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Moral Reconation Therapy: Efficacy and Predictors of Dropout

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Moral Reconation Therapy: Efficacy and Predictors of Dropout

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DISSERTATION

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Department of Clinical Psychology
DISSERTATION COMMITTEE PAGE

The undersigned have examined the dissertation entitled:

**MORAL RECONATION THERAPY:
EFFICACY AND PREDICTORS OF DROPOUT**

presented on November 1, 2019

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Dedication

To all graduate students who have overcome immense challenges to fulfill their dreams.

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Abstract

No known research has been conducted on whether Moral Reconation Therapy (MRT) actually reduces criminogenic thinking. Similarly, no known research has been conducted to identify factors associated with dropout from the MRT program (i.e., choosing to leave the group before completion/release). Therefore, the purpose of this study was twofold: (a) to discover whether MRT reduces criminogenic thinking, and (b) to determine if criminogenic thinking, ACEs, cognitive abilities, and personality traits, particularly impulsivity, psychoticism, and antisocial traits, influence dropout. If significant effects in one or more of the aforementioned areas are discovered, individuals predicted to have the same profile as past participants who dropped out could potentially receive additional supports to decrease their probability of dropout, subsequently improving recidivism rates. The results of this study confirmed that significant reductions in criminogenic thinking were found from pre-test to post-test, suggesting that MRT is effective in reducing criminogenic thinking. In addition, criminogenic thinking, ACEs, cognitive abilities, and assessed personality traits did not significantly influence dropout, suggesting that other factors, such as intrinsic (e.g., motivation, self-esteem, self-confidence) and relational dynamics may be at play.

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Keywords: Moral Reconation Therapy (MRT), criminogenic thinking, treatment dropout, Offenders, cognitive abilities, personality traits, ACEs

Moral Reconation Therapy: Efficacy and Predictors of Dropout

For many, becoming incarcerated is not a one-time occurrence. Once released, many individuals reoffend, or recidivate, increasing the incarceration population. The Bureau of Justice Statistics (2016) found that recidivism rates were approximately 70% with more than half (56.7%) of inmates recidivating within the first year of release (Durose, Cooper, & Snyder, 2014). These statistics illustrate the difficulty the correctional system appears to have with rehabilitating offenders. Understanding the cognition, behaviors, and specific treatment needs of incarcerated individuals can influence how mental health and treatment staff develop treatment programming aimed at reducing recidivism. One such program that was found to be effective in reducing recidivism rates by increasing moral behavior and decreasing criminogenic thinking is Moral Reconation Therapy (MRT). Though this program has been found to significantly reduce recidivism rates, no known research has been conducted as to whether MRT reduces criminogenic thinking or which factors lead to program dropout. This study examined changes in MRT participants' criminogenic thinking from pre-test to post-test as well as studied whether criminogenic thinking, personality factors, past trauma, and/or cognitive ability influence dropout.

History of Imprisonment Practices in the United States

Individuals in the United States are incarcerated more often than individuals in any other country in the world. Although the United States accounts for only five percent of the world's population, it houses 25% of the world's incarceration population (Brown & Patterson, 2016). As of the most recent incarceration census conducted in 2015, there were approximately 2.2 million individuals incarcerated in county jails and state and federal prisons throughout the United States (Bureau of Justice Statistics, 2016).

The incarceration epidemic is hypothesized to be linked to major shifts in the nation's attitudes and perspectives. The first major shift began around 1955 when the mental health care system in the United States began a process called deinstitutionalization, which entailed shifting individuals in need of mental health treatment away from failing institutional care (e.g., state hospitals) to non-institutional care (e.g., community mental health centers; Bachrach, 1989; Goldman, Adams, & Taube, 1983). When deinstitutionalization was at its peak, the number of mentally ill individuals who required treatment in the community began to increase dramatically. Due to a lack of adequate resources, community mental health centers failed to provide suitable care for these individuals. This increased individuals' risk of homelessness and decreased their ability to sustain themselves in the community, collectively increasing their risk of incarceration (Kim, 2016). Second, the nation's attitude toward the criminal justice system began to change during the late 1960s and early 1970s resulting from societal turmoil triggered by political movements and a general attitude of rebellion amongst youth. To combat this, stricter sentencing laws were implemented as a means of regaining control. The third shift began in the 1980s due to the general population gaining easier access to illegal drugs. To respond, lawmakers chose to implement stricter sentences for drug offenses, which consequently caused a significant influx in incarcerated individuals (The Prison Reform Movement, 2007).

Though the aforementioned reforms to the criminal justice and mental health systems affected all individuals, it did not affect them equally. Minority communities, particularly African Americans and Hispanics, were significantly affected by harsh sentencing laws. The number of incarcerated African American and Hispanic individuals is disproportionately higher than their numbers in the general population, and when compared to their incarcerated Caucasian counterparts. Experts attribute this to racially biased sentencing laws for drug-related crimes (e.g., previous biased sentence lengths associated with crack/cocaine

[a lower-cost drug often used by minorities] vs. powdered cocaine [a higher-cost drug often used by majorities]) as well as to high rates of poverty and unemployment in minority neighborhoods (The Prison Reform Movement, 2007).

As a result of deinstitutionalization, public movements, and stricter sentencing, the number of prisoners quadrupled from approximately 320,000 in 1980 to more than 1.3 million in 1999 (The Prison Reform Movement, 2007). Furthermore, in 1980, there were 139 sentenced inmates per 100,000 individuals incarcerated at the state or federal level. By 2010, that estimate was 497 per 100,000 persons (Bureau of Justice Statistics, 2011; Guerino, Harrison, & Sabol, 2011). The significant influx in the incarceration population has made a grave impact on incarcerated individuals, their families, and on society as a whole.

Effects of Incarceration/Recidivism

For incarcerated individuals, the prison environment may cause adverse effects on their overall wellbeing. For example, their health is often negatively affected, as they often consume meals with low nutritional value and are contained in overcrowded spaces with poor ventilation. These factors coupled with the stress from being incarcerated has a significant impact on the physical and mental health of inmates. Having a history of incarceration has been linked to an increased vulnerability to disease, a greater likelihood of cigarette smoking, and premature death. It also leads to stigmatization and prevents previous offenders from voting, receiving federal benefits, and gaining employment (Brown & Patterson, 2016).

Incarceration also impacts family members of these individuals. For example, adult family members often struggle emotionally and financially while their relative is incarcerated, which often leads to depression or other mental health problems (Brown & Patterson, 2016; The Prison Reform Movement, 2007). Children of incarcerated individuals, especially school-aged

children, also experience negative impacts, such as behavioral problems, educational delays, and emotional dysregulation while older children are more likely than their peers to drop out of school and to become incarcerated themselves (Seymour, 1998; Western & Petit, 2010).

Society as a whole is impacted by high incarceration and recidivism rates, as billions of dollars are allocated to correction facilities to house inmates. A recent estimate approximated that the United States spends about \$80 billion yearly on corrections (Brown & Patterson, 2016). If the incarcerated population decreased, that money could be allocated to the betterment of communities, public-school systems, and services used to support underprivileged populations. One way to reduce the amount of money allocated to correctional operations is to reduce recidivism rates. This can be done by implementing programs designed to reduce recidivism such as cognitive-behavioral treatment programs targeting criminogenic thinking, which is the essence of criminal behavior (Walters, 1990).

Criminogenic Thinking

Criminogenic thinking refers to maladaptive cognitive styles or belief systems that tend to precede criminal activities and other forms of antisocial behavior (Walters, 1990). Criminogenic thinking tends to “permit” offenders to rationalize their antisocial behaviors and minimize the impact that their negative behaviors have on others by using distorted justification for their actions (Tangney, Mashek, & Stuewig, 2007). Walters and McCoy (2007) suggested that all individuals engage in some level of criminogenic thinking and that rates of criminogenic thinking fall along a continuum ranging from normative (noncriminal thoughts of maladaptive and irresponsible behavior) to deviant (antisocial thoughts of maladaptive and irresponsible behavior). The latter, coupled with engaging with pro-criminal associates in a pro-criminal environment, is thought to create and maintain criminal behavior (Holsinger, 1999; Mandracchia

& Morgan, 2011; Walters, 1990).

Research on the development of criminogenic thinking is scarce; though, there are many hypotheses relating to its origins. Two major theoretical influences on this topic are the social learning theory (Bandura, 1977), which postulates that beliefs, values, and attitudes are primarily learned through association with others and the differential association theory (Sutherland & Cressey, 1978), which postulates that criminal behavior is learned by associating with those involved in criminal activity and that criminal behavior, rationalizations, and attitudes are learned. Combined, these theories suggest that antisocial attitudes and criminogenic thinking are a learned product of associating with criminal peer groups.

In line with these hypotheses, empirical research has found a link between criminal associates and criminogenic thinking. Gendreau, Goggin, Chanteloupe, and Andrews (1992) demonstrated that antisocial peers/attitudes were a stronger predictor of criminal behavior than temperament/personality and parental/family factors. Similarly, the amount of time spent with criminal associates was found to be a stronger predictor of criminogenic thinking than the number of criminal associates (Mandracchia, Morgan, Garos, & Garland., 2007; Walters, 1990, 1995, 2002; Whited, Wager, Mandracchia, & Morgan, 2017), suggesting that social influences can contribute to criminogenic thinking. In addition, several researchers have investigated the influence of criminal associates on individuals' attitudes toward criminal behaviors. Taken together, this research found that individuals are more likely to behave in ways that are consistent with their associates' attitudes (Bagozzi & Burnkrant, 1979; Losel, 2003).

Commensurate with criminal associates, social environments, constructs, and norms have also been linked to the development of criminogenic thinking (Moscovici & Zavalloni, 1969). For example, individuals who are associated with antisocial subculture often abide by

unconventional rules (e.g., street or prison codes) where antisocial assumptions and rules about how individuals should behave become adaptive (e.g., violence and aggression earn respect, “an eye for an eye;” Lipsey, Landenberger, & Wilson, 2007). Though its origin and development cannot be definitively tracked, criminogenic thinking has emerged through the research as an important target for intervention, as it has been found to be one of the most significant predictors of future involvement in criminal activity and has been shown to have a connection with recidivism (Mills, Kroner, & Forth, 2002; Nesdale et al., 2009; Walters, 2014; Walters & Lowenkamp, 2016).

Although the concept of criminogenic thinking is relatively new, some historical theories of criminology and correctional psychology have recognized the relationship between cognition and behavior. In 1957, Sykes and Matza founded the neutralization theory, which postulates that offenders tend to view their actions as prosocial rather than antisocial, which leads them to justify and rationalize their actions as such. The researchers proposed five techniques that offenders use to justify and rationalize their actions: “denial of responsibility (‘it was an accident’), denial of injury (‘no one got hurt’), denial of the victim (‘the victim was asking for it’), condemnation of the condemners (‘society is the real culprit’), and appeals to higher authority (‘I couldn’t let my buddies down’)” (Walters, 2006, p. 88).

Following the development of the neutralization theory, Yochelson and Samenow (1976), developed a model consisting of 52 different criminogenic cognitions that characterized the criminal personality. They concluded that offenders exhibited different cognitive styles than non-offenders and that these maladaptive cognitive styles were responsible for the impulsive, irresponsible, and antisocial types of behavior frequently connected with criminal behavior. Building off of this research, Walters (1990) developed the criminal lifestyle theory, which states, “Criminal behavior is the result of an interaction between prior developmental experience,

environmental conditions, choice, and a criminogenic belief system that rationalizes and justifies misconduct and antisocial behaviors" (Whited et al., 2017, p. 493). From this theory, eight cognitive styles (i.e., mollification, entitlement, super-optimism, discontinuity, cutoff, power orientation, cognitive indolence, and sentimentality) that reflected the content and process of criminological thinking were identified. Furthermore, Walters (1990) proposed that these behavioral styles develop from three influences: condition, choice, and cognition. The term *condition* refers to the internal (e.g., heredity, biological), external (e.g., family, environment), and/or interactive (e.g., person and situation) factors that influence behaviors. The term *choice* refers to the range of options that are available to individuals. Lastly, the term *cognition* refers to explanations and rationalizations of individuals' decisions based on their choices to minimize guilt that might develop from antisocial actions.

Using Walter's research, Mandracchia et al. (2007) identified three primary characteristics of criminogenic thinking: (a) control (i.e., the need to exert power over oneself, others, and the environment), (b) cognitive immaturity (i.e., unsophisticated and ineffective ways of conceptualizing and understanding the world and having a self-serving attitude), and (c) egocentricity (i.e., an increased sense of entitlement). They also broadened the conceptualization of criminogenic thinking to include thinking errors that are associated with both criminal and other non-criminal, maladaptive behaviors. Specifically, the authors argued the importance of including non-criminal thinking errors, such as automatic thoughts and irrational beliefs, in the conceptualization and definition of criminogenic thinking since these non-criminal thinking errors can indirectly promote criminal behavior (Whited et al., 2017).

The conceptualization of criminogenic thinking has an intricate history and is very complex. Despite its complexity, research suggests that criminogenic thinking is one of the most

significant predictors of criminal behavior (Boduszek, Adamson, Shevlin, & Hyland, 2013). In a meta-analysis, Gendreau, Little, and Goggin (1996) examined both static (non-changing) and dynamic (change over time) risk factors to determine the best predictors of recidivism. They found that static risk factors were equally as predictive of recidivism as dynamic risk factors such as antisocial personality, criminal associates, and criminogenic thinking. Similarly, Gendreau et al. (1992) found that these same dynamic risk factors were stronger predictors of criminal behavior than a range of static risk factors, such as social class, personal distress or mental health variables, education, employment, family variables, and temperament or personality. Though criminogenic thinking has been redefined and condensed over its existence, there still does not appear to be a uniform way of identifying it. That is, not all individuals who commit crimes have similar criminogenic thinking styles. One psychological factor that has been proposed as a possible explanation for this anomaly is differences in personality styles (Boduszek et al., 2013).

Personality Styles

Eysenck (1977) proposed a theory of criminality related to personality traits, which states that individuals who commit crimes exhibit distinctive personality traits or behavior patterns. Eysenck identified that as a group, individuals who commit crimes demonstrate significantly higher scores on the personality dimensions of *psychoticism* (aggressiveness and interpersonal hostility), *extroversion* (low arousal causing adventure-seeking behaviors), and *neuroticism* (higher likelihood of reacting negatively during stressful situations) than other personality characteristics. Boduszek, Adamson, Shevlin, and Hyland (2012) echoed Eysenck's findings stating that psychoticism, extroversion, and neuroticism significantly contributed to criminal thinking styles with psychoticism being the most predictive followed by neuroticism and extraversion (tie).

Other personality traits such as agreeableness, sensation seeking, inattention, and antisocial personality were also found to be associated with criminal thinking (Egan, McMurran, Richardson, & Blair, 2000). Specifically, the relationship among criminogenic thinking, antisocial personality, and psychopathy characteristics has been long researched. Since these characteristics are considered to be a set of personality traits and that personality is known to affect cognition, psychopathic characteristics may promote criminogenic thinking (Jones, Miller, & Lynam, 2011; Mandracchia, Gonzalez, Patterson, & Smith, 2015).

In the two-factor model of psychopathy, Factor 1 (primary psychopathy) represents maladaptive behavioral and emotional traits such as a grandiosity, callousness, and manipulativeness, while Factor 2 (secondary psychopathy) consists of impulsivity, sensation-seeking, irresponsibility, criminal history, and a parasitic lifestyle (Widiger & Lynam, 1998). Overall, research has demonstrated that secondary psychopathy is more strongly related to and more predictive of criminogenic thinking (Gonsalves, Scalora, & Huss, 2009; Mandracchia et al., 2015). Therefore, the more dysregulated, behavioral aspects of psychopathy (e.g., impulsivity, sensation-seeking, and irresponsibility) were more predictive of criminogenic thinking than the primary, more fixed personality factors.

Collectively, previous research has strengthened the notion that treatment programs for incarcerated individuals should target dynamic risk factors, particularly criminogenic thinking and the personality characteristics associated with it, as they are highly predictive of recidivism and can be changed. Given the hypothesized importance that criminogenic thinking has on criminal behavior, the reduction of criminogenic thinking has been a sought-after intervention area.

CBT Programs and Criminogenic Thinking

In line with the concept of criminogenic thinking, Beck (1999) stated that a common characteristic among chronic offenders is distorted cognition—using justification, dominance, and entitlement to rationalize behaviors, misinterpreting social cues, and having deficits in moral reasoning. Utilizing disordered thinking may cause individuals to perceive benign situations as threatening and thus be more apt to interpret social situations as disrespectful or aggressive. They may also hold distorted world views and assumptions such as “nobody can be trusted,” “everyone is against me,” or “physical retaliation and aggression are the only ways to earn respect,” which causes their behaviors to be guided by these assumptions, ultimately causing a breakdown in social communication (Lipsey & Landenberger, 2007). Due to offenders’ distorted cognitions and the severe consequences that follow, treatment programs aimed at this population should focus on challenging their distorted cognitions while emphasizing accountability for their actions and teaching them the faults in their thinking process and choices (Lipsey et al., 2007). One such treatment modality that has been most successful with offenders is cognitive-behavioral based therapies (e.g., Pearson, Lipton, Cleland, & Yee, 2002).

Cognitive-behavioral therapies “emphasize the connection between cognition and behavior and suggest that dysfunctional behaviors may be altered through changes in dysfunctional attitudes, beliefs, and thought processes” (Allen, MacKenzie, & Hickman, 2001, p. 4). Specifically, cognitive-behavioral therapies in correctional settings focus on challenging and changing offenders’ antisocial thought processes that contribute to their criminal behaviors, anger management, taking responsibility for their actions instead of blaming others or using justification, empathy, problem solving, life skill development, and/or goal setting (Allen et al., 2001; Lipsey & Landenberger, 2007).

By focusing on these treatment characteristics, cognitive-behavioral therapies have successfully decreased participants' criminogenic thinking. For example, Warner, Conley, and Murphy (2018) measured male, state prisoners' rates of criminogenic thinking using the Texas Christian University-Criminogenic Thinking Scale (TCU-CTS; Knight, Garner, Simpson, Morey & Flynn, 2006) pre and post involvement in a cognitive-behavioral therapy group. This group taught offenders to reframe their view of themselves, their circumstances, and how they respond to their environment. Significantly lower rates for all of the TCU-CTS domains except Domain A: Entitlement were found post-test compared to pre-test.

Similarly, Walters (2003) measured criminogenic thinking rates of federal inmates before and after they participated in a psychoeducational class designed to educate clients about the criminal and drug lifestyles and to provide them with skills to promote change. Significant reductions of criminogenic thinking were found from pre to post-test. The success of cognitive-behavioral therapies in correctional settings may be attributed to their adherence to the three principles of the risk-need-responsivity (RNR) model, which is a general treatment model designed for offenders that, when followed, demonstrates the greatest reductions in recidivism rates compared to non-adhering treatment programs.

Risk-Need-Responsivity (RNR) Model

Andrews and Bonta (1998) stated that criminal behavior is multifaceted and argued that any theory of criminal behavior should consider aspects such as biological/neurological issues, temperament, and social and cultural factors. From this notion, they defined three principles to aid in the effective treatment of inmates and coined the combination of these three principles as the Risk, Need, Responsivity Model (RNR model).

The RNR model has been the prominent approach for treating inmates in the United States as well as other countries (e.g. United Kingdom, New Zealand, Australia, and Canada; Looman & Abracen, 2013). According to this model, when inmates decrease their number of criminogenic risk factors, they reduce their risk of recidivism. Numerous studies and meta-analyses have found that treatment programs adhering to the three principles of the RNR model had the greatest reductions in recidivism rates compared to treatment programs that did not (Andrews & Bonta, 2010; Dowden and Andrews, 1999).

Risk. The risk principle refers to inmates' risk for reoffending (low to high), which is calculated by risk assessments. Risk assessments in correctional settings serve both a predictive and practical function. They can identify inmates who pose the greatest risk of recidivating by statistically evaluating empirically derived risk factors inmates have (e.g., criminal history, leisure/recreation, companions, family/marital, education/employment, financial, alcohol/drug problems, emotional/personal, and attitudes/orientation), guide practitioners toward treatment strategies that can reduce inmates' risk of recidivism, and allow practitioners to match inmates' levels of risk to the intensity of treatment services provided (e.g., higher-risk, more intensive services; Dowden & Bonta, 2000; Labrecque, Smith, Lovins, & Latessa, 2014).

Need. The concept of need refers to specific criminogenic needs of the inmate. Criminogenic needs (also referred to in the literature as dynamic risk factors) are strong factors correlated with recidivism such as problem-solving skills, substance abuse, and pro-criminal attitudes, and they are the most targeted factors in treatment (Andrews & Bonta 1998; Ogleff, 2002).

Responsivity. The responsivity principle focuses on selecting the appropriate type of interventions based on inmates' level of risk, criminogenic needs, and individual factors. This

principle consists of two components, specific and general responsivity. The specific responsivity principle focuses more on individual factors of inmates stating that types of treatment offered should be delivered in a way that matches their learning styles and takes factors such as cognitive abilities, gender, ethnicity, and mental health into account (Andrews & Bonta, 2010). The general responsivity principle states that treatment interventions based on cognitive-behavioral and social learning theories tend to be the most effective types of treatment for this population (Andrews & Bonta, 2010; Lipsey, Chapman, & Landenberger, 2001; Smith, Gendreau, & Swartz, 2009; Wilson, Bouffard, & MacKenzie, 2005). One cognitive-behavioral treatment program used nationally in correctional settings that adheres to the RNR model is MRT.

Moral Reconation Therapy (MRT)

History and Premise of MRT. The concept of conation was widely used by philosophers and early psychologists during the late 1800s and early 1900s to describe a point where the mind and body fused to create consciousness. Psychologist James Ward described conation as the defining component of behavior that is highly susceptible to the influence of pleasure and pain (Pillsbury, 1929). Similarly, Brennan (1937) described conation as "...the persistent striving of the will to achieve its goal" (p. 359). Reconation (the process of how decisions are made, specifically how to make moral decisions in a methodical, conscious manner; Good Success Consulting, Inc., 2011) therapy was initially developed by Robert W. Wood and Richard S. Sweet to address clients' "...moral reasoning with behavioristic, group, and individual processes to foster functional behavior, identity, impulse control, and responsible behavior" (Little & Robinson, 1988, p.137). In 1988, Kenneth Robinson and Gregory Little renamed reconation treatment as moral reconation therapy (MRT). They developed it more formally, began to implement it more readily, and studied its efficacy (Ferguson & Wormith,

2012). MRT was originally developed for incarcerated and general mentally ill clients who tended to have antisocial traits and a history of substance abuse. It is currently implemented in a variety of treatment settings such as correctional facilities and drug court programs (Little & Robinson, 1988).

MRT is based on Kohlberg's (1976) theory of moral development, which postulates that individuals with higher rates of moral development are less likely to engage in antisocial behaviors and criminal activities. Kohlberg hypothesized that moral development progressed through three main stages: pre-conventional, conventional, and post-conventional. Individuals in the pre-conventional stage are solely concerned about their well-being in an egocentric manner. They do not account for the needs or wants of others in their decision-making process, and their judgment regarding the morality of an action is directed by avoiding punishment and seeking pleasure. Individuals in the conventional stage govern the ethics of their actions based on societal views, rules, and norms. Their adherence to rules and norms is often rigid (disobeying the rules constitutes being bad), and the appropriateness or fairness of the rules is rarely questioned. In contrast, individuals in the post-conventional stage may disobey rules that are inconsistent with their principles while justifying it as the appropriate action to take (Cherry, 2011).

With Kohlberg's theory of moral development in mind, Little and Robinson (1988) postulated that offenders "enter treatment with low rates of moral development, strong narcissism, low ego/identity strength, poor self-concept, low self-esteem, inability to delay gratification, relatively strong defense mechanisms, and relatively strong resistance to change and treatment" (p. 135). To combat this, MRT seeks to improve behavior through the development of higher moral reasoning by moving offenders from the pre-conventional level to the conventional level where social rules and the needs of others become important (Ferguson &

Wormith, 2012; Flanagan, Allen, & Levine, 2015).

Description of MRT. MRT is a manualized, cognitive-behavioral program that seeks to improve clients' well-being and move them to higher levels of moral judgment by instructing them to complete a series of tasks embedded in 16 steps (12 core steps that are completed while incarcerated and an optional four are community-based). MRT involves a minimum of 12 sessions, each lasting from 1 to 2 hours, and can be completed within a minimum of three months. Each of the 10–15 participants is given a workbook that contains each of the 16 steps and are asked to complete one step per week by completing the assigned homework from their workbooks and presenting that homework in front of the group. Each step gradually builds on the other and focuses on seven treatment issues (Ferguson & Wormith, 2012).

MRT's Seven Treatment Issues. MRT programs focus on seven treatment issues in succession throughout the program, which include: (a) confrontation of beliefs, attitudes, and behaviors and assessment of self; (b) assessment of current relationships, (c) reinforcement of positive behavior, (d) positive identity-formation, (e) enhancement of self-concept, (f) decrease in pleasure-seeking and development of frustration tolerance; and (g) development of higher stages of moral reasoning.

Confrontation of beliefs, attitudes, and behaviors and assessment of self. During the initial steps of MRT, clients are asked to complete tasks relating to becoming honest about their negative, dysfunctional behaviors, facilitating trust in the program, self, and others, adhering to all rules, and raising awareness of self (Little & Robinson, 1988).

Assessment of current relationships. Along with additional exercises relating to the awareness of others, clients are asked to write an assessment of relationships, which includes evaluating damaged relationships and developing a specific plan to repair or terminate them (Little & Robinson, 1988).

Reinforcement of positive behavior. Since there is a strong focus on personal responsibility in MRT, clients are asked to become involved in positive activities and behaviors that help others and foster positive growth in themselves (Little & Robinson, 1988).

Positive identity-formation. Once clients have confronted their beliefs, attitudes, and behaviors and completed their self-assessment, they now obtain the necessary foundation to begin setting positive, achievable goals to promote their well-being and new positive identity. During the final steps, clients are asked to make a moral confrontation of their goals and examine the process they are using to achieve them (Little & Robinson, 1988).

Enhancement of self-concept. MRT includes activities in each step that increases self-esteem and a positive self-concept (Little & Robinson, 1988).

Decrease in pleasure-seeking and development of frustration tolerance. Since one of the important goals of MRT is to decrease the frequency in which clients base their decisions upon pleasure/pain, it requires clients to complete many activities that only offer internal gratification, such as helping others and expecting nothing in return (Little & Robinson, 1988).

Development of higher stages of moral reasoning. Since incarcerated individuals' moral reasoning is generally low, MRT seeks to foster higher levels of moral reasoning as well as determine a link between moral behavior and moral reasoning through the various steps (Little & Robinson, 1988).

MRT's Personality/Behavioral Stages. Each of the 12 core steps of the MRT program is rooted in nine personality/behavioral stages: (a) disloyalty; (b) opposition; (c) uncertainty; (d) injury; (e) nonexistence; (f) danger; (g) normal; (h) emergency; and (i) grace. Individuals can be either characterized into one or more of these stages depending upon their moral level or they can cluster around a primary stage while oscillating between one or two other stages immediately above or below their primary stage (Little & Robinson, 1988).

Disloyalty. Disloyalty is the lowest moral behavioral stage and is characterized by the behaviors of lying, cheating, stealing, betraying, blaming others, taking revenge, and victimizing others. Individuals in this stage will often label themselves as the victim and lie and cheat to fulfill their own needs. Moral judgments are based upon pleasure/pain and reciprocity (Little & Robinson, 1988).

Opposition. While individuals in opposition lie, cheat, and steal, they do not deceive others to the same degree as those in disloyalty. They tend to blame others, the rules, or the system for their problems and argue and complain about how unfair their circumstances are. Moral judgments continue to be based upon pleasure/pain and reciprocity (Little & Robinson, 1988).

Uncertainty. Individuals in uncertainty have a lack of direction and insight into their problems and behaviors and struggle to commit to their goals. Moral judgments are based upon the appeasement of others, pleasure/pain, and reciprocity (Little & Robinson, 1988).

Injury. Individuals in injury have an increased awareness of the injury that they have inflicted upon themselves and others. They tend to hurt themselves and others frequently; however, they usually recognize that they are the source of the problem. Moral judgments are based more upon the appeasement of others than pleasure/pain and reciprocity (Little & Robinson, 1988).

Nonexistence. Individuals in nonexistence do not have a clear sense of identity and are unsure if they can control their lives. They often feel little purpose in their life; however, they feel responsible for the way their lives have turned out. While some moral judgments are based upon “law and order,” others are based upon the appeasement of others and pleasure/pain (Little & Robinson, 1988).

Danger. Individuals in danger have a definite direction in life and have made commitments to long-term goals and feel an urgency to fulfill their goals. They tend to be straight forward and honest and recognize the reality of situations quickly. Moral judgments are based primarily upon societal values and law and order. However, they may still make decisions based upon the appeasement of others, reciprocity, and pleasure/pain, but they will experience distress and loss of self-esteem when this occurs (Little & Robinson, 1988).

Emergency. Individuals in emergency feel a sense of urgency in fulfilling their goals, which are usually broad and meaningful to many people instead of narrow and self-serving. They have a firm sense of identity, take pleasure in setting and achieving goals in a prosocial manner, tend to learn from their mistakes, and make decisions based upon social considerations. They may slip into previous ways of behaving, but they feel a strong sense of guilt when this occurs, thus they attempt to correctly rectify the situation (Little & Robinson, 1988).

Normal. Individuals in normal experience success in fulfilling their goals with seemingly little work and effort, have a genuine concern for other people, and significant insight into their behaviors. Moral judgments are equally based upon social consideration and ethical principles (Little & Robinson, 1988).

Grace. The state of grace is reached by few individuals. Individuals in grace have significant concern for social issues, are committed to doing the right things, for the right reasons, and in the right way, and are content with themselves and their behaviors. Moral judgments are based upon their ethical principles (Little & Robinson, 1988).

Efficacy of MRT. MRT was found to be comparable with other outcome programs that are generally offered to offenders (Andrews, Bonta, & Hoge, 1990; Ferguson & Wormith, 2012; Lipsey & Cullen, 2007). A meta-analysis on the efficacy of MRT demonstrated that it has a small but important effect on recidivism (Ferguson & Wormith, 2012). After the 20th year of

release, Little, Robinson, Burnette, and Swan (2010) found that 81.2% of individuals treated by MRT had at least one re-arrest compared to 93.6% of untreated controls. In addition, 81.2% (exact percentage as above is coincidental) of untreated controls were reincarcerated for a new offense during those 20 years compared to 60.8% of individuals treated by MRT.

RNR Model and MRT

MRT appears to be compliant with the principles of the RNR model. In regards to the risk principle, Ferguson and Wormith's (2012) meta-analysis found that MRT is generally delivered to individuals who are at moderate to high risk of recidivating. MRT addresses criminogenic need by focusing on moral development, antisocial attitudes, and inappropriate treatment of others. Finally, regarding the responsivity principle, MRT is a cognitive-behavioral based treatment program, which was found to be one of the most effective types of treatment programs for reducing recidivism (Andrews & Bonta, 2010; Smith et al., 2009).

Despite MRT being consistent with the RNR model on the surface, it may not necessarily meet the full requirements of the responsivity principle. According to the specific responsivity component, types of treatments offered should be consistent with inmates' individual needs (Andrews & Bonta, 2010). MRT program descriptions do not indicate that its delivery is sufficiently tailored to differing individual characteristics such as learning style, personality style, and cognitive abilities. In reality, no theory, no matter how well it is crafted, can fit every individual's needs (Polaschek, 2012). However, programs can be modified, to a certain extent, to fit individual needs. Treatment programs that are sensitive to the distinct criminogenic needs for each inmate and adhere to individuals' abilities, learning styles, and motivations will be the most successful in reducing recidivism rates (Spruit, Wissink, & Strams, 2016; Stams, 2015). To ensure that cognitive-behavioral programs such as MRT can meet the individual needs of a

variety of offenders, it is important to understand if individual factors such as rate of criminogenic thinking, personality traits, cognitive abilities, and past trauma influence premature treatment dropout.

Factors Influencing Correctional-Based Treatment Program Dropout

Despite the variety of cognitive-behavioral programs that are offered to offenders, some offenders may not have the opportunity to fully access those programs, even if they fully intend to, due to factors that lead to non-completion or dropout. The non-completion rate of corrections-based programs was found to be between 19.9% and 37.6% for prisoners in the United States (Olver, Stockdale, & Wormith, 2011). Discovering factors that are associated with dropout has grave importance due to its relationship with recidivism and hindrances on the correctional mental health system.

Researchers have found a strong relationship between failure to complete correctional programs and recidivism. In Hanson et al.'s (2002) meta-analysis, the authors found that the odds of reoffending were twice as high for offenders who failed to complete treatment programs than for those who completed. Similarly, Wormith and Olver (2002) found that compared to offenders who had completed a cognitive-behavioral based program, those who failed to complete, either due to dropout or expulsion, were more likely than completers to recidivate. Nunes and Cortoni (2006a) and Hiller, Knight, and Simpson (1999) also found that, compared to completers, dropouts/expulsions were higher in risk and criminogenic need, suggesting that offenders who fail to complete treatment programs are often those who need it most.

From an economical and resource standpoint, treatment completion rates along with efficacy rates are commonly used as indices of effectiveness. Therefore, if offenders are dropping out of treatment programs, much-needed funding will cease to be allocated to such programs due to poor outcomes (Hiller et al., 1999). Dropouts can also lead to ineffective use of

already limited funding for treatment programming and staff time (Hiller, Knight, Broome, & Simpson, 1998). Thus, identifying factors associated with early dropout from treatment programs would benefit the offender, the institution, and the community as a whole.

Many studies examining factors that lead to offender dropout from treatment programs primarily focused on demographic variables and criminal history (Palmer & Humphries, 2016). Associated studies subsequently concluded that younger age, ethnic minority status, single marital status, unemployment, low income, low levels of education, substance abuse history, a higher number of previous criminal offenses, and high risk of reconviction were associated with a greater likelihood of dropout (Daly & Pelowski, 2000; Olver et al., 2011). Realizing that there is little intervention that can change these factors, researchers began to study dynamic factors or responsivity factors (Andrews & Bonta, 2003). In support of this shift, Nunes and Cortoni (2006b) stated, “Even a well-designed program that targets criminogenic needs will not be effective if the offender is not responsive to the mode of treatment; in other words, if the treatment does not get through to the offender (p. 2).” Researchers thus far have focused on dynamic factors that may influence offender treatment dropout such as personality traits, criminogenic thinking, and cognitive abilities and have found mixed results.

Criminogenic Thinking. There have been mixed findings regarding whether higher rates of criminogenic thinking are associated with dropout with some results supporting the link (Berman, 2004; Walters, 2004) and others disproving it (Palmer & Humphries, 2016; Polaschek, 2010). Additionally, in their meta-analysis, Olver et al.’s (2011) concluded that criminogenic thinking was only predictive of dropout when outliers were included in analyses.

Personality Styles. Though higher rates of psychoticism, extroversion, and neuroticism have been strongly associated with criminal thinking and criminal thinking has been found to potentially affect dropout from treatment programs, very little, if any, research has been

conducted on the link between higher rates of personality traits on treatment program dropout. However, several researchers have looked at the impact of impulsivity on dropout and have discovered that higher rates of impulsivity are a significant predictor of dropout (Olver et al., 2011; Palmer, & Humphries, 2016).

Higher rates of impulsivity have been associated with deficits in general and social problem-solving skills. This affects individuals' abilities to cope with the format of group-work, which is the framework that the majority of corrections-based treatment programs use (Holdsworth, Bowen, Brown, & Howat, 2014; Yip et al., 2013). Furthermore, these two factors often coexist, and when they interact, impulsive tendencies can limit individuals' capacities to think before reacting or responding in social situations, thus creating friction between group members and subsequently setting the stage for premature dropout (McMurran, Huband, & Duggan 2008). Additionally, Palmer and Humphries (2016) concluded that individuals who dropped out tended to have higher rates of non-planning impulsivity, suggesting that they demonstrated less regard for their future and were unable to consider long-term goals. Therefore, it can be concluded that offenders who have higher rates of impulsivity may be unable to consider the long-term effect of their actions. Thus, they may not be able to predict the impact not completing treatment programs has on their futures (Palmer & Humphries, 2016).

Cognitive Abilities. General cognitive ability (often referred to as intellectual capacity or IQ) refers to general reasoning and problem-solving ability (Nisbett, Aronson, & Blair, 2012). Cognitive development was once thought to be largely the product of genetics; however, the importance of social context and experience, especially adverse childhood experiences (ACEs), have recently been found to significantly impact cognitive capacities (Huizink & Mulder, 2006). Developmental studies have demonstrated that the areas of the brain associated with strong cognitive and academic skills such as working memory, attention allocation, and impulse control

develop throughout childhood and adolescence (Aarnoudse-Moens, Weisglas-Kuperus, van Goudoever, & Oosterlaan, 2009). Since children exposed to ACEs experience a disruption of neurodevelopment, their overall cognitive development will also be affected. Specifically, children exposed to neglect and poverty often experience deficits in multiple areas of cognitive functioning and academic achievement due to a lack of social stimulation and cognitive enrichment constraints (e.g., exposure to complex language, rich sensory, and social inputs; McLaughlin, 2017). Furthermore, children with ACEs often experience lower intelligence (Forns, Torrent, Garcia-Estebar, Caceres, Gomila, Martinez, Morales, Julvez, O'Grimalt, & Sunyer, 2012), lower academic achievement (Shonkoff & Garner, 2011), and poorer attention (Evans & Kim, 2010).

Welte and Wieczorek (1999) hypothesized that because individuals with lower intelligence have a reduced capacity to comprehend and communicate effectively, they are at greater risk of engaging in reactive or impulsive-based offenses, therefore leading individuals with lower intelligence to be convicted of violent crimes more readily (Frisell, Pawitan, & Langstrom, 2012). In line with this hypothesis, it has been found that higher-risk offenders have lower IQ levels than lower-risk offenders and the general population as a whole (Block, 1995; Piquero, 2000). Furthermore, research has demonstrated that individuals who are incarcerated are also more likely to experience a diminished capacity to identify and/or communicate feelings (Kroner & Forth, 1995), which could lead to more impulsive behaviors, and therefore, the breakdown of higher-level cognitive functioning. Higher-level programming in correctional settings, which is primarily cognitive-behavioral and often exclusively offered to higher risk offenders per the RNR model, often requires participants to have strong verbal and reasoning abilities as well as the ability to identify and communicate their feelings. Therefore, if participants do not have adequate cognitive abilities, they may not be able to fully benefit from

this type of treatment.

Cognitive-behavioral based treatments often require participants to have an adequate verbal ability in order to establish relationships among facilitators and other group members, be able to express thoughts and feelings, use self-reflection, take on the perspective of others, and use causal reasoning, abstract thinking, and critical reasoning (Flanagan et al., 2015; Lipsey et al., 2007). They also require participants to have adequate fluid reasoning abilities, which are the abilities to take in new information and apply that information to solve novel problems. Fluid reasoning abilities are necessary for cognitive-behavioral based treatments because individuals are asked to challenge the content of their negative thoughts as well as to apply new skills related to reducing their negative behavioral patterns (Collins, Katona, & Orrell, 1997). These cognitive-behavioral based treatments also require participants to maintain attention and focus and to have an adequate working memory, which is the ability to hold information in mind long enough to use that information to perform a task (Baddely, 1986; Safran & Segal, 1990).

Due to the cognitive demands of cognitive-behavioral based treatments, offenders with lower cognitive abilities have been found to terminate treatment earlier and are less likely to complete interventions than offenders with higher cognitive abilities (Genders & Player, 1995; Shine, 2001). Newberry and Shuker (2011) proposed that offenders with lower cognitive abilities may terminate treatment sooner because they may not have sufficient cognitive abilities needed to properly engage in group process and self-reflection or they engage in concrete or rigid thinking styles, leading to frustration when they are asked to draw parallels between their thought processes and their behavior.

ACEs. From 1995 to 1997, through the Division of Violence Prevention at the Centers for Disease Control and Prevention (CDC) and in partnership with Kaiser Permanente, Doctors Robert Anda and Vincent Felitti conducted a landmark study looking at the relationship between

ACEs and health problems. ACEs refer to events or experiences that occur before the age of 18 that are outside of children's control and are perceived to cause them emotional or physical harm. These experiences include, but are not limited to, child abuse (physical, sexual or emotional), child neglect, family instability, parental mental illness, parental substance abuse, parental incarceration, low socioeconomic status, and exposure to domestic or community violence (U.S. Department of Health and Human Services, 2018).

ACEs have the potential to disrupt the neurodevelopment of children and result in the use of maladaptive coping strategies to manage their negative emotions (U.S. Department of Health and Human Services, 2018). This makes them more susceptible to the development of both externalizing (e.g., aggression and conduct problems) and internalizing (e.g., anxiety and depression) mental health disorders as well as substance abuse problems than children who have never encountered adversity (Alisic et al., 2014; Carliner et al., 2016; McLaughlin et al., 2012; McLaughlin et al., 2013). Left untreated, mental health and substance abuse problems can eventually contribute to disease, disability, social problems, and premature mortality (U.S. Department of Health and Human Services, 2018).

The results of the study indicated that ACEs are common, for example, 28% of study participants reported physical abuse and 21% reported sexual abuse, and they tend to cluster, as almost 40% of the Kaiser sample reported two or more ACEs and 12.5% experienced four or more. In addition, ACEs have a significant relationship with health problems (e.g., heart disease, cancer, chronic lung disease, obesity), social, and behavioral problems throughout the lifespan; U.S. Department of Health and Human Services, 2018).

Little to no research exists regarding whether higher ACEs scores contribute to premature dropout from treatment programs. However, since ACEs can impact many of the factors that have been found to impact treatment program dropout (e.g., cognitive abilities,

attention, impulsivity, and the use of maladaptive coping strategies), it can be concluded that ACEs may have an overarching impact on dropout.

Research Gap and Purpose of This Study

After conducting an exhaustive literature search using multiple databases and keywords, no studies were found that examined whether MRT reduces criminogenic thinking or to what extent criminogenic thinking, ACEs, cognitive abilities, and personality styles influence dropout (i.e., choosing to leave the group before completion/release) from the program. The purpose of this study is twofold; the first objective is to discover whether MRT reduces criminogenic thinking. The second is to determine if criminogenic thinking, ACEs, cognitive abilities, and negative personality traits influence dropout. If significant effects in one or more of the aforementioned areas are discovered, individuals predicted to have the same profile of past participants who dropped out could potentially receive additional supports to decrease their probability of dropout, subsequently improving recidivism rates.

Hypotheses

1. There will be a significant reduction in all six domains of the criminogenic thinking self-report measure from pre-test to post-test.
2. Based on the research, exploratory analyses will be conducted to discover which, if any, of the following variables will lead to higher rates of dropout from the MRT program:
 - a. Higher criminogenic thinking.
 - b. Higher total ACEs scores.
 - c. Higher antisocial personality, impulsivity, or psychoticism traits.
 - d. Lower total cognitive scores or fluid reasoning scores.

Method

Description of the Evaluated MRT Group(s)

The MRT program being evaluated was an established group in a local county jail in southern New Hampshire before the research began (see Appendix A for approved IRB application and Appendix B for the letter of support from the jail). At the beginning of this study, there was a single MRT group that encompassed inmates from all male units/blocks (R/S, D, and K blocks). However, six months into the study, mental health personnel and group facilitators decided to split the group into two (one group restricted to K block inmates and the other restricted to D and R/S block inmates) to avoid communication-related issues between the blocks.

Throughout the data collection period (approximately 2 years), the MRT group(s) experienced multiple group leader changes and reconfigurations. Initially, the group was run by two female LMHCs who were both certified MRT facilitators. Approximately six months into the study, one of the female facilitators was relocated to another facility and a male facilitator, who was also MRT certified, took her place. For approximately the next three months, the male and female facilitators co-facilitated the K block group while the male facilitator and I co-facilitated the D and R/S block group. For the remaining time, the female facilitator independently led the K block group and the female facilitator and I co-facilitated the D and R/S block group.

The MRT groups were participant-driven under the direction of 1–2 facilitators. The groups met one time per week for approximately two hours and varied weekly in attendance (with 3–13 participants) due to group reconstruction, level of interest, and disciplinary issues. New group members could be added to the existing group at any time. Each group member was

given a personal workbook and was asked to complete one step per week of the 12-step program. Participants were taught how to complete the homework associated with each step by facilitators during weekly, individual teaching sessions (per MRT instructor protocol). These teaching sessions varied by length and were dependent on staff time and individual need. Successful completion of steps required participants to adequately complete homework associated with each step and to present their homework in front of the group. During homework presentations, group members and facilitators asked clarifying and exploratory questions geared toward expanding presenters' understanding of their homework tasks.

After questions from the group were answered, the presenter left the room while the remaining group members deliberated and voted on whether or not the presenter fulfilled all of the requirements to pass the step. A three-quarter vote was needed for an individual to pass; however, the group facilitators could override the group's decision if necessary (this rarely occurred). The individual was then asked to reenter the room, he was informed of the group's decision, and then he was given feedback. If the individual passed, he would move on to the next step. If the individual did not pass, he would be given feedback regarding the reasoning for not passing as well as suggestions on how to improve his presentation. During the next week, he would incorporate the feedback into the revision of his homework and then re-present the following week. There was no tangible reward for passing steps or completing the program.

Participants

The participants were male inmates at the Cheshire County House of Corrections (CCHOC), a county jail located in Keene, NH. All male inmates were allowed to sign up for the group via a sign-up sheet posted in the common area of the units or by approaching a group leader directly. However, before inmates were allowed to enter the group, group leaders

consulted with them to assess specific selection criteria, which primarily included: (a) length of stay; (b) prediction of interest/motivation; (c) prediction of symptom severity (e.g., antisocial behavior, drug addiction, psychological factors); (d) recidivism history, and (e) personality fit with the current group members (e.g., Does the new individual get along with the current group members? Are there any current/past grievances between the new individual and current group members? Would the new individual impede the growth of the current group members? Exclusion based on this criterion rarely occurred).

Inmates who met the aforementioned criteria were then allowed to enter the group. In some cases, individuals were court-ordered to participate in MRT as part of their sentencing. This began to occur more often toward the end of data collection once the courts became more informed about the program and observed its benefits. In these cases, individuals were allowed to join the group without having to complete the selection criteria process. Due to the design of the data collection and the increase in court-ordered participants toward the end of data collection, court-ordered participants were not tracked or differentiated from voluntary participants.

General demographics and frequencies. The MRT program (and thus, participation in this study) was restricted to male inmates due to lack of interest and symptom severity in the female unit. Therefore, all of the participants ($N=80$) in this study were male. Of the participants, 75% ($N=60$) was Caucasian, 12.5% ($N=10$) was African-American, 7.6% ($N=6$) was Hispanic, 2.5% ($N=2$) was mixed race/biracial, 1.3% ($N=1$) was Asian, and 1.3% ($N=1$) was Jamaican. Their ages ranged from 20 to 53 years old ($M=31.95$; $SD= 6.73$). The participants varied in where they resided before incarceration with 78.9% ($N=63$) residing in the New England area and 21.1% ($N=17$) residing throughout the rest of the country. Approximately half of the

participants (47.6%; N=38) either graduated from high school or received their GED and approximately one-quarter of the participants received some college/technical college education (25.1%; N=20). The remaining quarter did not complete high school due to dropout (27.5%; N=22). In terms of relationship status, 53.8% (N=43) of the participants identified as single, 32.5% (N=26) was partnered, 8.8% (N=7) was married, and 5% (N=4) was divorced/legally separated. Over half of the participants (60%; N=48) identified that they had children with the minimum number of children being one and the max being nine ($M=2.33$; $SD=1.59$). Upon release, 85% (N=68) of the participants stated that they would likely have steady employment while 71.3% (N=57) stated that they would have stable housing.

Incarceration-related frequencies. County/state inmates made up 57.5% (N=46) of the participants while federal inmates made up the remaining 42.5% (N=34). The participants were currently charged with/convicted of a variety of crimes with the most frequent being drug-related crimes 47.5% (N=38), followed by nonviolent crimes (40%; N=32) defined in this study as crimes that did not involve physical harm or potential physical harm to others (e.g., trespassing and robbery), violent crimes (10%; N=8) defined in this study as crimes that involved physical harm or potential physical harm to others (e.g., armed robbery and assault), and sex crimes (2.5%; N=2). The vast majority of participants had been incarcerated previously (87.5%; N=70), while only a minority were incarcerated for the first time (12.5%; N=10). The number of misdemeanors (Min=0; Max=100; $M=7.57$; $SD=11.99$) and felonies (Min=0; Max=150; $M=6.58$; $SD=17.07$) that the participants were charged with previously/and or currently varied greatly as did the total number of years incarcerated up to the present (Min=0; Max=27; $M=4$; $SD=5.34$).

Mental health and treatment-related frequencies. Of the 72.5% (N=58) of participants who received formal psychotherapy in the past, 47.5% (N=38) was formally diagnosed with a

mental health disorder. Of those participants who were formally diagnosed, 32.5% (N=26) was diagnosed with a mood disorder, 22.5% (N=18) was diagnosed with an anxiety disorder, 21.3% (N=17) was diagnosed with Posttraumatic Stress Disorder, 18.8% (N=15) was diagnosed with Attention-Deficit/Hyperactivity Disorder, 1.3% (N=1) was diagnosed with a personality disorder, and 1.3% (N=1) was diagnosed with a psychotic disorder (i.e., meth-induced psychosis).

Substance use/abuse and treatment-related frequencies. The vast majority of participants stated that they used alcohol in the past (88.8%; N=71) with 30.5% (N=18) using the substance daily before incarceration. Similarly, 97.5% (N=78) of participants stated that they had used drugs in the past with 83.1% (N=59) using drugs daily before incarceration. Of these participants, 67.5% (N=52) had a history of using opioids, 63.6% (N=49) had a history of using stimulants (e.g., cocaine and methamphetamine), 40.8% (N=31) had a history of using cannabis, 6.6% (N=5) had a history of using club drugs (e.g., ecstasy), 6.6 (N=5) had a history of using hallucinogens (e.g., Lysergic acid diethylamide [LSD]), and 2.6% (N=2) had a history of using dissociative drugs (e.g., phencyclidine [PCP]). Of the participants with a drug use/abuse history, 68.7% (N=46) reported a history of receiving formal substance abuse treatment.

Measures

Demographics questionnaire. Participants were asked to fill out a 21-question demographic questionnaire that asked about basic demographic information such as age, race, and education level along with incarceration, mental health, substance use/abuse, and treatment-related histories. See Appendix D for the demographic questionnaire.

The Adverse Childhood Experiences Questionnaire (ACEs). The Adverse Childhood Experiences Questionnaire (ACEs) was developed by Dr. Vincent Felitti, MD in the late 1990s as a means to assess the link between adverse childhood experiences and physical health as an adult. It is a 10-item self-report measure that assesses for 10 types of childhood trauma. The

ACEs is categorized into three groups: abuse, neglect, and family/household challenges, and each category is further divided into multiple subcategories. All questions refer to the respondent's first 18 years of life. The respondent is asked to respond "yes" or "no" to each question. Each *yes* response counts as one point. Higher scores equal a higher risk of adverse effects as an adult. See Appendix E for the ACEs Questionnaire.

Texas Christian University Criminal Thinking Scale (TCU-CTS). The Texas Christian University Criminal Thinking Scale (TCU-CTS; Knight et al., 2006) was developed to assess cognitive functioning expected to be related to criminal conduct. The TCU-CTS was used to measure criminogenic thinking before the start of MRT as a pre-test and after leaving the group as a post-test. The initial investigation of this instrument was conducted with more than 3,200 offenders in a variety of correctional settings and found moderate to high reliabilities for the scales, ranging from .68 to .82 and .66 to .84 at retest when using the Cronbach's alpha measure (Knight et al., 2006).

The first three scales on the TCU-CTS were adapted from the Psychological Inventory of Criminal Thinking Styles (PICTS; Walters, 2002), and the three additional scales were developed specifically for this instrument using the ideas of Yochelson and Samenow (1976). The scales consist of *Entitlement* (believing individuals deserve special treatment, misidentifying wants as needs, and conveying a sense of ownership and privilege); *Justification* (a thinking pattern characterized by minimizing the seriousness of antisocial acts and justifying actions based on external circumstances); *Power orientation* (using aggression and manipulation as an attempt to control the external environment and achieve a sense of power); *Cold heartedness* (callousness and a lack of emotional involvement in relationships with others); *Criminal rationalization* (having a negative attitude toward the law and authority figures); and *Personal*

irresponsibility (the degree to which an individual accepts ownership for criminal actions and blames others for those actions).

The TCU-CTS takes approximately 10–15 minutes to complete. There are 5–7 items per scale, and there are five options per item (*disagree strongly* =5 points, *disagree* =4 points, *uncertain* =3 points, *agree* = 2 points, and *strongly agree* = 1 point). All items in Domain D: Cold Heartedness and one item in Domain E: Criminal Rationalization are reversed scored (i.e., *strongly agree*=1 point, *agree*=2 points, *uncertain*=3 points, *disagree*=4 points *strongly disagree*=5). Each domain is computed by taking the average and multiplying by 10. The resulting domain scores range from a low of 10 to a high of 50, with higher scores indicating higher criminogenic thinking. See Appendix F for the TCU-CTS self-report form and Appendix G for the TCU-CTS scoring form.

Woodcock Johnson-IV Cognitive (WJ-IV COG) Brief Intellectual Abilities scale (BIA). The Woodcock Johnson-IV Cognitive (WJ-IV COG; McGrew & Woodcock, 2001) Brief Intellectual Abilities scale (BIA) was used to screen inmates' general cognitive functioning. The BIA is comprised of the first three subtests on the WJ-IV COG and includes one estimate of fluid reasoning (Gf), comprehension–knowledge (Gc), and short-term working memory (Gwm). This scale works well for research that needs a short but reliable measure of intelligence. The composite clusters demonstrate strong validity evidence (.67 to .76) as a measure of general intelligence when the criterion is the global composite/total scores from other major IQ batteries in the field. The test–retest reliabilities for the individual subtests are mostly .80 or higher. The WJ-IV COG BIA takes approximately 15-30 minutes to complete (McGrew & Woodcock, 2001).

Minnesota Multiphasic Personality Inventory-2 Restructured Form (MMPI-2-RF).

The Minnesota Multiphasic Personality Inventory-2 Restructured Form (MMPI-2-RF; Ben-Porath & Tellegen, 2008), a shortened version of the MMPI-2, was used to assess personality traits. It is a 338-item self-report measure using a true/false answering system. It is linked conceptually and empirically to modern theories and models of psychopathology and personality and provides a comprehensive assessment of the most frequently relevant clinical psychopathology as well as a broad assessment of response bias and response validity. The scales consist of Validity, Higher-Order (H-O), Restructured Clinical (RC), Somatic/Cognitive, Internalizing, Externalizing, Interpersonal Interest, and Personality Psychopathology Five (PSY-5). Examples of items (Likert scale): (a) “I enjoy spending time alone”; (b) “I work well with others.” The MMPI-2-RF takes approximately 50 minutes to complete (Ben-Porath & Tellegen, 2008).

The mean test-retest coefficient for the nine validity scales was found to be moderate at .67, but the values for the two consistency scales (VRIN-r and TRIN-r) were lower (.52 and .40, respectively). The mean for the other seven validity scales was found to be high at .73. Test-retest coefficients for the Higher-Order scales ranged from moderate to high (.64 to .91); the RC scales and the specific problems scales (Somatic/Cognitive, Internalizing, Externalizing, Interpersonal Interest) ranged from moderate to high (.54 to .92); and the PSY-5 scales were found to be in the high range (.76 to .93). The internal consistency for all scales was found to be strong with a median of .79 (Ben-Porath & Tellegen, 2008).

The MMPI-2-RF was normed on different population groups including forensic pre-trial defendants and prison inmates. External validity data from mental health, forensic, medical, and non-clinical samples “document the convergent and discriminant validity and corroborate the construct validity of the substantive scales” (Ben-Porath & Tellegen, 2008, p. 31).

Procedure

Once the mental health personnel at the jail determined which inmates were appropriate for the program, these inmates were allowed to participate in the MRT group. Those who choose to be a part of the group were eligible to take part in this study. Participation in the group was not dependent upon agreeing to participate in this study.

The initial testing took place before the inmate fully participated in his first group session (the inmate was allowed to observe for one group session before taking part in the assessment procedure to ensure an adequate level of interest). Once an inmate decided to participate in the group, mental health personnel at the jail contacted the researcher to inform her that there was a participant available for testing. The researcher then traveled to the jail and met with the participant in a private room off of his unit. From there, the participant was given a copy of the informed consent (see Appendix C for informed consent), an overview of the pertinent points was given, and the participant signed the informed consent if he agreed to participate in the study (there were no individuals who declined to participate in the study). Next, the participant filled out the demographic questionnaire, the ACEs, and the TCU-CTS. Following that, the three subtests that comprise the WJ-IV COG BIA were given. Finally, the participant filled out the MMPI-2-RF. The assessment process lasted between 1.5-2 hours per participant. Following the assessment process, the participants attended the MRT group. After they dropped out of the group, transferred to another facility, or completed, they were asked to fill out the TCU-CTS questionnaire as a means to collect post-test data.

Since the jail population is considered a protected and vulnerable population, considerate care was taken when deidentifying and storing the collected data. All participants were assigned a Participant Identification Number (PIN). The PIN was utilized to de-identify all assessment, demographic, and study records. A key was kept in a separate, password-protected, and

encrypted file separate from records and aggregate data. Per HIPPA, the key will be kept for seven years starting from its last use. All hard copies of the data were kept at the Antioch University New England Psychological Services Center (PSC), which is a HIPAA protected facility. The electronic data was stored in a password-protected, encrypted database on the PSC's server. Such processes are intended to keep the participants' privacy secure and separate from the jail. Only aggregate data will be shared with the mental health staff and executive staff at the jail. Per HIPPA, all participant data will be kept for seven years starting from the completion date of the study.

Results

Hypothesis I: Criminogenic Thinking Pre-test to Post-test

This study follows a quasi-experimental design, as there is no control group involved. To analyze the data relevant to Hypothesis I, six separate one-way repeated measures ANOVAs were conducted to compare the mean total pre-test and post-test scores on the six domains of the TCU-CTS. Only participants who completed both a pre-test and a post-test were included in this analysis (N=64; some participants left the program without prior notice; therefore their post-tests were not able to be completed). The total N includes individuals who completed, dropped out, or left the program before completion due to external factors (i.e., transfer or release).

A one-way repeated measures ANOVA was conducted to compare the mean total scores on Domain A: Entitlement of the TCU-CTS at pre-test (before participating in the group) and post-test (after leaving the group due to completion, dropout, or transfer). There was a significant difference between pre-test and post-test on Domain A: Entitlement, Wilks' Lambda = .877, $F(1, 63) = 8.849, p <.05$, multivariate partial eta squared = .123. Please see Table 1 in Appendix H

for means, significance level, and standard deviations.

A one-way repeated measures ANOVA was conducted to compare the mean total scores on Domain B: Justification of the TCU-CTS at pre-test (before participating in the group) and post-test (after leaving the group due to completion, dropout, or transfer). There was a significant difference between pre-test and post-test on Domain B: Justification, Wilks' Lambda = .757, $F(1, 63) = 20.236, p <.05$, multivariate partial eta squared = .243. Please see Table 2 in Appendix H for means, significance level, and standard deviations.

A one-way repeated measures ANOVA was conducted to compare the mean total scores on Domain C: Power Orientation of the TCU-CTS at pre-test (before participating in the group) and post-test (after leaving the group due to completion, dropout, or transfer). There was a significant difference between pre-test and post-test on Domain C: Power Orientation, Wilks' Lambda = .698, $F(1, 63) = 27.220, p <.05$, multivariate partial eta squared = .302. Please see Table 3 in Appendix H for means, significance level, and standard deviations.

A one-way repeated measures ANOVA was conducted to compare the mean total scores on Domain D: Cold Heartedness of the TCU-CTS at pre-test (before participating in the group) and post-test (after leaving the group due to completion, dropout, or transfer). There was a significant difference between pre-test and post-test on Domain D: Cold Heartedness, Wilks' Lambda = .875, $F(1, 63) = 8.980, p <.05$, multivariate partial eta squared = .125. Please see Table 4 in Appendix H for means, significance level, and standard deviations.

A one-way repeated measures ANOVA was conducted to compare the mean total scores on Domain E: Criminal Rationalization of the TCU-CTS at pre-test (before participating in the group) and post-test (after leaving the group due to completion, dropout, or transfer). There was a significant difference between pre-test and post-test on Domain E: Criminal Rationalization, Wilks' Lambda = .697, $F(1, 63) = 26.924, p <.05$, multivariate partial eta squared = .303. Please

see Table 5 in Appendix H for means, significance level, and standard deviations.

A one-way repeated measures ANOVA was conducted to compare the mean total scores on Domain F: Personal Irresponsibility of the TCU-CTS at pre-test (before participating in the group) and post-test (after leaving the group due to completion, dropout, or transfer). There was a significant difference between pre-test and post-test on Domain F: Personal Irresponsibility, Wilks' Lambda = .802, $F(1, 63) = 15.597, p < .05$, multivariate partial eta squared = .198. Please see Table 6 in Appendix H for means, significance level, and standard deviations.

Hypothesis II: Effect of Assessed Variables on Dropout

To analyze the data relevant to Hypothesis II, independent-samples t-tests were conducted to analyze whether criminogenic thinking, ACEs, antisocial, impulsivity, or psychoticism traits, total cognitive scores, and/or fluid reasoning scores impacted dropout. Only participants who completed the program ($N=29$ for TCU-CTS, personality, and cognitive analyses and $N=25$ for ACEs analyzes [explanations for differentiation of Ns are explained below]) and those who dropped out on their own accord ($N=17$ for TCU-CTS, personality, and cognitive analyses and $N=7$ for the ACEs analyses [explanations for differentiation of Ns are explained below]) were included in these analyses since the outcomes of those who left the program due to release or transfer cannot be reliably predicted (i.e., whether they would have dropped out or completed the program).

Completed vs. dropout and TCU-CTS. Independent-samples t-tests were conducted to compare the individual domain scores on the pre-test TCU-CTS for those who completed the MRT program and those who dropped out. Please see Table 7 in Appendix H for descriptive data.

On Domain A: Entitlement, there was no significant difference in scores for those who completed the MRT program ($M = 17.79, SD = 5.199$) and those who dropped out ($M = 18.53,$

$SD=4.48$; $t(44) = .475$, $p = .64$, two-tailed). The magnitude of the differences in the means (mean difference = .74, 95% CI: -2.39 to 3.86) was very small (eta squared = .005).

On Domain B: Justification, there was no significant difference in scores for those who completed the MRT program ($M = 20.45$, $SD = 6.08$) and those who dropped out ($M = 21.18$, $SD = 6.16$; $t(44) = .39$, $p = .70$, two-tailed). The magnitude of the differences in the means (mean difference = .73, 95% CI: -3.03 to 4.49) was very small (eta squared = .003).

On Domain C: Power Orientation, there was no significant difference in scores for those who completed the MRT program ($M = 27.34$, $SD = 7.76$) and those who dropped out ($M = 28.06$, $SD = 6.36$; $t(44) = .32$, $p = .75$, two-tailed). The magnitude of the differences in the means (mean difference = .71, 95% CI: -3.77 to 5.195) was very small (eta squared = .002).

On Domain D: Cold Heartedness, there was no significant difference in scores for those who completed the MRT program ($M = 21.86$, $SD = 6.95$) and those who dropped out ($M = 24.00$, $SD = 4.80$; $t(44) = 1.12$, $p = .27$, two-tailed). The magnitude of the differences in the means (mean difference = 2.138, 95% CI: -1.71 to 5.99) was small (eta squared = .028).

On Domain E: Criminal Rationalization, there was no significant difference in scores for those who completed the MRT program ($M = 31.07$, $SD = 6.75$) and those who dropped out ($M = 30.82$, $SD = 7.443$; $t(44) = -.12$, $p = .91$, two-tailed). The magnitude of the differences in the means (mean difference = -.25, 95% CI: -4.56 to 4.07) was very small (eta squared = .0003).

On Domain F: Personal Irresponsibility, there was no significant difference in scores for those who completed the MRT program ($M = 21.76$, $SD = 6.35$) and those who dropped out ($M = 21.12$, $SD = 6.26$; $t(44) = -.33$, $p = .74$, two-tailed). The magnitude of the differences in the means (mean difference = -.64, 95% CI: -4.53 to 3.25) was very small (eta squared = .002).

Completed vs. dropout and ACEs. An independent-samples t-test was conducted to compare ACEs total scores for those who completed the MRT program and those who dropped

out. Please see Table 8 in Appendix H for descriptive data. The total N's for the ACEs analyses is different from the total N's for the remaining analyses because the ACEs was added to the study protocol after data collection had already begun. Therefore, not all of the participants completed the ACEs.

There was no significant difference in ACEs total scores for those who completed the MRT program ($M = 3.96, SD = 2.79$) and those who dropped out ($M = 2.57, SD = 2.44$; $t(30) = -1.19, p = .24$, two-tailed). The magnitude of the differences in the means (mean difference = -1.39, 95% CI: -3.77 to .99) was very small (eta squared = .031).

Completed vs. dropout and personality traits. Independent-samples t-tests were conducted to compare antisocial (RC4), impulsivity (DISC-r), and psychotism (PSYC-r) traits for those who completed the MRT program and those who dropped out. Please see Table 9 in Appendix H for descriptive data.

There was no significant difference in rates of antisocial traits for those who completed the MRT program ($M = 76.71, SD = 9.08$) and those who dropped out ($M = 78.35, SD = 8.87$; $t(44) = .79, p = .43$, two-tailed). The magnitude of the differences in the means (mean difference = 2.18, 95% CI: -3.36 to 7.72) was small (eta squared = .014).

There was no significant difference in rates of impulsivity traits for those who completed the MRT program ($M = 71.83, SD = 9.30$) and those who dropped out ($M = 74.47, SD = 10.06$; $t(44) = .90, p = .37$, two-tailed). The magnitude of the differences in the means (mean difference = 2.64, 95% CI: -3.26 to 8.54) was small (eta squared = .018).

There was no significant difference in rates of psychotism traits for those who completed the MRT program ($M = 55.86, SD = 14.25$) and those who dropped out ($M = 60.24, SD = 18.65$; $t(44) = .895, p = .38$, two-tailed). The magnitude of the differences in the means

(mean difference = 4.37, 95% CI: -5.47 to 14.22) was small (eta squared = .018).

Completed vs. dropout and cognitive abilities. Independent-samples t-tests were conducted to compare total cognitive ability and fluid reasoning abilities for those who completed the MRT program and those who dropped out. Please see Table 10 in Appendix H for descriptive data.

There was no significant difference in rates of total cognitive ability for those who completed the MRT program ($M = 96.55$, $SD = 12.88$) and those who dropped out ($M = 92.35$, $SD = 11.98$; $t(44) = -1.09$, $p = .28$, two-tailed). The magnitude of the differences in the means (mean difference = -4.199, 95% CI: -11.93 to 3.53) was small (eta squared = .026). There was no significant difference in fluid reasoning ability for those who completed the MRT program ($M = 98.69$, $SD = 12.13$) and those who dropped out ($M = 96.71$, $SD = 12.85$; $t(44) = -.52$, $p = .60$, two-tailed). The magnitude of the differences in the means (mean difference = -1.98, 95% CI: -9.62 to 5.65) was very small (eta squared = .006).

Discussion

Hypothesis I

After data analysis, Hypothesis I was supported by the data; there was a significant reduction in all six domains of the TCU-CTS from pre-test to post-test, suggesting that individuals who participated in the MRT program, no matter if they completed or dropped out, had a significant reduction in criminogenic thinking from program initiation to departure. These results are comparable to studies that measured criminogenic thinking pre and post cognitive-behavioral treatment program involvement (e.g., Walters, 2003; Warner et al., 2018).

These findings indicate that individuals who participate in the MRT program do not have to complete the program to yield reductions in criminogenic thinking. As MRT is one of the

more intensive cognitive-based correctional programs requiring a minimum of 12 weeks at two hours per week to complete the program (no participant in the current study completed the program in 12 weeks; the average number of weeks for completers to complete the program was 19.75 weeks at a total of 39.5 hours), this finding suggests that individuals can benefit from program instruction even if they do not complete the program.

Being that this study was conducted at a small, rural county jail, many of the participants joined MRT knowing that they would not have the opportunity to finish based on their shorter sentence length. However, the facilitators hypothesized that some treatment was better than no treatment for many of these individuals due to their level of criminogenic need. The decision to enter these individuals into treatment was supported by the current data, as it was found that these individuals still significantly benefited from the program even if they did not complete (average number of groups for all participants was 12.24 at a total 24.48 hours). In addition to demonstrating a significant reduction in criminogenic thinking as a whole, the results suggest that certain criminogenic thinking domains on the TCU-CTS were affected more than others.

In 2005, the Institute of Behavioral Research at Texas Christian University conducted a normative study for the TCU-CTS with 3,266 offenders participating. The domain scale means and their associated percentile ranks along with the pre/post-test domain means from the current study are presented in Table 11 in Appendix I. All of the pre-test means, except for Domain C: Power Orientation (discussed below), were below the normed means, and they were all between the 25th and 75th percentiles. At post-test, all of the scales were below the normed means. In addition, except for Domain E: Criminal Rationalization (discussed below), all of the mean domain scores remained below the normed means and between the 25th and 75th percentiles; however, the mean scores moved closer to the 25th percentile mark. These findings suggest that

the MRT curriculum succeeded in its mission to raise participants from Kohlberg's theory of moral development's pre-conventional stage to the conventional stage where social rules and the needs of others become more important (Ferguson & Wormith, 2012; Flanagan et al., 2015).

With regard to the present study's pre-test means on Domain C: Power Orientation, the mean score was above the normed data, suggesting that the present study's participants tended to report using aggression and manipulation as an attempt to control their external environment in order to achieve a sense of power at a higher rate than the normed data participants. As the participants in the current study moved through the various steps and/or completed the group, their post-test mean on Domain C: Power Orientation significantly reduced to the point where it was below the mean of the normed data. This suggests that when these individuals moved through the steps of the program, they began to accept responsibility for their actions rather than partaking in behaviors characterized by the lower personality/behavioral stages (e.g., disloyalty and opposition) such as blaming others, lying, cheating, manipulating, and victimizing. They also began to learn that they cannot control everything in their external environment (e.g., other individuals) and, therefore, began to shift their need for power and control of their external environment to controlling their behaviors by engaging in higher stages of moral reasoning such as making decisions based on social and moral considerations and setting positive goals for themselves.

Another interesting finding was that the Domain E: Criminal Rationalization mean score moved from in between the 25th and 75th percentiles to below the 25th percentile from pre-test to post-test, indicating that the participants' negative attitudes toward the law and authority figures significantly decreased. This may have occurred due to the participants' newfound tendency to be honest about, accept, and take responsibility for their behaviors rather than blaming others such as law enforcement and other individuals in authority for their

wrongdoings and justifying their actions based on the actions of others, which is consistent with the MRT's overarching goals (Little & Robinson, 1988). The findings from Hypothesis I reflect positively on MRT in that it significantly reduces criminogenic thinking. Therefore, in theory, the program will also reduce recidivism rates. It also significantly adds to the limited amount of research on the program, which will hopefully help MRT gain more acceptance and use in correctional treatment.

Hypothesis II

Contrary to Hypothesis I, Hypothesis II was not supported; no significant differences were found between those who completed the MRT program versus those who dropped out on criminogenic thinking, ACEs (past trauma), antisocial (RC4), impulsivity (DISC-r), and psychoticism (PSYC-r) traits, total cognitive abilities, or fluid reasoning abilities. This suggests that even though the MRT curriculum, like many other cognitive-behavioral groups, is cognitively and emotionally demanding, the aforementioned factors did not significantly influence dropout. The total dropout percentage in the current study (21%) was found to be in the lower end of the national dropout range (19.9%-37.6%) for correctional-based programs in the United States (Olver et al., 2011). Completion, dropout, and transfer/released percentages are presented in Table 12 in Appendix J.

Overall, the current results run contrary to previous findings concerning the link between ACEs, criminogenic thinking, cognitive abilities, and personality factors and treatment program dropout. For example, previous research suggests that those who experienced fewer stressful life events are more likely to be successful in treatment programs (Darke, Ross, & Teesson, 2005), which is contrary to the current finding that higher ACEs scores do not affect dropout. Numerous researchers have found that offenders with lower cognitive abilities terminate treatment earlier and are less likely to complete interventions than offenders with higher cognitive abilities

(Genders & Player, 1995; Newberry & Shuker, 2011; Shine, 2001; Shuker et al., 2007), which is also contrary to the current findings that overall cognitive abilities did not influence dropout. Regarding criminogenic thinking, previous research results are mixed; Polaschek (2010) and Palmer and Humphries (2016) found that there was not a link between criminogenic thinking and treatment program dropout, which is parallel to the results of the current study, while other research has supported the link (Berman, 2004; Walters, 2004). Finally, the current results are in contrast to previous research regarding the impact of impulsivity on dropout, which states that higher rates of impulsivity are a significant predictor of dropout (Olver et al., 2011; Palmer & Humphries, 2016).

Though there are many limitations to the current study (discussed below), the findings for Hypothesis II were surprising and unexpected. The results suggest that other factors influencing dropout such as intrinsic factors (e.g., motivation, self-esteem, self-confidence) may be at play. In addition, uncontrollable factors such as overall group atmosphere, sense of safety, group cohesion, availability of facilitators, and therapeutic alliance with facilitators may have also influenced the results in that these factors may have overridden or mitigated factors previously found to influence dropout rates such as personality, criminogenic thinking, cognitive ability, and past trauma.

Most of the MRT steps ask participants to be vulnerable and to confront their past wrongdoings and emotions in a group atmosphere. This type of therapeutic work would be challenging in a non-correctional group where showing vulnerability to others would not cause a threat to personal safety as it does in the correctional setting. Therefore, this type of treatment would be even more challenging in a correctional environment where showing vulnerability and sharing personal information may cause a direct threat to personal safety. Therefore, in order for individuals to fully benefit from MRT, they would need to feel safe with the current group

members and the facilitators. Once this is created, some group members may feel a sense of safety, belonging, and attachment toward the group and facilitators allowing them the option to be vulnerable and to fully benefit from the program. On the other hand, some individuals may not have felt a sense of safety within the group, which may have led to dropout.

Limitations

There are several limitations to the current study. First, the participants were limited to only male offenders in a rural county jail setting, making the generalizability of the results limited to this population. Second, the sample size was small, especially regarding the data analyzed in Hypothesis II, which also affects the generalizability of the results. Third, due to its quasi-experimental design, this study is lacking a control group, thereby, making it difficult to separate the positive effects of MRT from testing effects due to phenomena such as the social desirability bias, response bias, or the hello-goodbye effect (Cronbach, 1990), whereby participants attempt to create an overly positive impression upon leaving a group. Similarly, as Smith, Glass, and Miller (1980) suggested, if an outcome measure covers the same material that is learned in a therapeutic intervention, the results of the outcome measure may be a function of participants learning the “correct” responses via the therapeutic intervention. Therefore, participants in the MRT program may have learned to respond to the TCU-CTS questions in a more prosocial manner, due to learning similar material throughout the course, without actually changing their thinking style. Fourth, the majority of participants in this study joined the MRT program voluntarily, therefore, suggesting that these individuals may have been more amenable to change than those who did not participate. Fifth, even though MRT is a manualized treatment, factors such as the relationship with the facilitators/group members, facilitator personality and their therapeutic style, and overall staff availability could have factored into or altered the

results, which is difficult to control for. Finally, this study only examined short-term cognitive change.

Future Directions

Further research is needed to determine if or for how long the changes in criminogenic thinking are maintained past the immediate completion of the MRT program. Since little to no research has been conducted regarding dropout from the MRT program, future research is needed in this area either to confirm or disprove the current results. Additionally, since MRT focuses on increasing moral behavior and decreasing criminogenic thinking, it may be beneficial for future research to examine if there is a significant decrease in participant institutional incident reports, as this may be a predictor of decreased risk of recidivism and an additional indication of program efficacy. Finally, other intrinsic factors such as self-esteem and self-confidence should be included in future research on dropout factors, as well as external factors such as the amount of individualized attention received during teaching sessions, individual accommodations made by the facilitators, sense of group cohesion, and sense of cohesion with facilitators.

Conclusions

The results of this study suggest that the MRT program evaluated significantly reduced criminogenic thinking. Research suggests that criminogenic thinking is one of the most significant predictors of criminal behavior (e.g., Boduszek et al., 2013). As such, it can be concluded that lower rates of criminogenic thinking lead to a reduction in criminal behavior, and thus, lower recidivism rates. Since the MRT program at this facility significantly reduced criminogenic thinking, the hope is that recidivism rates for MRT participants are reduced, which would have a positive effect on the individual, his family, and the community as a whole.

In addition, criminogenic thinking, past trauma, cognitive abilities, and antisocial, impulsivity, and psychotism traits did not significantly influence dropout, which is contrary to

many previous studies. The differences between the current results and previous studies could be explained by some of the aforementioned limitations such as small sample size, and, maybe more importantly, uncontrollable factors such as the relationship with the facilitators/group members, facilitator personality/therapeutic style, and overall staff availability. Since the study took place at a small, rural county jail, the participants often had the opportunity to meet with facilitators more often and for longer periods than would be possible at a larger facility. This provided the participants with more individual attention to get their needs met. If this extra instruction time was not able to be provided to participants, they may have succumbed to their deficits and dropout out of the program more readily. In addition, overall group atmosphere, sense of safety, group cohesion, and therapeutic alliance with facilitators could have influenced their motivation to proceed in the group after setbacks and their sense of safety leading them to feel safe disclosing and discussing personal information.

The results suggest that the evaluated MRT program appears to be fully compliant with the RNR model where risk of recidivism is met by looking at past incarceration/offending history; need is met by assessing history of drug use, motivation, and past incarceration/offending history; and responsivity is met through the fact that the program accounts for many individual needs. This suggests that the MRT program at this facility is adequately accounting for key individual differences that previous research has found to affect dropout. By accounting for individual differences, and thus preventing associated dropout, more individuals at this facility have the opportunity to access programming, which improves their overall chances of change and subsequently reduces recidivism rates.

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Appendix A: Application for IRB Approval

1. Name of primary investigator: **Amber Maiwald**

2. Name of research advisor: X

3. Name & email address(es) of other researcher(s) involved in this project:

4. Name of Researcher(s)

X

X

X

5. Project Title: **Cheshire County Department of Corrections (CCHOC) Program Evaluation and Recidivism Project**

6. Is this project federally funded: **No**

Source of funding for this project (if applicable):

7. Expected starting date for data collection: **June 2017**

8. Expected completion date for data collection: **June 2019**

9. Project Purpose(s): (Up to 500 words)

The primary purpose of this study is to determine if a newly implemented cognitive change program at the Cheshire County House of Corrections (CCHOC) in Keene, NH leads to a reduction of targeted symptoms linked to recidivism. Targeted symptoms include: criminogenic thinking patterns, cognitive distortions, antisocial attitudes, distorted beliefs, and/or thinking errors. This study will also seek to determine if the inmates' level of cognitive abilities and/or level of targeted symptoms prior to starting the group has an impact on the likelihood that they will be successful in the program. In addition, this study will seek to determine if the program leads to a reduction of disciplinary incidents at the CCHOC. Success is defined as target symptom reduction and a reduction of disciplinary incident rates.

The group intervention being implemented is a manualized, empirically based cognitive change program called Moral Recognition Therapy (MRT). This program was originally developed for a prison-based population. It is designed to increase "higher stage" moral reasoning and strengthen socially normative thinking and behavior. The program is designed to be completed within three to six months (SAMHSA's National Registry of Evidence-based Programs and Practices, 2008). MRT has been shown to be effective at reducing recidivism (Little, Robinson, Burnette, & Swan, 2011). A meta-analysis conducted in 2013 confirmed that MRT has a small, but significant effect on recidivism (Ferguson & Wormith, 2013).

The group being evaluated during the current study will be run by two LMHCs, both of whom have been trained in MRT. One is also a Masters Licensed Alcohol & Drug Counselor (MLADC). Due to uncertain lengths of incarceration, there is potential that inmates participating in this group will not be able to complete the full curriculum. Fidelity to program design and its impact on outcomes is one of the aspects of the program that is being evaluated.

10. Describe the proposed participants: age, number, sex, race, or other special characteristics. Describe criteria for inclusion and exclusion of participants. Please provide brief justification for these criteria. (Up to 500 words)

- The participants will be inmates at the CCHOC. All participants will be at least 18 years of age but will vary in age, race, and socioeconomic status. At present, the program is proposed to be restricted to male inmates due to lack of numbers and symptom severity in the female unit. The characteristics of the group will depend on who is selected by the mental health personnel at CCHOC to participate. The selection process is based on prediction of length of time served, prediction of symptom severity, and prediction of interest. We are expecting to find a medium effect size; power analysis suggests that approximately 67 participants will be needed to reach this.

11. Describe how the participants are to be selected and recruited. (Up to 500 words)

- Once the mental health personnel at the CCHOC have determined which inmates are appropriate for the program, these inmates will be given the opportunity to participate in the group. Those who choose to be a part of the group are eligible to take part in this study. Participation in the MRT group will not be dependent upon agreeing to participate in this study. Each inmate will be fully informed of the nature and intent of the research, as well as the risks and benefits.

12. Describe the proposed procedures, (e.g., interview surveys, questionnaires, experiments, etc). in the project. Any proposed experimental activities that are included in evaluation, research, development, demonstration, instruction, study, treatments, debriefing, questionnaires, and similar projects must be described. USE SIMPLE LANGUAGE, AVOID JARGON, AND IDENTIFY ACRONYMS. Please do not insert a copy of your methodology section from your proposal. State briefly and concisely the procedures for the project. (500 words)

- Each inmate who chooses to participate in the study will be given a demographic questionnaire, the Minnesota Multiphasic Personality Inventory-2 Restructured Form (MMPI-2-RF), the Adverse Childhood Experiences Questionnaire (ACEs), the Woodcock Johnson-IV Cognitive (WJ-IV COG) Brief Intellectual Ability scale (BIA) prior to the start of the first group meeting. The Texas Christian University Criminal Thinking Scale (TCU-CTS) self-report measure will be administered prior to the first group meeting, before every other group meeting, and after the final group meeting. This entire assessment process will be repeated with the start of each new group. We will also track recidivism rates for all inmates that will spend the entirety of their sentence at CCHOC (i.e. they will not be transferred to a federal facility) from the point of their release to year after release. If recidivism occurs, the participant will be linked to their key number. Incidences of recidivism will be discovered by referencing the CCHOC's recidivism data, which is already being collected by jail personnel.

a. Participants in research may be exposed to the possibility of harm - physiological, psychological, and/or social - please provide the following information: (Up to 500 words) a. Identify and describe potential risks of harm to participants (including physical, emotional, financial, or social harm).

- The research will be designed to be minimally intrusive, but it is possible that some questions on the assessments and self-report measures may elicit some psychological distress. Because this research is being conducted at the Cheshire County House of Corrections, additional mental health services can be coordinated with the other mental health professionals on site (e.g., Barnes Peterson, Doug Iosue, Danielle Marshall, and Angel Ortiz).
- There is also the risk that a subpoena or court order may require the disclosure of participants' identities and testing results. If this occurs, the participants' confidentiality may be broken. This limitation to confidentiality is included in the informed consent.

b. Identify and describe the anticipated benefits of this research (including direct benefits to participants and to society-at-large or others)

- Inmates at the CCHOC are likely to benefit should they continue to receive care at the CCHOC because outcome measures will help determine intervention effectiveness. Group-level data can be utilized by CCHOC mental health providers to modify their interventions and, thus, the quality of mental health care may be improved. Moreover, the use of tests like the MMPI-2-RF may help identify latent mental health variables that were not assessed at intake. Thus, mental health providers may use group-level data to tailor services to address such latent variables.
- It is anticipated that this research will provide preliminary knowledge about the efficacy of the newly formed cognitive program and its potential for reducing recidivism and behavioral incidents at CCHOC. An increase in this type of knowledge would likely benefit those who are or will be incarcerated in the future. It also has the potential to be of wider benefit if it aids in the development of a program that is more efficient and effective at reducing recidivism. Additionally, it is anticipated that this research will provide further information on specific markers (cognitive and personality) that increase the probability of recidivism. If identified, these markers could be targeted by interventions with inmates in order to reduce the likelihood of recidivism. This research could also provide information about how evidence based programs such as MRT are modified in a local jail setting such as the CCHOC and whether this has any impact on outcomes.

c. Explain why you believe the risks are so outweighed by the benefits described above as to warrant asking participants to accept these risks. Include a discussion of why the research method you propose is superior to alternative methods that may entail less risk.

- Minimal risk is expected in this study because (a) the measures being used do not require an explicit or detailed account of traumas or other potentially distressing topics, (b) individual data will be de-identified and stored offsite from the CCHOC, thus, preventing

data being used against inmates at the CCHOC, and (c) the inmates participating in the study are already receiving standard of care mental health services as part of the research study, thus, should distressing emotions arise, they will have opportunities to address this in group or access additional services.

- Mental health providers at the CCHOC will benefit from developing an understanding of the effectiveness of their interventions. Moreover, additional strategies for triage and group selection based on potential latent variables assessed by the MMPI-2-RF may become available as a result of this study. Last, as treatment can become increasingly adapted to the psychological characteristics of the CCHOC's population, and the constraints of this type of institution, any potential increase in the reduction in recidivism will benefit both the CCHOC in particular and society in general.

d. Explain fully how the rights and welfare of participants at risk will be protected (e.g., screening out particularly vulnerable participants, follow-up contact with participants, list of referrals, etc.) and what provisions will be made for the case of an adverse incident occurring during the study.

- Inmates will have the right not to participate in the study. If they refuse, they will still be able to participate in the MRT program and receive the same benefits from the program as the inmates who choose to participate in the research study. The informed consent makes clear that if any psychological distress is experienced, they have the right to stop participation in the study. They will also be given a list of individuals within the CCHOC that can assist them if distress occurs.

9. Explain how participants' privacy is addressed by your proposed research. Specify any steps taken to safeguard the anonymity of participants and/or confidentiality of their responses. Indicate what personal identifying information will be kept, and procedures for storage and ultimate disposal of personal information. Describe how you will de-identify the data or attach the signed confidentiality agreement on the attachments tab (scan, if necessary). (Up to 500 words)

- All participants will be assigned a Participant Identification Number (PIN). The PIN will be utilized to de-identify all assessment, demographic, and study records. A key will be kept in a separate, password-protected, and encrypted file separate from records and aggregate data. Per HIPPA, the key will be kept for seven years starting from its last use. All hard copies of the data will be kept at the Antioch University New England Psychological Services Center (PSC), which is a HIPAA protected facility. The electronic data will be stored in a password-protected, encrypted database on the PSC's server. A back up copy of the data will be kept on an encrypted, password-protected flash drive and stored with the hard copies of the files. Such processes are intended to keep the participants' privacy secure and separate from the CCHOC. Only aggregate data will be shared with the CCHOC. Per HIPPA, all participant data will be kept for seven years starting from the completion date of the study.

10. Will audio-visual devices be used for recording participants? Will electrical, mechanical (e.g., biofeedback, electroencephalogram, etc.) devices be used? (Click one) **No**

11. Type of Review: **Full**

Please provide your reasons/justification for the level of review you are requesting.

- Our participants will be inmates residing in a jail setting. Inmates are considered to be a vulnerable population, therefore, this study is subject to full review. However, it is possible to receive an expedited review because the study has the approval of Cheshire County Jail's superintendent. It is being conducted in collaboration with the mental health providers at the jail, and the researchers will function under the oversight of the jail's director of the mental health department and the university's PSC director.

12. Informed consent and/or assent statements, if any are used, are to be included with this application. If information other than that provided on the informed consent form is provided (e.g. a cover letter), attach a copy of such information. If a consent form is not used, or if consent is to be presented orally, state your reason for this modification below.

*Oral consent is not allowed when participants are under age 18.

See Attached.

13. If questionnaires, tests, or related research instruments are to be used, then you must attach a copy of the instrument at the bottom of this form (unless the instrument is copyrighted material), or submit a detailed description (with examples of items) of the research instruments, questionnaires, or tests that are to be used in the project. Copies will be retained in the permanent IRB files. If you intend to use a copyrighted instrument, please consult with your research advisor and your IRB chair. Please clearly name and identify all attached documents when you add them on the attachments tab.

Texas Christian University Criminal Thinking Scales (TCU-CTS) (copyrighted) was developed to assess cognitive functioning expected to be related to criminal conduct. The TCU-CTS will be used to measure the level of inmates' targeted symptoms prior to the start of the intervention group. It will also be given to the inmates every other group meeting and directly after the group is terminated as a way to measure if the program leads to targeted symptom reduction.

The first three scales on the TCU-CTS were adapted from the PICTS, and the three additional scales were developed specifically for this instrument using the ideas of Yochelson and Samenow (1976). The initial test of this instrument was conducted with more than 3,200 offenders in a variety of correctional settings and found moderate reliabilities for the scales, ranging from .68 to .82 and .66 to .84 at retest when using the Cronbach's alpha measure (Knight et al., 2006). Criminal thinking has been conceptualized as distorted thought patterns that support offending behavior by rationalizing and justifying how an individual acts. The scales consist of: Entitlement, Justification, Power orientation, Cold heartedness, Criminal rationalization, and Personal irresponsibility. Example of items (Likert scale): 1) "You are locked-up because you had a run of bad luck." 2) "The real reason you are locked-up is because of your race." The TCU-CTS takes approximately 10–15 minutes to complete.

The Adverse Childhood Experiences Questionnaire (ACEs) was developed by Dr. Vincent Felitti, MD in the late 1990s as a means to assess the link between adverse childhood experiences and physical health as an adult. It is a 10-item self-report measure that assesses for 10 types of childhood trauma. The ACEs is categorized into three groups: abuse, neglect, and family/household challenges, and each category is further divided into multiple subcategories. All questions refer to the respondent's first 18 years of life. The respondent is asked to respond "yes" or "no" to each question. Each "yes" response counts as one point. Higher scores equal a higher risk of adverse effects as an adult.

The Minnesota Multiphasic Personality Inventory-2 Restructured Form (MMPI-2-RF; copyrighted) will be used as an additional tool to measure the level of inmates' targeted symptoms prior to the start of the intervention group. The MMPI-2-RF is presented as shorten version of the MMPI-2. It is a 338-item self-report measure linked conceptually and empirically to modern theories and models of psychopathology and personality. It provides a comprehensive assessment of the most frequently relevant clinical psychopathology as well as a broad assessment of response bias and response validity. The scales consist of: Validity, Higher-Order (H-O), Restructured Clinical (RC), Somatic/Cognitive, Internalizing, Externalizing, Interpersonal Interest, and Personality Psychopathology Five (PSY-5). Examples of items (Likert scale): 1) "I enjoy spending time alone"; 2) "I work well with others." The MMPI-2-RF takes approximately 30–50 minutes to complete (Mental Measurements Yearbook, 2014).

The mean test-retest coefficient for the nine validity scales was .67, but the values for the two consistency scales (VRIN-r and TRIN-r) were lower (.52 and .40, respectively); the mean for the other seven validity scales was .73. Test-retest coefficients ranged from .64 to .91 for the Higher-Order and RC scales, from .54 to .92 for the specific problems scales (Somatic/Cognitive, Internalizing, Externalizing, Interpersonal Interest), and from .76 to .93 for the PSY-5 scale. The internal consistency for all scales had a median of .79 (Mental Measurements Yearbook, 2014).

The MMPI-2-RF was normed on many different population groups including forensic pre-trial criminal defendants and prison inmates. External validity data from mental health, forensic, medical, and non-clinical samples "document the convergent and discriminant validity, and corroborate the construct validity of the substantive scales" (technical manual, p. 31).

The Woodcock Johnson-IV Cognitive (WJ-IV COG) Brief Intellectual Abilities scale (BIA; copyrighted) will be used to screen inmates' level of general cognitive functioning. The BIA is comprised of the first three subtests on the WJ-IV COG. This scale works well for research that needs a short but reliable measure of intelligence. The composite clusters demonstrate strong validity evidence (.67 to .76) as a measure of general intelligence when the criterion is the global composite/total scores from other major IQ batteries in the field. The test-retest reliability for the individual subtests are mostly .80 or higher. The BIA consists of the first three subtests of the WJ-IV COG and includes one estimate of fluid reasoning (Gf), comprehension-knowledge (Gc), and short-term working memory (Gwm). The WJ-IV COG BIA takes approximately 10–15 minutes to complete (McGrew & Woodcock, 2001).

Appendix B

Letter of Support from the Jail

Phone: (603) 903-1662
Fax: (603)352-4044



825 Marlboro Road
Keene, New Hampshire 03431
www.co.cheshire.nh.us/hoc

12/9/2016

Dear Professor,

I'm writing at the request of two students, Amber Maiwald and [redacted name], two students of the PsyD Program at Antioch University New England. Ms. Maiwald and Ms. [name redacted], under the supervision of Vincent Pignatiello, PsyD, have expressed in conducting research at the Cheshire County Department of Corrections (CCDOC). Ms Maiwald and Ms. [name redacted] have met with me, the Director of the Mental Health Department, and [name redacted], LICSW, Clinical Case Manager, on multiple occasions to discuss the nature and scope of the research they hope to conduct here at the jail. Mr. [name redacted] and I are highly supportive of this research opportunity and believe it would greatly benefit group therapy programs at CCDOC. Please feel free to contact me with any questions or concerns.

Respectfully,

[name and signature redacted]
Director, Mental Health and Substance Abuse Recovery Services
Cheshire County Department of Corrections

[name and signature redacted]
Superintendent
Cheshire County Department of Corrections

Appendix C: Informed Consent

We are Amber Maiwald, X, and X, and we are students in the Department of Clinical Psychology at Antioch University New England in Keene, New Hampshire. We are doing a research project as part of our training at school. We are asking you to participate in this research project. This research is being completed through the Psychological Services Center (PSC; located at Antioch University).

The goal of this study is to see if a new mental health program at the Cheshire County Jail helps people from committing another crime. This study will see if this new program improves mental health. This study will also see if there are any personalities that may make them commit another crime.

You will be asked to fill out three tests before the start of the treatment group. These tests will take about 50 to 80 minutes. You will also be asked to fill out tests during the course of the group. The study will take place at the jail. We do not think that there are any emotional or other risks for being in this study. You may not be directly helped with being in this study, but you may help others in jail getting the right mental health services in the future.

Your test answers will be confidential. This means that only we will see your answers. The jail will not know your answers for any of the tests. Survey responses will be coded by number and will not use any information that will show who you are. We do this to make sure that your answers do not give away who you are and that you feel comfortable answering the questions. However, there is the possible risk that the court will make an order asking for the testing results. If this occurs, we may be forced to share your name as well as your testing results. Also, if we think that you might hurt yourself or another person, we may need to tell staff, police, or anyone you plan to harm. Last, we may need to tell the jail if you tell us you plan to escape.

Being in this study is your choice. You can stop being in this study at any time. Let us know if you no longer want to be in this study. We will not use any of your answers that you gave to us during the study. There is no penalty for not being in this study. Being in this study will not change your sentence length or parole. Please answer all questions, but you do not have to answer any question that you do not want to answer.

If you have questions about this study, please contact Amber Maiwald, X, X, our research supervisor X, or site supervisor X. Please talk to X at the jail if you do not have a phone or email access.

If you have questions or concerns about your rights as a research participant, please contact X, Chair of the Human Research Committee at X.

***** Consent Statement *****

I have read and understood all the above information. I had my questions answered by the researcher. I am aware of the risks and benefits of this study and I have received a completed copy of this form.

I consent to participate in this study.

Sign Here _____ Date _____

Appendix D: Demographic Questionnaire

1. What is your age? _____
2. What is your race? _____
3. What state are you from? _____
4. Choose from the following about your education level (Circle one):
 - a. Did not finish high school (What was the last grade you attended? _____)
 - b. Graduated high school
 - c. Received GED
 - d. Some college
 - i. What year of college did you stop attending? _____
 - ii. Or, what year of college are you currently enrolled in? _____
 - e. College degree
 - f. Some graduate degree (Master's or Doctorate)
 - i. What year did you leave graduate school did you stop attending? _____
 - ii. Or, what year of graduate school are you currently enrolled in? _____
 - g. Graduate Degree
5. What is your relationship status (Circle one)?
 - a. Single
 - b. Have Partner/Girlfriend/Boyfriend
 - c. Married
 - d. Divorced
 - e. Widowed
6. Do you have any children (Circle one)? Yes No
 - a. If so, how many children do you have? _____
7. Choose from the following about your employment:
 - a. Did you have a job before your incarceration (Circle one)? Yes No
 - b. Do you expect to have a job after you are released (Circle one)? Yes No
8. What is your status (Choose one): Federal Inmate _____ County/State Inmate _____

9. What have you been charged with? _____

10. Do you have a place to live when you are released (Circle one)?

Yes No Don't Know

11. How many misdemeanors have you been charged with in your life? _____

12. How many felonies have you been charged with in your life? _____

13. Have you been in jail/prison before this time (Circle one)? Yes No

a. If yes, how many years have you served before this time? _____

14. Have you ever been diagnosed with a mental illness? Yes No

a. If so, which one(s)? _____

15. Before this time in jail, did you ever drink alcohol (Circle one)? Yes No

a. If yes, how often?

- i. Daily
- ii. Weekly
- iii. Monthly
- iv. Yearly

16. Before this time in jail, did you ever use other drugs (Circle one)? Yes No

a. If yes, which ones _____

b. If yes, how often?

- i. Daily
- ii. Weekly
- iii. Monthly
- iv. Yearly

17. Have you ever received psychotherapy? Yes No

18. Have you ever received substance abuse treatment? Yes No

Appendix E: Permissions

Texas Christian University Criminal Thinking Scale (TCU-CTS)

“TCU-CTS Forms may be used for personal, educational, research, and/or information purposes. Permission is hereby granted to reproduce and distribute copies of the form for nonprofit educational and nonprofit library purposes, provided that copies are distributed at or below costs and that credit for author, source, and copyright are included on each copy. No material may be copied, downloaded, stored in a retrieval system, or redistributed for any commercial purpose without the express written permission of Texas Christian University. For more information please contact:

Institute of Behavioral Research
Texas Christian University
TCU Box 298740, Fort Worth, TX 76129
(817) 257-7226 [FAX (817) 257-7290]
Email: ibr@tcu.edu; Web site: www.ibr.tcu.edu”

The Adverse Childhood Experiences Questionnaire (ACEs)

“There is no copyright for the questions, answers, and scoring of the ACE study. The remaining information can be copied or modified for any purpose, including commercially, provided a link back is included. License: CC BY-SA 4.0”

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention. (2014).

Appendix F: ACEs Self-Report

Prior to your 18th birthday:

1. Did a parent or other adult in the household **often or very often**...

Swear at you, insult you, put you down, or humiliate you?
or
 Act in a way that made you afraid that you might be physically hurt?

Yes No If yes enter 1 _____

2. Did a parent or other adult in the household **often or very often**...

Push, grab, slap, or throw something at you?
or
 Ever hit you so hard that you had marks or were injured?

Yes No If yes enter 1 _____

3. Did an adult or person at least 5 years older than you **ever**...

Touch or fondle you or have you touch their body in a sexual way?
or
 Attempt or actually have oral, anal, or vaginal intercourse with you?

Yes No If yes enter 1 _____

4. Did you **often or very often** feel that ...

No one in your family loved you or thought you were important or special?
or
 Your family didn't look out for each other, feel close to each other, or support each other?

Yes No If yes enter 1 _____

5. Did you **often or very often** feel that ...

You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
or
 Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?

Yes No If yes enter 1 _____

6. Was a biological parent **ever** lost to you through divorce, abandonment, or other reason ?

Yes No If yes enter 1 _____

7. Was your mother or stepmother:

Often or very often pushed, grabbed, slapped, or had something thrown at her?
or
Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?
or
Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

Yes No If yes enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?

Yes No If yes enter 1 _____

9. Was a household member depressed or mentally ill, or did a household member attempt suicide?

Yes No If yes enter 1 _____

10. Did a household member go to prison?

Yes No If yes enter 1 _____

Appendix G: TCU-CTS Self-Report

TCU CTSFORM

	<i>Disagree Strongly (1)</i>	<i>Disagree (2)</i>	<i>Uncertain (3)</i>	<i>Agree (4)</i>	<i>Agree Strongly (5)</i>
--	--------------------------------------	-------------------------	--------------------------	----------------------	-----------------------------------

Please indicate how much you AGREE or DISAGREE with each statement.

1. You get upset when you hear about someone who has lost everything in a natural disaster.
2. You are locked-up because you had a run of bad luck.
3. The real reason you are locked-up is because of your race.
4. When people tell you what to do, you become aggressive.
5. Anything can be fixed in court if you have the right connections.
6. Seeing someone cry makes you sad.
7. You rationalize your actions with statements like "Everyone else is doing it, so why shouldn't I?"
8. Bankers, lawyers, and politicians get away with breaking the law every day.
9. You have paid your dues in life and are justified in taking what you want.
10. When not in control of a situation, you feel the need to exert power over others.
11. When being asked about the motives for engaging in crime, you point out how hard your life has been.
12. You are sometimes so moved by an experience that you feel emotions you cannot describe.

	<i>Disagree Strongly (1)</i>	<i>Disagree (2)</i>	<i>Uncertain (3)</i>	<i>Agree (4)</i>	<i>Agree Strongly (5)</i>
13. You argue with others over relatively trivial matters.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. If someone disrespects you then you have to straighten them out, even if you have to get physical.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. You like to be in control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. You find yourself blaming the victims of some of your crimes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. You feel people are important to you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. This country's justice system was designed to treat everyone equally.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Police do worse things than do the "criminals" they lock up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. You think you have to pay back people who mess with you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Nothing you do here is going to make a difference in the way you are treated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. You feel you are above the law.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. It is okay to commit crime in order to pay for the things you need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Society owes you a better life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Breaking the law is no big deal as long as you do not physically harm someone. ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. You find yourself blaming society and external circumstances for the problems in your life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. You worry when a friend is having problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	<i>Disagree</i> <i>Strongly</i> (1)	<i>Disagree</i> (2)	<i>Uncertain</i> (3)	<i>Agree</i> (4)	<i>Agree</i> <i>Strongly</i> (5)
--	-------------------------------------------	------------------------	-------------------------	---------------------	----------------------------------------

28. The only way to protect yourself is to be ready to fight.
29. You are not to blame for everything you have done.
30. It is unfair that you are locked-up when bankers, lawyers, and politicians get away with their crimes.
31. Laws are just a way to keep poor people down.
32. Your good behavior should allow you to be irresponsible sometimes.
33. It is okay to commit crime in order to live the life you deserve.
34. Prosecutors often tell witnesses to lie in court.
35. You justify the crime you commit by telling yourself that if you had not done it, someone else would have.
36. You may be a criminal, but your environment made you that way.

Appendix H: TCU-CTS Scoring Guide/Scales

TCU CTSFORM – Criminal Thinking Scales

Scales and Item Scoring Guide

Scoring Instructions. Items shown below from this assessment are *re-grouped by scales*, and response categories are 1=Strongly Disagree to 5=Strongly Agree. Scores for *each scale* are calculated as follows (and no more than half of the items for any scale can be missing).

Find and reverse the scoring for *reflected items* (i.e., those designated with ®) by –

- a. subtracting the response value (1 to 5) for this item from “6”,
(e.g., if the response is “2”, the *revised score* is “4” [i.e., 6-2=4]),
2. Sum the response values of all non-missing items for each scale,
3. Divide the sum of item responses by the number of items included (yielding an average),
4. Multiply this average by 10 (in order to *rescale* the score so it ranges from 10 to 50)
(e.g., an average response of “2.6” for a scale therefore becomes a score of “26”).

A. Entitlement (EN)*

9. You have paid your dues in life and are justified in taking what you want.
22. You feel you are above the law.
23. It is okay to commit crime in order to pay for the things you need.
24. Society owes you a better life.
32. Your good behavior should allow you to be irresponsible sometimes.
33. It is okay to commit crime in order to live the life you deserve.

B. Justification (JU)*

7. You rationalize your actions with statements like
“Everyone else is doing it, so why shouldn’t I?”
11. When being asked about the motives for engaging in crime, you point out how hard your life has been.
16. You find yourself blaming the victims of some of your crimes.
25. Breaking the law is no big deal as long as you do not physically harm someone.
26. You find yourself blaming society and external circumstances for the problems in your life.
35. You justify the crimes you commit by telling yourself that if you had not done it, someone else would have.

C. Power Orientation (PO)*

4. When people tell you what to do, you become aggressive.
10. When not in control of a situation, you feel the need to exert power over others.
13. You argue with others over relatively trivial matters.
14. If someone disrespects you then you have to straighten them out, even if you have to get physical.
15. You like to be in control.
20. You think you have to pay back people who mess with you.
28. The only way to protect yourself is to be ready to fight.

D. Cold Heartedness (CH)

1. You get upset when you hear about someone who has lost everything in a natural disaster. ®
6. Seeing someone cry makes you sad. ®
12. You are sometimes so moved by an experience that you feel emotions you cannot describe. ®
17. You feel people are important to you. ®
27. You worry when a friend is having problems. ®

E. Criminal Rationalization (CN)

5. Anything can be fixed in court if you have the right connections.
8. Bankers, lawyers, and politicians get away with breaking the law every day.
18. This country's justice system was designed to treat everyone equally. ®
19. Police do worse things than do the "criminals" they lock up.
30. It is unfair that you are locked-up when bankers, lawyers, and politicians get away with their crimes.
34. Prosecutors often tell witnesses to lie in court.

F. Personal Irresponsibility (PI)

2. You are locked-up because you had a run of bad luck.
3. The real reason you are locked-up is because of your race.
21. Nothing you do here is going to make a difference in the way you are treated.
29. You are not to blame for everything you have done.
31. Laws are just a way to keep poor people down.
36. You may be a criminal, but your environment made you that way.

*A revised "Psychological Inventory of Criminal Thinking Styles (PICTS)" scale, taken from Walters, G. D. (1998). *Changing lives of crime and drugs: Intervening with substance-abusing offenders*. New York: John Wiley & Sons.

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 Texas Christian University
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 (817) 257-7226 [FAX (817) 257-7290]
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Appendix I: Descriptive Statistics for Analyses

Table 1. Descriptive Statistics for TCU-CTS Pre Domain A vs. TCU-CTS Post Domain A

Measure	N	Min	Max	Mean	Std. Deviation	Sig.
TCU-CTS Domain A: Entitlement Pre	64	10	30	18.03	5.061	
TCU-CTS Domain A: Entitlement <u>Post</u>	64	10	30	16.09	5.160	.004

Table 2. Descriptive Statistics for TCU-CTS Pre Domain A vs. TCU-CTS Post Domain A

Measure	N	Min	Max	Mean	Std. Deviation	Sig.
TCU-CTS Domain B: Justification Pre	64	10	37	20.84	6.056	
TCU-CTS Domain B: Justification <u>Post</u>	64	10	32	17.02	5.429	.000

Table 3. Descriptive Statistics for TCU-CTS Pre Domain A vs. TCU-CTS Post Domain A

Measure	N	Min	Max	Mean	Std. Deviation	Sig.
TCU-CTS Domain C: Power Orientation Pre	64	14	46	27.86	7.266	
TCU-CTS Domain C: Power Orientation	64	10	43	23.11	6.157	.000
Post						

Table 4. Descriptive Statistics for TCU-CTS Pre Domain D vs. TCU-CTS Post Domain D

Measure	N	Min	Max	Mean	Std. Deviation	Sig.
TCU-CTS Domain D: Cold Heartedness Pre	64	12	44	21.97	5.989	
TCU-CTS Domain D: Cold Heartedness Post	64	10	36	19.92	5.974	.004

Table 5. Descriptive Statistics for TCU-CTS Pre Domain E vs. TCU-CTS Post Domain E

Measure	N	Min	Max	Mean	Std. Deviation	Sig.
TCU-CTS Domain E: Criminal Rationalization Pre	64	13	43	30.70	6.475	
TCU-CTS Domain E: Criminal Rationalization Post	64	10	43	24.47	7.563	.000

Table 6. Descriptive Statistics for TCU-CTS Pre Domain F vs. TCU-CTS Post Domain F

Measure	N	Min	Max	Mean	Std. Deviation	Sig.
TCU-CTS Domain F: Personal Irresponsibility Pre	64	10	38	21.78	5.865	
TCU-CTS Domain F: Personal Irresponsibility Post	64	10	40	18.61	6.460	.000

Table 7. Descriptive Statistics for Completed vs. Dropout on TCU-CTS Pre-Test

Domain		N	Min	Max	Mean	Std. Deviation
A: Entitlement	Completed	29	10	30	17.79	5.199
	Dropout	17	10	25	18.53	4.836
B: Justification	Completed	29	11	35	20.45	6.080
	Dropout	17	10	37	21.18	6.157
C: Power Orientation	Completed	29	14	46	27.34	7.756
	Dropout	17	16	40	28.06	6.359
D: Cold Heartedness	Completed	29	12	44	21.86	6.947
	Dropout	17	14	36	24.00	4.796
E: Criminal Rationalization	Completed	29	17	43	31.07	6.750
	Dropout	17	13	42	30.82	7.443
F: Personal Irresponsibility	Completed	29	13	38	21.76	6.351
	Dropout	17	10	33	21.12	6.264

Table 8. Descriptive Statistics for Completed vs. Dropout on Total ACEs Scores

		N	Min	Max	Mean	Std. Deviation
ACE s	Completed	25	0	9	3.96	2.791
Total	Dropout	7	0	7	2.57	2.440

Table 9. Descriptive Statistics for Completed vs. Dropout on Personality Traits

Domain		N	Min	Max	Mean	Std. Deviation
RC4: Antisocial Traits	Completed	29	51	85	71.83	9.301
	Dropout	17	59	98	74.47	10.063
DISC-r: Impulsivity	Completed	29	38	96	55.86	14.247
	Dropout	17	38	100	60.24	18.653
PSYC-r: Psychoticism	Completed	29	57	93	76.17	9.075
	Dropout	17	62	90	78.35	8.867

Table 10. Descriptive Statistics for Completed vs. Dropout on Cognitive Abilities

Domain		N	Min	Max	Mean	Std. Deviation
Total Cog Ability	Completed	29	63	118	96.55	12.880
	Dropout	17	72	112	92.35	11.984
Fluid Reasoning	Completed	29	73	130	100.79	14.049
	Dropout	17	74	119	96.71	12.854

Appendix J: Pre/Post TCU-CTS Comparisons/Normed Statistical Percentiles and Means

Table 11. Pre/Post TCU-CTS Comparisons to Normed Statistical Percentiles and Means

	Entitlement	Justification	Power Orientation	Cold Heartedness	Criminal Rationalization	Personal Irresponsibility
75%	22.86	25	30	26	38.33	26.67
25%	15.71	16.67	20	18	26.67	16.67
Mean	19.74	21.3	25.76	22.93	32.32	21.88
Pre	18.03	20.84	27.86	21.97	30.70	21.78
Post	16.09	17.02	23.11*	19.92	24.47*	18.61

* = change in classification from pre to post

Appendix K: Completion, Dropout, and Transfer/Released Percentages

Table 12. Completion, dropout, and transfer/released percentages

	N	Percentage
Completed	29	36%
Dropout	17	21%
Transfer/Released	34	43%