Justice-Involved Individuals and Traumatic Brain Injury: Recommendations for Empirically-Validated Treatment Interventions across Various Settings

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## Table of Contents

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 8 (Pages 70-76)</td>
<td>“Group Interventions for Incarcerated Youth.” Michaels, Slay, &amp; Talbott (2015)</td>
<td>Integration of the Community Restitution and Apprenticeship Focused Training (CRAFT) program, and the YouthBuild program into current Colorado DYC practices.</td>
</tr>
</tbody>
</table>
Introduction

Tyler Camaione

The Centers for Disease Control and Prevention (CDC) reports that 1.7 million people sustain traumatic brain injuries annually (Faul et al., 2010). Although the number of TBI-related deaths between 2002 and 2006 was ~51,538 (Faul et al., 2010), the management and treatment of survivors continues to be of concern. Individuals who have sustained one or more TBIs in their lifetimes have been shown to experience a variety of long-term changes in functioning in the following areas: cognitive functioning, affective expression, impulse control, aggression, and social functioning. Based on these changes and/or deficits in functioning, this population is at higher-risk of exhibiting delinquent behavior and becoming involved in the criminal justice system (Leon-Carrion & Ramos, 2003).

Research regarding the prevalence of TBI among individuals in the criminal justice system is relatively novel. In a meta-analysis of nine studies, Farrer, Frost, and Hedges (2010) found that 30.6% of juvenile offenders had a history of TBI. Perron and Howard (2008) also reported that 18% of juvenile offenders committed to the Department of Youth Services reported a history of TBI. Additionally, in a study of incarcerated adult offenders, Williams et al. (2010), found that more than 60% reported a history of a head injury; 48% had experienced a mild TBI and 16% had experienced a moderate or severe TBI. Furthermore, Gorgens et al. (in-progress) found that 96% of inmates in a County Jail transition unit reported a history of TBI. That study suggested that 80% of inmates demonstrated a ‘superfecta’ comprised of TBI, mental illness, substance abuse, and criminal history.

The prevalence of TBI in adult and juvenile justice-involved populations draws attention to an important research gap: the development of evidence-based treatment and services for this
specific population. To address the lack of specific programming for this high-risk population, the following grant partners collaborated with the Colorado Brain Injury Program: the University of Denver, Denver County Jail, the University of Colorado, the Colorado Department of Judicial, and LM Enterprises. The Colorado Brain Injury Program was awarded grants from the Office of Behavioral Health (OBH) and the Health Resources and Services Administration (HRSA) to support this research and intervention.

The Office of Behavioral Health (OBH) grant provides funding from July 1, 2014, to December 30, 2016. This grant consists of three primary objectives focusing on psychoeducation for both corrections personnel and individuals affected by TBI. The first objective of the OBH grant is the development of a program to assist corrections personnel in the identification and assessment of TBI in their respective settings. The second objective is to provide justice-involved individuals with a history of a TBI an understanding of their injury and the resources available to them. The third objective is to education corrections personnel about the optimal management and treatment of individuals with TBI.

The Health Resources and Services Administration (HRSA) grant is funded from June 01, 2014 to May 31, 2018. This grant has four primary objectives. The first objective of the HRSA grant is to “develop, implement, evaluate, and disseminate, a best practice protocol for screening, identification, and assessment of TBI within the adult and youth corrections populations” (Dettmer, 2014). The second objective is to develop and disseminate knowledge of TBI and TBI-related challenges through professional training for corrections and judicial personnel. The third objective is to provide information about TBI to the families of the justice-involved individuals with TBI, and to develop, implement, and evaluate, an efficient means of support to provide referrals to appropriate service providers. The fourth objective is the
development, implementation, and evaluation, of a means to provide access to service providers for corrections populations.

In keeping with these objectives, graduate students enrolled in Dr. Kim Gorgens’ “Psychology of Criminal Behavior” course at the Graduate School of Professional Psychology, University of Denver were asked to complete a service learning project to survey the literature on empirically-supported interventions. Each of the following eight chapters provides a recommendation for an empirically-supported intervention for each one of eight specific populations. The interventions proposed can be implemented at the Denver County Jail Transition Unit, Denver Juvenile Probation, Boulder County Jail, Denver County Jail RISE Unit, Larimer County Jail, Denver District Problem Solving Court, Adams County Veteran’s Court, and the Division of Youth Corrections.

**Chapters**

Bratcher, Lee, and Maple (2015), compiled the first chapter, “Individual Treatment for Adults on Probation.” Following a comprehensive review, the researchers presented an individual treatment intervention for adult probationers: the Hawaii Opportunity Probation with Enforcement (HOPE) Project. This evidence-based practice was shown to both be cost-effective and efficacious with the implementation of increasing jail sentences for subsequent offenses, and mandated treatment programs following a third offense.

Fox, Martin, Metropoulos, and Metroz (2015), compiled the second chapter, “Therapeutic Group Interventions for Adult Probation.” Those authors recommend the following intervention: the *Reasoning and Rehabilitation (R&R)* program. *R&R* is a Cognitive Behavioral Therapy (CBT)-based treatment program that can be utilized in a variety of settings within the
legal system, and can be modified to meet the specific needs of individuals. R&R has been shown to reduce recidivism rates, while being cost effective. R&R uses of a brief treatment model that does not require highly-trained staff or mental health professionals. The authors also recommend integrating probationer families into treatment.

Carlson, Mantia, and Westinicky (2015), compiled the third chapter, “Individual Interventions for Juveniles on Probation.” The primary recommendation presented for a best practice intervention utilized for individual juvenile probationers is Functional Family Therapy (FFT). FFT is a well-supported, empirically-validated treatment that can be tailored to meet individual treatment needs. To offset the cost of FFT, the authors suggest specific resources to provide funding for agencies and families.

Bhatia, Mertlich, and Shaw (2015), wrote the fourth chapter, “Group Interventions for Juvenile Probationers with Traumatic Brain Injuries.” After reviewing existing literature the authors recommended an integration of the following evidence-based treatment interventions: the Family Solutions Program (FSP) and Group Motivational Interviewing (MI).

Eddy, McKee, and Smith (2015), reviewed best practices for the fifth chapter, “Individual Interventions for Incarcerated Adults.” Following their review of existing literature, the authors recommended the use of Solution-focused therapy due to its cost-effectiveness and its ability to address treat TBI-related behavioral problems.

Bishop, Brister, and Mallatt (2015), reported evidence-based best practices in the sixth chapter, “Group Therapy in Adult Corrections.” In their chapter, the authors recommend the integration of the Cognitive Self-Change (CSC) curriculum into the Denver County Jail Recovery in a Secure Environment (RISE) program. The focus of CSC is anger management and
impulse control, which, if offered concurrently with the RISE program’s substance use focus, would allow for a multi-faceted treatment approach for incarcerated offenders.

Horkott, Huston, and Robinson (2015), present their recommendations for an evidence-based best practice in the seventh chapter, “Individual Therapy with Juvenile Inmates: A Review of Evidence, Cost-Effectiveness, and Recommendations for the Implementation of Multisystemic Therapy in a Correctional Setting.” The authors of this chapter recommend the use of the Family Integration Transition (FIT) model of Multisystemic Therapy (MST) after reviewing evidence-based best practices for incarcerated youths. The authors present an in-depth cost-benefit analysis of this well-researched treatment modality that can be adapted to youth correctional populations.

Michaels, Slay, and Talbott (2015), authored the eighth chapter, “Group Interventions for Incarcerated Youths.” After examining the existing treatment programs offered by the Colorado Department of Youth Corrections (DYC), the authors conducted a review of existing educational programs. The authors recommend that the following two programs be integrated into the existing DYC program: the Community Restitution and Apprenticeship Focused Training (CRAFT) program, and the YouthBuild program. In their chapter, the authors present a cost-benefit analysis of each program and highlight the easy of modification of these programs to fit specific client needs.
References


Individual Treatment for Adults on Probation

Jannae Bratcher, Sonja Lee, Tiffany Maple, Megan Sempkowski

Traumatic Brain Injury (TBI) is related to an increased risk for violent and criminal behavior (Scott, McKinlay, McLellan, Britt, Grace, & MacFarlane, 2014). Research suggests that individuals who sustain a TBI can endure long-lasting symptoms such as anxiety, depression, impulsivity, aggression, and apathy (Bhalero, Geurtjens, Thomas, Kituramure, Zhou, & Marlborough, 2013). In addition, antisocial behaviors and substance abuse are often reported in this population (Scott et al., 2014). Two factors were considered when looking at individual treatment models for adult probationers with brain injury histories: (1) The application of treatment to a variety of symptom presentations common to offenders with a TBI and (2) the success of those treatments in reducing recidivism.

Individuals who have sustained a TBI may be at a higher risk of violating probation. Shiroma et al. (2010) conducted a study that examined prison infractions among inmates with TBI. The study revealed that both male and female inmates with a TBI history had a significantly higher rate of behavioral infractions relative to inmates without a TBI history. Notably, Scott et al. (2014) discovered that females are twice as likely as males to report internalizing behaviors (i.e., anxiety and depression) after TBI, while males were twice as likely as females to report externalizing behaviors after TBI (i.e., offending behaviors and substance abuse). Given those data, it is likely that male and female probationers with TBIs also struggle with compliance.

An important consideration for probationers with TBI history is level of functioning. A TBI can cause impairment in problem solving, memory, and other cognitive abilities (Bhalero et al., 2013). The process of therapy can be hindered by these limitations (Hsieh, Ponsford, Wong, & McKay, 2012). Probationers with a TBI history may require treatment that is adapted to meet
their needs. This might include strategies such as slowing the pace of treatment or the use of repetition for key points.

**The HOPE Project**

The Hawaii Opportunity Probation with Enforcement (HOPE) Project began with 34 of the highest-risk, least-compliant probationers (Alm, 2011). At the start of the program, the probationers received a formal warning from a judge that any violation of their probation conditions would result in an immediate arrest and a jail stay (Alm, 2011). For the first two months, the probationers were randomly drug tested at least once per week. The drug tests became less frequent if the probationer was compliant (e.g. negative test results). When a violation occurred, the probation officers filed a “Motion to Modify Probation” form, and a bench warrant was issued. The hearing was held within 72 hours of the violation while the probationer was temporarily confined. If the offender was found to have violated the conditions of probation, they were sentenced to a few days in jail and were required to report to their probation officer on the day of release. A probationer could request a treatment referral at any point, but if they violated probation on three occasions, the offender was mandated to intensive substance abuse treatment services (Hawkman & Kleiman, 2009).

Research by Hawkman and Kleiman (2009) reported significantly improved outcomes for HOPE program participants. Their results showed that within six months, positive drug tests for HOPE probationers decreased by 93%, versus only 14% for probationers in the comparison group (See Figure 1). Within the first year, only 10% of all HOPE probationers failed three or more drug tests. Similarly, within six months, missed appointments decreased from 14% to 1% for the HOPE probationers versus only 9% to 8% for the comparison group (See Figure 2). During the year following their assignment to HOPE, over 50% of these probationers never
missed an appointment and never had a positive drug test. Although less compliant at baseline, the HOPE probationers had a lower probation revocation rate (9%) than the probationers in the comparison group (31%).

**Figure 1.** The average number of positive UA’s across a 6-month period for offenders in the HOPE Project and offenders in the comparison group. Adapted from “Managing Drug Involved Probationers with Swift and Certain Sanctions: Evaluating Hawaii’s HOPE” Retrieved January 2015, from [http://hopehawaii.net/assets/hawkins-full-report-hope-2009.pdf](http://hopehawaii.net/assets/hawkins-full-report-hope-2009.pdf).

**Figure 2.** The average number of missed appointments across a 6-month period for offenders in the HOPE Project and offenders in the comparison group. Adapted from “Managing Drug Involved Probationers with Swift and Certain Sanctions: Evaluating Hawaii’s HOPE” Retrieved January 2015, from [http://hopehawaii.net/assets/hawkins-full-report-hope-2009.pdf](http://hopehawaii.net/assets/hawkins-full-report-hope-2009.pdf).
The strategy of the HOPE Project is highly cost-effective. For each individual on probation, the average yearly cost is $1,000. For an individual in the HOPE Project, the cost is about $2,500 including the cost of treatment (Larkin, 2014). Comparatively, a year in prison in Hawaii costs $46,000 (PBS, 2013). The lower probation-revocation rate for the HOPE offenders resulted in fewer days of incarceration, saving between $4,000 and $8,000 per probationer (Alm, 2011).

Additionally, the amount of time spent in court for the HOPE program participants was relatively brief with no increase in court fees (Hawkman & Kleiman, 2009). Without the need for an increase in staff or space, any additional monetary resources were used for additional drug testing or treatment. Furthermore, the paperwork for the violations took no more than a few minutes.

With the HOPE Project’s increasing popularity in recent years, other states have implemented versions of the program. Washington adapted the model of HOPE’s swift and certain sanctions with additional components of staff training and treatment. While the results are still only preliminary, there has been a sharp decrease in offender violations there as well (Warner, Aylward, & Mullins, 2012).

**Recommendation**

It is recommended that a program similar to the HOPE Project be developed that mandates random drug testing, swift and certain sanctions, and referrals to necessary treatment providers. The program should be structured such that once an adult probationer has been identified as having a TBI or related difficulty, they would be assigned to this specialized program. The individuals in the program would receive a consequence of an immediate arrest.
and short jail stay after any violation of probation. A violation of probation would include any specific terms and conditions set by the court, which would vary across different populations of offenders. The first jail stay would last for roughly three days, with each subsequent violation resulting in an increasingly longer stay. After an accumulation of three violations, the offender would be required to complete treatment programming that addresses their primary needs (e.g., depression, anxiety, substance abuse, anger, impulse control, social skills). The length of the mandated treatment would be determined collaboratively between the probation officer and treatment provider and reflect the probationer’s participation and progress.
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Therapeutic Group Interventions for Adult Probation

Samantha Fox, Emily Martin, Deanna Metropoulos, Heidi Metroz

In addressing the specific needs and concerns of adult probationers with traumatic brain injury, a group setting for intervention may be ideal. Some of the challenges faced by individuals with TBI greatly impact their ability to interact and communicate with others in a pro-social way; interpersonal perception may be impaired, such as understanding facial expressions or non-verbal gestures made by those around them, and individuals may also experience impulsive, erratic, and aggressive behavior (Morrell, Merbitz, Jain, & Jain, 1998). Based on these challenges, it seems only logical that group therapy options should be made available. In their 1998 study, Morell, et al. found that behavioral-based interventions such as cognitive-behavioral therapy have generally been successful in treating individuals with TBI and similar neurological concerns; those interventions can also be effectively employed in a group setting. Additionally, it has been noted that a family-integrated approach that yields success for patients with substance abuse concerns may also be effective for TBI. Denver’s Family-Integrated Drug Court (FIDC) and Delta County’s Family Treatment Court currently employ a family-integration model for the treatment of probationers dealing with substance abuse issues. As many challenges faced by those recovering from substance abuse are also faced by individuals with TBI, the interventions recommended here include CBT with a family-integrated approach.

Cognitive-Behavioral Therapy as an Effective Treatment Method

The basic principles of Cognitive-Behavioral Therapy (CBT) include the restructuring of cognitions and the development of interpersonal and social skills (Milkman & Wanberg, 2007). There are a variety of CBT programs presently in use with adult probation populations, many of
which are intended for group settings. Research shows that CBT is one of the more effective treatments for adult offenders in terms of reducing recidivism (Landenberger & Lipsey, 2005; Milkman & Wanberg, 2007; Palmer, McGuire, Hounsme, Hatcher, Bilby, & Hollin, 2007). However, there does not appear to be a particular program that is more efficacious than the rest. In an analysis of the effectiveness of three different CBT programs, Palmer et al. (2007) found that there was no significant difference in effectiveness between the programs.

**CBT Programs**

Three programs were selected from the larger group for their robust research support. They are *Think First*, *Reasoning and Rehabilitation (R&R)*, and *Enhanced Thinking Skills (ETS)*. The overall premise of these three programs is to “attempt to reduce reoffending by changing offender behaviors through cognitive skills training” (Palmer et al., 2007, p. 251). *Think First* focuses on social cognitive skills with an emphasis on relapse prevention at the end of the program. The program consists of 22 two-hour sessions, as well as a pre-session and a post-session in which the relapse prevention material is brought to the forefront (Palmer et al., 2007). *R&R* focuses on enhancing self-control, interpersonal problem solving, and pro-social attitudes (Milkman & Wanberg, 2007). The *R&R* program consists of 38 two-hour sessions with homework assignments to be completed between each session, and encourages the involvement of family, friends, or other supportive individuals in the treatment process. Specifically, those community members should learn about the program so they can aid in the offender’s growth (Milkman & Wanberg, 2007). *ETS* is essentially a shortened version of *R&R*, as it focuses on the same cognitive skills. *ETS* makes use of “modeling, role-play, reinforcement, cognitive exercises and dilemma games” in order to keep clients engaged in the material (Palmer et al., 2007, p.
This program consists of 20 two-hour sessions, with homework assignments between each session as does R&R (Palmer et al., 2007).

In one efficacy study, offenders who completed any of the three treatment programs were 33.4 percent less likely to be reconvicted than a control group of individuals who did not participate in any form of treatment (Palmer et al., 2007). Interestingly, the individuals who completed treatment were also 68.3% less likely to be reconvicted than those who began one of the treatment programs, but did not complete the program (Palmer et al., 2007). These results suggest that failure to complete the treatment program is related to lowered risk reduction.

Reconviction rates were measured according to the Offenders’ Index, a national government database that records reconvictions. In addition, researchers measured offender age, offense type, number of previous convictions, length of follow-up, and score on the Offender Group Reconviction Scale-2 (OGRS2). The OGRS2 gives the “probability of an offender’s risk of reconviction within two years based on nine demographic and criminal history items” (Palmer et al., 2007, p. 255). It was found that the effectiveness of the programs varied due to the length of follow-up and the offenders’ level of risk primarily (Palmer et al., 2007). Follow-up periods varied from 365 to 1,229 days based on the group the participant’s group assignment: completers, non-completers, or controls. The reconviction data for all three groups were gathered on the same day, ending all follow-up periods on the same date (Palmer et al., 2007).

In a review by Milkman and Wanberg (2007) R&R and its adaptation, R&R2 were studied. R&R2 was designed as a shorter program specifically for adult populations and employed a 15 session program created specifically to address concerns related to “age, sex, nature of antisocial behavior, risk of recidivism, and culture” (Milkman & Wanberg, 2007, p. 26). This shortened and more individualized approach to the R&R program was created to help
combat attrition and also lighten the workload of providers. In addition, the shorter format lowers treatment costs, making it more realistic for many settings. R&R does not specifically require highly trained staff or mental health professionals to deliver the therapy. R&R that is led by a mental health professional has been found to be more effective but the difference in treatment outcomes is not significant as long as the provider is able to communicate the program material (Milkman & Wanberg, 2007). There have been “generally positive findings for reducing reoffending, particularly when programme completion is controlled” (Milkman & Wanberg, 2007, Palmer et al., 2007, p. 260).

Offenders with TBI are suited to CBT because there is room for individualization based on the probationers’ needs, even within the group setting; the intensity of treatment can be adjusted as well (Wanberg & Milkman, 2007).

Substance Abuse

It is important to recognize the tremendous comorbidity between substance abuse and TBI. One study looked at 322 individuals who had consecutive admissions to a TBI rehabilitation unit. Thirty seven percent of them admitted to drug abuse and 62 percent of them admitted to alcohol abuse during the clinical interview (Corrigan, 1995). With CBT being an effective treatment for Substance Use Disorder as shown in the paragraph below, and substance abuse occurring so frequently among persons with TBI, it is both relevant and valuable to introduce CBT treatment for substance abuse concerns.

Substance Use Disorder is also prevalent in the general adult probation population. In 2012, the United States was home to 3.2 million adult males who were serving a probation sentence. Of the 3.2 million adult probationers, a reported 40.3 percent of them suffered from an
alcohol or illicit drug use disorder (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014).

With Substance Use Disorder being so common among adult probationers, failing to provide appropriate treatment to these individuals is a risk. Recidivism rates for state prison inmates reach over 50 percent within three years of release. It is estimated that each year approximately two-thirds of the estimated 600,000 new incarcerations are people who have violated the conditions of their probation or parole (Feucht & Gfroerer, 2011). Not providing appropriate treatment to adult probationers with Substance Use Disorder can lead to the following risks: relapse, continued criminal behavior, violations of supervision, re-incarceration, risks to the health and safety of communities, and an increased burden on the Criminal Justice System (SAMHSA, 2014).

**Effective Substance Abuse Interventions for Adult Probationers**

In 1994, the National Institute on Drug Abuse (NADA) funded a four-year meta-analysis on correctional treatments known as the Correctional Drug Abuse Treatment Effectiveness (CDATE) project. The meta-analysis evaluated studies measuring the effectiveness of cognitive-behavioral treatments. Programs were determined to have a cognitive-behavioral approach if they implemented problem solving training, social skills training (which incorporates modeling, role-playing, and feedback), interpersonal skills training, rational-emotive therapy, the relapse prevention model, and/or cognitively mediated behavior modification (Pearson, Lipton, Cleland, & Yee, 2002).

The meta-analysis specifically evaluated 44 cognitive-behavioral programs including:

- Social skills-development training (e.g. developing communication skills, learning to give and receive feedback, how to be assertive, conflict resolution, etc.)
- Problem-solving skills training
* Cognitive skills training (e.g. reasoning and rehabilitation).
* Thinking errors approach
* Other social skills training
* Social learning focused (implementing social modeling to explain and change behavior patterns)
* Self-control training
* Training in anger management
* Relapse prevention models (programs that teach the offender to deal with cravings and peer pressure)

Results suggest that cognitive-behavioral programs result in reduced recidivism rates. The CDATE project reviewed intervention programs and treatments in prisons, jails, probation, and parole settings, from 1968 through 1996. A total of 69 primary research studies were coded and categorized into 2,176 research comparisons of experimental and control groups. The results of this meta-analysis suggest that the cognitive programs were more than twice as effective as non-cognitive programs at reducing recidivism among probationers. The project found that recidivism could be reduced if the following elements were applied: a focus on providing treatment to higher-risk cases, determining specific criminogenic needs of probationers, and developing different styles or modes of the cognitive treatment that best fit with the probationer’s needs and learning styles (Pearson et al., 2002). A European meta-analysis also confirmed that cognitive-behavioral therapies are the most effective treatment for adult probationers as opposed to educational treatments, penal theory and deterrence, therapeutic communities, and diversion. Results from that study also showed that cognitive-behavioral therapy reduced recidivism within 24 months by 22.6 percent, while behavioral therapy reduced recidivism by 23.1 percent (Redondo, Sanchez-Meca, & Garrido, 1999). Seeing that R&R has proven to be an effective CBT treatment for probationers, it could also be specifically applied to probationers with substance abuse problems due to its focus on enhancing self-control, interpersonal problem solving, and
pro-social attitudes (Wanberg & Milkman, 2007). As noted above, there is a high comorbidity between individuals with TBI and substance abuse problems; therefore, it is recommended that R&R be implemented as an effective treatment for adult probationers with TBI.

**Family Integration**

Of Colorado’s seventy-three problem-solving courts, fourteen of them employ a family-integrated approach (Felsen, 2013). While these courts were focused primarily on the reunification of families with probationers facing substance abuse challenges, many of those challenges are analogous to those faced by probationers with TBI.

In Felsen’s 2013 survey of Colorado’s family-integrated problem-solving courts, positive outcomes were apparent. That research suggests that when comparing participants in the family-integrated courts to those who chose not to participate, there is a savings of $5,000 to $13,000 per participant after two years, even after accounting for program and treatment costs (Felsen, 2013). Most of the savings came from keeping children with their families, but also reflects reduced costs related to incarceration (Felsen, 2013).

The family-integrated treatment courts in Colorado use a customizable program based on the needs of the jurisdiction. The Family Treatment Court of Delta County, for example, employs a five-phase program that incorporates group therapy, individual therapy, exit strategies, and weekly court check-ins, providing education resources and involvement to the families and available support system throughout the individuals’ probation. At the time Felsen compiled her data, the FTC program had a graduation rate of 60-63 percent, and no dependency or neglect proceedings involving the family had been brought involving an FTC graduate (2013). Similarly, Denver’s Family-Integrated Drug Court (FIDC) clients from the program were “discharged
[from probation] more successfully and more often” than drug court clients who did not participate in the FIDC program. The FIDC clients were also found less likely to be incarcerated at the time of their discharge, their families were more intact, and they had greatly reduced their alcohol and/or drug use while involved with FIDC (Felsen, 2013).

Recommendations

Based on the scope of research presented here, the *Reasoning and Rehabilitation (R&R)* program is recommended for use with adult probationers in a group setting. This program was chosen due to its flexibility, its focus on enhancing self-control, interpersonal problem solving, and pro-social attitudes (Milkman & Wanberg, 2007). As mentioned above, the *R&R* program has 38 two-hour sessions delivered to groups ranging from six to 12 participants. The program recommends the sessions be offered two to four times a week depending on the availability of the institution and/or the probationers’ schedules and run eight to 12 weeks (Joy Tong & Farrington, 2006). The program leader does not need to be a highly trained mental health professional. The *R&R* authors created the program to be run satisfactorily as long as the facilitators possess the following characteristics:

* Above-average verbal skills.
* Ability to relate empathically to probationers while maintaining rules, regulations, and the mission of the correctional agency.
* Sensitivity to group dynamics.
* Ability to confront offenders but not demean them.
* Above-average interpersonal skills.
* Successful experience managing unmotivated, hostile, or critical individuals.
* Humility and the consideration of others’ views.
* Enthusiasm.
* Understanding of the cognitive model (Milkman & Wanberg, 2007, p. 25)
By allowing the program to be administered by anyone with those characteristics, more facilitators can be trained to carry out R&R (Milkman & Wanberg, 2007).

In 2001, a study in Washington demonstrated the R&R program to be cost-effective. Since R&R is conducted in a group setting, the cost per probationer is approximately $300 for the entire program. The net taxpayer-only benefits per participant are approximately $2,202 and the savings for taxpayers and crime victims is $7,104 (Aos, Phipps, Barnoski, & Lieb, 2001, p. 30).

It is recommended this program be mandated for probationers identified to have a TBI history because probationers who do not complete the full program have higher recidivism rates than those who do not begin it at all. Probationers that completed the program were significantly less likely to be readmitted to prison (16.3 percent) compared to the participants who did not complete the program (25.3 percent) or the control group (24 percent) (Joy Tong & Farrington, 2006). Further, R&R has also been noted to be more effective in community settings compared to institutional settings. For community settings, fewer completers (30 percent) and participants (39.7 percent) were readmitted, compared to controls (50.15%) (Joy Tong & Farrington, 2006).

While R&R is highly recommended, there are a few limitations. The program is not appropriate for probationers with an IQ below 70 due to the possibility of not understanding the lessons. An additional limitation is that probationers with neurotic symptoms did not benefit from the program; they experienced a 34.1 percent recidivism rate, while the controls had a 20.4 percent recidivism rate (Joy Tong & Farrington, 2006).

Finally, with CBT methods such as the R&R program, family involvement is key; this additional aspect boosts a client’s chances of successfully completing their program and avoiding reoffense (Milkman & Wanberg, 2007). The most efficient use of treatment dollars includes the
delivery of R&R, supplemented by a family-integrated approach in the courts; this would be the most effective way to address the unique needs of probationers with TBI histories.
References


The family system plays a crucial role in the initiation and intensification of problematic adolescent behavior (Rowe & Liddle, 2003). Given that, it is important to consider the family system when developing models to deter juvenile delinquency and treat common issues that impact this specific population, such as substance abuse, mental illness, and traumatic brain injury. A number of researchers in the field of juvenile delinquency believe that family therapy is the most effective and comprehensive form of treatment for at-risk youth (Alexander & Sexton, 2002; Alexander, Pugh, Parsons, & Sexton, 2000; Gordon, Arbuthnot, Gustafson, & McGreen, 1988; Henggeler & Bourdin, 1990). Although this chapter will frequently refer to “family therapy,” it should be noted that these interventions could also be utilized with legal guardians or foster families. This chapter will discuss the potential benefits of incorporating Functional Family Therapy (FFT) and supplemental individual Cognitive-Behavioral Therapy (CBT) sessions into the treatment of juvenile offenders on probation.

**Traumatic Brain Injury in Juvenile Youth Probation**

Traumatic Brain Injury (TBI) may predispose people to delinquent behavior due to the impact that TBI has on overall brain functioning (León-Carrión & Ramos, 2003). Common sequelae of TBI in youth include changes in personality and emotional expression (Andrews, Rose, & Johnson, 1998; Geraldina et al., 2003), impaired social functioning (Janusz, Kirkwood, Yeates & Taylor, 2002) as well as physical, sensory, and cognitive deficits (Hawley, 2003). TBI can negatively impact impulse control, planning ability, emotional and behavioral regulation, attention, and processing speed (Yeudall, Fromm-Auch, & Davies, 1982). It is common for
youth who experience TBI to demonstrate higher levels of aggression which may increase the likelihood of them encountering legal problems (Dooley, Anderson, Hemphill & Ohan, 2008). Additionally, deficits in social and emotional communication are risk factors for juvenile delinquency (Tonks et al., 2008). It is not surprising, then, that TBI rates are significantly higher in offender populations (Williams, Cordan, Mewse, Tonks & Burgess, 2010).

According to the Mental Health Association of New York, youth in the juvenile justice system are at a higher risk for mental illness which is another risk factor for juvenile delinquency (MHANYS, 2013). There are a number of problems common to youth involved in the juvenile justice system and young people with a history of traumatic brain injury. Depression, anxiety, higher impulsivity, aggression, academic and social difficulties are some of the symptoms that overlap between these two populations (Espinosa, Sorenson, & Lopez, 2013; Farrer, Frost, & Hedges, 2013; MHANYS, 2013; Vaughn, Salas-Wright, Delisi, & Perron, 2014). Early recognition and intervention for the sequelae of TBI is considered a crime prevention tool (William et al., 2010). Therefore, resources should be allocated to TBI screening and the presence of TBI should be taken into account while developing a juvenile offender’s treatment plan.

**Overview of Functional Family Therapy**

Functional Family Therapy (FFT) is a family-based intervention designed for youth 11-18 years old exhibiting dysfunctional behavioral problems (Alexander et al., 2000). FFT works with the family as a whole and takes multiple perspectives into consideration. The child’s behavior is viewed as the product of several factors including problems with family, peers, and school, which must each be targeted to decrease the youth’s maladaptive behaviors (Alexander & Robbins, 2010). The overall goal of FFT is to decrease risk factors and increase protective
factors using a variety of approaches aimed at preventing future delinquency (Alexander & Robbins, 2010).

FFT targets youth who may be involved in the criminal justice system and youth who exhibit violent, delinquent behaviors. This type of therapy also engages youth who are at-risk for substance abuse or out-of-home placement. Alexander and colleagues (2000) also recommend this type of intervention for youth who have been diagnosed with Conduct Disorder and Oppositional Defiant Disorder.

**Functional Family Therapy in Practice**

FFT is a short-term therapeutic program that provides families approximately eight to 12 hours of therapy for mild cases; more difficult cases may require up to 30 hours of treatment (Sexton & Alexander, 2000). FFT is primarily delivered through direct contact between a therapist and the family via telephone and in-person (Sexton & Alexander, 2000; Alexander et. al, 2000). A licensed clinical psychologist oversees a team of master’s level therapists to provide support and tailor the treatment and resources to the family as efficiently as possible. Depending on the needs of the family, therapy may also be supplemented with other services such as education or employment training (Alexander et. al, 2000).

**Empirical Support for FFT**

Researchers have examined the efficacy of family-based interventions in treating juvenile delinquency. Although several types of family-based therapeutic interventions have been studied, FFT has substantial empirical evidence supporting its use in the treatment of adolescents (Alexander & Sexton, 2002; Elliot, 1997; Sexton, Alexander, & Mease, 2003; Waldron & Turner, 2008) and FFT has been shown to be more cost effective than other family-based
treatments, such as Multisystemic Therapy (MST) (Drake, Aos, & Miller, 2009). FFT has been shown to be effective for juvenile offenders of various ethnic and racial backgrounds and has been labeled as a “model program” by Blueprints for Healthy Youth Development (Center for the Study Prevention of Violence, 2014; Blueprints for Healthy Youth Development, 2015).

The first randomized controlled trial of FFT demonstrated that the intervention reduces juvenile arrests (Alexander & Parsons, 1973). In that study, the researchers reported that 26% of delinquent youth who received FFT were arrested within 18 months of treatment compared to 47% of delinquent youth assigned to a family groups program, 73% of delinquent youth assigned to a psychodynamic family program, and 50% of delinquent youths in a no-treatment control group (Alexander & Parsons, 1973).

Recent trials of FFT in community-based settings confirm the early findings. After passing the Community Juvenile Accountability Act (CJAA), Washington designed a study to compare research-based treatment programs in the juvenile court system (Barnowski, 2004). In that study, 387 families were selected to receive FFT (Barnowski, 2002; 2004). Results indicated that FFT was successful in reducing felony recidivism; at 12- and 18-month follow-ups, rates of recidivism were 40% lower for youth assigned to the FFT condition compared to a control group that received standard juvenile court services (Barnowski, 2002; 2004).

Another trial of 917 juvenile offenders compared the effectiveness of FFT to a standard probation services (Sexton & Turner, 2010). This study was the largest randomized trial of FFT and the first to utilize community-based practitioners for the delivery of services (Sexton & Turner, 2010). Results indicated that FFT participants showed a 34.9% reduction in felony crimes and a 30% reduction in violent crimes over a 12-month period compared to the control condition (Sexton & Turner, 2010).
Cost-Effectiveness of FFT

Although the initial investment of implementing FFT is significant due to training, technology, and supervisory costs (Zazzali et al., 2008), cost-benefit analyses argue that it is a worthwhile investment (Lee, Aos, & Pennucci, 2015). A recent cost-benefit analysis from the Washington State Institute for Public Policy reported that the total monetary benefit of FFT for juveniles on probation was $26,587 after subtracting the treatment implementation cost of $3,357 per participant (Lee et al., 2015). All told, the benefit is approximately $8.94 per dollar spent on juveniles on probation receiving FFT (Lee et al., 2015). Another cost-benefit analysis, this one conducted in Pennsylvania, suggests that FFT yielded savings of $57,341 per youth (Rhoades et al., 2011). The economic benefits associated with successful completion of FFT reflect reduced victim costs and reduced taxpayer costs for supervision or incarceration (Jones, Bumbarger, Greenberg, Greenwood, & Kyler, 2008). Successful treatment outcomes can also lead to higher high school graduation rates, increased tax revenues from participants’ future earnings, decreased utilization of public assistance, and reduced likelihood of requiring expensive out-of-home placements (Aos et al., 2011; Karoly et al., 1998). Based on their analyses, Lee et al. (2015) reported a 100% probability that the benefits of implementing FFT will outweigh the costs.

Funding Options for Treatment

Literature in the field of juvenile justice recognizes the relationship between poverty and juvenile offending (Chung & Steinberg, 2006; Maschi, Smith-Hatcher, Schwalbe, & Rosato, 2008). With the implementation of the Affordable Healthcare Act and the expansion of Medicaid, a greater number of individuals, including those involved in the juvenile justice system, will have access to community mental health treatment which may include FFT. Given
its status as an evidence-based treatment, FFT is described as a “prime candidate” for Medicaid funding (Blueprints for Healthy Youth Development, 2015). One potential funding option would be to develop a service contract that allows Denver County Probation to partner with local mental health agencies to provide FFT services to families who are eligible for Medicaid funding. Given the necessity of utilizing highly trained FFT clinicians to deliver the interventions, another option worthy of exploration is to have the University of Denver host a training seminar that would certify student therapists in the delivery of FFT. The University of Denver trains masters and doctoral-level mental health therapists in several different departments.

**Recommendation**

FFT is an evidence-based treatment that is recommended for juveniles involved in the juvenile justice system. Given the program’s focus on increasing familial engagement and building on strengths, this program is especially well-suited for use with young offenders with a history of brain injury. Probation staff should continue their needs assessment when a juvenile is assigned to probation so that treatment can be tailored to his or her unique therapeutic needs. For example, it may be necessary to connect the family to community resources, recommend parenting classes, or provide substance abuse treatment in addition to FFT. While the initial cost to implement FFT programming in a community setting is significant, it is possible to utilize the funds allocated to the expansion of Medicaid to increase this program’s accessibility to low-income families.
References


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Group Interventions for Juvenile Probationers with Traumatic Brain Injuries

Lindsey Shaw, Megan Bhatia, Tyson Mertlich

Research from 2012 states that there were 1,319,700 juveniles arrested in the United States, and of those 32,048 were arrested in the state of Colorado. These juvenile arrests accounted for 10.8% of all arrests in the United States and 13.8% of all arrests in Colorado (Puzzanchera & Kang, 2014). Given the difficulty of defining and measuring recidivism (Harris, Lockwood, Mengers & Stoodley, 2011), there is no consensus on what the rate of re-offense among juveniles is, but there have been estimates as high as 90% (Snyder, 1998). With the volume of juvenile arrests and the high likelihood of re-offense, it is especially important to establish effective interventions for the first-time offenders.

As a part of the Virginia Collaborative Policy Summit on Brain Injury and Juvenile Justice (Proceeding Report 2013), Minnesota, Utah, Virginia, Nebraska and Texas are currently implementing curricula that have been effective in reducing recidivism among juvenile probationers. Virginia researchers compiled a review of studies and concluded that the most prominent features in juveniles with TBIs are disciplinary problems, mental health problems, anger, difficulties controlling behavior and violent impulses (Beckworth, 2013; McDonnell, Brooke, Inge, McDonough, & Revell, 2013). All of those features contribute to recidivism (McDonnell, et al. 2013). An effective treatment curriculum should be tailored to address these problems among juveniles. This chapter will look at two specific interventions designed to reduce recidivism in this population, Multiple Family Group Intervention and Group Motivational Interviewing (MI).

Multiple Family Group Intervention incorporates personal relationships as well as community influences to make an overall impact on the juvenile’s life. Creating a positive
environment within the household and in the community is essential to successful treatment for juveniles. Empirical studies show that Multiple Family Group Interventions can positively influence TBI sequelae such as behavioral impulses, anger management and problem solving skills. Likewise, Group MI focuses on providing juveniles a forum to analyze their own behaviors and recognize thoughts, behaviors and attitudes that impact their decision-making. Using guided therapeutic approaches, the juveniles are taught to take responsibility for their actions and encouraged to address TBI-related symptoms such as violent impulses and behavior dyscontrol. This chapter will explore the two intervention techniques in more depth to provide a clearer understanding of intervention objectives and effectiveness.

**Multiple Family Group Intervention**

Multiple Family Group Intervention has been used to create a network of relationships that promote community support and solution-building that extend beyond the duration of the program (Figley, 2002). Two therapists/group leaders facilitate the program over 10 sessions. An average group consists of six to eight families, each with a juvenile on probation. The program is referred to as the Family Solutions Program (FSP) and is specifically designed to be effective at addressing disciplinary problems, anger issues and other behavioral issues (Stoddard, 2006).

One study comparing the re-offense rates among juveniles who completed this program over a 10-year period showed that 42% of juveniles who did not complete the program re-offended compared to 24% of juveniles who graduated from the program. In a comparison group of juveniles on probation who were not part of the program, 55% re-offended (Quinn, 2004). Stoddard (2006) reported that juveniles who did not re-offend had attended an average of 6 sessions. Overall, it has been shown that juveniles who did not participate in FSP were 9.3 times more likely to reoffend than juveniles in the program (Caldwell, Horne, Davidson, & Quinn,
GROUP INTERVENTIONS FOR JUVENILE PROBATIONERS WITH A TRAUMATIC BRAIN INJURY HISTORY

2007). Not only has this type of program shown success over time, it is a cost-effective intervention because fewer professionals are needed to facilitate it than other types of interventions. It is also a relatively brief intervention (Chamberlain & Rosicky, 1995; Figley, 2002).

**Group Motivational Interviewing**

As characterized by RAND Health, motivational interviewing (MI) is a guided therapeutic approach that helps participants think collaboratively about their motivations and commitment to change. To accomplish this goal, MI employs a variety of strategies such as asking open-ended questions, giving reflections and providing affirmations. Group MI is an excellent fit for the juvenile population because it incorporates their personal experiences while eliciting ideas about how adolescents can change and make healthy choices. MI also works for youth who are at risk or come from disadvantaged or cultural-minority backgrounds (RAND, 2015).

One study that highlights the success of group MI among juveniles evaluated the effectiveness of *Free Talk*, a specific group MI intervention for adolescents with a first time alcohol or drug (AOD) related offense, by comparing it with usual care (UC) treatment. The program consisted of six sessions in which one facilitator invited participants to assess their behaviors and determine paths for change (D’Amico et al., 2013). D’Amico et al. (2013) found that 28% of the teens in a UC group committed an offense within one year following their first offense compared to those in the *Free Talk* group in which only 19% re-offended.
Recommendation: A Combined Multiple Family Group Intervention and Group MI Approach

Both Multiple Family Group Intervention and Group MI are proven to be effective in reducing recidivism rates among juvenile offenders. Considering the effectiveness of these interventions, the State of Colorado’s juvenile justice system should implement a TBI program incorporating both techniques. The Group MI intervention technique, the Free Talk program, should be utilized during the FSP sessions. While the Free Talk program was designed for juvenile first time alcohol or drug-related offenders (AOD), both AOD and TBI populations are similarly at risk and report similar symptoms, such as the inability to control their behavior and violent impulses. Facilitators for the Family Solutions Program should be trained in the Group MI techniques exhibited in the Free Talk program while adhering to the Family Solutions Program structure. Facilitators as well as family members must be educated to recognize symptoms of TBI among juvenile probationers in order to better recognize and address them during treatment. By utilizing a combined approach that targets individual and family systems, a community can be created and equipped with the tools necessary to address issues that arise during and outside of group therapy.
References


Proceedings Report.


The prevalence of mental illness in forensic populations has been rising steadily. More than 450,000 Americans with a recent history of mental illnesses are incarcerated in US Jails and prisons; of these, 72 percent of those persons have a co-occurring substance abuse disorder (NAMI: National Alliance on Mental Illness, 2015). Evidence suggests that individuals with a history of traumatic brain injury (TBI) are at the greatest risk of substance abuse and mental illness (Corrigan & Deutschle, 2008).

Research suggests that the comorbidity of substance abuse and mental illness with traumatic brain injury (TBI) is related to higher rates of recidivism (Corrigan & Deutschle, 2008). Recidivism risk is related to homelessness, illegal drug use, and increased risk of death (Binswanger, Stern, Deyo, Heagerty, Cheadle, Elmore & Koespell, 2007; Burdon, Messina, & Prendergast, 2004; Oldham, Skodol, Bender, & Coid, 2005; Petersilia, 2000; Prendergast, Campos, Farabee, Evans, & Martinez, 2004).

Solution-Focused Therapy

The cyclical nature of substance abuse, mental illness crime, and imprisonment puts an individual at risk for reoffending. Treatment delivered in corrections should be focused on preparing the inmate community re-entry (Lindforss & Magnusson, 1997).

One such model is Solution-Focused therapy. Solution Focused therapy focuses on solutions and is goal-oriented, rather than problem-focused and is also known as Brief Solution Focused Therapy or Solution Focused Brief Therapy. This model was developed by Steve de Shazer and Insoo Kim Berg (Visser, 2013). Their model promotes solutions to behavioral problem including an emphasis on identifying the behaviors an inmate is already engaging in that might contribute to the resolution of the problem.

Solution-focused therapists probe the inmate’s experience with questions about what life would be like
without the problem. The answers to this probing generates direction and potential solutions (Visser, 2013).

One Swedish study evaluated the effectiveness of individual solution-focused therapy. After 12 months, participants in the individual solution-focused therapy group showed a 53% recidivism rate compared 76% in the control group (Lindfors, & Magnussen, 1997). During a one year follow-up, twice as many participants in the control group relapsed into drug use and the rate of new offenses in the control group was higher (153) as compared to individuals in the solution-focused therapy condition (86; Lindfors & Magnussen, 1997). Further, members of the control group were incarcerated longer than the members of the individual solution-focused network therapy condition, 136 months vs. 86 months (Lindfors & Magnussen, 1997). Data from a separate meta-analysis suggests that 83% of studies on individual solution-focused therapy showed significant benefits across fewer sessions than other therapies (Gingerich & Peterson, 2012). One major benefit to solution-focused therapy is that it provides a brief and effective framework in which to conduct therapy, often requiring fewer than less than six sessions (Gingerich & Peterson, 2012).

**Recommendation**

Solution-focused therapy is recommended to treat the breadth of symptoms and behaviors associated with brain injury and the related comorbidities. This efficient model reduces the cost of individual treatment by reducing the number of treatment hours required to effect change.
References


Group Therapy in Adult Corrections

James Bishop, Michelle Brister, and Sara Mallatt

According to the Bureau of Justice Statistics, the estimated prison population at the end of 2013 was 6.8 million (Glaze & Kaeble, 2014). The Bureau of Justice also states that the amount of time served in prison has no impact on an inmate’s likelihood to recidivate, and an estimated two thirds of offenders who are released from prison will be rearrested for a new crime within three years of their release (Frueh & Henning, 1996). The main goal in a correctional-intervention program is to reduce the rate of crime. That said, research suggests that psychological programs offer the most promise (Frueh & Henning, 1996).

Many studies have found cognitive behavioral therapy (CBT) to be the most successful intervention in corrections (Powell & Sadler, 2008). One meta-analysis looking at 69 different studies reported that cognitive behavioral programs were more effective than behavioral programs in reducing recidivism risk (Milkman & Wanberg, 2007).

Cognitive behavioral therapy addresses the dysfunctional thinking that leads to criminal activity (Milkman & Wanberg, 2007). In offender treatment, CBT assess attitudes, thoughts, and choices that are related to criminal and deviant behavior (Milkman & Wanberg, 2007). Cognitive behavioral therapy interventions strive to replace these deviant behaviors with alternative solutions; ultimately helping the patient live a healthier lifestyle (Milkman & Wanberg, 2007).

The Cognitive Self-Change program (CSC) and Recovery in a Secure Environment (RISE) are two intervention programs with cognitive components that provide rehabilitation in group settings to incarcerated adults who have committed a violent offense.
This section will highlight research that demonstrates the positive effects CSC has on participants, and although RISE is a relatively new program, it provides a model for Colorado jails. Furthermore, there is evidence that CSC would be a successful program for offenders with traumatic brain injury (TBI) histories. With adaptation, these programs can have a significant impact in Colorado corrections.

**Cognitive Self-Change**

Powell, Bush, and Bilodeau (2001) identified a need within the Vermont correctional system for a “more explicit intervention, focusing on specific cognitive structures, criminal self-image, and antisocial attitudes” (p. 11). Additionally, the program authors wanted to take the treatment out of the mental health offices and embed it into the unit by having correctional officers and caseworkers participate fully in the treatment. Thus, the Vermont Cognitive Self-Change (CSC) program was created. The program was initiated twenty-seven years ago as a cognitive behavioral restructuring intervention for male inmates convicted of violent crimes who displayed a history of interpersonal aggression (Sadler & Powell, 2008). Overall, the program’s basic goal is to teach offenders to identify their cognitive distortions and understand the extent to which these distortions have influenced previous criminal behavior.

The premise of CSC is that an individual’s external behaviors are controlled by acquired thinking and feeling habits, including underlying attitudes and beliefs (Powell et al., 2001). As such, CSC argues that by bringing these thoughts and feelings into conscious awareness, offenders will develop the skills to regulate them. Through CSC offenders learn how thinking leads to criminal behavior and so they are able to recognize that their criminal activity is not the product of external forces, but rather their own thoughts, feelings, beliefs, and actions.
A study conducted by Henning and Frueh (1996) compared CSC treatment groups to a non-treatment group and found that, at baseline, the two groups were not significantly different in their age at first adult conviction, number of adult felony convictions, need for substance abuse treatment, or age at release to the community (Henning & Frueh, 1996). At the end of the study, 50% of the CSC group members reoffended, compared to 70.8% of the offenders in the comparison group (Henning & Frueh, 1996). Additionally, offenders who participated in the CSC program had a 25% chance of receiving a new criminal charge within 1 year; a 38% chance within 2 years; and a 46% chance within 3 years compared to 46% (1 year), 67% (2 years), and 75% (3 years) in the control group (Henning & Frueh, 1996; see Table 1).

Table 1: CSC Dosing and Number of New Charges, Post Release

<table>
<thead>
<tr>
<th></th>
<th>No New Charges</th>
<th>One New Charge</th>
<th>Two or More Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>79 (60.3%)</td>
<td>17 (13%)</td>
<td>35 (26.7%)</td>
</tr>
<tr>
<td>n=131</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>88 (67.7%)</td>
<td>22 (16.9%)</td>
<td>20 (15.4%)</td>
</tr>
<tr>
<td>n=130</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>95 (75.4%)</td>
<td>12 (9.5%)</td>
<td>19 (15.1%)</td>
</tr>
<tr>
<td>n=126</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An additional study conducted by Sadler and Powell (2008) examined the number of days an offender was incarcerated after being released from a correctional facility. Recidivism was measured at both 12 and 24 months post release. Their results demonstrated that offenders with the highest level of CSC exposure (150 hours or more) were the least likely to return to a correctional facility during their first year of release (Sadler & Powell, 2008; see Table 2).

Table 2: Means and Standard Deviations for Incarceration, Days Post Release, during the first year, according to CSC dosage

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Number of Incarceration days post Release</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Dosage</td>
<td></td>
<td>59.64</td>
<td>91.69</td>
</tr>
<tr>
<td>Medium Dosage</td>
<td></td>
<td>77.98*</td>
<td>95.03</td>
</tr>
<tr>
<td>High Dosage</td>
<td></td>
<td>42.38*</td>
<td>72.37</td>
</tr>
</tbody>
</table>


**Recommendation: Cognitive Self-Change in Action**

The Denver County Jail currently offers a program called Recovery in a Secured Environment (RISE), for which the target population is substance users. The program
incorporates several treatment modalities including 12-step principles, cognitive-behavioral treatment, and peer support.

Using the RISE model as a means to deliver the curriculum, the recommendation would be to adjust the Cognitive Self-Change (CSC) curriculum to an abbreviated format and offer it alongside the RISE program. There are indications that a six-week program is effective (Powell et al., 2001) and the body of efficacy research on CSC features a range of treatment hours from 65-150 (Sadler & Powell, 2008). A six-week program of 15 hours per week (3 hours per day for five days) would put the total number of treatment hours at 90, well within the optimal range. The treatment would be provided in a group setting, the typical format for CSC.

The time frame would allow for at least one week to be devoted to each of the four main CSC skills: awareness, recognition, alternatives, and practice. Inmates and group leaders would work together to identify recurring issues and address them in order to strengthen the process. Collaboration and group feedback are crucial to the CSC process.

Both RISE and CSC include transitional components. In RISE, the emphasis is on transition back into the community. While this is important for CSC as well, it is also necessary to consider a transition from jail to prison. In these scenarios, it is crucial to have people in place who can continue to hold inmates accountable for their behavior with respect to what they learned in their CSC treatment. CSC is fairly unique in that it calls for the training of correctional officers to meet this need. Correctional officers are encouraged to point out distorted thoughts as indicated by what inmates say to them and to fellow inmates.

While the primary goal of RISE is to treat inmates with substance use problems, the goal of CSC is to treat those who have committed a violent offense or struggle with aggression and anger management. Having a similar structure for both programs would facilitate the scheduling
of staff training, treatment times and locations. In addition to the practical aspect, research has substantiated the direct link between substance use and violence. Offering RISE and CSC in parallel formats would allow individuals to participate in both programs with a high level of continuity between the two.

One final aspect of the recommendation is to consider the prevalence of traumatic brain injury (TBI) in correctional settings. One study found rates of TBI in a prison population to be 65% (Williams et al., 2010).

Although the initial studies of Cognitive Self-Change in Vermont did not report rates of TBI, the participants were violent offenders and the research demonstrates that individuals with TBI history are more prone to aggressive behavior (Miller, 1994); this suggests that the model is applicable to TBI. For example, one study conducted by Dyer, Bell, McCann, and Rauch (2006) demonstrated a connection between verbal aggression, temper outbursts, and increased disinhibition among inmates with a TBI history. Brooks, Campsie, and Symington (1986) conducted a study to measure the level of violence and criminality in offenders with TBI (Brooks et. al., 1986). Of their 42 participants, threats of violence increased from 15% one year after sustaining a TBI to 54% five years later. These findings suggest that CSC would be an effective treatment for individuals with TBI due to CSC’s emphasis on thought and emotion and the principles of self-control and behavior management.
References


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Samantha Horkott, Ben Huston, Kevin Robinson

This chapter introduces Multisystemic Therapy and discusses the Family Integrated Transition adaptation. A comparison of costs and benefits is attached as an appendix.

Implementing Treatment with Special Populations

Rates of traumatic brain injury (TBI) in the juvenile population are abnormally high, ranging from 20-25% (Kreutzer, Marwitz, & Witol, 1995). TBIs in children and teens who have been convicted of a crime may go undiagnosed, disguised as a learning disability or behavioral problem (Kreutzer, Marwitz, & Witol, 1995). These TBI-related symptoms (i.e., cognitive impairment, memory loss, attention deficits, or impulsivity) can lead to a presentation of aggressive and delinquent behavior (Kreutzer, Marwitz, & Witol, 1995; Sarapata, Herrmann, Johnson, & Aycock, 1998).

Multisystemic Therapy as an Evidence-Based Solution

Multisystemic Therapy (MST) is a hybrid therapy approach for juveniles, which combines well-known, empirically-tested treatments such as Cognitive-Behavioral-Therapy, Dialectical-Behavioral Therapy, Multicomponent Behavior Therapy, Behavioral Parent Training, and Functional Family Therapy (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Lee & Kerns, 2013). Since its inception in 1996, MST has been implemented in thirty-four states and fifteen countries (MST Services, 2015; National Registry of Evidence-Based Programs and Practices, 2014). It aims to address a client’s participation in multiple systems (i.e., family, school, peer group, etc.). A major focus of the treatment is increasing family involvement and
INDIVIDUAL THERAPY WITH JUVENILE INMATES

the promotion of better decision-making skills (Coalition for Evidence Based Policy, 2012). MST employs therapists that have attained, at minimum, a master’s degree. The therapists conduct therapy at the juvenile’s school, home, and various community locations; the duration of which lasts for approximately four months. The therapist is available to the juvenile and the juvenile’s family twenty-four hours a day, seven days a week. Due to the amount of time dedicated to a single case, a therapist will generally handle no more than six cases at a time (Lee & Kerns, 2013).

Therapy is aimed at increasing family involvement and the promoting better decision-making (Coalition for Evidence Based Policy, 2012; National Mental Health Association, 2004). The therapist also works with caregivers to refine their disciplinary practices, decrease the juvenile’s association with negative peer influences, and generally improve the relationships among family members. At the same time, the therapist works to help improve the juvenile’s performance in school and to engage the youth in positive recreational activities (EPISCenter, 2012; Lee & Kerns, 2013; National Mental Health Association, 2004).

All MST therapist teams consult with a psychiatrist periodically (Lee & Kerns, 2013). This is especially important since between 8% and 20% of incarcerated individuals will either be diagnosed with a psychological condition or require psychiatric intervention at some point during their incarceration (Hills, Siegfried, & Ickowitz, 2004).

A longitudinal study done by Schaeffer and Borduin (2005) showed a significant treatment effect for MST. In that study, offenders were assigned to two groups; one group received 25 weeks of MST and the other received 25 weeks of individual therapy. Four years after the therapy, 71% of the treatment-as-usual group had been re-arrested at least once, compared to 26% of the MST group. This represents an 88% reduction in the number of arrests.
in the MST group. Additionally, after 13.7 years, 81% of the treatment-as-usual group had been rearrested, compared to 50% of the MST group. All told, the MST participants were arrested for fewer violent offenses (14% MST; 30% treatment-as-usual) and fewer drug offenses (13% MST; 33% treatment-as-usual). Overall, the MST group showed a 54% decrease in total number of arrests when compared to the control group, and a 57% decrease in the number of days incarcerated (Schaeffer & Borduin, 2005). Henggeler, Clingempeel, Michael, Brondino, and Pickrel (2002) reported similarly robust results for substance abuse. In their study, 55% of juveniles in the MST treatment were abstinent from substances after four years compared to 28% of a control group.

**MST-FIT**

Whereas MST is generally administered in community settings due to the ease of access to family members, the home environment, school, peer groups, etc., the FIT model brings MST to the juvenile in the correctional setting. Family members are expected to meet with the juvenile and the MST therapist at the correctional institution at least once a week, for a minimum of two months (Lee & Kerns, 2013).

MST Services, Inc. has innovated research on adapting MST to twelve different clinical settings; Family Integrated Transition (FIT) is one of the twelve adaptations (MST Services, 2014). The FIT model has two phases: pre-release (the two months prior to release) and post-release (approximately four months after). In the pre-release phase, the juvenile is re-enrolled in school, continuity of psychiatric care is insured, and employment or volunteer opportunities are coordinated (Lee & Kerns, 2013). Post-release, the therapist works with the family on an almost daily basis which slowly tapers off as the family becomes more self-sufficient.
Such continuity of care is especially important to a population so vulnerable to reoffending. Research shows that the longer a released prisoner can go without re-offending, the more likely they are to remain crime-free (Florida Department of Corrections, 2001). Re-offending within the first year after release has been associated with triple the risk of being incarcerated five years later (Bureau of Justice Statistics, 2014).

**Cost Benefit Analysis of Multisystemic Therapy**

Numerous studies have supported the cost-effectiveness of MST (Aos, Phipps, Rarnoski, Lieb, 2001; Cary, Butler, Baruch, Hickey, Byford, 2013; Dopp, Borduin, Wagner, Sawyer, 2014; Kleitz, Borduin, & Schaeffer, 2010; MST Services, n.d.). The overall costs of implementing MST services are generally between $4,700 and $13,000 (Aos, Phipps, Barnoski, Lieb, 2001; Dopp, Borduin, Wagner, & Sawyer, 2014). Blueprints (n.d) estimates a first-year cost for a start-up MST program to be $933,000. Penn State University (EPICenter, 2012) describes funding strategies for MST including using Medical Assistance dollars from state governments, and Medicaid.

The literature generally shows a robust return on that investment. Those data are generally calculated from direct savings to taxpayers (e.g., fewer number of days spent in a correctional setting, less judicial oversight, less medical care for inmates, fewer contacts with the police, etc.), and indirect savings to taxpayers (usually measured via quality of life measures) (Klietz, Borduin, Schaeffer, 2010). While the cost of Multisystemic Therapy is initially high, the long-term benefits of MST are substantial (see Appendix A). The benefits of FIT are similar. One study found FIT to cost $8,968, while providing a net benefit to taxpayers of $3.15 for every dollar invested (Aos, 2004). Aos, Miller, & Drake (2006) reported an average cost of $9,665 per participant, and a net benefit of $40,545 at 18 months; a $4.20 gain for every dollar invested in
FIT. All told, Aos, Phipps, Barnoski, & Lieb (2001) report a benefit of $28 for every dollar invested.

**Recommendation**

Research shows that a reduction in recidivism can be obtained using a continuity care model such as MST-FIT (Bourdin, 2005). While the initial cost of MST-FIT is higher than traditional therapies, the advantages to taxpayers are evident. For every dollar invested in MST, a benefit of somewhere between three and 28 dollars can be achieved (Appendix A). The goal of MST–FIT is to connect young people and families to community supports, encourage youth abstinence from alcohol and other substances, improve mental health, and increase prosocial behaviors. The implementation of the MST-FIT model of treatment in the juvenile correctional setting would be socially and fiscally beneficial.
References


## Appendix A - Costs Associated With MST

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Cost</th>
<th>Benefit</th>
<th>Dollars in benefit per dollar invested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aos (2008) - MST-FIT</td>
<td>2003</td>
<td>$8,968</td>
<td>$19,247</td>
<td>3.15</td>
</tr>
<tr>
<td>Aos, Phipps, Barnoski, &amp; Lieb (2001)</td>
<td>2001</td>
<td>$4,743</td>
<td>$31,661 to $131,918</td>
<td>28.00</td>
</tr>
<tr>
<td>Aos, Lieb, Mayfield, Miller, &amp; Pennucci (2004)</td>
<td>2003</td>
<td>$5,681</td>
<td>$14,996</td>
<td>2.64</td>
</tr>
<tr>
<td>Barnoski (2009) MST-FIT</td>
<td>2009</td>
<td>$10,795</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Cary, Butler, Baruch, Hickey, Byford (England)</td>
<td>2013</td>
<td>$8,660 (£5,687)</td>
<td>$1876 (£1,222)</td>
<td>0.21</td>
</tr>
<tr>
<td>Dopp, Borduin, Wagner, &amp; Sawyer</td>
<td>2012</td>
<td>$11,595</td>
<td>$35,582 ($7,798 per sibling)</td>
<td>5.04</td>
</tr>
<tr>
<td>Jones, D., Bumbarger, B., Greenberg, M., Greenwood, P., &amp; Kyler, S.</td>
<td>2008</td>
<td>n/a</td>
<td>$16,716</td>
<td>3.61</td>
</tr>
<tr>
<td>Klietz, Borduin, Schaeffer</td>
<td>2010</td>
<td>$10,882</td>
<td>$75,110 to $199,374</td>
<td>9.51 to 23.59</td>
</tr>
<tr>
<td>Lee, Aos, Drake, Pennucci, Miller, &amp; Anderson (2012)</td>
<td>2011</td>
<td>$11,219</td>
<td>$16,918</td>
<td>2.51</td>
</tr>
<tr>
<td>Strother, President of MST Services, Inc., personal communication, as cited in Klietz, Borduin, Schaeffer</td>
<td>2010</td>
<td>$6,000 to $12,000</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Strother, President of MST Services, Inc., personal communication, as cited in Dopp, Borduin, Wagner, &amp; Sawyer</td>
<td>2014</td>
<td>$7,000 to $13,000</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>
Group Interventions for Incarcerated Youth

Nardin Michaels, Bre-Ann Slay, and Jenna Talbott

Juvenile offenders are entering the system at staggering rates. As of 2011, roughly 37,699 of the approximately 541,013 children living in Colorado were arrested for juvenile offenses as estimated by the Colorado Juvenile Defender Coalition (Puritz, 2012). These young offenders struggle with a number of issues including impulsivity, anger, detrimental familial relationships, and an overall lack of support (Forrest, Tambor, Riley, Ensminger, & Starfield, 2000). Unfortunately, without sufficient intervention, many juveniles will return to the same difficult situations where they will be at risk of re-offending.

Issues of Concern for Juveniles in the Criminal Justice System

This population is characterized by a host of vulnerabilities including impaired social functioning, increased aggression and impulsivity, as well as physical, sensory, and cognitive deficits (Farrer et al., 2013; King & Wray, 2012). To that latter point, another study found that young incarcerated males show significantly poorer academic performance than their counterparts (Forrest, Tambor, Riley, Ensminger, & Starfield, 2000).

Related to the poor academic performance, between 12% and 70% of juvenile offenders suffer from learning or cognitive disabilities (Wolford, 2000). As a result, this population is more resistant to returning to school once discharged from corrections which makes them more likely to return to corrections (Bullis, Yovanoff, Mueller, & Havel, 2002). One study found that offenders with special education needs were nearly three times more likely to recidivate (Bullis et al., 2002).

An especially vulnerable population in youth corrections is the offender with a Traumatic Brain Injury (TBI) history. One meta-analysis found that approximately 30% of juvenile
offenders have a history of TBI (Farrer, Frost, & Hedges, 2013). Juveniles with TBI struggle with many of the same challenges that their counterparts with learning or cognitive disabilities face, including impairments in executive functioning, memory and social communication (High, 2005).

**Colorado’s Division of Youth Corrections**

In Colorado, the Division of Youth Corrections (DYC) operates within the organizational structure of the Colorado Department of Human Services (CDHS). The Colorado DHS reports that the DYC has two primary functions: DYC is statutorily mandated to provide supervision and care for juveniles committed by the court and DYC is also authorized to operate Colorado’s juvenile detention (State of Colorado, “About DYC,” 2015). The DYC is the entity responsible for the care of both pre-adjudicated and committed juvenile offenders (State of Colorado, “About DYC,” 2015). The DYC provides a continuum of care including non-residential pre-adjudication services, residential commitment services, and non-residential parole services (State of Colorado, “About DYC,” 2015). The DYC also offers psychotherapeutic interventions including Multi-Systemic therapy, Functional Family therapy, substance abuse treatment, vocational training and educational rehabilitation (Services, 2015).

**Life Skills Education**

Educational interventions provide juveniles with mastery of skills, independence, and the ability to maintain employment. One such intervention, the Community Restitution and Apprenticeship Focused Training program (CRAFT), offers a combination of industry-validated, hands-on vocational training and academic preparation (Office of Juvenile Justice and Delinquency Prevention, 1999). This training emphasizes principles of construction, carpentry, house wiring and electricity, heating and air conditioning, plumbing, and general facility
maintenance (National Collaborative on Workforce and Disability, 2015). Participants are assigned a variety of work duties that include acting as a project lead, facilitating safety programs, tool maintenance, as well as project planning and budgeting (National Collaborative on Workforce and Disability, 2015). Programs consist of 840 training hours over a six-month period (National Collaborative on Workforce and Disability, 2015). During this time, approximately one quarter of the time is spent in a classroom setting, while the other three-quarters of the time are spent in a community-based work setting. This training has been successfully implemented in North Dakota, Tennessee, Maryland, Florida, and Texas, with 67% of offenders obtaining employment after completion of the training (Office of Juvenile Justice and Delinquency Prevention, 1999). The Office of Juvenile Justice and Delinquency Prevention (1999) reported rates of recidivism were 26% after completion of Project CRAFT while national recidivism rates remain between 50% and 80% (Ameen & Lee, 2012). This kind of programming addresses a workforce need for entry-level workers while reducing juvenile recidivism and teaching essential life skills.

Similar to Project CRAFT, the YouthBuild USA Offender Project offers juvenile offenders opportunities for education, skill building, leadership, community service, and positive values (Cohen & Piquero, 2008). The ultimate goal of the program is to offer juvenile offenders clear pathways to a productive future (Cohen & Piquero, 2008). It is a structured program, ranging from 9 to 24 months (Cohen & Piquero, 2008). Half of the juveniles’ time is spent learning construction trade skills, while the other half of the program emphasizes traditional education (Cohen & Piquero, 2008). Participant data suggest that 46% of graduates obtain a high school diploma or GED and only 28% of offenders recidivate after program completion (Cohen & Piquero, 2008).
**Cost-Effectiveness and Utility**

Abrams, Barker, Haffey, and Nelson (1993) estimated the five year operational costs for these education programs to be $4,377 per person. However, taking into account taxes paid and savings in state benefits, the reported average payback period was just 20 months for individuals who would otherwise face a lifetime of unemployment and financial dependency (Kowlakowsky-Hayner & Tyerman, 2012). Presumably, the operational cost of these educational programs would be even lower than the Abrams et al. (1993) estimate because the Colorado DYC already has the infrastructure in place to provide these programs (State of Colorado, “Strategic Goals and Plans,” 2015).

**Recommendation**

DYC’s current interventions emphasize life skills education, however their skill building has focused primarily on culinary services including basic sanitation, food safety and food preparation (Services, 2015). Our recommendation is the addition of Project CRAFT and YouthBuild, keeping in mind that these interventions can easily be tailored to a population with special education needs. Cognitive, emotional, and learning disabilities characterize half of the participants in Project CRAFT, therefore adapted curricula that meet the needs of those unique population are available through Project CRAFT instructors (National Collaborative on Workforce and Disability, 2015). Adaptations included using verbal testing in place of written testing, computerized education, and pairing students according to skill sets. YouthBuild can also be easily implemented in the DYC as they are currently operating in Denver through Mile High Youth Corps. Participants in that program qualify for $1,468 scholarship opportunities (Mile High Youth Corps, 2014). With financial collaboration and DYC infrastructure, the education programming can be easily expanded.
References


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http://www.colorado.gov/cs/Satellite/CDHS-Main/CBON/1251638678961

Final Summary

Moses Gur

The literature examining the effects of traumatic brain injury (TBI) in offender rehabilitation is limited. TBIs can result in long-term or life-long physical, cognitive, behavioral, and emotional consequences (US Department of Health and Human Services, 1998). Symptoms can include difficulty concentrating or remembering information, irritability, aggressiveness, depression, sleep disturbances, and communication deficits (Center for Disease Control and Prevention, 2010). These symptoms contribute to management problems in correctional settings and can create difficulty in rehabilitation. Given the high prevalence of TBI in correctional settings, estimated to be as high as 96% (Gorgens, 2015), it is essential that providers develop evidence-based treatment and management guidelines for justice-involved individuals with TBI histories.

The research presented in the previous eight chapters highlights the best in treatment for this population. Utilizing this literature, treatment and management guidelines will be created across eight different criminal justice settings. Treatment and professional development curricula will be piloted in the Denver County Jail Mental Health Transition Unit. That programming has three main goals: develop a treatment curriculum specific to individuals who are identified to have moderate or severe TBI, develop training for correctional and mental health staff on the management and treatment of individuals with TBI, and create and train case managers in the use of a TBI symptom-specific treatment guidebook. Once these programs can be determined to be efficacious, these curricula will be adapted to suit varying populations in multiple settings across age groups and settings within the criminal justice system. Professional development will be expanded to all of the target sites (Denver County Jail RISE Program, Larimer County Jail,
Boulder County Jail, Division of Youth Corrections, Denver Juvenile Probation, Denver District Problem-Solving Court and Adams County Veteran’s Court) and will include a focus on the management of clients with a TBI history from screening to referral. Agency liaisons can expect to communicate with the grant’s director, Judy Dettmer at the Colorado Brain Injury Program, about the application of professional development procedures.

For more information about grant resources or related programming please contact Judy Dettmer (judy.dettmer@state.co.us) or Kim Gorgens, Ph.D., ABPP (kgorgens@du.edu). For information about this document or to contact the chapter authors, please contact Tyler Camaione (tcamaione@gmail.com) or Moses Gur (mosesgur@gmail.com).
References

