

Note *p<.05, **p<.01, ***p<.001

Responsivity: General Behavioral Principle

Within the original Andrews et al. (1990) meta-analysis, behavioral programs were coded as appropriately addressing the general responsivity principle. Therefore, the same strategy was also used in the present meta-analysis to maintain consistency across the two studies and to provide an opportunity to expand on the original findings. This expanded sample will provide an opportunity to validate the original findings of Andrews et al. (1990).

Analyses revealed that the correlation between behavioral orientation and effect size was highly significant at .40. More specifically, the mean effect size for behavioral programs was .23 ($n=77$) compared to a mean effect size of .04 for non-behavioral programs ($n=297$) (see Table 1). Not surprisingly, this difference in effect size magnitude was highly significant statistically, $F(1,372) = 71.87$, $p<.000$, $Eta=.40$.

One of the additions of the present meta-analytic review to the rehabilitation literature was the closer examination of the responsivity principle. More specifically, although Andrews and his colleagues dichotomized the interventions as behavioral/non-behavioral, they did not report on the specific type of behavioral interventions employed within the treatment program. Since the main focus of the present meta-analysis was finding an answer to the question 'what works,' additional coding was introduced to determine what type of behavioral interventions were used within the framework of the program.

Three types of behavioral interventions were coded. First, a radical behavioral program was defined as one that used classical and/or operant conditioning or used some

graduated form of a token economy. Second, a social learning approach was defined as any program using modeling, role playing, graduated practice or any combination of the above. Finally, cognitive-behavioral programs consisted of programs focusing on thinking, influencing feelings or behavior through thought patterns. If a program described itself as cognitive-behavioral and did not provide any further evidence to support the claim, it was coded as cognitive-behavioral.

A closer examination of the behavioral approaches of these programs provided some very interesting results. Clearly there was a wide range of effect sizes demonstrated depending on the type of behavioral intervention used. More specifically, the values ranged from $-.04$ ($n=297$) for non-behavioral to $.29$ ($n=34$) for social learning approaches. Radical behavioral ($.16$, $n=27$) and cognitive-behavioral ($.21$, $n=16$) produced intermediate mean effect sizes.

An analysis of variance revealed the type of behavioral program resulted in significantly different outcomes, $F(3,370)=27.30$, $p<.000$. Further examination of this overall significant finding using Scheffe comparisons revealed each of the behavioral approaches possessed significantly higher mean effect sizes as compared to the non-behavioral programs ($p<.05$). However, the only other comparison approaching significance was the comparison between social learning and radical behavioral approaches. However, this finding was only significant at $p=.06$.

The Need Principle - Noncriminogenic Targets

The frequency and percentage distributions for each of the less promising need targets are presented in Table 2. Furthermore, each of their individual correlations with

effect size is also presented. Examination of the noncriminogenic needs reveal that each of the less promising treatment targets were negatively correlated with recidivism reduction. In other words, treatment programs that targeted these types of needs were associated with an increase in the recidivism rate of the treatment group relative to the control. In addition, the only noncriminogenic need significantly associated with recidivism reduction was fear of official punishment philosophy (for example, in shock probation programs) and that relationship between need and reduced re-offending was negative (-.25).

Interestingly, the only noncriminogenic need target approximating a positive relationship with recidivism were programs that increased conventional ambition through jobs placements without any vocational skill development. This finding is particularly interesting when coupled with the results derived from the criminogenic needs related to vocational training targets presented in Table 3.

One final analysis examined the relationship between the number of noncriminogenic needs targeted and effect size. Interestingly, this composite variable produced a significant negative relationship with effect size (-.18). These results do not provide any discernible support for the targeting of noncriminogenic needs by correctional treatment programs.

Table 2 Non-Criminogenic Needs Targeted: Rank Ordered by Frequency
And Percentage of Targeting and their Correlation with Effect Size

Need Targeted	Freq	%	r
Vague/Emotional Personal	90	24%	-.04
Physical Activity	43	11%	.00
Fear of Official Punishment	41	11%	-.25**
Increase Conventional Ambition	29	8%	.00
Family: Other Interventions	26	7%	-.09
Increase Cohesive Antisocial Peers	20	5%	-.09
Increase Self-Esteem	15	4%	-.08
Respect Criminal Thinking	7	2%	-.04
Improve Living Conditions	0	--	--

The Need Principle - Criminogenic Targets

The frequency and percentage distributions of each of the more promising intermediate targets are presented in Table 3. The correlations between each of these criminogenic needs and effect size are also presented. An examination of Table 3 reveals an entirely different set of results than those obtained for the noncriminogenic needs. The results reveal that each of the individual criminogenic needs was positively related to effect size. Furthermore, and more important, 75% of the criminogenic need areas actually targeted within treatment programs produced significant correlations with effect size. In other words, treatment programs that targeted these types of need targets were associated with a significant decrease in the recidivism rate of the treatment group relative to the

control.

Although the aforementioned results provide strong empirical support for the importance of each of the criminogenic need targets, an additional analysis focused on the relationship between the total number of criminogenic needs targeted and recidivism. The correlation between the number of criminogenic needs targeted and effect size was highly significant at .55 ($p < .001$).

Finally, an overall test of the need principle was conducted to examine the importance of the need principle within the development of appropriate correctional treatment programs. In Table 1, the variable Need refers to a dichotomous variable which examines the difference score between the number of criminogenic and noncriminogenic needs targeted. More specifically, if the difference score between criminogenic and noncriminogenic needs is greater than or equal to one, the treatment programs was scored as appropriately addressing the need principle. However, if the difference score was zero or less than the treatment programs were coded as not appropriately addressing the need principle. Results revealed that the mean effect size for programs that were less appropriate according to the need principle was $-.01$ ($n=205$) whereas programs that were appropriately targeted according to the need principle yielded a significantly higher mean effect size of $+.19$ ($n=169$), $F(1,372)=155.53$, $p < .000$.

Table 3 Criminogenic Needs Targeted: Rank Ordered by Frequency
And Percentage of Targeting and their Correlation with Effect Size

Need Targeted	Freq	%	r
Academic	72	19%	.21**
Anger/Negative Affect	62	17%	.32**
Other Needs	61	17%	.30**
Self-Control	59	16%	.33**
Pro-social Model	40	11%	.26**
Antisocial Attitudes	37	10%	.23**
Vocational Skills	32	9%	.04
Family: Affection	24	6%	.29**
Information: Substance Abuse	22	6%	.08
Substance Abuse Treatment	21	6%	.03
Reduce Antisocial Peers	19	5%	.11*
Relapse Prevention	18	5%	.16**
Family: Supervision	17	5%	.31**
Barriers to Treatment	12	3%	.27**
Vocational Skills + Job	12	3%	.24**
MDO: Medication	2	<1%	.01
Attitudes Toward Substances	0	--	--
Child Protection	0	--	--
MDO: Shelter	0	--	--

Risk, Need, Responsivity: Toward New Appropriate Treatment

Inspection of Table 1 reveals that the principles of risk, need, responsivity and any treatment were positively correlated with each other. Two of the correlations presented within this Table are very interesting. First, the highly significant correlation between Need and Any Treatment was notable (.53, $p < .000$). In addition, the correlation between Need and Responsivity (.48, $p < .000$) was also notable.

Clearly each of these four variables are highly correlated with outcome thereby demonstrating their utility for predicting the therapeutic potential of a particular program. Furthermore, each of these variables, with the exception of Any Treatment ($p < .10$), remained significant contributors to effect size with controls introduced for each of the other variables. Of particular importance to the present meta-analysis was the finding that Need was the strongest contributor to effect size of the four variables, both in the adjusted and unadjusted analyses.

As stated previously, one of the criticisms lodged against the Andrews et al. (1990) meta-analysis related to coding bias. In other words, critics of the paper argued that Andrews et al. (1990) assigned programs to the Appropriate, Inappropriate or Unspecified Treatment categories based on their knowledge of the effect size evoked by that particular program. Essentially, these critics argued that Andrews and his colleagues (1990) categorized programs with higher effect sizes as Appropriate whereas smaller or negative effect sizes were categorized as Inappropriate.

It should be noted that although the coding of Appropriate Treatment was somewhat systematic, there was no easy way to tease out the important components of

programs that contributed to a particular rating beyond detailed reviews of the Appendices. One of the contributions of the present meta-analysis was the introduction of a more systematic way of defining Appropriate Treatment. Because there are now separate tests of the risk, need, and responsivity principles available, a new Appropriate Treatment variable was created based on the scores received on these variables.

The composite measure of choice for the present meta-analysis involved a four-level variable similar to the one used by Andrews et al. (1990). The scores ranged from "0" (sanctioning without service and/or service with scores of zero on each of Risk, Need and Behavioral) through "3" (human service addressing each of the principles of Risk, Need & Responsivity appropriately). The New Appropriate Treatment variable was subjected to further analysis to determine its effect on recidivism. Not surprisingly, the same pattern of results emerged as reported by Andrews et al. (1990, 1996). In addition, a clear linear relationship was demonstrated within this new appropriate treatment variable.

The new appropriate treatment variable was subjected to further analyses to determine the impact of this variable in predicting recidivism. Results revealed that criminal sanctioning and/or human service interventions not addressing either of the principles of risk, need and responsivity produced a negative mean effect size ($-.02$, $n=124$). However, the results became increasingly positive as the number of clinically relevant principles were targeted within the intervention. For example, programs only addressing one of the three principles produced a weak positive effect ($.02$, $n=106$) on recidivism reduction whereas programs addressing two of these principles provided much stronger evidence for the efficacy of appropriate treatment ($.18$, $n=84$). However, the

champion of these four levels was appropriate service with a mean effect size of .26 ($n=60$). An analysis of variance using this new appropriate treatment demonstrated that these categories were indeed significantly different from each other, $F(3,370) = 61.34$, $p<.000$, $Eta=.58$.

This overall significant difference was followed up using Scheffe comparisons. Follow-up analyses revealed that human services programs targeting at least 2 of the three principles of risk, need and responsivity were significantly different from criminal sanctioning and programs targeting none or one of these principles ($p<.01$). In addition, results demonstrated human service programs that increased the number of principles targeted within the program framework were significantly different from those programs targeting one less principle ($p<.05$).

One final analysis was conducted to clarify the impartiality of the Andrews et al. (1990) coding of Type of Treatment. The elements of this New Appropriate Treatment variable were placed in a multiple regression analysis to predict the coding of Andrews et al. (1990) in terms of Appropriate Treatment. The overall R was .90 and when statistical controls were introduced for each of the variables involved in the equation, significant partial correlations were maintained for Risk (.07), Need (.29), Responsivity (.30) and Any Human Service (.55). The simple correlation between New Appropriate Treatment and the Andrews (1990, 1996) Appropriate Treatment was significant at .86 ($p<.001$). The procedures used to classify each of the programs are now demonstrable to anyone wishing to enter the foray.

The New Appropriate Treatment variable demonstrated significant predictive

validity in terms of differentiating the variance attributing to effective correctional treatment programs in this expanded sample. This New Appropriate Treatment variable will now be entered into various analyses along with various methodological variables that may potentially compromise the validity of this variable.

Internal Validity Considerations

Generally, confidence in the causal effects of treatment tend to be enhanced when studies approximate the ideals of a randomized design, subject attrition is not a major problem and the evaluators are external to the program of interest. A failure to examine these considerations may result in inflated treatment effects. A final internal validity consideration is the characteristics of the control group. If the control group receives similar or other services, potential deflation of the reported effect sizes may result. The correlations between these four variables and effect size are presented in Table 4. Analysis revealed that an Involved Evaluator (.41), Untreated Controls (.08) and Randomized Design (.10) were all positively related to outcome. However, results demonstrated that Attrition Problems (.04) and Rated Comparability of Groups (.03) were unrelated to effect size.

The three most powerful indicators of internal validity considerations were forced into a multiple regression analysis and the obtained R was .42. However, upon entry of New Appropriate Treatment, this R increased to .60. Therefore, with controls introduced for the strongest internal validity considerations, the minimal contribution of Appropriate Treatment in explaining the variance in outcome was 51%. As revealed by table 4, the only variable other significant contributor to effect size was Involved Evaluator.

Table 4 Simple, Partial and Multiple Correlations of Internal Validity
Considerations and New Appropriate Treatment with Effect Size

Internal Validity Factor	%	r	Partial (Approp Tx Entered)
Attrition Problems	51%	.05	.04
Random Assignment	39%	.10	.02
Comparable Conditions	32%	-.02	.05
No Treatment Controls	23%	.08*	.05
Involved Evaluator	21%	.41**	.18**

R^2 with Appropriate Treatment Entered=.36. % attributable to App Tx = 51%

Program Integrity

The indicators of program integrity used within the present meta-analysis were derived from the Andrews et al. (1990) data base. These included the detail of the treatment model or theory, the presence of trained supervisors and front-line staff, clinical supervision of staff, and the availability of a detailed program manual discussing the service process, type of monitoring used and type of intermediate targets selected for service.

The results of these analyses are presented in table 5. Each of the program integrity variables were positively correlated with effect size and, with the exception of monitoring, each of these variables produced a significant relationship with effect size. The five significant moderators of effect size were then introduced into a multiple regression as in the previous example. The correlation between program integrity considerations and effect size was .35. However, once New Appropriate Treatment was introduced into the

regression analysis, none of these factors reached significant levels. With program integrity controlled, the minimal contribution of New Appropriate Treatment was 60% of the explained variance.

Table 5 Simple, Partial and Multiple Correlations of Program Integrity Considerations and New Appropriate Treatment with Effect Size

Program Integrity Factor	%	r	Partial (Approp Tx Entered)
Monitoring	39%	.07	-.08
Printed Materials	19%	.30**	-.01
Specific Model	54%	.23**	.02
Clinical Supervision	24%	.21**	.01
Supervisors Trained	22%	.18**	.00
Trained Workers	45%	.26**	.07
R ² with Appropriate Treatment Entered=.33. % attributable to App Tx = 60%			

Setting and Organizational Factors

Due to the findings reported by Andrews and his colleagues (1990, 1996) regarding the importance of setting within the delivery of effective correctional service, numerous setting and organizational variables were included in the analysis to tease out their impact on effect size. These factors included community-based programs, university/private sponsorship, criminal justice personnel deliver the program, any evidence of inter-agency cooperation and referral to program by individuals other than criminal justice personnel. The simple and partial correlations as well as the effect of New

Appropriate Treatment on these considerations are presented in Table 6.

Insufficient cases existed to make examination of the referral source worthwhile. However, each of the other variables were significantly associated with effect size. Interestingly, treatment programs administered by criminal justice personnel produced a negative relationship with effect size. Each of the remaining variables (minus referral source) were entered into a multiple regression. University/private sponsored treatment and treatment delivered by criminal justice personnel maintained significant contributions to effect size within this analysis. However, introduction of New Appropriate Treatment into the regression analysis rendered programs administered by criminal justice personnel as a nonsignificant contributor to effect size. Of particular interest is the fact that community setting transforms into the second most important contributor to effect size (from .10 to .19). Once again, New Appropriate Treatment was the main contributor to effect size, accounting for 73% of the explained variance.

Table 6 Simple, Partial and Multiple Correlations of Setting/Organizational Considerations and New Appropriate Treatment with Effect Size

Setting/Organizational	%	r	Partial (Approp Tx Entered)
Inter-Agency	19%	.08	.02
Non-Residential	67%	.10*	.19***
CJ Administers Treatment	50%	-.26***	-.08
University/Private Sponsor	18%	.22***	.10*

R^2 with Appropriate Treatment Entered=.41. % attributable to App Tx = 73%

Case Characteristics

Several additional variables were included to determine their moderating effect, if any, on effect size. These variables are consistently referenced today as important factors to consider within our analyses of criminal behavior and treatment. Variables such as ethnicity, gender, age (20+) and violent nature of sample were all examined for possible contributions to effect size variance. The results revealed that age was not a significant moderator of effect size and this contradicts the findings presented by Cleland and his colleagues.

Interestingly, gender produced a significant correlation with effect size where predominantly female samples (.14, $n=45$) possessed a higher mean effect size as compared to predominantly male samples (.07, $n=329$). However, once controls were introduced for New Appropriate Treatment, gender of the sample failed to contribute significantly to effect size ($p<.10$). However, the relative robustness of gender to New Appropriate Treatment is an intriguing finding.

Table 7 Simple, Partial and Multiple Correlations of Case Characteristic Considerations and New Appropriate Treatment with Effect Size

Case Characteristics	%	r	Partial (Approp Tx Entered)
Older (Age 20+)	45%	-.05	.00
Females Predominant	12%	.12*	.08
Minorities Predominant	71%	.00	-.01
Some Violent Cases	37%	.02	-.01
R ² with Appropriate Treatment Entered=.33. % attributable to App Tx = 95%			

External Validity Considerations

Finally, analyses focused on external validity considerations examined within the studies of interest. More specifically, attention was focused on studies with a small sample size ($N < 100$), long term follow-up (2 years +), academic affiliation, new/fresh programs, and the new sample of studies added by the present author. The simple and partial effects of these variables controlling for New Appropriate Treatment are presented in Table 8.

Table 8 Simple, Partial and Multiple Correlations of External Validity Considerations and New Appropriate Treatment with Effect Size

External Validity Factor	%	r	Partial (Approp Tx Entered)
Small Sample ($N < 100$)	36%	.28***	.09*
Follow-up 2 years +	53%	-.12	-.02
Academic Affiliation	57%	.02	-.02
New/Fresh Program	33%	.20**	.05
New Sample of Studies(1998)	21%	-.04	-.10*
R ² with Appropriate Treatment Entered=.32. % attributable to App Tx = 70%			

Clearly, only two factors, small sample size and age of program yield significant correlations with effect size. However, these findings are substantially diminished when New Appropriate Treatment is introduced.

Overall Model

The final set of variables presented in table 9 reveals the contribution of New Appropriate Treatment relative to the strongest control factors examined within the present meta-analysis. The extremely high correlation between New Appropriate Treatment and University/Private sponsored treatment program ($\text{Eta}=.83$) is notable. However, following introduction of New Appropriate Treatment, only non-residential setting and university/private sponsor remained significant. The overall R was .65 with New Appropriate Treatment contributing, at a minimum, 47% of the explained variance.

Follow-up analyses were conducted on the variables that maintained significant contributions to effect size once New Appropriate Treatment was entered into the regression equation. Scheffe comparisons were used to test the differences existing between the New Appropriate Treatment variable within each of the levels of these significant variables. It should be noted that the Involved Evaluator variable was retained due to its important moderating status within the Andrews et al. (1990) meta-analysis.

These findings indicate that the effect of New Appropriate Treatment on mean effect size was considerable and existed under a variety of control conditions. Table 9 presents the mean effect sizes for each level of each significant control factor. Clearly, New Appropriate Treatment contributes an increase to the mean effect size when either of these control variables are present. Follow-up analyses were also conducted to determine which levels of the New Appropriate Treatment variable were significantly different from each other within each level of each significant control factor. These results revealed the same linear pattern of results reported throughout this investigation and will be discussed

below. More specifically, as the number of principles addressed increased, the higher the corresponding effect size estimate.

For example, results demonstrated New Appropriate Treatment was significantly associated with the mean effect size present for both nonresidential ($\text{Eta}=.59$) and residential/institutional settings ($\text{Eta}=.64$). Furthermore, Scheffe comparisons conducted within the nonresidential level demonstrated that each of the different levels of the New Appropriate Treatment variable were significantly different ($p<.05$) except for those programs addressing two versus three of the principles of risk, need and responsivity within program. Within residential settings, the only follow-up comparison failing to produce a significant result was programs addressing one of these principles versus those based on criminal sanctioning or failing to implement any of these principles within the framework of the program.

In addition, New Appropriate Treatment significantly influenced the magnitude of the effect size in both university/private sponsored programs ($\text{Eta}=.82$) and criminal justice sponsored treatment ($\text{Eta}=.53$). More specifically, follow-up comparisons revealed that within university or privately sponsored programs, the only nonsignificant comparisons were found when comparing a level one program versus a level zero program as well as comparing a level 2 program versus a level three program. The same pattern of findings were uncovered within the criminal justice sponsored treatment programs as well.

The final set of Scheffe comparisons focused on the Involved Evaluator variable. Results revealed that New Appropriate Treatment variable, as demonstrated in the other two control factors, contributed significantly to effect size. More specifically, within

programs where the evaluator was independent of the program, differences between level one (incorporated) one of the principles of risk, need or responsivity) and level zero programs (criminal sanctioning and/or programs failing to implement any of the principles of risk, need and responsivity) as well as level two versus level three programs failed to reach required significance levels. Program evaluations conducted by an individual involved with the program demonstrated that only level three programs produced significantly different follow-up comparisons and only with level zero and level one programs ($p < .05$).

Therefore, these results demonstrate that, at a minimum, when these factors are not present, correctional treatment is effective, but if these favourable conditions for treatment are found, the size of the effect can be substantially increased.

Table 9 New Appropriate Treatment and Mean Effect Size for Each Level of the Most Powerful Control Factors

	Level of New Appropriate Treatment				
Control Variable	0	1	2	3	Eta
Non-Residential					
Yes	.00 (n=95)	.03 (n=74)	.22 (n=50)	.35 (n=30)	.64***
No	-.10 (n=29)	.01 (n=32)	.12 (n=34)	.17 (n=30)	.59***
University/Private					
Yes	-.08 (n=3)	-.02 (n=8)	.31 (n=11)	.41 (n=10)	.82***
No	-.02 (121)	.03 (n=98)	.16 (n=73)	.23 (n=50)	.53***
Involved Evaluator					
Yes	-.05 (n=3)	.07 (n=12)	.24 (n=33)	.31 (n=30)	.48***
No	-.02 (n=121)	.02 (n=94)	.14 (n=51)	.21 (n=30)	.49***

These results demonstrate the importance of New Appropriate Treatment in determining effect size and although this effect is independent of various potential control factors, the influence of New Appropriate Treatment is enhanced whenever these favourable conditions to treatment are present.

Violent Recidivism

The preceding analyses produced strong support for the effects of correctional treatment programs in terms of reducing recidivism within the treatment group relative to controls. However, one of the main concerns of the general public relates to the possibility of violent re-offending behavior. In addition, none of the meta-analytic reviews to date compared violent recidivism rates between treatment and control group subjects

(excluding the sex offender literature and the recent meta-analysis on the predictors of general and violent recidivism for mentally disordered offenders; Bonta, Law, & Hanson, 1998). Therefore, violent recidivism was included as an additional dependent variable within the present meta-analysis. Consequently, any programs comparing violent re-offending between treatment and control groups were subjected to further analyses. This would provide additional testing of the principles of risk, need and responsivity.

General Findings - Violence

Unfortunately, only 42 of the treatment comparisons included in the sample compared violent re-offending behavior between treatment and control groups. Notwithstanding the smaller sample size, analyses were conducted to determine the effects of risk, need, responsivity and New Appropriate Treatment on future violence.

The overall mean effect size for violent recidivism was .05 with a corresponding confidence interval of -.26 to .37. As with the general recidivism measure, there was a great deal of variability present within this measure. More specifically, effect sizes ranged from a minimum of -0.22 to +.43 (SD=.141). Once again, the form of intervention was examined to determine its effect on violent recidivism. The mean effect size for criminal sanctions was -.03 (n=19; SD=.08; 95% confidence interval = -.09 to .03) compared with a significantly higher mean effect size of +0.08 (n=23; SD=.16; 95% confidence interval = .01 to .15) for any form of human service interventions, $F(1,40)=7.29$, $p<.01$, $Eta=.39$. Interestingly, for violent recidivism, the mean effect size of criminal sanctioning has actually become more negative as compared to the corresponding value for general recidivism.

Risk, Need, Responsivity and New Appropriate Treatment - Violent Recidivism

Table 10 presents the mean violent phi coefficients of each of the variables of Risk, Need, Responsivity and New Appropriate Treatment. It should be noted that the same definitions used for the analysis of these variables within the general recidivism construct were used here for comparison purposes. As shown in table 10, the overall correlation between risk level and violent recidivism was .20. As expected, higher risk cases produced a somewhat stronger correlation with effect size as compared to lower risk cases. However, the small size of the sample precludes any firm conclusions regarding the importance of risk within violent re-offending behavior.

The general responsivity principle was also subjected to further analyses to determine its relationship with violence. Results revealed that the mean effect size for behavioral programs was significantly higher (.18, $n=10$) than non-behavioral programs (.01, $n=32$), $F(1,40) = 13.35$, $p < .001$, $Eta = .50$. Although there were few cases of behavioral treatment programs within violent re-offending, additional analyses were conducted to see whether the same pattern of results held for behavioral programs across recidivism types. Results revealed significant differences between non-behavioral (.01, $n=32$), radical behavioral (.04, $n=1$), social learning (.30, $n=3$) and cognitive-behavioral programs (.15, $n=5$), $F(3,38) = 6.62$, $p < .001$, $Eta = .59$.

The need principle was also subjected to further analyses using violent recidivism as the outcome measure. The same pattern of results were uncovered within violent recidivism as was found within the general recidivism analyses. More specifically, results revealed that programs appropriately addressing the need principle produced a

significantly higher mean effect size (.19, $n=11$) than programs not appropriately addressing criminogenic needs (-.02, $n=31$), $F(1,40)=23.44$, $p<.000$, $Eta=.61$.

Table 10 Risk, Need and Responsivity and the Mean Violent Effect Sizes Corresponding to Each Level of Each Variable

Appropriate	Risk	Need	Responsivity
Yes	.08 ($n=29$)	.19 ($n=11$)	.18 ($n=10$)
No	.01 ($n=13$)	.05 ($n=31$)	.01 ($n=32$)
Eta	.23	.60***	.49***

An examination of the individual criminogenic and noncriminogenic need targets revealed that the majority of them failed to produced enough cases to be reliably analysed. However, the noncriminogenic needs vague emotional/personal problems and fear of official punishment were included for additional analyses along with the criminogenic need targets of negative affect, antisocial attitudes, identification of risk situations and self-control. The correlations between each of these individual need targets and violent recidivism are presented in Table 11 along with the corresponding mean effect sizes.

Clearly, the results reveal the importance of targeting appropriate criminogenic need factors if the end goal is reduced recidivism. This pattern still holds when the outcome variable is violent recidivism. Further analyses conducted on each of the criminogenic needs possessed significant positive correlations with effect size. More specifically, each of the criminogenic need targets of antisocial attitudes (.29, $n=7$), identification of risky situations (.51, $n=6$), self-control (.54, $n=6$) and negative affect (.37, $n=9$) were strong predictors of treatment success. The mean phi coefficients for each level

of these more promising targets of intervention are presented below in table 11.

Table 11 Mean Effect Sizes for the Crimogenic Need Targets
Corresponding to Each Level of Each Variable: Violent Recidivism

Need Targeted	Antisocial	Risky	Self-Control	Negative Affect
Yes	.14 (n=7)	.23 (n=6)	.24 (n=6)	.15 (n=9)
No	.07 (n=35)	.02 (n=36)	.02 (n=36)	.02 (n=33)
Eta	.29*	.51***	.54***	.37**

Analyses conducted on the two noncriminogenic needs produced identical results to those found under general recidivism. More specifically, the noncriminogenic needs of vague emotional/personal targets (-.05, n=11) and programs using a fear of official punishment philosophy (-.21, n=17) were negatively correlated with outcome. The mean phi coefficients associated with each level of each target are presented in table 12.

Table 12 Mean Effect Sizes for the Noncriminogenic Need Targets
Corresponding to Each Level of Each Variable: Violent Recidivism

Need Targeted	Fear	Vague Emotional
Yes	-.04 (n=25)	.02 (n=31)
No	.08 (n=17)	.04 (n=11)
Eta	-.21 (n=42)	.11 (n=42)

A final set of analyses were conducted on the New Appropriate Treatment variable to determine its relationship with violent recidivism. It was anticipated the same patterns of results would emerge across recidivism types. As expected, criminal sanctioning and/or

programs not addressing either principle were associated with the lowest mean effect size ($-.05$, $n=10$) than programs addressing one ($.04$, $n=22$), two ($.07$, $n=2$) or all of the principles of risk, need and responsivity ($.20$, $n=8$), $F(1,38)=6.37$, $p<.001$, $Eta=.58$.

These results demonstrate the effectiveness of the New Appropriate Treatment variable in predicting post-treatment success for both general and violent recidivism.

Core Correctional Training

Andrews & Kiessling (1980) introduced the five dimensions of effective correctional treatment with the book "Effective Correctional Treatment" (Gendreau & Ross, 1987). These principles were expanded and developed into a training manual entitled "Core Correctional Training" (Andrews & Carvell, 1997). This manual is used to train correctional workers in the most effective practices for evoking behavioral change in their clients. Descriptions of the majority of these techniques were extracted from this training manual and implemented into the present meta-analysis. More specifically, dichotomous variables were created highlighting when a particular core correctional technique was used within a treatment program. These techniques may provide additional information regarding 'what works' in rehabilitation.

The results from this expanded coding guide are presented below. Unfortunately, the relative lack of detail presented in these evaluations did not provide many opportunities to sufficiently address a particular question of interest. To further this point, a frequency analysis revealed only 30% of the studies surveyed in the present meta-analysis provided detailed descriptions of their program. Consequently, only those core practices receiving adequate attention will be empirically tested. The frequency and

percentage distributions of each of the core correctional practices are presented in Table 12.

The first set of analyses focused on staff characteristics, more specifically, relationship and skill factors. Not surprisingly, staff members selected based on their interpersonal abilities produced a significantly higher mean effect size (.34; $n=13$) than programs where details of the staff were not presented or they did possess these strong interpersonal skills (.07; $n=361$), $F(1,372)=26.86$, $p<.000$, $Eta=.26$.

The skill factor variable received more attention within the rehabilitation literature. Programs that described the appropriate clinical skill factors used by their staff members such as solution-focused techniques, reported a significantly higher mean effect size (.27; $n=44$) compared to programs where these skill sets were not reported or excluded from the write-up (.06; $n=230$), $F(1,372)=60.54$, $p<.000$, $Eta=.37$.

Although the construct of modeling was included within the skill factor variable, further coding was incorporated to examine the specific forms of modeling used by the staff based on the skill set defined within the Core Correctional Practices manual. Since this category was more specific, only those factors targeted more than 20 times (an arbitrary selection criteria) will be reported. Only one of the modeling techniques, reward the offender for desired behavior, met the eligibility criteria. Results revealed that programs rewarding their clients for prosocial behavior were associated with significantly higher mean effect sizes (.28; $n=21$) as compared to those programs not reporting such practices (.07; $n=353$), $F(1,372)=25.66$, $p<.000$, $Eta=.25$.

The next series of analysis focused on the use of effective reinforcement techniques

by the staff members. These factors involved the procedures used by the staff to reward their clients for appropriate behavior such as immediate reinforcement, reasons for approving the behavior etc. Unfortunately, none of the effective reinforcement techniques were surveyed adequately to allow for separate analysis. Therefore, an overall reinforcement dichotomous variable was created whereby any program targeting one of these factors was provided with a score of '1' and the rest were coded as zero.

Although this core correctional practice was infrequently targeted, the sheer magnitude of the finding necessitated its presentation. Results revealed that programs utilizing any of the effective reinforcement techniques produced significantly higher mean effect sizes (.31; $n=15$) as compared to those programs not reporting these techniques (.07, $n=359$), $F(1,372)=25.83$, $p<.000$, $\eta^2=.25$.

Techniques of effective disapproval were also scrutinized within this meta-analytic review. Not surprisingly, none of these techniques were sufficiently examined in the literature to provide an accurate estimate of their effects on treatment success. Once again, a composite measure was used. Even with this aggregation of variables, this construct was only targeted within eight identifiable treatment programs. However, the correlation between effective disapproval and effect size was .18 ($p<.001$).

Analyses were also conducted on the types of problem-solving techniques used by the program staff. Although neither of the factors reached the criterion used, three of the techniques were close enough to consider discussion. Results indicated staff involving the client in identifying the problem possessed significantly higher mean effect sizes (.19, $n=18$) than programs that did not address these concerns (.08, $n=356$), $F(1,372)=7.16$,

$p < .001$, $Eta = .14$. In addition, staff members involving their clients in implementing a plan to solve their problems were also associated with significantly higher effect sizes (.17 versus .08), $F(1,372) = 4.09$, $p < .05$, $Eta = .10$. The most impressive problem-solving technique within this meta-analysis involved staff who encouraged their clients to clarify goals to prevent future recidivistic behavior. More specifically, programs focusing on this technique produced significantly higher mean effect sizes (.28, $n=17$) compared to other programs (.07, $n=357$), $F(1,372) = 21.16$, $p < .000$, $Eta = .23$.

A final set of analyses focused on the composite measure of problem-solving techniques used by the program staff. An analysis of variance revealed that programs using one or more of these principles were associated with significantly higher mean effect sizes (.25, $n=45$) compared to programs not focusing on these concerns (.06, $n=329$), $F(1,372) = 44.69$, $p < .000$, $Eta = .33$. Not surprisingly, the composite problem-solving construct variable produces stronger support for the importance of the use of problem-solving techniques within a correctional treatment program.

The final area of staff characteristics examined within this meta-analysis involved the type of learning procedures in terms of structure used by the staff members. In other words, structured learning environments are encouraged over unstructured settings. These techniques include modeling, role playing, and feedback on exhibited behaviors.

Only two of the five structured learning techniques were adequately reported within the rehabilitation literature. Not surprisingly, modeling the skill for the client was reported in many programs. Results revealed that programs whose staff modeled the appropriate skill sets for their clients produced significantly higher mean effect sizes (.32,

$n=26$) compared to other forms of correctional programming (.06, $n=348$), $F(1,372) = 45.85$, $p<.000$, $Eta=.34$.

Staff use of role playing exercises was also teased out for separate analysis. There were graduated forms of role play with both role play and progressive role play encompassing this construct. The use of role play within correctional programs was associated with significant reductions in recidivism (.31, $n=23$), $F(1,372) = 37.80$, $p<.000$, $Eta=.30$. Unfortunately, the use of progressive role play was only targeted within two studies and this made comparing the two techniques difficult. With this limitation in mind, it is interesting to note that programs that used progressive role play produced a lower mean effect size (.18) as compared to basic role playing techniques (.31).

Finally, the dichotomous composite learning variable produced strong support for using appropriate learning techniques in the delivery of correctional services. An analysis of variance revealed that programs using one or more structured learning principles produced significantly higher mean effect sizes compared to those programs that did not utilize these techniques (.30 versus .06), $F(1,373) = 65.73$, $p<.000$, $Eta=.39$.

Although effective use of authority was included within the coding guide, as stated on many occasions, the detail provided within the rehabilitation is sorely lacking. Consequently, although other more popular constructs were elaborated on within these programs, the use of authority was not adequately addressed. Even a composite measure of authority failed to produce sufficient cases to be appropriately analysed. Therefore, the results from these analyses will not be presented in the table.

Table 13 Core Correctional Training

Staff Characteristics	Freq	%	Mean phi
Relationship Factors	13	3%	.34***
Skill Factors	44	12%	.27***
Effective Modeling	37	10%	.28***
- Rewarded Behavior	21	6%	.28***
- Staff Rewards Beh'v	13	3%	.36***
- Coping Model	3	1%	.32*
Effective Reinforcement	15	4%	.31***
- Explains Reasons for Reward	10	3%	.35***
- Immediate Reinforcement	7	2%	.35***
- Client Reflection	6	2%	.33**
Effective Disapproval	8	2%	.30***
- Alternatives Provided	5	1%	.34**
- Client Reflection	5	1%	.27*
- Immediate Disapproval	3	1%	.45**
Problem-Solving	45	12%	.25***
- Identify the Problem	18	5%	.20**
- Implement a Plan	18	5%	.17*
- Clarify Goals	17	5%	.28***
- Evaluate the Options	16	4%	.31***
- Generate Alternatives	16	4%	.29***
- Evaluate the Plan	3	1%	.32*

Table 13 Core Correctional Practices Targeted (cont'd)

Staff Characteristics	Freq	%	Mean phi
Structured Learning Procedures	38	10%	.30***
- Model the Skill	26	7%	.32***
- Role Play	23	6%	.31***
- Provide Feedback	16	4%	.28***
- Define the Skill	15	4%	.26***
- Progressive Role Play	2	1%	.18

Restorative Justice

As stated previously, an emerging intervention approach for offenders is based on a restorative justice philosophy. Essentially, restorative justice attempts to repair the harm to the community by involving the victim, the offender and the surrounding community in the search for justice. Various elements of the restorative justice philosophy were derived directly from a special issue on restorative justice presented within the International Community Corrections Association (1997) journal. These variables include the use of community service, financial restitution and victim offender mediation. Although restitution is an ultimate goal of victim offender mediation, it is perceived as more strongly restorative due to the involvement of the victim. The results of the analyses conducted on these variables are presented in Table 13.

Each of the individual constructs found within restorative justice were subjected to an analysis of variance to determine their relationship with recidivism reduction. In terms

of community service, results revealed no rehabilitative benefits of using community service within the framework of correctional treatment for recidivism reduction. More specifically, programs incorporating community service produced a mean effect size estimate (.07, $n=18$) indistinguishable from all other programs types (.08, $n=356$), $F(1, 372) < 1$, $\eta^2 = -.01$.

A similar pattern of results was uncovered when programs using restitution agreements were subjected to analyses. Programs with restitution components produced a small mean effect size (.04, $n=20$) compared to other forms of interventions (.08, $n=354$), $F(1,372) < 1$, $\eta^2 = -.05$. Clearly, programs using restitution agreements are no more effective than other program types in reducing the recidivism rates of their clients.

The most intriguing restorative component was victim offender mediation as it was seen to be the most representative construct within the restorative justice ideal. However, results revealed that programs using victim offender mediation sessions actually were associated with an increase in the recidivism rates of the treatment group (-.02, $n=5$) in comparison to the controls. However, an analysis of variance failed to demonstrate that programs using victim offender mediation produced effect sizes significantly lower than any other intervention approach, $F(1,372) = 1.33$, $p < .25$, $\eta^2 = -.06$.

Although each of the preceding analyses failed to show positive evidence relating to restorative justice interventions in terms of recidivism reduction, the relatively small number of studies focusing on this area precluded the development of any firm conclusions regarding the relative ineffectiveness of this approach. Therefore, a dichotomous overall restorative justice variable was created to test its effectiveness on recidivism reduction.

This overall restorative variable once again demonstrated that restorative justice approaches are indistinguishable from other intervention types in terms of recidivism reduction, $F(1,372) < 1$, $\eta^2 = .02$. However, it should be noted that the main emphasis of restorative justice is not recidivism reduction but restoration of the community.

One final set of analysis was conducted on the restorative justice variables. This analysis involved placing the overall restorative justice variable into an analysis of variance along with the Any Treatment variable to determine combined effects of human service interventions with restorative justice components. Table 14 presents the mean effect sizes for the restorative variable attending to the Any Treatment variable.

Two findings emerge from the present analyses. First, the restorative justice approach produced a higher mean effect size (.02, $n=19$) within criminal sanctioning when compared to non-restorative approaches (-.04, $n=82$). Second, restorative approaches produce higher mean effect sizes within human service interventions (.17, $n=8$) compared to non-restorative approaches (.12, $n=265$).

Table 14 Mean Effect Sizes for Restorative and Non-restorative Approaches Corresponding to Each Level of Each Variable: Violent Recidivism

Restorative Approach	Sanctions	Any Human Service
Yes	.02 ($n=19$)	.17 ($n=8$)
No	-.04 ($n=82$)	.12 ($n=265$)
Eta	.02	.35***

Restorative Justice: Violent Recidivism

An extremely interesting pattern of results emerged when the restorative justice variable was subjected to an analysis of variance using violent recidivism as the dependent variable. Results revealed that the mean effect size for restorative justice programs was significantly lower ($-.04$, $n=8$) than other forms of intervention ($.07$, $n=34$), $F(1,40)=3.98$, $p<.053$, $Eta=.301$. Therefore, restorative justice has no discernible impact on reducing violent reoffending behavior and in actual fact, treatment subjects in restorative justice approaches are associated with significantly higher failure rates as compared to controls.

The Importance of Setting in Delivering Effective Correctional Treatment

One of the important findings reported by the Andrews et al. (1990) meta-analysis concerned the importance of the type of setting on the obtained effect size. More specifically, the results revealed that non-residential programs produced significantly higher mean effect sizes compared to residential ones. Therefore, an analysis was undertaken to determine whether this same pattern would be found within the present meta-analysis.

Results revealed a strong linear increase in the size of the effects across levels of the New Appropriate Treatment variable as well as across type of setting. More specifically, analysis demonstrated programs targeting two of the principles of risk, need and responsivity produced significantly higher mean effect sizes in non-residential ($.22$, $n=50$) as compared to similar programs delivered within residential settings ($.12$, $n=35$), $F(1,83)=8.30$, $p<.006$, $Eta=.30$. When analyses focused on programs addressing each of the principles of risk, need and responsivity in other words, appropriate treatment,

stronger pattern of results emerged. More specifically, appropriate service delivered in non-residential environments produced significantly higher mean effect sizes (.35, $n=30$), compared to residential programs (.17, $n=30$), $F(1,58)=15.69$, $p<.000$, $Eta=.46$. An illustration of the importance of the type of setting variable is presented below.

Discussion

The present meta-analytic inquiry used an expanded sample of primary studies to address several important theoretical issues surrounding the rehabilitation debate. The major focus of the present investigation was to determine the roles of risk, need and responsivity in the delivery of effective correctional treatment. These principles were separated to allow an opportunity to evaluate their unique and joint contributions to treatment outcome. Through examination of the joint effects of these principles, a new and improved overall measure of appropriate treatment was introduced. This new construct was tested along with several potential moderating factors to determine its robustness to these concerns.

A secondary area of interest for the present investigation focused on the development of the first systematic attempt to provide a meta-analytic inquiry of the restorative justice approach. Various components of the restorative justice philosophy were examined to determine their relationship with recidivism reduction. In addition, an overall examination of the restorative justice approach was introduced.

General Findings

As expected, the average effect of any form of justice interventions on recidivism produced a mildly positive finding. However, when the form of the intervention was divided into criminal sanctioning versus any form of human service, the latter construct produced the strongest relationship with increased treatment success. These results illustrated that even without consideration of any of the clinically and theoretically relevant principles of risk, need and responsivity, the average effect of treatment was mildly

positive. These results were encouraging and demonstrated that the “nothing works” rhetoric is inconsistent with the available empirical evidence. The present meta-analysis successfully revealed, as was the case in previous meta-analyses, correctional treatment does work and the debate should not focus on “nothing works” but “what works”.

Risk Principle

An aggregate form of coding risk was introduced for the risk principle in the present investigation. The analyses demonstrated the higher-risk cases received more positive effects of treatment as compared to lower-risk cases. The introduction of the within-sample variable for risk provided further evidence for the validity of the risk principle. More specifically, those studies allowing for within-sample differentiation produced much stronger support for the risk principle as compared to the aggregate method. Unfortunately, the current state of the literature did not allow a more elaborate test of this within-sample risk differentiation. These analyses demonstrated the importance of future program evaluators to provide adequate information regarding risk and to design the programs for the higher-risk cases.

The present meta-analysis presented the first large-scale test of the risk principle. The results obtained were moderately positive whereas within-sample differentiation provided the strongest supportive evidence. Clearly, the risk principle plays an important role in predicting the therapeutic potential of a particular program and that if program designers want the highest level of impact, high-risk clients are a necessity.

Responsivity Principle: General

Similar to the investigations concerning the risk principle, the pattern of results elucidated in the present meta-analysis replicated the findings presented by Andrews and his colleagues (1990, 1996). More specifically, programs with a behavioral-orientation were associated with stronger recidivism reduction potential than non-behavioral interventions. The addition of an expanded sample provided further replication of the results first presented by Andrews et al. (1990).

However, the analysis of the particular behavioral orientation used also revealed extremely interesting findings. Although cognitive-behavioral programs are the most widely applied program orientation used today, the present meta-analysis uncovered that the social learning approach produced the strongest treatment effects. This result is not surprising as programs using modeling, role play and graduated practice appear more able to affect behavioral change within the majority of program participants as compared to programs focusing on the thinking patterns of offenders. This point must be examined in more detail in future research.

Need Principle

The most important contribution of the present meta-analysis to the research literature was the introduction of systematic methodologies for coding the need principle. More specifically, this investigation allowed an explicit test of each of the individual criminogenic and noncriminogenic targets as specified by Andrews and Bonta, (1994), Andrews, Bonta & Hoge, 1990). Furthermore, an overall test of the need principle was available to determine its place in the delivery of effective correctional treatment. These

results provided strong support for the need principle and it appeared the need principle was the most important contributor of the three.

The analyses demonstrated that each of the noncriminogenic need targets produced negative relationships with recidivism. This finding was somewhat surprising in that the author assumed the relationships would be deflated but not necessarily all negative. The only legitimate contributor to predicting treatment success were programs using a fear of official punishment philosophy. However, programs based on this type of framework will be ineffective in reducing recidivism and, within the present meta-analysis, were actually associated with an increased recidivism rate of the treated subjects in comparison to the controls.

This finding does not bode well for the supporters of the antirehabilitation position. In addition, programs such as shock incarceration and boot camps are certainly affected by this development. Based on these meta-analytic results, these types of programs do not seem to possess any rehabilitative potential. Interestingly, boot camps are becoming an increasingly popular approach in dealing with both juvenile and adult samples. These boot camps possess different theoretical perspectives with some forms primarily focusing on punishments whereas others have strong rehabilitative components. Future research may provide additional evidence for the effectiveness of rehabilitation by examining the differences in the recidivism rates of treatment-oriented versus punishment-oriented boot camps.

New Appropriate Treatment

Another major contribution of the present meta-analysis involved the introduction of the New Appropriate Treatment variable. This new variable provided a more systematic and more reliable technique for examining the original Appropriate Treatment variable created by Andrews and his colleagues (Andrews et al. 1990).

Three findings of note will be reported here. First, the pattern of results found in the present meta-analysis closely mirror those presented by Andrews and his associates in their meta-analyses (1990, 1996). Clearly, the pattern of results indicate that criminal sanctions or programs not appropriately targeting risk, need or responsivity were ineffective in reducing recidivism. However, within human service interventions, as the number of principles appropriately addressed increased, so to did the effectiveness of the program. These findings support the delivery of appropriate clinical treatment within a justice context.

A second important finding regarding the New Appropriate Treatment variable must be addressed. It was noted that the procedures used to create the New Appropriate Treatment variable were also found to be predictive of the original Type of Treatment rating provided by Andrews and his colleagues (1990, 1996). More important, the fact these procedures jointly predicted the Type of Treatment variable of Andrews et al. (1990, 1996) seriously challenges the criticisms of coding bias lodged by Lab and Whitehead (1990), Logan and Gaes (1993) and Eckberg (1997). The New Appropriate Treatment variable was a systematic attempt to define appropriate treatment and the procedures used in its creation are now open to separate and joint replication.

The stability of the New Appropriate Treatment variable was demonstrated across various moderating variables. More specifically, factors relating to internal validity, program integrity, setting and organizational characteristics as well as external validity considerations all failed to affect the robustness of this measure. Furthermore, in most cases, variables contributing to the effectiveness of treatment failed to maintain their importance once New Appropriate Treatment was considered.

An important point must be mentioned here. The age of the treatment population was one of the control variables tested. However, the results of the present meta-analysis failed to produce an age effect. The inability of age to act as an important moderator of effect size has been found throughout various meta-analyses conducted on the rehabilitation question. This finding seems to suggest that the findings reported by Cleland (1997) are indeed outliers and are not generally supported within other meta-analytic reviews.

One additional point must be made concerning the meta-analysis conducted by Cleland (1997). In his meta-analysis, Cleland reported that the mean effect size for Appropriate Treatment was approximately .08. This finding was not supported by the present results. This deflated effect size for Appropriate Treatment may have resulted from the coding procedures incorporated by Cleland (1997). Cleland (1997) automatically coded any substance abuse treatment program as appropriate regardless of the type of behavioral approach, considering risk or the possibility of simultaneous targeting of noncriminogenic needs. The results of this investigation demonstrate that substance abuse treatment programs tend to be associated with weak positive effects for treatment.

Therefore, if Cleland mainly focused on substance abuse and coded all of these studies as Appropriate Treatment, this may provide a plausible explanation of why the findings reported by Cleland are indeed outliers.

These results support the delivery of effective correctional treatment to offender samples. If the end goal of treatment is reduced recidivism, the evidence for this New Appropriate Treatment variable is too powerful to ignore. Program designers and correctional officers must direct attention to these findings.

One final notice must be made about New Appropriate Treatment. Although near the end of the results, the differential found in the effectiveness of New Appropriate Treatment based on the type of setting used must be noted here. Clearly, the same linear pattern of results was demonstrated in both residential and non-residential settings across each level of the Appropriate Treatment variable. However, the size of the effects were enhanced when the treatment was delivered in non-residential versus residential settings.

This does not suggest that appropriate treatment is not effective within an institution because the same pattern of results emerge whereby appropriate treatment is much more effective than sanctioning. This finding does suggest that if the program administrators wish to obtain the highest therapeutic impact of treatment, these programs should be delivered in non-residential settings. These findings replicate those reported by Andrews (1990).

Violent Recidivism

The same pattern of results found within general recidivism reduction were transferred when using violent recidivism as the outcome variable of interest.

Unfortunately, the number of program evaluations commenting on violent recidivism was very small relative to the size of the sample. As stated many times throughout this thesis, the amount of detail present within the rehabilitative literature is sorely lacking. Therefore, it was not surprising studies failed to report violent recidivism. Further, most programs reporting violent recidivism rates did not appropriately target the responsivity or need principles. Notwithstanding these potential limitations, the present investigation uncovered strong support for the need and responsivity principles within these programs as well.

Once again, criminal sanctions were found to be unrelated to outcome after release. In fact, criminal sanctioning approaches actually produced increased recidivism rates within the present analysis. These findings demonstrate the ineffectiveness of criminal sanctions in reducing recidivism in offenders, and supporters of the antirehabilitation rhetoric should examine these findings more carefully.

Another area of interest focused on the principles of risk, need and responsivity to determine their role, if any, in reducing violent reoffending. Unfortunately, an examination of the risk principle using violent recidivism as the outcome measure failed to provide differential support for targeting higher versus lower risk cases. However, the number of cases presented for analysis does not allow any firm conclusion regarding this finding.

Although the risk principle failed to obtain support from the present meta-analysis on violent re-offending, support for rehabilitative effectiveness was derived from programs targeting criminogenic needs and/or using behavioral approaches. Both the individual and composite levels of the need and responsivity principles received support within this

sample.

One of the problems encountered within the examination of violent recidivism concerned the small sample size available for analysis. Although the sample size precludes too strong a conclusion, it should be noted that preliminary analyses indicate the principles of need and responsivity certainly play a role in the delivery of effective correctional treatment. However, although the role of the risk principle is unclear in the prevention of violent recidivism, more evidence will be required before a definitive answer can be provided.

The New Appropriate Treatment variable was also tested to determine its relationship with violent recidivism reduction. Once again, the same pattern of linear results was uncovered and these resembled the results presented earlier for general recidivism.

The inclusion of violence within the present investigation was important for several reasons. First, violent re-offending is one of the primary concerns of the general public and whenever one wishes to explore the effectiveness of correctional treatment programs, one must examine its effectiveness in evoking reductions in violent recidivism. A second advantage to including violent recidivism involved having an alternate recidivism measure to derive empirical support for the principles of risk, need, responsivity and, their composite, Appropriate Treatment.

Core Correctional Training

Another interesting characteristic of the present investigation concerns its examination of the Core Correctional Training procedures introduced by Andrews and

Kiessling (1987) and formalized within the Core Correctional Training manual provided by Andrews and Carvell (1997). These items were included to examine their role within the delivery of effective correctional treatment.

Although problems were encountered in terms of the relative infrequency in the reporting of these items, the results obtained from this section of the investigation yielded extremely high values relating to important reductions in reoffending. Studies routinely failed to examine many of the individual indicators of core correctional training practices but the overall composite variables allowed a reliable test of each of these categories.

Clearly, the use of effective approval, disapproval, reinforcement, problem-solving and authority all highly contribute to treatment effectiveness. These areas must be addressed for the maximum therapeutic impact of treatment to be obtained.

Restorative Justice Considerations

The present meta-analysis also conducted the first research synthesis of the restorative justice approach to determine its potential for recidivism reduction. Restorative justice, as stated previously, attempts to repair the harm done to the community by involving the victim, the offender and sometimes the community in the resolution of justice. Components of the rehabilitative ideal include reintegrative shaming, financial restitution, community service and victim offender mediation.

Unfortunately, none of the individual components of the restorative justice framework generated any impact on recidivism. In addition, a composite measure of restorative justice also failed to provide any evidence of recidivism reduction. Finally, comparing the effectiveness of restorative justice programs in reducing violent recidivism

demonstrated that restorative justice program participants actually produced higher recidivism rates in comparison to controls.

Although the findings failed to provide support for restorative justice approaches in reducing recidivism, it should be noted that the primary purpose of restorative justice approaches is not recidivism reduction. The ultimate goal of this approach is to repair harm within the victim, the community and the offender. Therefore, although restorative justice programs were ineffective in reducing recidivism, they may be successful in fulfilling their primary purpose. However, since the present study only examined the effectiveness of correctional treatment programs/approaches on recidivism, an examination of this latter point is impossible due to the lack of an appropriate outcome measure.

One final point must be made here in terms of the restorative justice approach. The results demonstrated that regardless of orientation, restorative or non-restorative, what is important for reducing recidivistic crime is the delivery of human service in a justice context. Furthermore, if the goal is to derive maximum effectiveness from a particular program, appropriate human service must be used in restorative or non-restorative settings.

Implications and Directions for Future Research

The present investigation has provided strong support for the importance of the principles of risk, need and responsivity in the delivery of effective correctional service. In addition, the New Appropriate Treatment variable proved to be an important predictor of ultimate treatment outcome and successfully survived various threats to validity.

Furthermore, results demonstrated that correctional treatment delivered within a non-residential setting was associated with greater treatment success than programs delivered within a residential setting. Clearly, this theoretically-driven meta-analysis has successfully validated each of the principles that were examined.

Although this paper has provided strong support for the risk, need and responsivity principles, this should not be interpreted as the definitive study in the literature. For example, more work needs to be done in order to validate the coding manuals used here through future replication. Furthermore, future research studies should strive to provide within-sample differentiation of their clients to obtain appropriate tests of the risk principle. The reporting conventions used currently do not allow an appropriately sensitive test of the risk principle. In fact, the aggregate coding method may have actually deflated the effects of the risk principle within the present meta-analysis.

The present paper has appropriately tested the general responsivity principle and has delved deeper into the approaches used within behavioral programs. However, future research using different behavioral approaches must be conducted to provide a firm conclusion regarding which specific behavioral approach works best with offender populations. At present there is no doubt that social learning methods produce the strongest effects.

Future analyses must also focus on the effectiveness of new and diversified correctional practices. More specifically, the systematic analysis of the restorative justice literature marked the first of its kind. Future outcome evaluation studies must be conducted to raise the number of primary studies available in the literature to provide firm

conclusions regarding this new approach. New and innovative approaches will be undoubtedly introduced within the correctional treatment literature and these must be constantly examined and evaluated.

Finally, it is hoped that future research studies will provide appropriate detail within their analyses to allow more elaborate coding concerning what happened within and after the treatment program. The areas needed to be expanded deal with a broad range of issues such as gender composition, ethnicity, characteristics of the program, comparability of the groups, and treatment targets to name a few. Unfortunately, as evidenced by the present investigation, the state of the rehabilitation literature is sorely lacking in detail and this may provide indications of why some individuals have been able to support antirehabilitation sentiments.

Although the coding methods used within the present meta-analysis improved over those originally employed by Andrews and his colleagues, there are still areas of improvement for future meta-analyses. For example, in terms of providing strong causal support for the need principle, the most reliable type of meta-analytic research would involve coding the treatment targets and correlating pre-post changes in these need scores with post release behavior. Finally, and most important, controls should be introduced for these pre-post changes to see whether the differences in recidivism rates would still exist when these controls were introduced for this intermediate change. Clearly we are a long way off from these types of experimental designs within the criminal justice field. However, this paper must certainly be regarded as an important first step in the realization of this goal. Hopefully, these necessary types of designs can be implemented in order to

move the field of criminal justice research into the next century.

These statements lead us to the question of what evidence is available out in the research literature right now? Clearly, the present meta-analytic research indicates the principles of risk, need, and responsivity are certainly important factors in predicting treatment success. Furthermore, these principles apply equally well across gender, ethnicity, violent reoffense, size of sample and many other possible considerations. Finally, and most important, the present investigation demonstrates the answer to the question of "what works?" in rehabilitation is quite complex. However, when programs appropriately address the principles of risk, need, responsivity and type of setting, considerable reductions in recidivism occurs as each of these factors are appropriately addressed.

It is hoped this paper will make a significant contribution to the rehabilitation literature and will mark an important step forward in the debate on the effectiveness of rehabilitation programming. Furthermore, criminal justice professionals must adhere to the evidence and work cooperatively to determine more detailed answers to the question of "what works". Criminal justice professionals and policy makers must recognize the importance of these results and ensure the development of appropriate modes of intervention. This final step is essential to ensure the criminal justice system responds to offenders in a fair, humane, and effective manner.

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Appendix A

CORRECTIONAL TREATMENT – METMOT9.SYS META-ANALYSIS CODEBOOK—USE SUMMARY SHEETS TO CODE ARTICLE

1) ID _____ ID

Vital Statistics:

2) What is the sex of the author(s)? AUTHSEX

- 1 All male
- 2 All female
- 3 Mixed male & female

3) Appropriateness of intervention STUD

ANYTX 0,1 (1 – 2,3,4)

- 1 Justice
- 2 Inappropriate
- 3 Unspecified
- 4 Appropriate

TXUNSAP 0,1 (1,2 - 3,4)

4) Type of setting SET

RES 0,1 (1,2,3,5 - 4)

- 1 Non-system Diversion
- 2 System Diversion
- 3 Probation/Parole/Community
- 4 Institutional/Residential
- 5 SP

SYSDIV 0,1 (1,3,4,5 - 2)

5) Is the intervention behavioral? BEH BEV3L 0,1,2 (STUD=1, NONBEH, BEH)

- 0 No
- 1 Yes

6) Randomness of design DESIGN

- 0 Non-Random
- 1 Random

7) Year of publication: _____ YEAR YEAR80 0,1 (BEFORE 1980, 1980+)

8) Study sample: STUDY

NEWSAMPL 0,1 (1,2 –3)

- 1 Whitehead and Lab
- 2 Sample 2 Criminology paper
- 3 Mother 1992 additions
- 4 Craig - Master's Additions

Researchers' Relationship to Program:

9) Affiliation of senior evaluator/author. AFFIL ACADAFIL 0,1 (1 = 1)

- 1 academic
- 2 research firm/consultant (nonacademic)
- 3 government unit or agency other than immediate program sponsor
- 4 program agency or sponsor
- 5 other: _____

10) General tone of the report with regard to the program/treatment: **TONE**

- 1 positive: advocacy, support, "believer" in treatment concept
- 2 neutral tone **POSTONE 0,1 (1=1)**
- 3 negative tone: critical, sceptical of treatment concept

11) Role of the evaluator(s)/author(s)/research team or staff in the program: If more than one, code the highest on the list. [Note: This item is focusing on the role of the research team working on the program regardless of whether they are all listed as authors.] **ROLE**

- 1 E delivered therapy/treatment **EVALINV 0,1 (4,5 – 1,2,3)**
- 2 E involved in planning, controlling, or supervising delivery of treatment
- 3 E is designer of program
- 4 E influential in service setting but no direct role in delivering, controlling, or supervision
- 5 E independent of service setting and treatment; research role only

General Nature of the Program12) Program/treatment age at time of research: Enter value of best judgment. Note: If several treatments of different sorts, answer below in terms of the treatment to be used in the experimental comparison. If organization predates treatment, respond in terms of how new treatment is if can assess; if not, indicate how new organization is if can assess. This item is attempting to distinguish between inexperienced, formative, immature programs and those that have been refined and are more mature. **PRGAGE NEWPROG 0,1 (1=1)**

- 1 relatively new, e.g. less than two years old or first of relatively few client cohorts
- 2 established program, in place two years or more, or many client cohorts
- 3 defunct program, evaluated post hoc

13) Program/treatment sponsorship: Who administers and "owns" the program irrespective of where housed. This is a question of who makes decisions like staffing, etc. The first two categories are basically for laboratory research programs that were put together by researchers primarily for research purposes. Usually the last three categories are the appropriate choices even if the work is done for research purposes in an agency. **SPONSOR**

- 1 demonstration program/treatment administered by researcher(s) for one treatment cohort only
 - 2 demonstration program/treatment run by researcher(s) for multiple treatment cohorts
 - 3 independent "private" program with own facility, staff, voluntary sector (YMCA, private agency, university clinic)
 - 4 public program, non-criminal justice sponsorship (school sponsored, community mental health, social services.)
 - 5 public program, criminal justice sponsorship (police, probation, courts)
- UNPRIVSP 0,1 (4,5 – 1,2,3)**

14) Level of program/treatment theoretical development: Choose the higher end of the scale if you can give the researchers the benefit of the doubt in order to get variability on this item. This is not the same as implementation detail; the nature of the treatment concepts, irrespective of how implemented is the key. Presume it is a treatment strategy unless otherwise stated. Stay with what is presented in the article. Don't assume that more theorizing went on than got into print. **THEORY**

SOMTHEO 0,1 (1,2 – 3,4,5)

- 1 **Atheoretical (black box).** No rationale for treatment concept or why it is supposed to work; described by minimal operational statements or program/treatment label only.
- 2 **Treatment strategy.** Some information on nature of treatment to be delivered, program tactics or intent, but little explanation for why those tactics should lead to desired outcome, e.g. provide supportive counselling; give experience in self-reliance. Focus and some detail on what treatment provides/does, not so much on how or why subject is expected to respond or improve.
- 3 **Treatment rationale.** General statement about why treatment supposed to work but not as specific as describing causal mechanism, intervening variables, etc. Belief that a warm relationship helps one to learn self-control. More emphasis on how and why subject expected to respond than above, but not fully conceptualized, measured, or tested. Provides some underlying psychological or sociological processes within the recipient or client, but not as explicit theory.
- 4 **Hypothesis testing.** Propositions having to do with the relationship between treatment and outcome are specified and tested on the data; may be somewhat ad hoc, specific to the particular study context and its data (tests whether degree of attitude change on an intervening variable correlates with recidivism measure subsequent to treatment). Stays close to the data and variables involved. Not really a complete a priori theory but does test some theoretical/ conceptual propositions.
- 5 **Integrated theory.** General proposition(s) about the causal mechanism that connects treatment to expected outcome; specifiable a priori and generally coherently related to program design, research plan, and analysis. May develop own theory or put study within existing broad theory (e.g. social learning). E.g. links role-playing treatment with empathy and delinquency outcome measures. This involves broad, well thought-out concepts from which the treatment was developed.

15) Treatment etiological orientation: Enter value of best judgment. Note: This will rarely be stated overtly; must be inferred from nature of treatment and descriptions given of subjects, treatment issues, rationale, etc. **TREATOR** **PICRTHEO 0,1 (5,6,7 - 1,2,3,4)**

- 1 **Personal.** The cause of the delinquent behaviour is due to some personal characteristic of the individual, e.g. disease, personality problem, psychological disturbance, low IQ, lack of self-control, etc. Treatment focuses on remedying the problem characteristic. Note: Use this category only when no elements other than personal are detected; if personal with other elements, use the "Personal, Mixed" category.
- 2 **Personal, mixed.** Mostly personal orientation, as for item above, but some elements of one or more of the other categories. E.g. an individualistic therapy orientation for which some attention to family issues, peers, etc., is indicated.
- 3 **Interpersonal.** Delinquent behaviour is due to interpersonal problems that are endemic to immediate social surroundings, e.g. family, peers, etc.
- 4 **Structural/cultural/economic.** Problem behaviour is due to sociological problems that are endemic to delinquents' general social conditions, e.g. lack of economic opportunity, lower class norms, etc. Treatment may still focus on the individual, but with regard to coping with the sociological condition at issue, e.g. teaching job finding skills; alternatively.
- 5 **Labelling.** Delinquency is a matter of getting caught and being labelled an offender. Otherwise, offenders are assumed to be very similar to non-offenders. Treatment may focus on helping the client handle the negative impact of the label, altering the labelling or the system that labels, etc.
- 6 **Social, Mixed.** There are some elements of interpersonal, structural and labelling perspectives; no strong leanings to individual treatment.
- 7 **Other, specify:** _____

General Methodology

Methodological quality checklist. Rate as three (3) each item in this list that the research performs well (even if somewhat less than ideal) as evidenced by the description of what was done. Rate as two (2) each remaining item for which there is some problem but it is relatively minor or is acknowledged, i.e. the researchers are aware of the issue or attempt to adjust, compensate, etc. for the problem. Rate as one (1) all remaining items relevant to the research for which there is no indication that they are performed well, acknowledged, or compensated for. Thus for each item, a rating of 3 should indicate that the research is conducted well with regard to that issue; a rating of 1 should indicate that the research is conducted poorly with regard to that issue; and a rating of 2 should indicate something in between. The two dimensions at issue here are what was actually done (or not done) and the overall methodological sophistication of the researchers.

16) **Sampling of client population**; representativeness of the study sample. Ideal: random sampling of an explicitly defined population. **SAMPLE** **REPSAMP 0,1 (3=1)**

17) **Comparability of treatment and control groups** at time of assignment; internal validity; randomized assignment; selection bias. Ideal: randomized assignment to treatment/control groups without subsequent selection or degradation. **COMPARE**

COMPGPS 0,1 (3=1)

The next three items (reliability, blinding, and integrity) should be rated toward the high end of the scale if there are any positive features in the study to create some variability.

18) **Reliability, validity, or sensitivity of dependent measures**. (Ideal: demonstrate or cite to show adequate measurement properties). Note: You should not increase the score here just because they used a famous off-the-shelf measure. Presume 1 if not mentioned, 2 if mentioned but not elaborated, and 3 if explicit information on one or more categories. **MEASURE**

RELDEPM 0,1 (3=1)

19) **"Blinding" in data collection**. (Ideal: those collecting outcome data do not know treatment status of subjects). Note: This is not blinding in the treatment but in the data collection. If it is a self-administered questionnaire give it a 8. 1=not mentioned, 2= no blinding but acknowledged the problem or the language was unclear regarding what was done, 3=blinding was done. If they say it was done assume it was done correctly. **BLIND**

BLIND2 0,1 (1 – 2,3)

**** WARNING – ONLY 6 CASES SCORED "1" *****

20) **Integrity of treatment implementation**; possibility that treatment not fully delivered, weak, crosses over to contaminate controls, etc. (Ideal: monitoring of treatment delivery to show that what actually delivered was as intended; lower quality if weak delivery, delivery of something other than intended, or no information/ inconsistencies of implementation reported). **INTEGR**

INTEGR2 0,1 (3=1)

21) **Problems resulting from attrition**, group mortality, dropouts from treatment and/or control groups after study begins; shrinkage of groups between initial assignment and outcome measurement. (Ideal: no dropouts or monitoring of characteristics of those who drop). Note: This is not a selection bias and sampling issue but one of attrition once the subject has agreed to, or been assigned to treatment even if the treatment itself has not yet started. Code what actually happened, not the researchers' good intentions. 1= an unacknowledged or major problem with data loss occurring between assignment to groups and measurement of the dependent variable, 2= not clear what n was at the time of assignment or there was a loss but they acknowledged the problem, 3=no data loss. **ATTRI** **ATTRI2 0,1 (3=1)**

22) **Statistical power**; importance of sample size, statistical conclusion validity. (Ideal: has large sample size, group n=100 or more, or does power analysis to show that adequate statistical power exists; considers confidence intervals. If group n=100 or more (200 total for treatment and control groups), statistical power should be rated 3. If group n is less than 100, do not rate this item according to the sample size but according to reported power analyses, the use of confidence intervals, and other evidence. Use the code 1 for sample size less than 100 and no mention of power, small sample problems, etc.). **POWER** **POWER2 0,1 (3=1)**

23) **Heterogeneity of subjects**; use of homogeneous samples or blocking, stratification, covariates, etc. to control or depict different subgroups. (Ideal: distinguishes subjects with different characteristics related to delinquency like gender, age, ethnicity, prior criminal history, etc. in analysis of results or uses statistical controls, e.g. ANCOVA, or has homogeneous groups to begin with). Note: This is not primarily an issue of assignment to groups but of the data analysis. The emphasis here should also be more on what was actually done than on the researchers' sophistication. The heterogeneity at issue is within group not between group. A 1=broad, diverse group unblocked, 2=what would be a 1 but the problem is acknowledged or the groups are only somewhat heterogeneous, 3=statistical disaggregation via blocking, breakdowns, ANCOVA, or a well-defined homogeneous group to begin with (offenders in an institution). **HETERO** **HETERO2 0,1 (3=1)**

24) **Correct/appropriate statistical analysis** of results; use of inferential statistics (t-test, etc.), not just descriptive data. (Ideal: Uses inferential stats with sensitivity to meeting assumptions). Not a rating of the complexity of the statistics used, but of the relative statistical sophistication shown by the researchers. **STAT** **STAT2 0,1 (3=1)**

25) Overall confidence on methodological quality ratings: **METHOD**

Very Low	Low	Moderate	High	Very High
1	2	3	4	5
(No Basis)	(Guess)	(Weak Inference)	(Strong Inference)	(Explicitly Stated)

28) Overall confidence of judgment on how subjects assigned: **JASIGN**

Very Low	Low	Moderate	High	Very High
1	2	3	4	5
(No Basis)	(Guess)	(Weak Inference)	(Strong Inference)	(Explicitly Stated)

29) Were comparisons of treatment and control groups to check for equivalence on characteristics (other than treatment/control condition) made? Record number of variables on which statistically tested comparisons made: _____. **NOCOM**

30) Results of statistical comparison(s). **SIGCOM**

- 0 no significant differences
- 1 significant differences, judged unimportant (see note below regarding "importance" judgment)
- 2 significant differences, judged of uncertain importance
- 3 significant differences, judged important

31) Descriptive comparison made, no significance tests. Record number of variables on which comparison(s) made: _____. **NOTEST**

32) Results of descriptive comparison(s). **SIGTEST**

- 0 negligible differences, judged unimportant by coder
- 1 some differences, judged of uncertain importance by coder
- 2 some differences, judged important by coder

Note: An "important" difference means a difference on several variables, or on a major variable, or large differences; major variables are those likely to be related to antisocial history, risk prediction, gender, age, ethnicity, SES, family circumstances, temperament.

33) Treatment-Control Overall Similarity

Using the available information, rate the overall similarity of the treatment group and the comparison group, prior to treatment, on factors likely to have to do with substance abuse and responsiveness to treatment (ignore differences on any irrelevant factors). **Note:** Greatest equivalence from "clean randomization" with prior blocking on relevant characteristics and no subsequent degradation; least equivalence with some differential selection of one "type" of individual vs. another on some variable likely to be relevant to substance abuse, e.g. court referrals for treatment compared with "normal" substance-using sample.

Guidelines: The bottom 3 points are for good randomization and matchings, e.g. 1=clean random, 2=nice matched. The top three points are for selection with no matching or randomization. Within this bracket, the question is whether the selection bias is pertinent. Were subjects selected explicitly or implicitly on a variable that makes a big difference in substance abuse. The middle three points are for sloppy matching designs, degradations, bad wait list designs, and the like. If the data indicate equivalence but the assignment procedure was not random, give it a 4 or thereabouts since not all possible variables were measured for equivalence between groups. Use 8 if not applicable, 9 if cannot tell or missing. **GROUP**

Very similar, equivalent							Very different, not equivalent
-----------------------------	--	--	--	--	--	--	-----------------------------------

1	2	3	4	5	6	7
---	---	---	---	---	---	---

34) Overall confidence on rating of group similarity:

Very Low	Low	Moderate	High	Very High
1	2	3	4	5
(No Basis)	(Guess)	(Weak Inference)	(Strong Inference)	(Explicitly Stated)

What is Done to Control Group

35) What the control group receives: **Note:** The difference between receives nothing and treated as usual hinges on whether or not the two groups have an institutional framework or experience in common. **CONTROL**

- 01 receives nothing; no evidence of any treatment or attention; may still be participating in activities that are incidental to the treatment strategy or client population as defined.
- 02 wait list, delayed treatment control, etc.; contact limited to application, screening, pretest, post-test, etc.
- 03 minimal contact; instructions, intake interview, etc., but not wait listed.
- 04 treated as usual, routine care, [Note: Treated as usual refers to: control receives the usual treatment without the special enhancement that constitutes the treatment of interest; this refers to treatment occurring within a framework common to E and C groups with something added for the E group.]
- 05 treated as usual, SCHOOL
- 06 treated as usual, PROBATION
- 07 treated as usual, INSTITUTIONALIZATION
- 08 other treatment as usual
- 09 attention placebo; e.g. C receives discussion, attention, or very diluted or less intensive version of treatment
- 10 treatment element placebo; C receives target treatment except for defined element presumed to be the crucial ingredient
- 11 alternate treatment; C is not really a "control", but another treatment (other than "usual" treatment) being compared with the focal treatment.

36) Overall confidence of judgment of what the control group receives. **JCONTR**

Very Low	Low	Moderate	High	Very High
1	2	3	4	5
(No Basis)	(Guess)	(Weak Inference)	(Strong Inference)	(Explicitly Stated)

What is Done to Treatment Group

37) Source of clients/subjects for treatment: [Note: The issue here is who took the initiative in identifying or choosing subjects for the treatment, e.g. were they identified by clinics or by researchers using the clinic's records, etc.] **TREATGR**

- 1 sought treatment voluntarily ("self-referral", "walk-in")
- 2 referred/identified by family, friends
- 3 referred/identified by non-criminal justice community agency (schools, job, mental health, etc.)
- 4 referred/identified by criminal justice agency but "voluntary" (e.g. via police, probation, court, etc.)
- 5 referred/identified by criminal justice agency but participation mandated (e.g. by court, terms of probation, institution). [Assume it is mandatory if it is a CJS agency unless there is specific information that it is voluntary. Don't override a specific statement that it is voluntary even if you presume there is some coercion.]
- 6 referred/identified by multiple sources, none predominates
- 7 solicited or arranged by researcher
- 8 other: _____ **CJREFER 0,1,2 (1,2,3,6,7,8 – 4 – 5)**
CJREFER2 0,1 (4,5 = 1)

Primary Intervention

38) From the list below, check the SINGLE BEST summary category: [Note: Try not to use the category "other" unless absolutely necessary since it will not add much information in the analysis]

INTERV

INTERV3 0,1,2 (JUSTICE, JUSTICE +COUNSELLING, NONJUSTICE

INTERV2 0,1 (JUSTICE, NONJUSTICE: THAT IS, 1-24 — 25-69)

JUSTICE INTERVENTIONS. Treatment provided by a justice agency in conjunction with informal or formal probation, parole, institutionalization or court order

PROBATION

- 01 Probation, regular (eg. in comparison to something else)
- 02 Probation, reduced caseload; intensive supervision
- 03 Probation, restitution (money, labour, etc.)
- 04 Probation, release; waive probation
- 05 Probation, additional counselling
- 06 Probation, other enhancement
- 07 Probation, Other

PAROLE

- 08 Parole, regular (eg. in comparison to something else)
- 09 Parole, reduced caseload; intensive supervision
- 10 Parole, restitution (money, labour, etc.)
- 11 Parole, release; waive probation
- 12 Parole, additional counselling
- 13 Parole, other enhancement
- 14 Parole, Other

INSTITUTIONALIZATION

- 15 Institutionalization, regular (compared to something else)
- 16 Institutionalization, community residential
- 17 Institutionalization, restitution (money, labour, etc.)
- 18 Institutionalization, additional counselling
- 19 Institutionalization, other enhancement
- 20 Institutionalization, Other

DETERRENCE/SHOCK

- 21 Scared straight;prison visit/buddy system
- 22 Short term "shock" incarceration
- 23 Other deterrence/shock
- 24 Any other justice intervention

NON-JUSTICE INTERVENTIONS. Treatments that are not provided in conjunction with justice supervision even if the clients are referred by a justice agency or the treatment is provided by a justice agency as a separate service to clients not under justice authority, eg. counselling program for non-offenders run by the probation department

RESIDENTIAL

- 25 teaching family home (as a total program)
- 26 wilderness camp,etc. (residential, not time limited)
- 27 token economy; behavioral contingency system
- 28 guided group interaction/positive peer culture
- 29 milieu therapy
- 30 additional counselling
- 31 other enhancement
- 32 other, residential: _____

SCHOOL-BASED

- 33 special classes; continuation school
- 34 extra tutoring
- 35 token economy; behavioral contingency system
- 36 special training, etc. for teachers;school personnel
- 37 additional counselling
- 38 other enhancement
- 39 other, school-based: _____

COUNSELLING/PSYCHOTHERAPY (freestanding, ie., non-residential and non-school-based; talk/insight oriented; behaviorally oriented goes below).

- 40 individual counselling
- 41 group counselling (with other clients)
- 42 family counselling
- 43 parent/spouse counselling (without client)
- 44 casework (other than within justice system)
- 45 other, counselling/psychotherapy

BEHAVIORALLY ORIENTED other than skills oriented (distinguished by behavioral jargon, concepts, etc.) freestanding, ie., non-residential and non-school-based.

- 46 behavioral contracting/contingency management
- 47 cognitive behavioral (desensitization, modelling, expectancy)
- 48 shaping of specific behaviours; operant conditioning
- 49 token economy, not part of residential or school program
- 50 restitution, non-justice system
- 51 other, behaviorally oriented

SKILL ORIENTED (freestanding, ie., non-residential and non-school-based).

- 52 academic education/tutoring (not school-based)
- 53 moral education, training, etc.
- 54 employment-- working at job
- 55 employment-- training-- learning job content
- 56 vocational-- job-finding, interview skills, career planning
- 57 interpersonal, eg. role-playing for social skills, assertion
- 58 recreational, sports, fitness
- 59 wilderness/outward bound; survival training
- 60 abstinence-- drugs, alcohol (education, not counselling)
- 61 parent/spouse training (without client)
- 62 other, skill oriented

SYSTEM ORIENTED, non-residential and not school based.

- 63 advocacy on behalf of youth
- 64 personnel training (teachers, employers, justice agents)
- 65 other, system oriented

MULTIPLE SERVICES, non-residential and not school based.

- 66 service brokerage (client sent to number of services)
- 67 multimodal (every client receives more than one service)
- 68 other, multiple services
- 69 Any other non-justice intervention

39) Overall confidence on judgment about type of treatment. JTREAT

Very Low	Low	Moderate	High	Very High
1	2	3	4	5
(No Basis)	(Guess)	(Weak Inference)	(Strong Inference)	(Explicitly Stated)

40) Treatment thrust: What the treatment appears to be trying to change: [Note: Judge this from the nature of the treatment, its overall thrust and apparent intent, not solely from what outcome variables happened to be measured in the research. There may be clues, however, in which outcome variables are the most differentiated and well-developed and in the source of funding. Do not choose broad-band delinquency if another option is equally justified in an effort to increase variability.] **THRUST**

Direct or indirect targeting on delinquency

- 01 broad-band delinquency/antisocial behaviour
- 02 drug/alcohol abuse
- 03 property crimes (e.g. burglary, vandalism)
- 04 person crimes (aggression/violence/sexual)
- 05 status offenses (truancy, curfew, runaway, incorrigible)
- 06 specific delinquency other than above (loitering, misdemeanour)

Other targets, more or less related to delinquency. (There will be some overlap with delinquency targets. Usually delinquency targeting will be the preferred option.)

- 07 School: Academic Performance
- 08 School: conduct, disciplinary, behaviour problems
- 09 Psychological element to delinquency/antisocial behaviour (e.g. empathy, moral judgement, self-esteem, anger control)
- 10 Social element of delinquency/antisocial behaviour (e.g. relations with family, peers; being labelled)
- 11 Behavioral/skills element of delinquency/antisocial behaviour (e.g. literacy, job skills)
- 12 Economic element of delinquency/antisocial behaviour (e.g. poverty, lack of economic opportunity)
- 13 Institutional adjustment/behaviour (e.g. keeps room tidy; gets along with staff, rule infractions)
- 14 Other _____

41) Who administers the treatment? **ADMIN**

CJADMIN 0,1 (1=1)

- 1 CJS personnel
- 2 School personnel
- 3 mental health personnel, public agency
- 4 mental health personnel, private agency, counsellors, etc.
- 5 non-mental health professionals, counsellors, (e.g. vocational counsellors)
- 6 laypersons (e.g. volunteers, college students, ex-offenders)
- 7 researcher/research team
- 8 other: _____

42) Primary format of treatment sessions: If mixed, code predominant category. [Note: The primary emphasis of this question is on who was present with the subject during treatment, emphasis on number of providers is secondary. **FORMAT**

- 1 subject alone (self-administered treatment, e.g. bibliotherapy) [This refers to treatment in which no one else is present.]
- 2 subject and provider, one-on-one
- 3 subject group, one or more providers
- 4 subject with family, one or more providers
- 5 family only, subject not present
- 6 others only, subject not present (teachers, employer, probation officers)
- 7 mixed, no single format predominates
- 8 other: _____

43) Nature of the site on which treatment generally delivered: Note: Customary treatment location irrespective of who administers treatment. If restitution is the treatment code 04. **SITE**

Public facility, ie. owned and operated by city, county, state/province, federal body

- 01 Yes, criminal justice (probation, police, etc.)
- 02 No, non-criminal justice (school, social services)
- 03 No, private (YMCA, private counselling agency)
- 04 Mixed, none predominates
- 05 Other: _____
- 06 Cannot tell

Custodial/residential institutional facility, eg. camp, reformatory, prison, halfway house, hospital

- 07 Yes
- 08 No
- 09 Mixed, neither predominates
- 10 Cannot tell

Formal setting, eg. office, classroom, institution, laboratory

- 11 Yes
- 12 No, informal, eg. outdoors, streets, juveniles home
- 13 Mixed, neither predominates
- 14 Other: _____
- 15 Cannot tell

44) Author's overall (qualitative) interpretation of research results regarding effectiveness of treatment or program. **QUAL**

- 1 judged a success on major points
- 2 judged a mixed success and failure
- 3 judged a failure on major points
- 4 no conclusion drawn, e.g. evidence insufficient or simply not discussed

45) Nature of description of treatment provided in report: **Note:** If you are missing something with more detail in it and cannot get it, code what you have. If you can get it, wait until then to code your article. **DETAIL**

- 1 detailed (could approximately replicate on basis of description)
- 2 general (identification of major events/activities/themes but without details)
- 3 labels or phrases only (puts a name on it or gives a global description but no elaboration); this is the black box category involving a short tag line but not much description at all
- 4 none (does not really say what the treatment was)

46) Predominant level of RISK of treated clients at the onset of treatment. **RISK**

LOWRSK 0,1 (4,5,6,8,9 – 1,2,3,7)

- 01 non-delinquents, normals (no evidence of illegal behaviour)
- 02 non-delinquents, symptomatic (no evidence of illegal behaviour but the presence of risk factors, ie school problems)
- 03 pre-delinquents, minor police contact (no formal probation or court contact or minor self-reported offense, traffic or status offenses, counselled and released)
- 04 delinquents (formal probation and/or court adjudication but noncustodial or significant self-reported delinquency; any client who went to court)
- 05 institutionalized, non-justice setting (mental health in-patient)
- 06 institutionalized, justice setting (under court order)

These first six constitute the risk scale; the remaining items are for mixed groups, with no predominant "type".

- 07 mixed, mostly low end (non- & pre- delinquents)
- 08 mixed, mostly moderate to high end (pre- & delinquent some institutionalized)
- 09 mixed, full range (all risk groups)

47) Confidence on judgment on level of delinquency risk. **JRISK**

Very Low	Low	Moderate	High	Very High
1	2	3	4	5
(No Basis)	(Guess)	(Weak Inference)	(Strong Inference)	(Explicitly Stated)

48) Officially recorded prior offenses among treatment subjects. Approximately how many of the treatment subjects have prior offense records: **NOPRIORS** **FEWPRIOR (check freq??)**

- 1 none
- 2 some (< 50%)
- 3 most (> or =50%)
- 4 all (> 95%)
- 5 some, but cannot estimate proportion

49) What is the predominant type of prior offense reported for treatment clients: **PRITY**

- 1 no priors
- 2 mixed or undifferentiated offenses
- 3 person crimes (assault, sexual)
- 4 property crimes (burglary, theft, vandalism)
- 5 drug/alcohol (possession, sale, public intoxication)
- 6 status offenses (runaway, truancy, incorrigible)
- 7 other: _____

50) Does the history of the treated clients include any suggestion of aggression, violence assaultive behaviour against persons, etc., whether officially recorded or not. **AGGRESS**

- 1 no
- 2 some (< 50%)
- 3 most (> or =50%)
- 4 all (> 95%)
- 5 some, but cannot estimate proportion

51) Per Cent Male: _____ % **MALE**

52) Sex of treated subjects or best guess. **SEX**

- 1 all female
- 2 mixed, predominantly female
- 3 mixed, predominately male
- 4 all male
- 5 mixed, cannot estimate proportion

53) Approximate (or exact) mean age at beginning of intervention (two decimal places) Note: Code best information available, even if you must estimate. Mean Age: _____. **AGE**

54) How reported/determined: Note: Listed in order of preference; if have choice, take higher form in list. **DAGE**

- 1 median
- 2 mean
- 3 mode
- 4 midpoint of range
- 5 inference from other information

55) Predominant ethnicity (more than 60%) of treated subjects:

ETHNIC

- 1 Anglo
- 2 Black
- 3 Hispanic
- 4 Native
- 5 Other minority
- 6 mixed (several, but none more than 60%)

56) Overall heterogeneity rating: Based on all the evidence available, how diverse or heterogeneous is the treatment group with regard to antisocial history, demographics, personal characteristics, and conditions relevant to substance abuse, etc.? [Note: The issue is one of within-group heterogeneity for both the treatment and control groups. A highly selective group would rate "1" or "2" and a program that takes all comers would rate a "6" or "7"]. **HOMO**

Very
Homogeneous
(subjects quite
similar to each
other)

Very
Heterogeneous
(subjects quite
different from
each other)

1 2 3 4 5 6 7

57) Confidence in homogeneity rating. **JHOMO**

Very Low
1
(No Basis)

Low
2
(Guess)

Moderate
3
(Weak
Inference)

High
4
(Strong
Inference)

Very High
5
(Explicitly
Stated)

58) How many subjects in the TREATMENT Group: _____. **NTRE**

59) How many subjects in the CONTROL Group: _____. **NCON**

60) How many subjects in TREATMENT/CONTROL Group : _____. **NPOOL**

Is n of subjects in each group different from the n at time subjects were originally assigned to experimental conditions?

1 Gain at post
2 Loss at post
3 No change

Treatment
Group

Control
Group

Pooled
Groups

Gain/loss (61-63)

CHNT

CHNC

CHNP

Change in n

if known: (64-66)

NOCHT

NOCHC

NOCHP

67) Approximate (or exact) time period covered by post-test delinquency outcome measure, i.e. period over which counted delinquency occurs (number of weeks, rounded to nearest whole number; divide days by 7 and round; multiply months by 4.3 and round; one year=52 weeks; try to make an estimate if possible).

Time Period: _____ WEEKS. **TIME**

FOLUP3 0,1,2 (less than a year, at least a year & less than 2, 2+ years)

FOLUP2 0,1 (1 year + = 1)

FOLUP2Y2 0,1 (2 year + = 2)

68) Numerically comparing treatment group scores to control group scores, which group is favoured; ie. which group is "successful". **SUCCES**

- 1 treatment
- 2 control
- 3 neither (exactly equal)

69) Statistical significance of the above difference at whatever alpha level the researcher used. **SIGNI**

- 1 significant
- 2 not significant
- 3 not reported

70) Kind of statistical sig. test for T-C difference. **TYPE**

- 1 no test done
- 2 kind of test not reported
- 3 t, F, z, or r (parametric, no partialling or variance adjustment)
- 4 Chi-square
- 5 other nonparametric (Mann-Whitney, nonparametric ANOVA, etc)
- 6 parametric, variance adjusted by covariate (ANCOVA, covariate blocking, covariate partialled from r)
- 7 parametric, variance adjusted by pretest (ANOVA blocking, repeated measures design, pretest partialled from r)

71) Effect size on posttest, treatment compared with control.

Calculated effect size (r): two decimals with an algebraic sign in front, plus if favours treatment (i.e. more "success" for treatment group than control), minus if favours control.

Effect Size: _____ **PHI**

72) Confidence in effect size value. **JEFFECT**

1	2	3	4	5
Highly	Moderate	Some	Slight	No
Estimated	Estimation	Estimation	Estimation	Estimation

- 5 No estimation: e.g. have descriptive data: means, sds, frequencies, proportions, etc.; can calculate Phi (r) directly.
- 4 Slight estimation: must use significance testing statistics rather than descriptive statistics, but have complete stats of conventional sort.
- 3 Some estimation: Have unconventional stats and must convert to equivalent t-values or have conventional stats but incomplete, e.g. exact p level only.
- 2 Moderate estimation: Have complex but relatively complete stats, e.g. multiple regression, LISREL, multifactor ANOVA, etc. as basis for estimation.
- 1 Highly estimated: Have n and crude p value only, e.g. <.10 and must reconstruct via rough t-test equivalence.

73) Base Rate: _____ **BASE**

74) Selection Ratio: _____ **SLECT**

75) Relative Improvement Over Chance: _____ **RIOC**

Therapeutic Integrity

The following items refer to the therapeutic integrity of the treatment model, training of therapists, and monitoring of program. For each item, code best response.

76) Specificity of treatment model. **SPMODEL**

- 1 Vague, brief or absent description of the model
- 2 Some description of the model, general reference to known theory
- 3 Moderately detailed description of model's concepts and/or operations
- 4 Fairly detailed description of model's concepts and/or operations, or reference to publications of same
- 5 Detailed therapist manual for model

77) Training of therapists in the model applied. **THERTRA**

- 1 No evidence of specific training
- 2 Some training, vaguely described
- 3 Completion of specific training (more than attendance at workshop)
- 4 Completion of formalized training, with evidence of testing of meeting criteria
- 5 Completion of formalized training, with testing or certification

78) Supervision of therapists (primarily during beginning and middle phases of treatment).

THERSUP

- 1 None mentioned
- 2 Some mentioned but not specified
- 3 Some live or taped supervision, but not frequent or regular
- 4 Regular supervision, with live or taped sessions available to supervisor, 15-30 minutes of supervision/session
- 5 Same as 04, but more than 30 minutes of supervision/session

79) Training of supervisors in the model applied. **SUPTRA**

- 1 No evidence of specific training
- 2 Some training, vaguely described
- 3 Completion of specific training (more than attendance at workshop)
- 4 Completion of formalized training, with evidence of testing of meeting criteria
- 5 Completion of formalized training, with testing or certification

80) Systematic monitoring of in program therapist/client behaviours relevant to the model being applied (process checks by independent person, not necessarily the supervisor). **MONITOR**

- 1 None mentioned
- 2 Some mentioned but not specified
- 3 Formal monitoring procedures (tapes, direct observation)

81) Approximate (or exact) mean number of hours total contact between subject and provider or treatment activity over full duration of treatment per subject if reported or calculable. (Round to whole number. Code 888 for institutional, residential, or around the clock program; code 999 if not available.)

Dose: _____ DOSE

82) How were the sessions distributed? **DISTRIB**

- 1 Minimum dose for effectiveness is unspecified
- 2 Minimum dose specified, but number of sessions completed unavailable
- 3 Approximately half of subjects received minimum dose
- 4 Most of subjects received the minimum dose (60% - 80%)
- 5 Almost all subjects received the minimum dose (81% - 100%)

Existence of: Code each item as applicable (0 = No; 1 = Yes)

- 83) printed/taped manuals **PR1**
- 84) printed treatment scripts/guidelines for skill training **PR2**
- 85) homework assignments **PR3**

86) Contamination of comparison group with experimental treatment **CONTAM**

- 1 more than a third of comparison subjects received an adequate dose of the treatment
- 2 10 - 30% of comparison subjects received an adequate dose of the treatment
- 3 about half comparison subjects received 1 - 3 sessions of the treatment
- 4 a third or less of comparison subjects received 1 - 3 sessions of the treatment (a clearly inadequate dose)
- 5 few or none of the comparison group received any of the treatment

Inter-Agency Communication

87) Is there evidence of **BROKERAGE** by the therapists (job referrals, medical referrals, seeking out services, arranging services)? **BROKER**

- 0 NO evidence of brokerage.
- 1 SOME linking with other programs/organizations.
- 2 DETAILED procedures for referral and follow-up.

88) Is there evidence of **ADVOCACY** by the therapists (speaking on behalf of the client at home school, work & other organizations)? **ADVOCAC**

- 0 NO evidence of advocacy.
- 1 SOME advocacy; minor/casual approach to advocacy.
- 2 HIGH LEVEL of advocacy; formal aspect of treatment/highly organized.

89) Is there evidence of FOLLOW-UP ON REFERRALS by the therapists (clients referred to other organization)? **FOLREF**

- 0 NO evidence of follow-up on referrals.
- 1 SOME follow-up; minor/casual approach.
- 2 DETAILED follow-up; formal aspect of treatment/highly organized.

90) Is there evidence of INTER-AGENCY COMMUNICATION (Program staff meet with staff at other organizations)? **INTAGEN**

- 0 NO evidence of inter-agency communication.
- 1 SOME communication; minor/casual approach.
- 2 HIGH LEVEL of communication; formal procedures/highly organized.

91) Is there evidence of CO-ORDINATION of treatment with multi-organization clients (existence of reports cards/rating sheets, training at other organizations)? **COORD**

- 0 NO evidence of co-ordination.
- 1 SOME co-ordination; minor/casual approach.
- 2 HIGH LEVEL of co-ordination; formal aspect of treatment/highly organized.

92) Is there evidence of LITERATURE/HANDBOOKS that link with other organizations and the community)? **LITER**

- 0 NO evidence of handbooks.
- 1 SOME evidence, but not officially stated.
- 2 EXPRESSLY STATED evidence; community resource used regularly as part of treatment.

INERAG 0 THRU 6 (COUNT BROKER TO LITER [2])
ANYINTAG 0,1 (1 THRU 6 = 1)

Appendix B

CODING MANUAL FOR NEEDS EVALUATION

Promising Targets

1. **Antisocial Attitudes:** this category would include procriminal attitudes. e.g. procriminal sentiments, lack of respect for authority etc.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

2. **Antisocial Feelings:** this category includes feelings of anger, resentment, hostility, aggression, egocentric thinking, etc.(e.g. programs focused on anger management etc. This category includes interpersonal skills instruction as well as emotional skills but **not** <interpersonal counselling (code as #20) personal counselling etc.>

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

3. **Reducing Antisocial Peer Associations :** e.g. this could be achieved by segregating the treatment offenders from the rest of the "general" prison population. It could also involve regulations which prohibit the client from interacting with criminal others outside of the treatment program.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

4. **Promoting Identification /Association with Anticriminal Role Models :** The staff (as well as other clients) support, rather than ignore or even ridicule , the anticriminal sentiments of clients. Also, case managers and other front-line staff must be constantly aware of their own behaviour and ensure that it does not promote procriminal or antisocial attitudes. For example, staff should **not** adopt "con-talk" to develop a relationship with an offender. In addition, previous offenders who have been rehabilitated can be used as anticriminal role models.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

5. Promoting Familial Affection/Communication : The goal of treatment is to promote positive familial communication and encourage and instruct the family members on how to set up a supportive environment.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

6. Promoting Familial Monitoring and Supervision : This type of program would provide families with instruction on effective parental supervisory techniques, better parental management techniques etc. etc.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

7. Promoting Child Protection : for example, protecting the child from neglect/abuse.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

8. Increasing Self-Control, Self-Management and Problem-Solving Skills : counsels offenders on how to "think before you act", increase their self-control and teach them anticriminal decision-making techniques which allow them to explore alternatives in a possible criminogenic situation. Also involves teaching the offender to understand the consequences of their actions. e.g. . perspective-taking. Also involves teaching skills of self- and social management and skills in how to more effectively deal with their social environment.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

9. Reducing Chemical Dependencies Through Informational Sessions and Drug-Awareness Programs: e.g. alcohol, illicit drugs etc. through lectures, drug-awareness seminars etc.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

10. Reducing Chemical Dependencies Through Specific Treatment Programs: e.g. alcohol, illicit drugs. These are programs specifically designed to deal with chemical dependency through intervention, not informational sessions or drug-awareness seminars.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

11. Shifting the Density of the Personal, Interpersonal and Other Rewards and Costs for Criminal and Noncriminal Activities in Academic Settings so that the Noncriminal Alternatives are Favoured : e.g. providing the offender with an educational program or experience which is designed to increase the offender's sense of attachment to the institution and make him/her strive for academic excellence and prosocial goals in an academic setting. e.g. providing the offender with access to a first-year university curriculum. Also could include giving the juvenile offender a token economy type of system which links rewards with improved academic performance as well as an increase in prosocial behaviours which are necessary in an educational or other social environment. Can also be development of intellectual skills.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

12. (I) Shifting the Density of the Personal, Interpersonal and Other Rewards and Costs for Criminal and Noncriminal Activities in Vocational Settings so that the Noncriminal Alternatives are Favoured : this type of program would provide the offender with specific job skills (e.g. electrician, carpentry etc.) as well as employment seeking skills which would provide the offender with skills to seek employment after release.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

12. (II) Shifting the Density of the Personal, Interpersonal and Other Rewards and Costs for Criminal and Noncriminal Activities in Vocational Settings so that the Noncriminal Alternatives are Favoured : this type of program would not only provide the offender with specific job skills (e.g. electrician, carpentry etc.) which would provide the offender with skills to seek employment after release. This type of program would also actively help the offender search for a job and would probably be involved in setting up and monitoring specific job placements.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

13. Providing the Chronically Psychiatrically Troubled with Low Pressure, Sheltered Living Arrangements :

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

14. Promoting Compliance with Antipsychotic Medication :

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

15. Insuring that the Client is able to Recognize Risky Situations, and has a Concrete and Well Rehearsed Plan for Dealing with those Situations : this involves teaching the offender to identify situations which are conducive to criminal activity or responses and teaching the offenders how to avoid them. It may also involve teaching the offender how to deal with these situations if they are caught in one. These types of models are usually based on relapse prevention.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

16. Confronting the Personal and Circumstantial Barriers to Service (client motivation; background stressors with which clients may be preoccupied such as financial problems, marital difficulties etc.) : e.g. the time and place of the meetings with the clients are arranged to accommodate the needs of the clients.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

17. Attitudes Toward Substance Abuse: The client feels that substance abuse is acceptable and has no problems with the concept. These feelings are found towards one or many different drugs which may be readily abused. Any program that targets reducing an attitude favourable towards substance abuse (even it is only for one drug such as alcohol).

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

18. Changing other Attributes of Clients and their Circumstances that, through Individualized Assessments of Risk and Need, have been Reasonably Linked with Criminal Conduct : e.g. these programs would include any who have indicated that they have matched the needs of the offender with the type of service delivery given and the matching variable is not listed previously or they have done a "needs assessment" for the offender to determine type of service needed or matched the needs of the offender with a specific type of probation officer.

a) Does the program target the above criminogenic need?

1 Yes

0 Does not target

Less Promising Targets

19. Increasing Self-Esteem (without simultaneous reductions in antisocial thinking, feeling, and peer associations) : e.g. getting clients to perceive that they are competent in a particular skill area or they are nondelinquent in nature. Also using physical training and exercise programs to increase self-esteem of the clients.

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

20. Focusing on Vague Emotional/Personal Complaints that have not been Linked with Criminal Conduct : this includes feelings of depression, inadequacy, loneliness, low feelings of self-worth. This would include programs which state they use counselling, personal counselling psychotherapy or group counselling in general without mentioning any specifics.

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

21. Increasing the Cohesiveness of Antisocial Peer Groups : These include programs which want a noninvasive type of treatment where they encourage strong ties between participants but minimal intervention by the therapist.

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

22. Improving Neighbourhood Wide Living Conditions without Touching the Criminogenic Needs of Higher Risk Individuals and Families : this involves the program only trying to improve the living conditions within a particularly high risk neighbourhood. Attention is not paid to the more importantly criminogenic factors within these families i.e. developing positive and supportive communication, increasing familial monitoring and supervision, etc.

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

23. Showing Respect for Antisocial Thinking on the Grounds that the Values of one Culture are as Equally Valid as the Values of Another Culture :

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

24. Increasing Conventional Ambition in the Areas of School and Work without Concrete Assistance in Realizing these Ambitions : program would motivate the client in striving to obtain a high standard of success in school or work without providing the offender with the opportunity or strategies in order to realize these goals. e.g. providing the offender with a job without specific job skills training.

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

25. Programs which use a "Fear of Official Punishment" Philosophy: this involves trying to "scare the clients straight". Basically this involves trying to dissuade the offender from continuing involvement in criminal activity by presenting all of the negative consequences of criminal behaviour e.g. prison, loss of freedom, shock probation etc.

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

26. Other Types of Family Intervention: e.g. these types of programs include those which state they utilize family counselling without going into specific details of what areas they are targeting for change.

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

27. Physical Training and Programs Which Emphasize Involvement with Physical Activities and Exercise:

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

28. Targets Needs Which are Neither Criminogenic Nor Noncriminogenic: e.g. these programs choose to target needs which are not included in this coding manual.

N.B. This category should NOT be used when considering the scoring for the Overall Evaluation below!

a) Does the program target the above noncriminogenic need?

1 Yes

0 Does not target

29.

OVERALL PROGRAM EVALUATION

a) What type of overall classification should the above treatment program receive ?

1 Higher ratio of criminogenic to noncriminogenic

0 Higher ratio of noncriminogenic to criminogenic needs

Appendix C

Methodological Considerations, Restorative Justice and Other Concerns

1. Are the clients who are selected for treatment matched to the workers who are currently involved in the delivery of the program?

a) Does the program follow this procedure during its implementation?

- 1 Yes
- 0 No

2. Type of behavioural intervention used?

- 0 not used
- 1 radical behavioural: classical conditioning/ operant conditioning/ token economy
- 2 social learning: modeling, role playing (practice new skills), graduated practice
- 3 cognitive behavioural: focus on thinking, influencing feelings through thoughts, influencing behavior through thoughts.

Restorative Justice Ideology

3. Shaming- Is shaming used?

a) Does the program target the above area?

- 1 Yes
- 0 Does not target

4. Financial Restitution- What form of financial restitution is sought??

0 Financial restitution is **not** a goal of treatment.

1 Least Restorative Impact- No phone or in-person contact with the victim. Written input only from the victim. Offender makes payment to the court and has no sense of making amends to the victim. Restitution is viewed as punishment rather than reparation

2 Most Restorative Impact- In-person or phone contact to first take time to listen to the victim's story of how the crime affected them and to identify their need for restitution or other concerns (this could be followed up with written documentation).

-Restitution requirement presented to offender as way to repair harm.

-Restitution used as a way to increase offender's understanding of the concrete nature of the victim loss.

5. Community Service (Coder must make BEST judgment, preferably by counting the number of elements present in each if there is a split).

0 Community Service is **not** a goal of treatment.

1 Least Restorative Impact- Court orders a specific number of hours of community service with no victim or community input.

- Service projects are demeaning.

- Community service viewed by the community and offender as punishment.

2 Most Restorative Impact- in-person or phone contact so offender can understand how their crime affected victim. Ask victim if there is a particularly meaningful type of community service or a specific agency that they would like to see offender serve.

- Involvement of community in identifying projects valued by community.

- Projects involve offenders and community members working side by side.

- The contribution of offenders is acknowledged in public.

- Service includes a reflection component which helps community and offender understand community service as process for giving back to community.

6. Victim Offender Mediation or Family Group Conferencing (Coder must make BEST judgment, preferably by counting the number of elements present in each of there is a split).

0 This is **not** a goal of treatment

1 Least Restorative Impact

- No separate preparation meeting with the victim and offender before bringing the parties together.
- Victims not given a choice of where they feel most comfortable meeting with offender.
- Victim only given written notice of when to appear with no preset preparation.
- Little direct dialogue between offender and victim.
- Low tolerance of moments of silence or expression of feelings.
- Voluntary for victim but **required** for offender whether they even take responsibility for crime.
- Settlement-driven and very brief (15-20 minutes).

2 Most Restorative Impact

- Restitution important, but secondary to talking about impact of crime.
- Victims given a lot of choices throughout (e.g. where they want to meet, time etc).
- Separate preparation meetings with the victim and offender prior to bringing them together, with emphasis upon **listening** to how the crime has affected them, **identifying** their needs and **preparing** them for the mediation or conference session.
- High interactivity between victim and offender
- High tolerance for silence and expression of feelings about how crime affected victim.
- Trained community volunteers serve as mediators or co-mediators along with agency staff.
- Dialogue-driven and typically about an hour in length (or longer).

Methodological Concerns

7. Comparability of the treatment and control groups (II): If you scored 1 or 2 for question 17 under General Methodology, which group does the incomparability favour? e.g. Will the fact that both groups are not comparable affect the outcome and, if so, which outcome is favoured by this?

0 Neither group is favoured

1 The treatment group is favoured (e.g. more likely to find an effect). For example, could involve comparing low risk subjects in treatment group to high risk subjects in control group on outcome.

2 The control group is favoured (e.g. less likely to find an effect). For example, comparing high risk subjects within the treatment group to a group of low risk offenders in the comparison group.

8. Reliability, validity, or sensitivity of the dependent measures (II): If you scored 1 or 2 for question 18 under General Methodology, what effect does the unreliability of the dependent measure have on the study

- 0 Neither group is favoured
- 1 More likely to find an effect (e.g. treatment group is favoured)
- 2 Less likely to find an effect (e.g. control group is favoured)

9. Integrity of treatment implementation: If the full integrity of the treatment program is not maintained (e.g. scored a 1 or 2 on question 20 under General Methodology), what effect does this have on the evaluation of the treatment program?

- 0 Neither group is favoured
- 1 More likely to find an effect (e.g. treatment group is favoured)
- 2 Less likely to find an effect (e.g. control group is favoured)

10. Problems resulting from attrition: If there are problems with attrition present within the experiment (e.g. scored 1 or 2 on question 21 under general methodology), what effect does this have on the evaluation of the program?

- 0 Neither group is favoured
- 1 More likely to find an effect (e.g. treatment group is favoured)
- 2 Less likely to find an effect (e.g. control group is favoured)

11. Statistical Power: If there are problems with statistical power present within the experiment (e.g. scored 1 or 2 on question 22 under general methodology), what effect does this have on the evaluation of the program?

- 0 Neither group is favoured
- 1 More likely to find an effect (e.g. treatment group is favoured)
- 2 Less likely to find an effect (e.g. control group is favoured)

12. Heterogeneity of subjects: If there are problems with heterogeneity of subjects present within the experiment (e.g. scored 1 or 2 on question 23 under general methodology), what effect does this have on the evaluation of the program?

- 0 Neither group is favoured
- 1 More likely to find an effect (e.g. treatment group is favoured)
- 2 Less likely to find an effect (e.g. control group is favoured)

Five Major Approaches of Effective Correctional Treatment for Staff Members:

This general category of variables focus on the specific "black box" characteristics of the staff, the specific types of interventions used, the techniques used to bring about change, etc. It is a much more in-depth analysis of the treatment program itself as compared to Andrews et al. (1990). These definitions were derived from the "Core Correctional Training" manual presented by Andrews and Carvell (1997).

A. QUALITY OF INTERPERSONAL RELATIONSHIPS

13. Staff Characteristics (Relationship Factors): The staff that are selected to deliver this program are selected based on at least one of the following characteristics (or similar alternatives).

These characteristics include: warmth, genuineness, humour, enthusiasm, self-confidence, empathy, respect, flexibility, commitment to helping the client, engaging, maturity, intelligence. A point may also be used for this measure if there is evidence that the program director selected the staff on certain characteristics not mentioned here.

The program staff possess any of the aforementioned characteristics

1 Yes

0 No

14. Staff Characteristics (Skill Factors): The staff involved in the delivery of the program are reported to use one of the following methods to deliver the skill-building portion of the program.

These techniques include directive, solution-focused, structured, nonblaming, contingency based, prosocial modeling, effective reinforcement, effective disapproval, problem-solving, cognitive restructuring. This is entirely separate from the categories that follow later. The staff themselves must utilize these techniques.

The program staff use at least one of those techniques

1 Yes

0 No

B. ANTICRIMINAL MODELING AND REINFORCEMENT

15. Effective Modeling: This category can only be scored when the program facilitators use this technique within the program environment:

a) The staff use a coping model. e.g. Coping models display similar challenges to those experience by the observer but model a self-corrective strategy. For example, the program staff member could say "I experienced a similar problem at your age"

1 The staff member used this technique

0 The staff member does not use this technique

b) The staff member demonstrates the desired behavior in concrete and vivid ways (the behavior includes self instructions).

1 The staff member used this technique

0 The staff member did not use this technique

c) The offender participating in the program is rewarded for demonstrating the desired behavior:

1 Yes

0 No

d) The staff member is generally a source of reinforcement for the offender rather than always punishing him/her

1 Yes

0 No

16. Effective Reinforcement: This category can only be scored when the program facilitators use this technique within the program environment.

a) The staff members immediately tell the offender that they like the type of behavior/speech just exhibited by the client.

1 The staff members use this technique

0 The staff members do not use this technique

b) The staff member explains why he/she likes what the client did (specific reasons provided):

1 The staff members use this technique

0 The staff members do not use this technique

c) The support provided the client regarding the approved behavior is emphatic in order to distinguish this type of support from the type of support normally given to the client.

1 The staff members use this technique

0 The staff members do not use this technique

d) The staff member encourages the client to think about why the behavior he/she was just rewarded for is desirable and as well as what kinds of short and long term benefits can be derived through continued use of this behavior.

1 The staff members use this technique

0 The staff members do not use this technique

17. Effective Disapproval: There are also effective techniques for disapproval that should be used by the staff members:

a) The staff members immediately tell the offender that they did not like the type of behavior/speech just exhibited by the client and provide reasons why.

1 The staff members use this technique

0 The staff members do not use this technique

b) The staff members provide appropriate antirriminal alternative modeling to the offender after the client engages in an unacceptable behavior.

1 The staff members use this technique

0 The staff members do not use this technique

c) Encourage the client to consider why their behavior is undesirable and what short and long term consequences are involved if the behavior persists:

1 The staff members use this technique

0 The staff members do not use this technique

d) Once the undesirable behavior has been corrected and appropriate prosocial behaviors are demonstrated, the staff member immediately stops disapproval and shows approval for the change.

1 The staff members use this technique

0 The staff members do not use this technique

C. PROBLEM-SOLVING

18. Problem-Solving Techniques: This section focuses on the types of problem-solving skills, if any, are used by the staff to bring about change in the clients.

- a) Identify the Problem - The worker should focus on the ABC's. (e.g Antecedents, Behavior, and Consequences. The staff member should exclusively focus on these areas)
 - 1 The staff members use this technique
 - 0 The staff members do not use this technique

- b) Clarify Goals - The staff members should clarify the goals that can resolve or prevent future negative consequences. It is goal-oriented problem solving.
 - 1 The staff members use this technique
 - 0 The staff members do not use this technique

- c) Generate Alternative Solutions - This step is basically "brainstorming". Criticism is ruled out and all ideas are acceptable. Quantity is stressed by the staff members.
 - 1 The staff members use this technique
 - 0 The staff members do not use this technique

- d) Evaluate the Options - The staff member encourages the client to evaluate every alternative on the list (if there is one) and discuss the possible short and long term consequences of each. The relative worth of each option should be assigned (e.g. positive or negative).
 - 1 The staff members use this technique
 - 0 The staff members do not use this technique

- e) Implement a Plan - The worker helps the client to design and implement a plan. The desirable options of many positive options can be combined. The plan should be described in behaviorally-specific terms (e.g. what the client does, when does it get done, how does it get done). Needed material and information should be determined and ways to obtain them. If the final plan involves a skill that is unfamiliar to the client, he/she must be provided with an opportunity to learn and practise these skills.
 - 1 The staff members use this technique
 - 0 The staff members do not use this technique

- f) Evaluate the Plan - The plan should be evaluated in the future and the reasons why it succeeded or failed.
 - 1 The staff members use this technique
 - 0 The staff members do not use this technique

19. Structured Learning Procedures:

a) Define the skill to be learned

1 The staff members use this technique

0 The staff members do not use this technique

b) Model the skill for the client

1 The staff members use this technique

0 The staff members do not use this technique

c) Role Play - Give the client the opportunity to practise the skill in hypothetical situations

1 The staff members use this technique

0 The staff members do not use this technique

d) Progressive Role Play - The client is placed in situations that are progressively more difficult to deal with and require advanced application of the skill that was taught.

1 The staff members use this technique

0 The staff members do not use this technique

e) Provide Feedback - The staff member informs the clients on how well they are applying the learned behavior within the problem situation and provide recommendations for improvement if needed

1 The staff members use this technique

0 The staff members do not use this technique

D. EFFECTIVE USE OF AUTHORITY

20. The staff members should focus their message on the behavior exhibited and not on the person performing it.

1 The staff members use this technique

0 The staff members do not use this technique

21. The staff members are direct and specific concerning their demands

1 The staff members use this technique

0 The staff members do not use this technique

22. Use of their normal voice. The staff members do not raise their voices

1 The staff members use this technique

0 The staff members do not use this technique

23. Specify the choices with the accompanying consequences - e.g. what will happen as a result of the client's cooperation or non-cooperation with the limit. Do not use doomsday ultimatums

- 1 The staff members use this technique
- 0 The staff members do not use this technique

24. Give encouraging messages

- 1 The staff members use this technique
- 0 The staff members do not use this technique

25. Support words with action

- 1 The staff members use this technique
- 0 The staff members do not use this technique

26. "Firm but fair"

- 1 This description is used to describe the exercise of authority
- 0 Not used

27. "Respectful guidance toward compliance"

- 1 This description is used to describe the exercises of authority
- 0 Not used

E. USE OF COMMUNITY RESOURCES

28. Advocacy

- 1 The staff members use this technique
- 0 The staff members do not use this technique

29. Brokerage

- 1 The staff members use this technique
- 0 The staff members do not use this technique

General Considerations

30. Country

- 1 Canada
- 2 United States
- 3 Europe
- 4 Australia
- 5 Other