

DIVISION OF EXPERIMENTAL CRIMINOLOGY

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Intervention Science in Criminology: New Approaches to Deliver Reliable Results

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Cognitive Behavioral Therapy (CBT) is considered the holy grail of interventions to reduce recidivism, with meta-analyses and systemic reviews reporting larger effect sizes than most other programs and/or interventions. The common belief is that the wider use of CBT will vastly improve programming and save lives (reduce recidivism). But, the state of our knowledge about the quality of CBT programs (and criminal justice programs overall) does not necessarily support this confidence. Both programmatic and non-programmatic factors affect the generally low quality of the programs delivered (see Palmer, 1995 for a discussion of these factors). In fact, CBT programs' shortcomings include: 1) a failure to adhere to the "what works" principles; 2) a tendency to treat offending as a generic behavioral issue instead of focusing on theoretical and driving factors that affect different types of offending, 3) script-like delivery of planned sessions and work books instead of focusing on processing information; 4) a failure to adapt to or influence the "justice" milieu or "justice-related" factors that may affect program delivery; and 5) frequent neglect of the comorbid or survival issues that affect receptivity to programming. An aggressive, experimental research agenda is needed to better understand the factors that affect the effectiveness of CBT (and other interventions) in real world settings, and this includes both programmatic and nonprogrammatic implementation-related factors (see Atkins, et al, 2017). Criminology and criminal justice as a discipline should adopt an intervention science approach to further design, develop, and test programs that are effective using engaged partnerships to better address the real-world settings that affect operations.



What is a Correctional Program?

Programs dominate responses that police, prosecutors, judges, and institutional or community corrections frequently use. Programs can range from a one-hour activity to a long-term therapeutic community in or outside of an incarceration setting. Programs can be offered in many different phases or settings of the justice system from diversion to community corrections to incarceration facilities to reentry to "hot spots" of crime. The variation in what a program constitutes evolves from the different program purposes, although it is generally expected that a program should change behavior (such as reduce recidivism and/or offending, reduce drug use, improve employability, etc.), or at a very minimum make a person aware of the error of their ways. That is, even if a program is meant to provide a meaningful punishment or offer a justice

response to a situation, there is generally a presumption that this will have an impact on behavior regardless of the stated purpose of the program. Added to the expectation confusion, is that the targeting of individuals to programs or the “what program is best suited for what type of individual” remains a mystery from a clinical or a research perspective. The question of “what works for whom” still prevails as an unanswered issue.

Intervention science proffers that there is an understanding that programs are different from interventions. Programs generally consist of a set of activities delivered for a particular focus but tend to be shorter in duration and less clinical. Interventions focus on behavioral change with an emphasis on providing a cadre’ of services and components. Furthermore, components should: 1) be theoretically driven; 2) have a clear delineation of the mechanisms of action that are tied to the desired behavior change; and 3) last longer than situational responses (time under justice control). Interventions have a theoretical foundation regarding behavior change.

“A framework for analyzing target behaviours in context and considering the full range of intervention functions and policy categories that may be relevant to the intervention problem is the Behaviour Change Wheel [1,2]. This was derived from a systematic review of 19 published frameworks, none of which were found to contain all the intervention functions known to be relevant. The Behaviour Change Wheel provides a basis for identifying what it would take to achieve the desired behaviour change in terms of changes to Capability, Opportunity and Motivation (the COM-B system). It then links this to 9 intervention functions (Education, Persuasion, Incentivisation, Coercion, Training, Restriction, Environmental Restructuring, Modeling and Enablement) and 7 types of policy that could be used to implement these intervention functions (Mass-media/marketing, Legislation, Fiscal policy, Service provision, Guideline development, Regulation and Environmental/social planning).” (Miche, 2014)

Therapeutic strategies like CBT are interventions when there is a theory of change or clear mechanisms of action. CBT is rooted in theories of human cognitions and behaviors but often the mechanisms get lost in the structure and processes of implemented CBT programs (typically manualized programs). That is, the translation of a CBT program often slips its theoretical moorings by focusing too narrowly on “covering the material in a manual” or doing the worksheets, and by focusing on various other less important features of a clinically-oriented CBT program. CBT’s success in other behavioral and cognitive arenas (as demonstrated by use with issues such as depression, anxiety, eating disorders, substance use disorders, family or peer relationships, etc.) are tied to specific behaviors or cognitive distortions which may be “addressed” in a workbook, but require more specific clinical intervention than merely completing a worksheet. A CBT program that works on substance abuse issues should be different than those that work on employability or criminal cognitions. A major drawback of criminal justice programs is that the programs tend to treat all criminal behavior similarly instead of focusing on different drivers of behavior (Taxman & Caudy, 2015).

To add to the confusion, the field of criminology and criminal justice tend to lack a practical, or even theoretically driven, categorization of programs. Psychology has the DSM-V to describe problem areas and substance abuse programming can model level of care based on the American Society of Addiction Medicine (ASAM) recommendations. Criminology lacks both. In criminal justice/criminology, programs or interventions tend to “look” the same and are often referred to as serving similar purposes to address the generic notion of criminal behavior. A lack of a taxonomy affects our expectations about outcomes (i.e. all programs should (equally) reduce recidivism, improve the functionality of an individual, etc.). The lack of

a taxonomy also contributes to mission creep where programs are expected to achieve a number of goals (and then fail to deliver). This is probably most visible in correctional programming where reentry programs that focus on housing and employment are expected to deliver the same outcomes as those that focus on criminal cognitions or substance use disorders—reducing recidivism is the general expectation. Or, mental health programs designed to increase access to treatment with the expectation that accessing treatment will reduce recidivism, regardless of whether the treatment is offered as a diversion or as component of a drug court program. Similar scenarios can be identified for efforts to divert individuals from jail or unnecessary incarceration. The general metrics for success are discussed in terms of recidivism reduction whereas some programs are designed to provide a fair and just administration of justice without having an impact on behavior.

With a taxonomy that differentiates among types of programs, it might be possible to further understand the purpose and goals of a program, including the expected outcomes. Taylor and colleagues (2017) used a taxonomy developed by Crites and Taxman (2013) to examine how CBT programming focuses across different program types. Using an existing meta-analysis of 24 CBT programs, Taylor and colleagues (2017) found that CBT programs focused on substance abuse (2.7%), criminal cognitions (48.6%), adjustment disorders (5.4%), and punishment (43.2%)—all with the expected outcome to similarly affect recidivism behaviors. But each had different impacts on recidivism. By categorizing the programs as CBT instead of the actual theoretical foundation of the program, the results of finding CBT “effective” may be misleading. A taxonomy would not only benefit researchers in understanding the different behavioral change models but also the programmatic or nonprogrammatic factors that might affect both the implementation and effectiveness of the intervention.

Advancing the Registries

The proliferation of registries in recent years has focused attention on providing easy tools to help practitioners, policy makers, and researchers identify those programs that “work” in terms of reducing recidivism. Each registry has their own coding scheme and emphasis on how different components of scoring the study affects the findings as to whether a program is effective. The most common registries are [Campbell Crime and Justice](#), which allows researchers to purpose the coding scheme, [Crime Solutions](#), which has a preset coding form, and the [National Registry of Evidence-based Programs and Practices](#), which also has a preset coding scheme. The results across the registries are not consistent, in that some programs may be declared “works,” “promising,” or “no effect” in one registry and have a different label in another registry. And, the same program can be classified differently in various registries. The lack of consistency is due to different coding schemes but also different value/emphasis placed on features of the research design, statistical results, and the available literature on a particular study. The discrepancies in coding and emphasis may be due to the lack of literature on the impact of different moderators or mediators that are related to program findings.

One criticism of these registries is that they are focused on the study results without paying enough attention to key program components, especially those are likely to be related to the results. For example, the study by Mitchell and colleagues (2012) of 154 evaluations of drug courts identified ten program features of drug courts. In the 154 studies, they had difficulties measuring these features, and developed several proxy measures. The study noted that three factors demonstrated an impact on recidivism (i.e. non-violent offenders, minor criminal history, and higher program graduation rate); other features had an impact on drug recidivism including a drug court with more than three phases, a program with two or more status hearings a month, and a higher graduation rate. This is one step towards understanding the type of program factors that affect the difference in reported outcomes; inconsistent findings suggest the need for more work in this area. Recently, scholars have echoed the need to better understand the components of programs,

including the key mechanisms that the program has operationalized (Miche, et al., 2011; Grant, et al., 2013). These calls highlight the importance of extending meta-analyses and systematic reviews to identify the mediators or moderators critical to key program outcomes and to better develop a taxonomy of programs including the identification of those that are effective. In fact, the WIDER Recommendations to Improve Reporting of the Content of Behaviour Change Interventions addresses the need for more detailed and precise information on intervention components (Albrecht, Archibald, Arseneau, & Scott, 2013).

Our approach to program testing and development is to use efficacy trials (i.e. results from these registries) to ensure that the program has internal validity. But, few research studies in criminology include fidelity measures and even fewer come to the conclusion that Martinson (1979) did that few programs were actually implemented. This means that evaluations of intervention efficacy often neglect measures of fidelity adherence, and therefore null, iatrogenic, or positive effects can not necessarily be attributed to flawed program implementation. This makes it difficult to build interventions or our knowledge base about what works.

The Quality Program

Evaluations and surveys of programs offered in the justice system tend to find the programs to be of low quality (Lowenkamp, Latessa, & Smith, 2006; Crites & Taxman, 2013; Ostermann & Hyatt, 2017). The Correctional Program Assessment Inventory (CPAI) and the derivative Correctional Program Classification (CPC) are the most common tools to assess program quality. A recent study by Ostermann & Hyatt (2017) reaffirmed the importance of examining recidivism rates in light of program characteristics where rearrest and reconviction rates across five programs increased for poorer quality programs. But, few organizations or programs use such tools since they often require a consultant, are not focused on the specific nature of programs, often include discretion in terms of identifying quality factors, and do not include non-programmatic factors that may affect program operations (Crites & Taxman, 2013).

The range of quality issues varies considerably. In a survey of nearly 500 programs used in prisons, community settings, or jails, many programs often ascribed to using CBT but lack the features of a core CBT programming (Taxman, under review). Many programs use a curriculum, in fact they may use many curriculums and workbooks; often selecting different components without consideration as to whether the components are consistent with a theory of change. Many programs offer didactic sessions but do not have processing sessions, and few offer feedback loops. Programs seldom include stress management or meditation, which are common in noncriminal justice settings and recommended to help individuals process and internalize the change. There is some concern for “scope creep” where a few sessions or various themes are offered consecutively without attention such as criminal thinking, stability, substance abuse, employability and so on. Staffing varies considerably from no clinical staff to some clinically trained staff to the use of volunteers, and few programs have in place quality assurance procedures to ensure that program quality is consistent over time. That is, the survey results reconfirm the need for more detailed understanding of “inside the black box” to better appreciate what the programming is and whether it can facilitate the goals of behavioral change. This is a sample of the quality issues that appear prevalent, regardless of justice setting or type of interventions.

Mechanisms of Action Needed

Interventions/programs are expected to deliver behavior change (reduced recidivism) but typically it is unclear what the underlying theory is. The famous logic model was designed to assist program planners, developers, and users begin to understand the linkage among the inputs, processes, outputs and outcomes, with a particularly focus on the processes. The processes are presumed to be the mechanisms that can



convert inputs into outcomes. But, usually these mechanisms are considered the “steps of the program” instead of the theoretical framework. Take for example the Project Greenlight reentry study conducted by Wilson & Davis (2006) which was a reentry program that had all of the “right parts” but did not deliver effective results. Marlowe (2006) reported that the program tried to include all program components but in doing so diluted the actual program components. The recent attention to guidelines that articulate the components (see [National Association of Drug Court Professionals Vol. I and Vol. II of the Adult Drug Court Best Practice Standards](#)), is a step forward but neglects to identify which of the core factors are the key operative for effective drug court programming—instead it treats each component as equally valuable. And, with the evidence that drug treatment courts tend to rely upon the coordinated case management approach, often times with or without clinical treatments, it is unlikely that positive results can be sustained (Taxman, Pattavina, & Caudy, 2013). Typically, it is the missing core mechanisms of action—that theory driven component—that is transformative.

The Justice Setting

Palmer (1995), Taxman, Byrne, & Pattavina (2004) and others have discussed the feasibility of offering therapeutic interventions in justice settings where the emphasis is on control. This extends to community corrections where the setting may overshadow the therapeutic efforts. Recent attention has been directed to the factors affecting how the justice system operations can be considered a nuisance to the effective delivery of quality programming, and therefore affect the results from studies of different programs/interventions. A few examples illustrate new areas of research that need to be considered by criminologists. Jub Sankofa and colleagues (2017), in a review of treatment programs offered in juvenile justice settings, noted that the curriculum of the program is not consistent with the survival needs of the youth and in fact the curriculum downplays the important skills that youth need to reduce the psychological harm from detention or the survival skills in detention settings. Recent focus on plea bargaining and the degree to which the justice processes themselves are punishment (Freely, 1990) are additional nonprogrammatic factors that might affect outcomes from programming. For example, if the conviction offense differs from the actual behavior that an individual was involved with, it is difficult for behavior change to occur based on a set of behaviors, attitudes, or actions that an individual “pled to” but may not necessarily engaged in. The justice processes or how an individual responds to authority (i.e. police, courts, corrections, detention, etc.) are seldom dealt with as part of the behavioral issues.

The Promise of Intervention Science

CBT is recognized as the key ingredient to successful programming for justice-involved individuals. The promise of CBT and other interventions is greater than the current delivery. Inside the “black box” of CBT is a set of unanswered questions that affect the effectiveness of criminology and criminal justice interventions. These include: 1) which target behaviors are to be addressed, 2) what is the nature of the innovation, 3) what are the key mechanisms of action to facilitate behavioral change, 4) what are the nonprogrammatic factors that affect implementation and sound quality programming, and 5) what are the factors needed to scale-up. Even though we are over 43 years since Martinson’s eye-raising study that “nothing works” or “some things work for some people,” we struggle with similar issues. Similar programmatic and nonprogrammatic factors prevail and we have not adequately identified those that affect the degree to which we can consistently achieve effective outcomes. A rigorous research agenda focused on experimentally testing these programmatic and nonprogrammatic factors is needed to advance both science and clinical practice, and it is best served by an engaged research-practitioner partnership to ensure



generalizability. Much work remains to design, develop, and test interventions for those that are involved in the justice system.

References

- Atkins, L., Francis, J., Islam, R., O'Connor, D., Patey, A., Ivers, N., Foy, R., Duncan, E.M., Colquhoun, H., Grimshaw, J.M., Lawton, R., Michie, S. (2017) A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. *Implementation Science*, 12(1), 77.
- Albrecht, L., Archibald, M., Arseneau, D., & Scott, S. (2013). Development of a checklist to assess the quality of the knowledge translation interventions using the Workgroup for Intervention Development and Evaluation Reporting (WIDER) recommendation. *Implementation Science*. *Implementation Science*, 8(1), 52. <https://doi.org/10.1186/1748-5908-8-52>
- Colquhoun, H.L., Carroll, K., Eva, K.W., Grimshaw, J.M., Ivers, N., Michie, S., Sales, A., Brehaut, J.C. (2017). Advancing the literature on designing audit and feedback interventions: identifying theory-informed hypotheses. *Implement Science*, 12(1), 117.
- Crites, E. & Taxman, F.S. (2013). The responsivity principle—Determining the appropriate program and dosage to match risk and needs. In F.S. Taxman & A. Pattavina (Eds.), *Simulation strategies to reduce recidivism: Risk need responsivity (RNR) modeling in the criminal justice system*. New York: Springer.
- Grant, S., Mayo-Wilson, E., Hopewell, S., Macdonald, G., Moher, D., & Montgomery, P. (2013). Developing a reporting guideline for social and psychological intervention trials. *Journal of Experimental Criminology*, 9(3), 355-367.
- Jub Sankofa, Cox, A., Fader, J.J., Inderbitzin, M., Abrams, L.S., & Nurse, A.M. (2017). Juvenile Corrections in the Era of Reform: A Meta-Synthesis of Qualitative Studies. *International Journal of Offender Therapy and Comparative Criminology*. Doi: 10.1177/0306624X17727075
- Lowenkamp, C.T., Latessa, E.J., & Smith, P. (2006). Does correctional program quality really matter? The impact of adhering to the principles of effective interventions, *Criminology & Public Policy*, 5(3), 201-220.
- Marlow, D.B. (2006). When “what works” never did: Dodging the “Scarlet M’ in correctional rehabilitation, *Criminology & Public Policy*, 5(2), 339-346.
- Martinson, Robert (1979). New findings, new views: A note of caution regarding sentencing reform, *Hofstra Law Review*. 7, 243.
- Michie, S. (2014). Implementation science: understanding behaviour change and maintenance. *BMC Health Services Research* 14(Suppl 2): O9.
- Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: A new method for characterizing and designing behaviour change interventions. *Implementation Science*, 6(1), 42. <http://doi.org/10.1186/1748-5908-6-42>



- Mitchell, O. J., Wilson, D.B., Eggers, A., & MacKenzie, D.L. (2012). Assessing the effectiveness of drug courts on recidivism: A meta-analytic review of traditional and non-traditional drug courts. *Journal of Criminal Justice*, 40(1), 60-71.
- Palmer, T. (1995). Programmatic and nonprogrammatic aspects of successful intervention: new directions for research. *Crime and Delinquency*, 41(1), 100 – 131.
- Taxman, F.S. Byrne, J.M., & Pattavina, A. (2005). Racial disparity and the legitimacy of the criminal justice system: Exploring consequences for deterrence. *Journal of Health Care for the Poor and Underserved*, 16(4, Supp. B), 57-77.
- Taxman, F.S., Perdoni, M., & Caudy, M. (2013). The plight of providing appropriate substance abuse treatment services to offenders: Modeling the gaps in service delivery. *Victims & Offenders*, 8(1), 70-93.
- Taxman, F.S., Pattavina, A., & Caudy, M. (2014). Justice Reinvestment in the US: The Case for More Programs. *Victims & Offenders*, 9(1), 50-75.
- Taxman, F.S., & Caudy, M. (2015). Risk tells us who, but not what or how: Empirical assessment of the complexity of criminogenic needs to inform correctional programming. *Criminology and Public Policy*, 14(1), 71–103.
- Taxman, F.S., (under review). Community Treatment: The Need for a Taxonomy. In D. Polaschek, A. Day & C. Hollin (eds). *The Handbook of Psychology and Corrections*. Wiley
- Taylor, L. R., Bhati, A., & Taxman, F. S. (draft). Comparison of Program Categories with a Theoretical Framework. Fairfax, VA: Center for Advancing Correctional Excellence! George Mason University.
- Wilson, J.A. & Davis, R.C. (2006). Good intentions meet hard realities: An evaluation of the Project Greenlight Reentry Program. *Criminology & Public Policy*, 5(2), 303-338.