

Problems of self-regulation among adult offenders

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Self-control has been utilised extensively as an explanatory concept in the field of psychology and in forensic psychology in particular. A number of researchers and theorists have linked self-control, as often measured by impulsivity, risk-taking, failure to delay gratification, egocentrism, temper, and limited goal setting, with criminality.³ Despite its extensive use, there remains a lack of consensus in the literature regarding the definition of self-control or the mechanisms of self-regulation. Instead, impulsivity, seen as a result of a deficiency in the self-regulation process, is frequently used as a catchword to clarify a wide variety of antisocial tendencies that otherwise lack sufficient explanation.

Recently, Barkley has developed a hybrid model of self-regulation based on developments in the area of Attention Deficit Hyperactivity Disorder (ADHD) that could provide the necessary theoretical framework to advance the research in the area.⁴ The model accounts for the developmental features of ADHD and is consistent with empirical findings regarding children, adolescents and adults with the disorder. The theory provides an explicit and theoretically sound definition of self-control and identifies the cognitive and behavioural problems in self-regulation that can be expected based on the model. The model is particularly useful because it points to a number of potential targets that could be addressed in treatment programs.

Barkley argues that ADHD is a deficit in behavioural inhibition that affects the normal development of four neurophysiological functions: working memory, the self-regulation of affect and motivation and arousal, internalization of speech and motor control and sequencing, and behavioural analysis and synthesis. Performance of the executive functions implicates self directed actions; the organization of behavioural contingencies across time; the use of self directed speech, rules, or plans; deferred gratification; and goal-directed, future-oriented, purposive, or intentional actions.

Extent of the problem among federal offenders

The population of serious offenders would be expected to have high rates of problems with self-regulation. At admission into the correctional

system, each offender undergoes a comprehensive assessment based on file review and interview. Among the items that compose the assessment, several pertain directly and indirectly to problems in self-regulation. Over 80% of federal offenders are assessed by intake officers as having one or more of the problems related to self regulation included in Table 1. Research indicates that problems in self-regulation are associated with poorer outcomes. As the Table highlights, offenders who reoffend within one year after release, were significantly more likely to have problems in self-regulation. Conversely, an absence of any problems in the area of self-regulation reduces offenders' probability of reoffending within a year of release. Eighty-eight percent of offenders with no problems in self-regulation remain offence free after one year of release as compared to an expected rate (general survival rate) of 64.2%.

Table 1

Percentage of federal offenders identified with problems related to self-regulation

OIA Indicators	Recidivists*	Non Recidivists	p
Lacks direction	75.2	59.9	.001
Impulsive	80.5	67.2	.001
Thrill seeking	37.5	27.3	.001
Poor conflict resolution	75.6	67.4	.001
Poor regard for others	62.6	52.5	.001
Low frustration tolerance	53.6	43.7	.001
Unrealistic goal setting	36.5	27.7	.001
Non reflective	59.8	50.4	.001
Poor problem solving	77.8	70.1	.001
Unable to generate choices	67.7	60.6	.001

*Offenders who have reoffended within one year of release

Measures of impulsivity

Tests have been constructed as a means to operationalize impulsivity without an explanation of the mechanisms underlying impulsivity. As such, impulsivity has become defined by the task or tests used to operationalize it. The reliance of the psychological literature on instruments that measure

impulsivity without a consensus of definition and a lack of theory in the field is clearly problematic.

In a review of the research on the impulsivity construct, Milich and Kramer listed three specific problems with the test-specific approach to defining and understanding impulsivity.⁵ First, up until the time of their publication, they found that most of the measures failed to offer any incremental validity beyond age and IQ in understanding impulsivity. Second, there was a lack of any empirical convergence in the literature. This suggested that many measures were tapping into different constructs and that some, or all, were failing to tap into the impulsivity construct. Third, was the complete dearth of theory driven research. It would seem that the atheoretical nature of the construct of impulsivity is largely responsible for limiting progress in this area.⁶

The literature reveals the following consistent problems with self-report inventories of impulsivity:

- Lack of external criterion measures and biological measures other than other questionnaire scales.⁷
- Questionnaire measures of impulsivity are at least significantly intercorrelated but have low order and often insignificant correlations with behavioural or cognitive measures of impulsivity.⁸
- At present, there is a lack of research into the dynamic nature of these instruments.

It is evident that many techniques that purport to measure impulsivity are not measuring the same construct. The circular nature of the debates will not end until measurement of the concept applies external criterion.

The lack of consensus regarding the conceptualisation of impulsivity is indisputable. This inconsistency in the use of this concept has certainly found its way into the measurement of the construct. A strong theoretical orientation needs to be provided that can guide future efforts at scale construction in order to expose the links between impulsivity, its various manifestations, and antisocial conduct. For this reason we have turned to Barkley's⁹ conceptualisation of the self-regulation process. Barkley's model not only attempts to identify the mechanisms that serve the self-regulatory system but also specifically documents the nature of these systems and the structure in which they function.

There does not seem to be an overwhelming array of options to evaluate self-regulation processes of criminal offenders. Future instruments should attempt to measure the performance and abilities of individuals to inhibit task-irrelevant responses,

executing goal-directed responses, execute novel/complex motor sequences, persist in goal-directed behaviour, respond appropriately to feedback, exhibit behavioural flexibility, re-engage in a task following disruption, and control their behaviour by internally-represented information. Recent hi-tech innovations in brain imaging provide precise modelling of the functions of the brain in response to stimuli. These advances could one day permit the biological criterion for components of self-regulation for both self-report and behavioural measures.

Treatment implications for adult offenders

If we accept that deficits in self-regulation linked to neurophysiological underfunction are present in chronic offender populations and are implicated in their repetitive antisocial behaviours, a medication regime similar to that prescribed for hyperactive children may be a logical treatment option for these adults as well. There is, however, limited evidence for the utility of any kind of medication to address problems in self-regulation among adult offender populations. Most of the rare studies in the area are plagued by methodological problems of small sample size, lack of control groups and high rates of attrition. Two controlled pharmacological studies in the literature assessing the use of stimulants on adults with ADHD found a positive treatment response analogous to that of treated children, albeit a number of subjects experienced unpleasant side effects.¹⁰ Other studies have treated impulsive adults with tranquillisers¹¹ and anticonvulsants.¹² Cocarro's work links impulsive aggression in adults with low serotonin levels. He and his team have reported on successfully treating impulsively aggressive adults with SSRIs and the non responders (to the SSRIs) with antimanic medications.¹³

Another intervention strategy is to directly train individuals in the cognitive and coping skills they have not developed due to impairments in inhibition. Meta-cognitive strategies for slowing down cognitive processes and training in the development of skills that less impulsive individuals use to achieve their goals (through self-regulation) are components of such intervention programs. Table 2 outlines the deficits that should be addressed in a program designed to treat problems in self-regulation. In addition to these, we have pointed out that problems in self-regulation often lead to an antisocial orientation and an endorsement of beliefs and a lifestyle that are supportive of crime and rejecting of prosocial conventions and values. For this reason, the *content* of offenders' thinking should be addressed as well as their thinking process.

Meichenbaum's early work on the self-instructional learning pointed the way for those working with clients with problems in self-regulation.¹⁴ He proposed that self-instruction, composed of training in guided self-talk, assisted clients by allowing them to better perform five functions: direct their attention to relevant events; interrupt an automated response to environmental stimuli; search for and select alternative courses of action; uses rules and principles to guide behaviour (i.e. self-instruction criteria for success, aid in the recall of certain actions and focus thinking along relevant dimensions; and maintain a sequence of action in short term memory so that they can be enacted.

Among offenders, over the last 15 years cognitive-behaviour interventions that emphasise the training of self-regulatory skills have been identified as the treatment approach most often associated with reductions in offender recidivism. Reviews that have applied meta-analytic techniques to the evaluation of a large body of published, and in some cases, unpublished, research reports find an average small (.08 to .15), but significant, treatment effect size for correctional treatment with the cognitive behavioural interventions being cited as among the approaches consistently associated with positive outcomes. Although about 80% of the studies included in the meta-analyses involve juveniles, there are a number of studies involving adult subjects that point to a similar positive trend in the application of this approach. The most optimistic interpreters of the literature estimate that when "appropriate" interventions are applied, effects sizes above .30 can be expected.¹⁵ This translates into between 10 to 15% differences in recidivism rates between treated and untreated controls (for example, 40% recidivism rates as opposed to 50% or 55%).¹⁶

A number of programs that teach thinking skills are now delivered in correctional settings. However, no one program has been so widely adopted as the Cognitive Skills Training or Reasoning and Rehabilitation program as it is also known, was developed by Robert Ross and Elizabeth Fabiano. Cognitive Skills has become a core program in the federal Canadian correctional system and it has been implemented world wide in such constituencies as the United States, Europe, Australia, New Zealand, and throughout the British Prison system and the Probation Service in the United Kingdom. The

program is the base program in a menu of six Living Skills programs offered to federal offenders within CSC. The other programs are Anger and Other Emotions Management, Living Without Family Violence, Parenting Skills, Community Integration and Leisure Education. There are also community maintenance programs for the Cognitive Skills and Anger and Other Emotions programs.

In the Cognitive Skills program each component areas is addressed over several sessions with considerable overlap in material designed to provide adequate opportunity to overlearn the skills. A key to the successful delivery of the program has been the selection of a variety of training techniques that create an enjoyable classroom experience for the participants. The program avoids a didactic presentation of material. Rather, the trainers — or coaches, as they are called, use role plays, video-taped feedback, modelling, group discussion, games, and practical homework review to teach the skills.

Future directions

Treatment effectiveness may be enhanced for higher risk offenders by providing more intensive treatment and longer term follow-up or through efficient correctional planning. The Correctional Service of Canada is fortunate in this regard in that there is an extensive menu of programs designed to address a number of treatment needs and most community parole offices are now funded to provide adequate community follow-up once offenders are released from the institutions. Recently CSC has developed standardised high intensity programs designed to address the treatment needs of the highest risk offenders. Although the programs each address different content areas (Violence Prevention, Family Violence Prevention, Substance Abuse Prevention (in development)), the core components of the programs are devoted to training offenders on most of the cognitive behaviour techniques contained in the Cognitive Skills program and allows for more time to for offenders to overlearn the skills and more discussion time to help them understand the application of the techniques to their lives and circumstances. As outlined in Table 1, these newly implemented programs train offenders in the skills and strategies that Barkley's model suggests would be lacking in highly impulsive individuals. The high intensity programs train in an enriched

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Table 2

Problems in self-regulation and treatment options to address the deficits

Regulatory behaviour problems (Barkley)	Possible Treatment Options
1. Impairments in working memory. Symptoms problems in means end thinking, external locus of control, behaviour dictated by the immediate situation.	<ul style="list-style-type: none"> → Training to anticipate consequences → Training in problem solving to development a sense of self control rather than external control → Training in setting smaller realistic goals so that behaviour is not dictated by the "here and now"
2. Problems in emotional self control and lapses in motivation and lack of perseverance	<ul style="list-style-type: none"> → Teaching counters to self control failure → Self monitoring and other arousal reduction techniques; using verbal self regulation to "stop and think" → Developing personal goal setting to increase motivation to adhere to the use of the skills; managing distractions → Techniques for self reinforcement and self punishment
3. Impairment in the internalisation of speech and consequentially poor self regulation of behaviour	<ul style="list-style-type: none"> → Teaching verbal self regulation skills to help to identify the event → thinking → feeling → behaviour link and develop and use helpful self talk → Development of behavioural rules or strategies to approach interpersonal problems → Setting standards of conduct (generation of rules)
4. Poor analysis and synthesis of behaviour; failures to use response feedback	<ul style="list-style-type: none"> → Identifying the "behavioural chains" so that the sequence involved in the output behaviour is clarified (relapse prevention techniques) → Evaluating standards and rules and merging with long term goals → Acquiring feedback → Environmental control

range of skills that include many of those contained in the Cognitive Skills as well as items 2, 3 and 4 identified in Table 2.

With expected advances in pharmacological research, future interventions for chronic high risk

offenders with diagnosed problems in impulse control might benefit from combining high intensity cognitive behavioural treatment programs with a medication regime that could assist them in modulating their response to the environment. ■

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³ Ross, R. R. and Fabiano, E. (1985). *Time to think: A Cognitive Model of Delinquency Prevention and Offender Rehabilitation*. Johnson City, NN: Institute of Social Sciences and Arts. See also McCord, W and McCord, J. (1959). *Origins of crime: A new evaluation of the Cambridge-Somerville Study*. New York, N.Y.: Columbia University Press. See also Wilson, J.Q. and Herrnstein, R.J. (1985). *Crime and Human Nature*. New York, NY: Simon and Schuster. And see Gottfredson, M.R. and Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.

⁴ Barkley, R.A. (1997a). *ADHD and the nature of self-control*. New York, NY: Guilford Press.

⁵ Milich, R. and Kramer, J. (1984). "Reflections on impulsivity: An empirical investigation of impulsivity as a construct". In K. Gadow and I. Bialer (Eds.), *Advances in learning and behavioral disabilities*. p. 57-94. Greenwich, CT: JAI Press.

⁶ Milich, R., Hartung, C.M., Martin, C.A. and Haigler, E.D. (1994). "Behavioral disinhibition and underlying processes in adolescents with disruptive behavior disorders". In D. K. Routh (Ed.), *Disruptive behavior disorders in childhood*. p. 109-138. New York, NY: Plenum Press.

⁷ Barratt, E.S. and Patton, J.H. (1983). "Impulsivity: Cognitive, behavioral, and psychophysiological correlates". In M. Zuckerman (Ed.), *Biological bases of sensation seeking, impulsivity, and anxiety*. p. 77-122. Hillsdale, NJ: Lawrence Erlbaum Associates.

⁸ Barratt, E.S. (1983). "The biological basis of impulsiveness: The significance of timing and rhythm disorders". *Personality and Individual Differences*, 4 (4), 387-391.

⁹ Barkley, R.A. (1997b). "Behavioural inhibition, sustained attention and executive functions: Constructing a unifying theory of ADHD". *Psychological Bulletin*, 121, 65-94.

¹⁰ Wender, P.H., Wood, D. R. and Reimerr, F.W. (1983) "Pharmacological treatment of attention deficit disorder, residual type (ADD-RT) in adults". In L. L. Greenhill and B. B. Osman (Eds) *Ritalin: Theory and patient management*. p. 25-33. New York, NY: Mary Ann Liebert Inc. See also Greenhill, L. L. (1992). "Pharmacologic treatment of Attention Deficit Hyperactivity Disorder". *Pediatric Psychopharmacology*, 15, 1-27.

¹¹ Federoff, J. P. and Federoff, I. C. (1992). "Buspirone and paraphilic sexual behavior". *Journal of Offender Rehabilitation*, 18, 89-108.

¹² Barratt, E. S. and Slaughter, L. (1998). "Defining, measuring and predicting impulsive aggression: A heuristic model". *Behavioural Sciences and the Law*, 16, 285-302.

¹³ Kavoussi, R. J. and Cocarro, E. F. (1998). "Divalproex sodium for impulsive aggressive behaviour in patients with personality disorder". *Journal of Clinical psychiatry*, 59, 676-679.

¹⁴ Meichenbaum, D. (1977). *Cognitive-Behaviour Modification: An Integrative Approach*. New York, NY: Plenum.

¹⁵ Andrews, D.A., and Bonta, J. (1994). *The Psychology of Criminal Conduct*. Cincinnati: Anderson.

¹⁶ McGuire, J. 1995. "Community-Based Reasoning and Rehabilitation programs in the UK". In, *Thinking Straight: The Reasoning and Rehabilitation Program for Delinquency Prevention and Offender Rehabilitation*, edited by R.R. Ross and R.D. Ross. Air Training and Publications. Ottawa, ON.