Case need domain: "Community functioning"

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This article presents the results of a quantitative meta-analysis that examined the predictive relationship between community functioning variables and adult recidivism. Twenty studies were identified that yielded 79 effect sizes. An overall weighted mean effect size of .10 was obtained. Leisure produced the strongest effect size, followed by finance, accommodation and support (use and/or knowledge of social services). Deportment (defined as self-presentation and hygiene) and health were not related to recidivism. Studies that examined communication difficulties and history of community intervention were not identified in the recidivism literature. Based on the meta-analytic results, suggestions are provided for enhancing the utility of the community functioning domain of the Case Needs Identification and Analysis (CNIA) instrument.

Over the last few decades there has been a strong focus on identifying risk factors related to criminal recidivism. Surprisingly, few predictive studies have focused on community-related variables such as accommodation, finance and the use of leisure time. Recently, the Correctional Service of Canada's Task Force on Reintegration recommended that "the design and application of the Case Needs Identification and Analysis (CNIA) instrument be reviewed to ensure it identifies and prioritizes only those offender needs related to criminal behaviour."[2] Consequently, this report will provide an overview of the predictive literature pertaining to the community functioning domain of the CNIA and adult criminal recidivism. A detailed description of the CNIA and its various domains is provided by Brown (this volume).

Methodology

A quantitative meta-analysis was performed that examined the predictive relationship between community functioning variables and adult recidivism. Briefly, a meta-analysis is a statistical technique that aggregates the findings of several individual studies. The results of each study are converted into a common measure, known as an effect size (e.g., a Pearson *r* correlation coefficient), to enable comparison. Although both weighted and unweighted effect sizes can be used, the weighted effect size is generally considered to be more accurate since it adjusts the size of the correlation based on the size of the sample.

An extensive search was conducted that spanned the adult recidivism literature from January 1974 to February 1998. The literature was identified by two computerized databases: PsycLIT and the National Criminal Justice Reference Service. Keyword search terms included the principal components, subcomponents and indicators outlined in the community functioning domain of the CNIA. They were searched in isolation and in combination with recidivism, conditional release and supervision revocation.

Only studies that met the following criteria were included:

- they explored the relationship between community functioning variables and adult recidivism;
- they contained sufficient statistical information for effect size calculation; and
- they measured the variable of interest before the offender recidivated.

These requirements narrowed the meta-analysis to 20 studies. Our definition of recidivism included arrests, charges, reincarcerations, reconvictions and technical violations. For studies reporting multiple outcome measures, the most serious type of recidivism was used. Also, in cases where multiple follow-up periods were reported, the longest interval was coded.

Some of the identified studies included community functioning variables not covered by the CNIA. As a result, the analyses covered two additional categories: living companions (comparing those living alone to those living with others) and childhood community functioning (accommodation stability during childhood and parental financial stability).

Results

Twenty studies were identified yielding 79 effect sizes. Canadian samples accounted for more than 80% of these effect sizes. More than 50% of effect sizes came from unpublished reports (e.g., government reports, thesis manuscripts) and male samples, and more than 70% of the reports had a follow-up period longer than six months.

Approximately half of the effect sizes were obtained using either dichotomous or multi-level rating scales. In addition, the Level of Supervision Inventory[3] or its revised version, the Level of Service Inventory — Revised [4] accounted for 25% of the effect sizes; the Community Risk Needs Management Scale[5] accounted for 7.5%; the community version of the CNIA[6] accounted for 7.5%; and the remaining 10% were either not reported or derived from other risk and need assessment protocols.

Table 1

Unweighted (*Mr*) and weighted mean effect sizes (Mz^+) for community functioning predictor categories

Predictor category (*k*)	N	*Mr*	Mz^+[a]	CI
Accommodation (23)	7,824	.19	.11***	.09–.13
Deportment (1)	573	.08	.08	…[b]
Health (7)	3,717	.05	.04	-.01–.07
Finance (18)	5,735	.19	.13***	.10–.16
Leisure (9)	2,743	.20	.24***	.21–.28
Support (7)	2,679	.12	.11**	.07–.15
Living companions (6)	3,913	.05	.03*	-.00–.06
Childhood community functioning (8)	6,311	.08	.09***	.06–.11
Total (79)	33,495	.15	.10***	.09–.11

*Note: *p<.05, **p<.01, ***p<.001; k = number of effect sizes per category; N = number of subjects per category;* Mr = *unweighted mean effect size;* Mz^+ = *weighted mean effect size; CI = confidence intervals about* Mz^+.

[a] *Effect sizes are weighted according to sample size.*

[b] *Confidence intervals could not be reliably calculated when k<3.*

Table 2

Unweighted (*Mr*) and Weighted Mean Effect Sizes (Mz^+) for Community Functioning Components and Indicators

Subcomponents and/or indicators (*k*)	N	*Mr*	Mz^+[a]	CI
Stability – Has unstable accommodation (13)	3,892	.22	.16**	.13–.19
Self-presentation – Has poor self-presentation (1)	573	.08	.08	…[b]
Physical – Has physical problems (3)	1,118	.04	.04	-.02–.10
Budgeting (6)	1,753	.17	.16**	.11–.20
Has no hobbies (1)	573	.08	.08	…[b]
Organized activities – Does not participate in organized activities (1)	920	.35	.37**	…[b]
Social assistance (6)	2,595	.11	.11**	.07–.15
Unaware of social services (1)[c]	573	.07	.07	…[b]
Has used social services (4)[c]	1,512	.13	.13**	.08–.18

*Note: Subcomponents are **bolded** and **italicized.***

*p<.05, **p<.01, ***p<.001; k = *number of effect sizes per component/indicator; N = number of subjects per component/indicator;* Mr = *unweighted mean effect size;* Mz^+ = *weighted mean effect size; CI = confidence intervals about* Mz^+.

[a] *Effect sizes are weighted according to sample size.*

[b] *Confidence intervals could not be reliably calculated when k<3.*

Table 1 presents the meta-analytic findings illustrating the relationship between community functioning variables and recidivism. Overall, a statistically significant weighted mean effect size of .10 was obtained. The majority of the predictor categories were significantly different from zero, with leisure producing the largest weighted mean effect size ($Mz^+ = .24$), followed by finance ($Mz^+ = .13$), accommodation ($Mz^+ = .11$) and support ($Mz^+ = .11$). However, the strength of the relationship between leisure and recidivism may have been inflated because of the large effect size of one particular study (see Table 2). As a result, the unweighted effect size ($Mr = .20$) may offer a more realistic estimate of this relationship. The remaining predictor categories of deportment, health, living companions and childhood community functioning all produced weighted mean effect sizes that were less than .10. Lastly, the principal components of communication and intervention (as defined by the CNIA) were not identified in the recidivism literature.

A more detailed meta-analysis was conducted on a reduced set of effect sizes (31) that directly paralleled existing subcomponents and indicators comprising the community functioning domain of the CNIA. As Table 2 illustrates, the strongest weighted mean effect size was obtained for the indicator 'does not participate in organized activities' ($Mz^+ = .37$), followed by the subcomponent 'budgeting' ($Mz^+ = .16$) and the indicator 'has unstable

accommodation' (Mz^{+} = .16). The strong relationship between recidivism and 'does not participate in organized activities' is based on the results from only one study, however, and subsequently may be inflated. Self-presentation and physical health were not significantly related to recidivism.

A series of analyses were conducted on several potential moderator variables identified in the literature. This type of analysis is useful for determining whether observed effect sizes vary across different factors such as gender or study source (i.e., published versus unpublished). However, only study source emerged as a statistically significant moderator of effect size. More specifically, published articles (Mr = .17) produced a larger effect size than unpublished articles (Mr = .11). This finding is not surprising given that published articles are more likely to exclude nonsignificant results. Thus, the results do not reflect a publication bias given that more than half of the effect sizes came from unpublished reports.

Conclusions

The results of this meta-analysis demonstrate that many of the items outlined in the community functioning domain of the CNIA successfully identify offender needs related to criminal recidivism. There was moderate to strong empirical support for the principal components of accommodation, finance, support and leisure. However, only weak empirical support was obtained for the components of deportment and health. The principal components of communication and intervention (as defined by the CNIA) were not identified in the recidivism literature. Thus, we could not ascertain their relationship to criminal behavior.

The results of this meta-analysis point to a few modifications that may enhance the community functioning domain. First, it may be beneficial to consider removing any principal component that does not identify needs related to criminal behaviour. Consequently, health and deportment would be removed. Arguably, these variables could be conceptualized as non criminogenic needs, that is, factors that require intervention but are not related to criminal recidivism. A focus on such variables, in an intervention capacity, may become increasingly important as our offender population continues to age. Further, the Service's legal mandate requires that we exercise 'humane control' in the course of sentence administration and management. Thus, perhaps we could situate such needs in an entirely different instrument or, alternatively, assess them collectively in a new need domain designation: 'non-criminogenic needs'.

Currently, the community functioning domain comprises 8 principal components, 17 subcomponents and 21 indicators. Thus, it may also be beneficial to streamline the subcomponents and indicators for the remaining principal components. First, it may be prudent to collapse across subcomponents that are conceptually similar, such as finance and support. Second, collapsing across the indicators associated with leisure, finance and accommodation might help to alleviate any unnecessary redundancy. Last, since the majority of indicators were not identified in the literature, it may be useful to use the remaining indicators to facilitate scoring of the instrument. These changes might serve to increase the clarity and practical utility of the instrument without sacrificing its predictive ability.

Despite the lack of empirical support for some of the individual components and indicators, the majority of the community functioning variables currently outlined in the CNIA obtained stronger empirical support than did other community functioning variables (i.e., living companions and childhood community functioning). Clearly, the CNIA instrument is tapping appropriate community functioning factors related to criminal behaviour and with further validation and field consultations, the practical utility of this dynamic instrument will continue to improve. ■

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[2] Correctional Service of Canada, *Task Force on Reintegration: Final Report* (Ottawa, ON: Correctional Service of Canada, 1997): 30. Available from the Offender Reintegration Branch, Correctional Service of Canada, 340 Laurier Avenue West, Ottawa, ON K1A 0P9.

[3] D. A. Andrews, *The Level of Supervision Inventory* (Toronto, ON: Ministry of Correctional Services, 1982).

[4] D. A. Andrews and J. Bonta, *The Level of Service Inventory — Revised* (Toronto, ON: Multi-Health Systems, Inc., 1995).

[5] L. L. Motiuk and F. J. Porporino, *Offender Risk/needs Assessment: A Study of Conditional Releases* (Ottawa, ON: Correctional Service of Canada, 1989).

[6] L. L. Motiuk and S. L. Brown, *The Validity of Offender Needs Identification and Analysis in Community Corrections*, Report R-34 (Ottawa, ON: Correctional Service of Canada, 1993).