

Dynamic factors and recidivism: What have we learned from the Case Needs Review Project?

by **Shelley L. Brown**¹

Research Branch, Correctional Service of Canada

In response to the Task Force Report on Offender Reintegration, the Research Branch of the Correctional Service of Canada conducted a review of the Case Needs Identification and Analysis (CNIA) component of the Offender Intake Assessment (OIA) process. The CNIA protocol appraises offender needs on admission to the federal correctional system. The review consisted of a series of narrative and meta-analytic reviews as well as an outcome study that examined the CNIA's ability to predict return to prison. Collectively, this project confirmed the overall relationship between the CNIA and criminal behaviour. Each of the seven case need domains (i.e., employment, marital/family, associates and social interaction, substance abuse, community functioning, personal and emotional, and attitudes) was moderately related to recidivism. While the components of most CNIA domains were found to be moderately related to recidivism, strong predictors were criminal companions, non-conforming criminal attitudes, inadequate use of leisure time, and substance abuse problem(s). Examples of weak predictors were: learning disabilities, physical problems that interfere with work, parenting skills, social isolation, communication difficulties, personal hygiene, physical health, neuroticism, mental disorder, and intolerance of other religions, disabled persons or the elderly. The reviews led to recommendations for streamlining and improving the CNIA. This article summarizes the main findings and recommendations from the CNIA review project

Background

In 1996, the Service assembled a Task Force on Offender Reintegration with a mandate to identify key problem areas and provide concrete suggestions for enhancing the safe reintegration of offenders into the community. One of the recommendations central to this paper is "that the design and application of the CNIA instrument be reviewed to ensure it identifies and prioritizes only those offender

needs related to criminal behaviour."² In response, the Research Branch conducted a three-tiered initiative: a predictive outcome study of the CNIA; several independent literature reviews of the CNIA; and a series of field consultations. This article integrates the findings and recommendations from the literature reviews and the CNIA predictive outcome study.

What is the CNIA instrument?

The CNIA protocol is the Service's primary assessment instrument that appraises offender needs on admission to the federal correctional system.³ Its main function is to identify and prioritize criminogenic needs, which helps establish a treatment or correctional plan for each offender. Criminogenic needs are dynamic factors that when appropriately treated are associated with reductions in recidivism.

The CNIA comprises seven need domains, including employment, marital/family, associates, substance abuse, community functioning, personal/emotional and attitudes. Each need domain is broken down into principal components, which are divided into subcomponents. Lastly, each subcomponent comprises a series of yes/no indicators (199 in total). Based

on the yes/no indicators, each need domain is rated on a four-point scale ranging from "factor seen as an asset to community adjustment" to "considerable need for improvement." For more information, see the article "The Case Needs Review Project: Background and research strategy" in this volume.

While the components of most CNIA domains were found to be moderately related to recidivism, strong predictors were criminal companions, non-conforming criminal attitudes, inadequate use of leisure time, and substance abuse problem(s).

What we have learned from the CNIA literature reviews?

Recognized experts conducted independent reviews of each case need domain (for more information, please consult the original articles in this volume). Each review addressed assessment-related issues, examined the relationship between a given need domain and criminal recidivism, and proposed recommendations for enhancing the CNIA.

The reviews involved either a qualitative narrative review, a quantitative meta-analysis or a combination of both.

Briefly, a narrative review involves a qualitative examination of a given area, whereby a reviewer reads all relevant literature and summarizes it based on the reviewer's subjective interpretation. In contrast, a meta-analysis is a statistical technique that allows

researchers to objectively aggregate the size of a relationship between two or more variables (e.g., criminal associates and recidivism) across numerous studies in the form of an effect size such as the Pearson *r* correlation coefficient. Effect sizes can also be weighted to account for variations in sample size across individual effect sizes. Thus, effect sizes derived from studies based on large samples of offenders can be given more weight compared with effect sizes based on smaller samples of offenders. Typically, the weighted effect size yields a more accurate estimate.

Meta-analytic findings were available for all case need domains except for the personal/emotional domain. Table 1 summarizes the meta-analyses and can be interpreted as

follows. Reading from the left of row 1, the employment meta-analysis was based on 69 studies involving 128,018 offenders that generated 214 separate effect sizes. Overall, the average unweighted effect size or correlation between the employment domain and general recidivism was .13. The strength of this relationship did not change when the effect size was weighted or adjusted for sample size variations.

Table 1

Summary of Meta-analytic Findings from the Case Needs Review Project

Case need domain	Number of studies	Number of offenders	Number of effect sizes	Average unweighted effect size	Average effect size weighted
Employment	69	128,018	214	.13	.13
Marital/family ^a	Not available	88,652	132	.14	Not available
Associates/social interaction	35	39,676	75	.18	.17
Substance abuse	45	84,578	116	.12	.10
Community functioning	20	33,614	80	.15	.10
Personal/emotional ^b	1	3,380	1	.11	Not available
Attitudes	32	47,335	112	.16	.11

^a The marital/family results are based on the combined findings of two separate meta-analyses: C. Dowden and S. Brown, A Meta-analytic Examination of Marital and Family Risk Predictors of General Recidivism, *raw data (in progress)*; and P. Gendreau, T. Little and C. Goggin, "A meta-analysis of the predictors of adult offender recidivism: What works!" *Criminology*, 34 (1996): 575-607.

^b Because the personal/emotional review was narrative, meta-analytic effect sizes were not available. To provide a quantifiable estimate for comparison purposes, the results from Motiuk and Nafekh (see Note 10) were used.

Analyses revealed that each weighted and unweighted effect size was statistically significant. Further, the magnitude of the various relationships is consistent with past research.⁴ In sum, the results confirm the overall criminogenic relationship between each domain and recidivism.

Each reviewer undertook a more in-depth analysis to determine which factors in each domain were most strongly related to recidivism. Originally, attempts were made to organize each review around the principal components, subcomponents and indicators of the CNIA. However, in most cases, the predictor categories examined in the existing literature did not permit this type of

classification. Consequently, most reviewers used naturally occurring predictor categories deemed close approximations to CNIA principal components and subcomponents. Moreover, predictive studies for certain components of the CNIA were unavailable. Analysis at the indicator level was often unavailable or deemed unreliable. Considering all reviews simultaneously, most predictor categories produced moderate correlations with recidivism (weighted effect sizes between .10 and .19). As Table 2 demonstrates, fewer predictor categories demonstrated strong (weighted effect sizes equal to or greater than .20) or weak (weighted effect sizes less than .09) relationships with recidivism.

Lastly, the results are consistent with previous research,⁵ as well as prominent theories of criminal conduct.⁶

The CNIA contains all predictor categories that were strongly related to recidivism. Further, except for denial and/or minimization of crime, the CNIA adequately represents all predictor categories classified under moderate relationship. The CNIA also contains several factors deemed weak predictors of criminal recidivism. Although these factors are not

criminogenic, they require accurate assessment and appropriate intervention in accordance with the Service's legal mandate to exercise "humane control" in the course of sentence administration and management.⁷ However, without jeopardizing our legal responsibilities, a more empirically palatable approach may be to situate such needs in an entirely different instrument or, alternatively, assess them collectively in a new need domain designated non-criminogenic needs.

Table 2

Meta-analytic Reviews: Degree of Research Support Associated with Predictor Categories Within Each Case Need Domain

Case need domain	Weak or no support (weighted $r < .10$)	Moderate support (weighted $r: .10 - .19$)	Strong support (weighted $r > .20$)
Employment		Employment history Employment needs at discharge Employment status at intake Education and/or employment problem School achievement School maladjustment	
Marital/family	Family structure (single parent, foster care)	Negative family background Marital status Marital quality	
Associates		Criminal family Crime neighbourhood	Criminal companions
Substance abuse		Alcohol abuse problem Drug abuse problem	Alcohol and/or drug problem
Community functioning	Physical health Personal hygiene	Accommodation Financial difficulties Use of social assistance	Use of leisure time
Personal/emotional ^a	Physical prowess Neuroticism Assertion deficits Mental ability Mental disorder	Impulsivity General problem-solving Interpersonal skills Empathy Aggression/anger/hostility Risk-taking Coping Sexual behaviour ^b	
Attitudes	Attitudes toward: emotional stability, marital/family relations, interpersonal relations, employment/education	Attitudes toward justice Attitudes toward violence Denial and/or minimization of crime	Unfavorable attitudes toward convention, sentence or suspension, favorable toward crime

^a *a The personal/emotional review was not a meta-analysis, so the size of the empirical relationship was estimated conservatively based on the narrative review.*

^b *This result is based on samples of known sex offenders.*

What have we learned from the CNIA predictive outcome study?

Since the CNIA protocol was first implemented, 3,380 male offenders have been subsequently released into the community ($M = 250$ days in the community). Of these, 9.3% were returned to federal custody. Interestingly, almost 75% were returned for a conditional release revocation without a new offence.⁸

Table 3 compares the meta-analytic findings with the results of the CNIA predictive outcome study. Recall that the case need rating is a four-point value ranging from ‘factor seen as an asset to community adjustment’ to ‘considerable need for improvement’. Conversely, the domain composite score reflects the sum of all indicators (where no = 0 and 1 = yes) comprising a given domain. Two noticeable trends emerged. First, it is clear that the meta-analytic findings are consistent with those obtained from the CNIA predictive outcome study. Second, with the exception of the attitudes domain and perhaps, the personal/emotional domain, there are marginal differences between the case need rating and the composite domain score in terms of their respective correlations with recidivism.

A more detailed analysis involving the individual indicators was also conducted. In sum, this analysis was generally consistent with the external meta-analytic reviews. It is also noteworthy that the statistical analysis of the personal/emotional domain indicators confirmed the conclusions reached in the narrative review (see “Case need: Personal and emotional domain” in this volume).

However, the analysis also identified indicators that were not directly related to recidivism such as learning disabilities, physical problems that interfere with work, parenting skills, social isolation, communication difficulties, personal hygiene, physical health, history of mental disorder, and intolerance of other religions, disabled persons or the elderly. A more detailed report will be made available from the Research Branch.

Table 3

Correlations Between Each Case Need Domain and Recidivism: A Comparison of the Meta-analytic Findings and the CNIA Predictive Outcome Study

Case need domain	Average weighted effect size M_r	Case need rating r	Domain composite score r
Employment	.13	.17	.14
Marital/family ^a	Not available	.12	.11
Associates/social interaction	.17	.17	.19
Substance abuse	.10	.15	.17
Community functioning	.10	.14	.14
Personal/emotional ^a	Not available	.11	.15
Attitude	.11	.09	.19

^a Complete meta-analyses were not conducted for these domains. The r values provided in the second and third column are taken from Motiuk (see Note 8).

Top ten themes across the CNIA recommendations

- **Keep the strong, keep the moderate, but drop the weak.** Most reviews recommended that indicators demonstrating strong empirical support, strong theoretical support or moderate empirical support be retained, while indicators demonstrating either weak or no support be deleted.
- **Less is more.** Currently, the CNIA comprises 7 need domains, 35 principal components, 94 subcomponents and 199 indicators. One of the most common themes in the recommendations was the need to simplify the CNIA’s structure. Among the proposed strategies was the deletion of indicators and/or subcomponents that were redundant, showed little or no correlation with recidivism or were represented in more than one need domain. Recommendations also included using highly specific indicators as operational definitions for more global constructs and creating a new need domain called non-criminogenic needs.
- **Increase objectivity, reduce subjectivity.** Fifty years of research overwhelmingly confirms

the superiority of objective, statistically based prediction strategies over purely subjective, clinically based methods.⁹ This conclusion was firmly echoed in several of the recommendations that called for improved scoring guidelines as well as the development of concrete behavioural indicators.

- **Revitalize with new additions.** It was evident throughout the reviews that the CNIA could be enhanced by incorporating additional constructs ranging from intrinsic job motivation and occupational self-efficacy, to criminal self-efficacy and denial or minimization of crime.
- **View the supplementary assessment as friend rather than foe.** There is some concern that specialized or supplementary assessments may result in over-programming for low-risk and/or low-need offenders. However, two independent reviewers recommended their continued use for substance abuse and employment domains.
- **Distinguish non-criminogenic from criminogenic need.** The CNIA must distinguish better between the criminogenic need — dynamic or changeable treatment targets that are directly related to criminal behaviour — and the non-criminogenic need — treatment targets that are not related to criminal behaviour but require intervention nonetheless.
- **Maximize the dynamic nature of the CNIA.** Although the CNIA serves multiple functions, its ultimate purpose is to identify factors that can, in theory, be altered. Thus, unless it can be shown that a given static factor serves a specific operational function, every effort should be made to ensure that each component of the CNIA reflects current and/or recent circumstances, rather than events or circumstances from the past. Thus, while poor family functioning during childhood is important, what may be more crucial for effective correctional programming is current family functioning or, similarly, family functioning when offences are originally committed.
- **Assess both the need and its magnitude.** The substance abuse assessment review introduced the notion of a stepped approach to assessment. The first step involves screening for the presence of absence of a

problem; the second step elaborates on the nature and severity of the problem; and the third step establishes specific treatment and relapse prevention targets and assesses changes associated with treatment. Perhaps a similar framework could be applied to the CNIA. Steps 1 and 2 would be considered a mandatory component of the CNIA, and Step 3 could be incorporated during program delivery. This strategy might reduce both unnecessary programming and redundancy in assessment.

- **Beware of specialized risk factors for specialized offender groups.** Deviant sexual preference and deviant sexual attitudes predict sexual recidivism among known sex offenders, but they do not predict general recidivism in the general male offender population. In fact, there is a slight negative correlation between these variables and general recidivism among male offenders.¹⁰ Thus, it might be prudent to remove indicators related to sex offences from the CNIA and use them exclusively during assessments of male sex offenders.
- **More research, better research.** Perhaps the most common recommendation was a call for new and improved research, including more research on female offenders and Aboriginal offenders, and the identification of unique predictors of violent recidivism. Also mentioned were the application of advanced statistical procedures and the development and evaluation of concrete behavioural indicators with assessment strategies that do more than merely confirm that the offender has a problem.

Conclusion

The results of the meta-analyses, the narrative reviews and the CNIA predictive outcome study confirm the criminogenic relationship between each need domain and recidivism. Detailed analysis revealed that while some elements of the CNIA are weakly or strongly related to criminal recidivism, most are moderately related to criminal recidivism. It is anticipated that the combined effect of these findings and the upcoming field consultations will eventually yield a revised CNIA that satisfies current research standards as well as operational realities. ■

- ¹ 340 Laurier Avenue West, Ottawa, Ontario, K1A 0P9.
- ² Correctional Service of Canada, *Task Force on Reintegration: Final Report* (Ottawa, ON: Correctional Service of Canada, 1997). Available from the Offender Reintegration Branch, Correctional Service of Canada, 340 Laurier Avenue West, Ottawa, ON K1A 0P9.
- ³ Correctional Service of Canada, "Part 1: Offender Intake Assessment and Placement, Section 7: Case Needs Identification and Analysis," in the Service's electronic Infonet: *Law and Policy: Case Management Manual* [On-line]. Available: <http://inonet/inonet/policy/cmm/english/annex%20k%20-09.htm>
- ⁴ P. Gendreau, T. Little and C. Goggin, "A meta-analysis of the predictors of adult offender recidivism: What works!" *Criminology*, 34 (1996): 575-607.
- ⁵ Gendreau, Little, and Goggin, "A meta-analysis of the predictors of adult offender recidivism." See also D. A. Andrews, "Recidivism is predictable and can be influenced: Using risk assessments to reduce recidivism," *Forum on Corrections Research*, 1, 2 (1989): 11-17.
- ⁶ D. A. Andrews and J. Bonta, *The Psychology of Criminal Conduct* (Cincinnati, OH: Anderson Publishing Co., 1994).
- ⁷ *Corrections and Conditional Release Act*, RSC, C-20 (1992).
- ⁸ L. L. Motiuk, "Using dynamic factors to better predict post-release outcome," *Forum on Corrections Research*, 10, 3 (1998): 12-15.
- ⁹ W. M. Grove and P. E. Meehl, "Comparative efficiency of informal (subjective, impressionistic) and formal (mechanical, algorithmic) prediction procedures: The clinical-statistical controversy," *Psychology, Public Policy, and Law*, 2 (1996): 293-323. See also V. L. Quinsey, G. T. Harris, M. E. Rice and C. A. Cormier, *Violent Offenders: Appraising and Managing Risk* (Washington, DC: American Psychological Association, 1998).
- ¹⁰ L. L. Motiuk and M. Nafekh, Offender Intake Assessment, unpublished raw data (1998).

Let's Talk

Let's Talk is the official newsletter of the Correctional Service of Canada, published four times a year by the Communications Sector.

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Let's Talk / Entre Nous
 Correctional Service of Canada
 340 Laurier Avenue West
 Ottawa, ON K1A 0P9
 Telephone: (613) 995-5364
 Fax: (613) 947-0091
 Internet: <http://www.csc-scc.gc.ca>