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Assessing the Effectiveness of Goal Setting in Group Treatment in a Correctional Institution

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Further, Pearson *r* correlations were used to examine the relationship between group leader and group member agreement of group member's progress toward their goals. Group leaders completed the Group Leader Self-Efficacy Instrument (GLSI) at pre- and post-treatment. The results showed that group members reported making significant progress towards behavioral goals in a short amount of time and positive correlations between group leader and group member reports of progress were also established for certain intervention groups. Results showed statistically significant changes over time for both engagement in group processes (measured by the GCQ) and goal-directed thinking (measured by the SHS). The findings of this study offer exciting clinical implications and recommendations for working with incarcerated offenders with mental health concerns in a group treatment setting.

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Chapter 1: Introduction

Incarcerated offenders represent a significant proportion of the U.S. population. In fact, according to The Bureau of Justice Statistics (2018) in 2016, approximately 450 people per 100,000 were imprisoned. This number accounted for approximately 2.1 million prisoners at the end of 2016 (Bureau of Justice Statistics, 2018). Additionally, approximately 1 in 7 inmates housed in federal and state prisons and 1 in 4 inmates incarcerated in jails reported symptoms meeting criteria for serious psychological distress (Bureau of Justice Statistics, 2017). Due to the number of incarcerated persons experiencing significant mental health concerns within correctional facilities, research examining effective treatment is crucial. However, outcome-based research with this population has lagged considerably (Bewley & Morgan, 2011).

A recent study suggests that criminal behavior occurs when individuals with personal and environmental limitations fail to set and achieve their goals in healthy and prosocial ways (Barnao, Ward, & Robertson, 2016). From this perspective offenders are "by nature active, goal seeking beings who are consistently engaged in the process of constructing a sense of purpose and meaning in their lives" (Ward & Brown, 2004, p. 246). Seeking prosocial and adaptive goals is a complex skillset that tends to be underdeveloped among offenders (McMurran & Ward, 2004). The benefits of successful goal setting such as increases in subjective well-being and personal growth have the potential to provide a useful treatment option for incarcerated offenders (MacLeod, Coates, & Hetherton, 2008;

Sheldon, Kasser, Smith, & Share, 2002). Unfortunately, the use of goal setting as an intervention with incarcerated offenders has been seldom studied (Ward, Mann, & Gannon, 2007).

The ways criminal offenders attempt to achieve their goals tends to discourage positive social interactions, the development of helpful coping strategies, and/or participation in meaningful problem solving (McMurran & Ward, 2004). Further, criminal offenders often have experienced traumatic events, struggle with substance abuse, and have mental health concerns (James & Glaze, 2006). These additional factors complicate the ability for criminal offenders to set, carry out, and achieve prosocial and adaptive goals. As a result, delinquent behaviors provide alternative pathways to achieve their goals (McMurran & Ward, 2004).

Research indicates that when individuals set fewer challenging goals and are less committed to their goal pursuits, delinquent behaviors can start to develop at an early age (Carroll, Gordon, Haynes, & Houghton, 2013). Goal setting and goal attainment provide an orienting guide for behavior and development throughout the life span (Austin & Vancouver, 1996). However, delinquent behavior occurs when goals are not future-orientated, focused on anti-social activities, and concentrated on their personal reputation instead of relationships (Carroll, Durkin, Hattie, & Houghton, 1997). In other words, the lack of meaningful, challenging, and optimistic goal pursuits has the ability to negatively impact behavior.

Alternatively, goals also have been shown to provide a sense of mastery and self-evaluation (Martin, McNally, & Tagger, 2015). The positive and beneficial impacts of successful goal setting and achievement are well-established in the literature. The

importance of goals on human behavior can be seen within the organizational psychology literature where decades of research have been dedicated to developing a theory of goal setting (Locke & Latham, 2013). Research on goal setting has demonstrated the influence that goals have on domains of behavior, highlighting the applicability of goals in directing, monitoring, and motivating behavior (Scobbie, Dixon, & Wyke, 2011). Further, Griffith and Graham (2004) argued that goal setting and performance have important implications for well-being, mental health, and positive affect (Griffith & Graham, 2004). These assertions have been supported by research pointing to goals as being vehicles for promoting self-discovery, psychological adjustment, and subjective well-being (Farquharson & MacLeod, 2014; Sheldon et al., 2002; Sheldon & Elliot, 1999). While goal setting theory identifies the benefits of goal setting, it should be noted that this framework does not account for sociocultural and/or political factors that also influence behavior, motivation, and achievement. Goal setting theory encourages value-based collaboration between individuals who are setting goals and individuals who are facilitating the process of goal setting. However, there is no specific inclusion of specific factors related to cultural considerations in the theory (Baird, Tempest, & Warland, 2010). This is one of the clear limitations within goal setting theory and is particularly relevant to the offender population given the diverse representation of incarcerated offenders' experiences and backgrounds.

Treatment with offenders has shifted dramatically over the last two decades. For instance, historical views were that treatment with offenders was not worthwhile or effective (Hollin, 1999). However, this view is largely outdated and research now suggests that treatment can be effective with this population. While goals have been

shown to be an important part of an individual's healthy adjustment and functioning, the body of literature examining treatment interventions for incarcerated offenders has overlooked goal setting.

A meta-analysis examining treatment with incarcerated offenders with mental illness demonstrated the effectiveness of cognitive behavioral techniques, homework, and skill development on reducing psychiatric symptoms and criminal behavior (Morgan, Flora, Kroner, Mills, Varghese, & Steffan, 2012). The vast majority of offender specific treatment has been based on the Risk-Need-Responsivity model and focused mainly on the effectiveness of treatment on recidivism rates (Andrews & Bonta, 2010). Although important, recidivism is hard to measure and lacks information about specific treatment components that are effective. Additionally, examining recidivism does not allow for short-term evaluations of progress to determine which components of an intervention make treatment effective (Andrews & Dowden, 2006; Andrews & Dowden, 2007). Treatment based on reducing recidivism attempts to examine and reduce criminogenic risk factors and offense specific behaviors and does not focus on poor decision-making or problem solving abilities of offenders (Barnao, Robertson, & Ward, 2010).

Purpose and Justification

The purpose of the current study is to examine the effectiveness of a goal-setting intervention with incarcerated individuals in a group format. Despite research demonstrating that incarcerated individuals have higher rates of mental health disorders and that maladaptive goal-setting is related to delinquent behaviors and emotional distress, interventions for teaching goal-setting skills to incarcerated individuals is almost non-existent (Morgan et al., 2012). Criminal offenders often make poor choices about

how to obtain their goals and are often dependent on ineffective strategies such as impulsivity, cognitive impairment, poor decision-making abilities, and emotional dysfunction (Barnao et al., 2010; Walters, 2015).

The majority of research demonstrating the effectiveness of treatment with incarcerated offenders point to three best treatment components including attention to the Risk-Need-Responsivity (R-N-R) model, cognitive-behavioral therapy (CBT) interventions, and the use of homework assignments (Morgan, Romani, & Gross, 2014). While these three models provide a useful basis for treatment in general, researchers point to the "absence of overarching rehabilitation theories to guide practitioners in their clinical and ethical practice" (Barnao et al., 2016, p. 288). As a result, a strength-based model termed the Good Lives Model (GLM) is a contemporary theory of rehabilitation that focuses both on the offender and on the offense (Barnao et al., 2016). This model provides offenders with the opportunity to focus on and develop achievable competencies to assist them in meeting positive goals instead of focusing primarily on reducing risks associated with pre-determined criminogenic needs (Ferguson, Conway, Endersby & MacLeod, 2009; Gudjonsson & Young, 2007). The proposed study incorporates the theoretical aspects of the GLM that focus on the development and engagement in personalized, positive, prosocial goals. Goal setting provides an important missing piece to offender treatment because goals have the ability to promote and stimulate behavioral change (Scobbie et al., 2011).

Because of the lack of research examining goal setting with offenders, goal setting interventions with different, albeit similar, populations (i.e., psychiatric) and areas of psychology (i.e., Industrial/Organizational) guide the development and implementation of

a specific goal setting treatment intervention. In the literature, the most well-researched and widely utilized approach to goal setting is based on Goal Setting Theory, which has demonstrated that goal setting impacts performance by directing attention and effort, as well as increasing motivation, persistence, arousal, and task-relevant awareness (Latham & Locke, 2007). According to Goal Setting Theory, the goal-performance connection is strengthened when individuals are committed to goals that are important to the individual and believe they have the ability to attain their goals (Locke & Latham, 2002). Further, goals are effective when individuals receive feedback that indicates progress towards their goal and when completion of the goal requires greater task complexity (Locke & Latham, 2002). In other words, goals meeting specific criteria are more likely to be achieved successfully. Teaching specific and effective components of goal setting to offenders is expected to provide beneficial behavioral and psychological outcomes.

Research Hypotheses

Goal setting has been studied extensively within Industrial/Organizational (IO) Psychology (Locke & Latham, 2006). Given successful goal setting in the IO area, it may be similarly effective in other settings such as correctional facilities where group members have deficits in setting constructive and adaptive prosocial goals. The current study examined the effectiveness of focusing on goal setting in group treatment. Setting goals that are personally relevant, concrete, cognitive/behavioral, time-limited, and done in a group setting where feedback is provided is the basis of the goal setting group intervention for this study. The use of feedback on goal-specific content in a group environment provides a rich opportunity for group members to develop personalized goal-orientated thinking and cohesiveness among members.

The following hypotheses were studied:

1. Incarcerated offenders in goal focused group treatment rated themselves in terms of their goal progress at the end of Weeks 3, 6, and at 1-week post-treatment (Week 7) on Goal 1 and Goal 2. There is a statistically significant main effect of time that demonstrated a difference in goal progress across Week 3, Week 6, and 1-week post-treatment in the goal setting group. There is also a statistically significant difference on goal progress at Week 3 compared to the combination of Week 6 and 1-week post-treatment for the goal focused group.
2. There is a positive correlation between group leader and individual group member reports of progress toward Goal 1 attainment at the end of the intervention. On Goal 2 there is also a positive correlation between group leader and group member reports of goal progress at the end of the treatment intervention.
3. Incarcerated offenders who participated in group treatment that was specifically focused on teaching goal-setting skills had a statistically significant increase in engagement in the group at the end of a six-week goal focused group treatment. There is a main effect of time with statistically significant increases of engagement in the group across Week 1, Week 3, and Week 6.
4. Incarcerated offenders participating in a goal setting group intervention reported significant increases their level of hopefulness (goal-directed thinking) at the end of the seven-week intervention. There is a main effect of time that yielded statistically significant differences in hopefulness across Week 1, Week 3, Week 6, and 1-week post-treatment.

5. There is a statistically significant increase from pre-treatment to post-treatment in the level of group leader self-efficacy for facilitating group interventions on goal setting over a six-week group among group leaders who received specific training on facilitating a goal-setting intervention in group treatment. There are statistically significant increases in group leader self-efficacy from pre- to post-treatment on questions related specifically to facilitating a goal setting intervention in a group format.

Methodology

Below is a brief overview of the study's methodology that was used to examine the research hypotheses (See Chapter 3 for a more in-depth discussion). This study included adult men (18 years and older) incarcerated in a jail in the Western US. Incarcerated offenders who participated in this study are housed in a unit specifically focused on addressing mental health concerns. Given the high rate of mental health concerns among incarcerated offenders (see Chapter 2) focusing on incarcerated offenders with mental illness provided a useful examination of this population. It should be noted that one important methodological change from the study's original proposal is the exclusion of female participants. The study was written to include incarcerated adult women housed in a mental health unit at the jail. Unfortunately, changes to mental health programming on the women's mental health unit did not allow data to be collected from female participants.

Group members were heterogeneous on a number of demographic indicators including age, race/ethnicity, mental health diagnosis, length of incarceration period, and criminal offense (See Chapter 3). Inclusion and exclusion criteria were used to determine

appropriateness for group treatment. The following criteria was used to exclude potential group members: active psychosis or suicidality, inmates without completed treatment plans, inmates expected to be discharged from the unit during the study's timeframe, and cognitive impairments that would prevent their understanding/engagement in group treatment.

Group leaders were also included as participants in this study. Group leaders at the jail include graduate student level trainees. The group leaders varied in the level of training, experience, and skill for facilitating group treatment; however, leaders all had a limited amount of group facilitation experience and formal training on group treatment. Group leaders of the goal setting intervention received formal training in facilitating a goal setting group intervention. Training group leaders on goal setting increased the likelihood that the goal setting intervention was conducted in a similar manner across groups.

The study examined group treatment outcomes and the level of goal attainment using a seven-week goal setting intervention. Notably, another methodological change occurred after the initial proposal of the study. The proposed study planned to examine differences between two conditions: a goal setting intervention group and group treatment as usual (GTAU). However, systemic and logistical complications impacted the ability to obtain a sufficient amount of data that would allow for statistical analyses between conditions (See Chapter 3 for a more in-depth discussion). Consequently, data collection from the goal setting intervention became the primary focus of the study. A total of five closed goal setting intervention groups were completed. Each group began with 6 - 8 members

and was facilitated by one group leader. The goal setting intervention group ran for a total of six weeks and included a 1-week post-treatment time point.

During the first week of the goal setting intervention group, members set two separate goals and rated their level of confidence in obtaining the goals over the course of the seven-week study. At 3 different time points throughout the study, group members completed Goal Questionnaires to determine the amount of progress towards their goals they believed they made at the end of Week 3, Week 6, and 1-week post-treatment. Additionally, group leaders also independently completed Goal Questionnaires to assess how much progress they believed each group member made on each of their goals at Week 3, Week 6, and 1-week post-treatment.

The measures that were used to assess the benefits of goal setting in group treatment on goal-directed thinking and commitment to the group environment were the State Hope Scale (SHS; Snyder, Sympson, Ybasco, Border, Babyak & Higgins, 1996) and the Group Climate Questionnaire – Engagement Subscale (GCQ; MacKenzie, 1983). The State Hope Scale (SHS) is a brief measure used to track an individual's level of goal-orientated thinking (Snyder et al., 1996). The Group Climate Questionnaire – Engagement Subscale (GCQ) was used to examine each group member's perception of the social environment of the group. The SHS was given at Week 1, Week 3, Week 6, and 1-week post-treatment and the GCQ was given at Week 1, Week 3, and Week 6 to measure change over time.

Group leaders' level of self-efficacy for performing group leadership skills was also assessed during the course of the study. The Group Leader Self-Efficacy Instrument was administered to group leaders at pre-treatment and post-treatment to measure changes in

self-efficacy of group facilitation from pre- to post-treatment (Page, Pietrzak, & Lewis 2001).

Definitions

Incarcerated Population: The approximate number of persons supervised under the jurisdiction of federal or state prisons or detained in local jails (Bureau of Justice Statistics, 2018b). For the purposes of this study, the correctional population being examined consisted of males aged 18 years or older that were currently incarcerated in a county jail for a criminal offense.

Group Leader: Individual(s) facilitating group treatment (Yalom & Leszcz, 2005). In this study, group leaders included student trainees from Master's or doctoral level graduate programs.

Group Treatment: Group treatment includes group leaders providing therapeutic interventions to group members within a group format structured by norms (Yalom & Leszcz, 2005). In this study, group treatment included a goal setting group intervention.

Goal: A goal is defined as an internal representation of a future orientated state in which a state is conceptualized as an outcome, event, or process (Austin & Vancouver, 1996). In other words, it is what an individual is aiming to accomplish. Goals refer to the attainment of an explicit standard of competence on a defined task, typically within a pre-identified period of time. The content of goals that are important include the specificity or clarity and the level of difficulty of the task (Locke, Shaw, Saari, & Latham, 1981). For the purposes of this study, group members set concrete, behavioral, time-limited goals that were assessed for progress across three time points in a six session goal setting group and a one week post-session assessment. Goals were based on their individual treatment

plans that were completed when they were initially admitted to the mental health unit. Additionally, goals were time-limited, achievable while incarcerated, and measureable.

Treatment Goals: Treatment goals are defined as intended changes in a client's behavior and experience that are attained throughout the course of therapeutic intervention (Mickalak & Grosse Holtforth, 2006). The therapist is responsible for explicitly assessing and exploring client's goals for structure and content as they relate to treatment (Mickalak & Grosse Holtforth, 2006). In this study, offenders identified specific goals they wanted to work towards based on their individual treatment plans.

Goal setting: Goal setting is the period of goal pursuit when an individual identifies and determines a goal (Latham & Locke, 1991). Goal setting was the focus of Week 1 of the goal setting treatment group. Each group member set two goals.

Goal attainment: Goal attainment can be utilized as a way for measuring or evaluating attainment of goals. When goals are measurable, goal attainment provides the ability to evaluate achievement or progress of an individual's goals (Bovend'Eerdt, Botell, & Wade, 2009). Goal attainment occurred when group members reported that they met the goal that they set.

Goal Setting Theory: Goal setting theory explicitly states that there is a positive correlation between task performance and a specific more challenging goal (Latham & Locke, 2007). According to this theory, goals meeting specific criteria and previously discussed mechanisms are more likely to be achieved if these criteria are met and clearly outlined (Locke & Latham, 2002). Goal setting theory provides the theoretical foundation for utilizing goal setting as a treatment intervention in this study. The theory also guides

the types of goals (i.e., specific, challenging) and intervention components (i.e., feedback) that are most effective with goal setting.

Summary

This study examined the benefits of goal setting in a group setting with incarcerated offenders. Offenders often lack the ability to work towards goals in prosocial and appropriate ways because of deficits in problem solving, judgment, decision-making (Barnao et al., 2010; Walters, 2015). Additionally, criminal offenders often experience mental health impairments, struggle with addiction, and regularly have experienced traumatic events (James & Glaze, 2006). Research shows that delinquent behavior develops at an early age and disruptions in constructive goal setting can have negative consequences (Carroll et al., 2013). As a result, teaching offenders how to engage in behaviors that are prosocial, in agreement with their treatment plan, and self-selected, was expected to promote improved well-being and goal-directed thinking.

However, even with the potential for incarcerated offenders to successfully set and work towards individualized goals, there are many potential factors that have the capacity to impact their ability to engage treatment. For instance, the diversity of mental health concerns, cognitive capacity, cultural considerations regarding openness and/or readiness for treatment, and previous experiences with institutional facilities have the potential to impact incarcerated offenders willingness and ability to participate in treatment.

Despite these potential exceptions, it was hypothesized that incarcerated persons would be able to successfully set, work towards, and achieve time-limited goals when taught the importance and skills of goals and measure progress towards their goals over time. Further, the level of group leader self-efficacy among trainees instructed on goal

setting interventions was expected to increase over the course of the study. Examining the outcome of treatment conducted within correctional facilities is regularly neglected. In addition, identifying the specific treatment interventions that are effective with this population needs more attention given the large population of incarcerated offenders in the US. The following chapter offers a review of the literature that further highlights effective treatment options for incarcerated offenders, with a specific focus on goal setting.

Chapter Two: Review of the Literature

According to a report released by the U.S. Department of Justice, state and federal correctional institutions in the United States housed over 1.5 million prisoners at the end of 2015 (Bureau of Justice Statistics, 2016). Among incarcerated offenders, the rate of individuals suffering from mental health disorders in these facilities is notably high. In fact, a recent report issued by the Bureau of Justice Statistics (2017) indicated that incarcerated offenders were three to five times more likely to meet criteria for serious psychological distress compared to adults in the general population. In Colorado alone over 20,000 inmates are housed in state or federal correctional institutions (Bureau of Justice Statistics, 2015).

The costs associated with incarceration are immense. The Bureau of Justice Statistics (2014) reported that the United States government spent approximately 80 billion dollars in 2010 on incarceration. This amount does not include costs related to policing, legal, or judicial costs associated with justice system expenditures (Bureau of Justice Statistics, 2014). Even though treatment and rehabilitation would significantly reduce societal costs associated with crime, incarceration as opposed to treatment is the primary mode of managing criminal offenders (National Institute on Drug Abuse, 2014). Due to the number of individuals housed in correctional facilities, research examining effective treatment is critical. However, the many barriers associated with conducting research in correctional settings have significantly impacted the amount of research conducted and

therefore the understanding of which treatment interventions are effective (Watson, 2015).

Given the large number of incarcerated offenders and high rates of mental health concerns among incarcerated offenders, there are clear benefits supporting the development of empirically validated treatment interventions with this population including reducing the risk of future criminal and violent behaviors, alleviating psychiatric distress, lessening admissions to correctional facilities, and improving overall quality of life (Rice & Harris, 1997). Few empirically supported treatments and practices have been investigated. In one study, Morgan et al. (2012) conducted a meta-analysis examining different mental health and criminal behavior outcomes in correctional settings. The meta-analysis included 26 studies assessing the effectiveness of interventions used with inmates with mental health disorders. The authors found treatment interventions to have strong positive effects on reducing mental health symptoms, enhancing inmates' perceived ability to manage their problems, and improving behavioral functioning. Their results also demonstrated that treatment has a moderate positive effect on institutional adjustment. While treatment demonstrated clear benefits to improving offenders functioning, the results of this meta-analysis did not provide any additional specificity about the types of treatment procedures that produce positive outcomes. More recently, Yoon, Slade, and Fazel (2017) conducted a systematic review of 37 randomized control trials (RCTs) examining the efficacy of psychological therapies with incarcerated offenders with mental health problems. A medium pooled effect size was found among the studies included in the review. Further, results showed no statistical differences in efficacy between individual and group therapies or among

different treatment approaches (e.g., cognitive behavioral therapy, mindfulness-based treatment). While this study examined the effectiveness of specific psychotherapeutic approaches, effect sizes among the studies included in the review were highly heterogeneous and treatment effects where not maintained at three and six-month follow-up intervals suggesting a clear need to further develop empirically validated treatments that successfully retain short-term gains (Yoon et al., 2017).

One type of intervention that is frequently used within correctional settings is group treatment, which became popular with inmates in the 1950s (Morgan & Flora, 2002). Group treatment research in correctional institutions has shown positive outcomes on emotion regulation, self-control, and interpersonal functioning (Marshall & Burton, 2010; Morgan & Flora, 2002). Studies have provided support for the benefits of group treatment with offenders; however, specific interventions of this type of treatment have not been thoroughly studied (Marshall & Burton, 2010).

Early in the initiation of group work with inmates, goal setting was mentioned as a specific component of group treatment (Bonta, Cormier, DeV. Peters, Gendreau, & Marquis, 1983; Rizvi, Hyland, & Blackstock, 1983). Researchers suggested that goals should "be ones that can be achieved and evaluated quickly" because of the quick turnover among inmates (Bonta et al., 1983, p. 137). Rizvi et al. (1983) also indicated that within correctional settings goals "should be specific, well defined and realistic" (p. 206). In general, effective and appropriate goal setting has been touted as an important skillset, although research has been slow to highlight goal setting (Ferguson et al., 2009).

Group Therapies and Best Practice Treatments

The general literature on group treatment demonstrates the efficacy of group therapy as an effective and viable method of treatment. Burlingame and Jensen (2017) summarized the last 25 years of group treatment research and highlighted group treatment to be an empirically supported treatment for many different physical and psychological conditions. In a meta-analysis examining 111 group therapy studies, results indicated significant and reliable improvements among group treatment conditions compared to wait-list controls (Burlingame, Fuhriman, & Mosier, 2003). The study found an overall effect size of 0.71 for group treatment, whereas no significant improvement was found among wait-list control groups. Results provided quantitative evidence for the utilization of group treatment as an efficacious form of treatment (Burlingame et al., 2003).

Specific to incarcerated offenders, since the 1960s-70s, group treatment has become the predominant method of treatment (Morgan, Garland, Rozycki, Reich, & Wilson, 2005). Yet, an early survey of the amount of research being conducted in correctional settings on group treatment found 80% of the 113 correctional institutions that participated in the survey did not conduct research on the group therapy that was occurring at their sites, underscoring the reality that little research on group treatment was being done (Morgan, Winterowd, & Ferrell, 1999). Several years later, Morgan, Kroner, and Mills (2006) concluded that "mental health professionals [have] been neglectful in evaluating the group psychotherapy services they provide resulting in a dearth of knowledge regarding effective group psychotherapy practices with inmates" (p. 142).

Some research on group treatment does demonstrate positive outcomes for those who are incarcerated (Hong-Xue, Xiao-Ming, Xiao, Nan, & Yong-Sheng, 2017; Marshall

& Burton, 2010; Morgan & Flora, 2002; Morgan et al., 2005). For example, one meta-analysis that included 26 studies that contained control groups compared to treatment groups found positive treatment outcomes with incarcerated offenders (Morgan & Flora, 2002). Consistent and significant improvements among incarcerated offenders receiving group therapy were found on all outcome measures examining anger, anxiety, institutional adjustment, depression, interpersonal functioning, self-esteem, and locus of control (Morgan & Flora, 2002). Further, a systematic review by Duncan, Nicol, Ager, and Dalgleish (2006) examining the efficacy and effectiveness of structured group interventions with offenders struggling with mental illness calculated moderate to large effect sizes among the included studies. The notable problems of studies that examine group treatment in correctional settings include the lack of control groups, assessing specific components that are empirically supported to improve functioning, the lack of research done with offenders with mental health difficulties, and proper training of neophyte therapists on how to deliver effective treatment in a challenging clinical environment (Marshall & Burton, 2010; Morgan et al., 2012).

Some research has shown positive results for improving problematic behaviors, skill development, prosocial functioning, and mental health symptom management with criminal offenders (Morgan et al., 2006). Broadly speaking, treatment with incarcerated offenders has focused on three areas including: (a) adherence to the Risk-Need-Responsivity (R-N-R) model, (b) cognitive-behavioral therapy (CBT) interventions, and (c) the use of homework exercises (Morgan et al., 2006). Each of these three treatment practices has been shown to positively impact the effectiveness of treatment among

inmates in group therapy and these three practices have received the most attention in the research with offenders.

The Risk principle indicates that the level of service should align with the level of risk for offender treatment (Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990b). For instance, individuals identified as high risk should receive higher levels of care and the reverse for those who are low risk. The Need principle states that treatment is most effective when treatment is uniquely tailored to fit each individual (Andrews et al., 1990b). Among criminal offenders, criminogenic needs have been identified as risk factors that predispose individuals to engage in crime and thus, should be taken into consideration if effective treatment is to be provided (Andrews, Bonta, & Hoge, 1990a). The Responsivity principle indicates that the type of treatment provided must align with the ability level and learning styles of individuals receiving the services (Andrews et al., 1990b). Among incarcerated offenders, the Responsivity principle teaches strategies that align with group members' education, motivation, and knowledge levels (Morgan et al., 2006).

Adherence to the R-N-R model of treatment for offenders considers the risk level, risk factors, and ability levels among this unique population. However, surprisingly, in a national survey examining mental health services provided to offenders with mental illnesses, Bewley and Morgan (2011) reported that only 15.7% of participating service providers incorporated principles of the R-N-R model into treatment. While use of the R-N-R model has been supported by research to target reductions in future criminality, research suggests it is not consistently incorporated into practice (Andrews & Dowden, 2006; Andrews & Dowden, 2007; Hollin, 1999). Additionally, some critiques of the

model suggest that it does not aim to improve offenders' quality of life or enhance their individual capabilities (Ward & Brown, 2004; Ward & Stewart, 2003). Competing models of rehabilitation, crime, and treatment are starting to emerge and appear to better capture the complexity and diversity of treatment with offenders from a rehabilitation perspective instead of a risk perspective (Barnao et al., 2016).

Research also has identified the use of cognitive-behavioral therapy interventions as a promising mode of treatment. A meta-analysis of 58 studies examining treatment effects on recidivism using CBT interventions showed positive effects of this treatment orientation on reducing criminality (Landenberger & Lipsey, 2005). Interestingly, the results of this meta-analysis showed that the largest effect sizes for CBT were among offenders who were identified as at greater risk for recidivism. Studies that incorporate CBT based strategies, such as cognitive restructuring, problem solving, and interpersonal effectiveness, have all demonstrated positive outcomes on criminal behavior among offenders (Andrews et al., 1990b). The national survey conducted by Bewley and Morgan (2011) examining psychotherapy services in correctional institutions reported, "the most frequently endorsed theoretical orientation by participants [mental health service providers] was cognitive-behavioral" (p. 360).

A quantitative review examining 20 studies identified the effectiveness of structured cognitive-behavioral group therapy on criminal behavior, cognitive distortions, self-monitoring, critical reasoning, social perspective taking, and interpersonal effectiveness (Wilson, Bouffard, & Mackenzie, 2005). The study reported a moderate mean effect size of 0.32 among studies included in the analysis suggesting that treatment approaches

utilizing a structured CBT based group intervention provided an effective means of reducing involvement in criminal behavior (Wilson et al., 2005).

Another specific component used in group treatment is homework assignments. Homework includes exercises or activities that are conducted outside of scheduled group time and are meant to extend and implement learning to the real-world environment of the group members (Morgan et al., 2006). Morgan et al. (2006) indicated that homework should include simple, concrete assignments that can be completed in a brief amount of time. By engaging in homework, behavioral techniques and strategies learned from treatment are intended to generalize to other situations despite the incarcerated environment. According to the meta-analysis conducted by Morgan and Flora (2002), the inclusion of homework assignments into group treatment significantly predicted improvements on all treatment outcomes including institutional adjustment, mental health symptomology, prosocial relationships, and self-esteem. Additionally, homework has been used as a way for offenders to overlearn more prosocial behaviors and attitudes through repeated experimentation and reinforcement (Morgan et al., 2006). The use of homework is "one method of helping inmates maintain a focus on positive and prosocial activities even while they are not directly involved in therapeutic activities" (Morgan & Flora, 2002, p. 204).

Group therapies provide positive emotional, behavioral, and cognitive outcomes and offer a cost-effective treatment intervention to large numbers of individuals housed in correctional facilities throughout the nation (Morgan et al., 1999). However, what is overwhelmingly absent from the literature on group treatment with incarcerated offenders is the use of goal setting as a specific intervention.

Goal Theory

Goal setting is an important skillset for shaping constructive and prosocial behavior (Carroll et al., 2013). Arguably, all human behavior is goal driven (Ward et al,. 2007). Humans have an innate capacity to orientate towards and work towards completing tasks and achieving goals. Austin and Vancouver (1996) defined goals "as internal representations of desired states, where states are broadly construed as outcomes, events, or processes" (p. 338). Goals have been shown to play an important part in directing human behavior and providing individuals with a sense of mastery and accomplishment (Austin & Vancouver, 1996). Griffith and Graham (2004) indicate that goals organize purposeful behavior and provide meaningful interpretations of experience. For instance, goals that are achieved through prosocial interpersonal channels are believed to assist individuals in attaining a greater sense of well-being and personal growth (Griffith & Graham, 2004).

There are many different models and theories of goal setting (for an overview see Austin & Vancouver, 1996). While there are many theories of goal setting, there is a lack of evidence-based direction on how to implement goal setting interventions using these theories (Baird, Tempest, & Warland, 2010). As a result, the use of a goal setting model that has research evidence supporting its utility of a goal setting intervention with high-needs clients, within a collaborative environment, and having the ability to focus on individualized goals is important for offender populations.

Goal setting interventions based on goal setting theory have not only highlighted the benefits of using this theory to guide clinical practice but have also examined clients' perceptions of goal setting interventions. For example, a qualitative study examining 10

adults with neurological disabilities participating in rehabilitation treatment were queried about their experience with a goal setting treatment intervention (Young, Manmathan, & Ward, 2008). Patients indicated that goal setting was beneficial because it was collaborative, incorporated their views, and encouraged their autonomy, independence, and competence. Further, because goals were clear and explicit, clients expressed being able to choose personally meaningful goals that they could demonstrably work towards (Young et al., 2008).

The majority of research examining goal setting has been conducted in industrial/organizational psychology (Locke & Latham, 2006). This research has focused primarily on the relationship between goal setting and work performance on different tasks (Locke & Latham, 2002). Over time, goal setting has become one of the most well-studied and sophisticated phenomenon in organizational psychology (Latham & Locke, 2007). Goal-setting theory outlines the importance of having a specific more difficult to achieve goal on task performance. Further, the theory demonstrates how a goal improves an individual's personal satisfaction because goal achievement allows for performance evaluation (Latham & Locke, 2007). Goal setting has also shown to be effective on any domain of behavior where the individual had some engagement in the goal setting progress (Locke, 1996). Clearly, goals and goal setting provide important sources of information about performance, achievement, and evaluation to an individual.

As part of goal-setting theory, Locke and Latham (2006) outlined four mechanisms found to improve task performance and outcome. The four mediators identified to facilitate the relationship between goal attainment and performance include goal commitment, goal importance, task complexity, and feedback (Locke & Latham, 2006).

Goal commitment is facilitated when outcomes are expected to occur as a result of the behaviors involved in reaching the goal and when an individual believes he/she can achieve the goal (self-efficacy). Enhancing self-efficacy can be done by receiving training that improves mastery, identifying role models, and engaging in communication that expresses confidence in goal attainment (Locke & Latham, 2002). Goal importance is a central factor in task performance and has been shown to improve when a public commitment to a goal is made and when leaders are supportive and inspire growth (Locke & Latham, 2002). In other words, when an individual announces commitment to a goal in a group setting and the group facilitators provide encouraging and supportive recognition about the individual's goal, the individual's performance on the task increases significantly (Locke & Latham, 2002). Task complexity has been shown to mediate performance when the complexity of the task increases to a higher level (Locke & Latham, 2006). As long as the individual is able to develop increased task completion strategies as the task complexity increases, the individual's performance will continue to improve (Locke & Latham, 2006; Seijts, Latham, Tasa, & Latham, 2004). Locke and Latham (2002) wrote "for goals to be effective, people need summary feedback that reveals progress in relation to their goals" (p. 708). Feedback allows the individual to adjust the effort and performance strategies to align with the goal(s) attempting to be achieved. Without feedback it is difficult to determine the progress that is being made (Locke, 1996; Locke & Latham, 2002).

A large body of evidence indicates a positive relationship between goal setting and subjective well-being, mental health, academic/professional performance, and positive affect (Boudreaux & Ozer, 2013; Griffith & Graham, 2004; MacLeod et al., 2008;

Sheldon et al., 2002). Goals can provide structure and personal meaning to individuals' lives. Even short-term goal setting and attainment can contribute to greater levels of psychological well-being including positive affect and life satisfaction (Boudreaux & Ozer, 2013). When individuals are committed to investing emotional, cognitive, and behavioral energy in attaining a desired outcome they can successfully set and achieve their goals when those goals are consistent, specific, desirable, and feasible (Mann, de Ridder, & Fujita, 2013).

The benefits of goal setting are supported in the literature; however successful goal setting is complex. For instance, when goals become conflicted, misaligned, or forgotten, individuals have the potential to become negatively impacted (Muller & Spitz, 2009). Muller and Spitz (2009) examined the role of goal importance, goal valence, and the level of goal disturbance (degree of importance and degree of difficulty) in goal attainment on quality of life and level of distress with 332 participants. The results demonstrated that high numbers of daily stressors and goal disturbance accounted for significantly high levels of distress among participants from the general population. Further, personal goal disturbances mediated the relationship between psychological distress and daily stressors (Muller & Spitz, 2009).

Research on goal setting has demonstrated the impact that failure in goal achievement or success can have on an individual's mood and cognition (Cron, Slocum, VandeWalle, & Fu, 2005; Henkel & Hinsz, 2004; Jones, Papadakis, Orr, & Struman, 2013). For example, the measurement of non-conscious emotional reactions (measured by response time) to goal-relevant stimuli demonstrated that the experience of failure on a goal-relevant task decreased implicit positive affect that was believed to result in

disengagement from goal related tasks (Moore, Ferguson, & Chartrand, 2011). In other words, when individuals failed to successfully achieve a task, they demonstrated less engagement in future goal-orientated tasks after experiencing task failure. A more recent study by Jones et al. (2013) found individuals who perceived themselves to continuously fail on goals related to personal growth and preservation to experience increases in rumination and dejection. While goal setting and achievement undoubtedly can have beneficial impacts for an individual, failures in goal attainment can have detrimental impacts on emotional and functional well-being.

Barriers to Prosocial/Constructive Goals Among Offenders

Implementation of goal setting strategies in treatment is particularly relevant for offender populations. Research suggests that while all humans are goal driven, offenders may lack the capacity to obtain their goals in socially acceptable ways, develop healthy coping strategies, or engage in responsible decision-making (McMurran & Ward, 2004). One strength-based model of offender treatment, the Good Lives Model (GLM) suggests that offenders use inappropriate activities and strategies when they are both setting and working towards their goals (Barnao at al., 2010; Ward & Brown, 2004).

Goal setting is complex for most people but may be even more difficult for offenders. To understand the difficulty of prosocial goal setting among offenders, a brief description of their development is important. The literature points to five key indicators that predict engagement in criminal behavior, which consequently prevents individuals from obtaining their goals in a productive and prosocial manner. These indicators include a history of criminality, antisocial feelings/attitudes, cognitions, specific personality traits, and delinquent associates (Andrews et al., 1990a). Efforts to incorporate these

psychological and social considerations into treatment demonstrate a more informed method of conducting outcome and efficacy-based research (Ward & Stewart, 2003). These indicators represent factors that have been well researched and examined within forensic psychology.

There is a lengthy history of literature identifying the importance of past criminality on future criminality among offenders. Loeber (1982) examined the stability of antisocial behavior among children and the subsequent development of criminality in adolescence and adulthood. According to Loeber (1982), antisocial behavior is described as "acts that maximize a person's immediate personal gain through inflicting pain or loss on others" (p. 1432). Loeber (1982) suggested that it is important to identify when antisocial behaviors start, the number of antisocial acts committed, and the variety of the acts, to help identify the development of delinquency into adolescence and adulthood. The study found that children who engaged in many different types of delinquent behavior, in more than one environment, and from an earlier age were found to have more stable antisocial behaviors over time. The results of the study suggested that antisocial behavior was more predictable and stable than previously assumed (Loeber, 1982). More recent investigations have supported these early findings suggesting the predictive nature of early delinquency on future criminality (Walters, 2015; Walters, 2016). Considering patterns of criminality that may exist in adult offenders is an important aspect of developing and implementing population specific evidence-based treatment.

One potentially relevant explanation of early delinquent behavior comes from a recent investigation examining goal setting and self-efficacy among at-risk, not at-risk, and delinquent adolescents (Carroll et al., 2013). Carroll et al. (2013) investigated

different goal types, goal characteristics, and levels of self-efficacy among 88 delinquent, 97 at-risk, and 95 not at-risk adolescents. The findings demonstrated that adolescents with delinquent behavior reported fewer goals, set less challenging goals, were less committed to their goals, and reported less self-regulatory and academic efficacy than adolescents in the at-risk and not at-risk groups (Carroll et al., 2013). These investigations point to patterns of goal setting that interfere with the development of effective and prosocial goal pursuits among individuals displaying early delinquent behavior. The predictable and stable nature of delinquent behaviors provides evidence to suggest that effective and productive goal setting is likely challenging for offenders.

Within the literature of forensic psychology, another predictive indicator of criminal behavior is criminal feelings or antisocial attitudes (Banse, Koppehele-Gossel, Kistemaker, Werner, & Schmidt, 2013; Simourd, Olver, & Brandenburg, 2016). Antisocial attitudes develop when opportunities for individuals to communicate needs and desires to other persons, develop trust, and self-awareness of internal and emotional states are lacking in individuals' development. According to Ward and Stewart (2003) "the absence of these internal and external conditions would make a person vulnerable to experiencing emotional loneliness and to subsequently develop[ing] a maladaptive interpersonal style and distorted needs" (p. 139). While the development of antisocial attitudes contributes to criminal behavior, research suggests that treatment programs aimed at reducing criminal thinking are effective at reducing these types of attitudes (Banse et al., 2013; Simourd et al., 2016). For instance, Banse et al. (2013) conducted a literature review examining 24 studies utilizing treatment interventions focused on targeting pro-criminal attitudes (PCAs) among offenders. Among the studies included in

the literature review, cognitive-behavioral and skill development-based treatment resulted in offenders having decreases in PCAs at post-treatment (Banse et al., 2013). These results are positive and indicate that treatment can be beneficial, although from this review it is difficult to determine if treatment was the only significant variable related to PCA change because of the lack of studies with control groups (Banse et al., 2013). Treatment focused on the development of skill-based abilities offer individuals with maladaptive cognitive and behavioral patterns of functioning alternative strategies when attempting to get their needs met.

Problematic cognitions contribute to poor judgment, deficits in interpersonal information processing, and unsuccessful problem solving (Brazao, da Motta, Rijo, do Ceu Salvador, Pinto-Gouveia, & Ramos, 2015). As a result, antisocial cognitions are one of the primary indicators of criminal behavior and have received a significant amount of attention with offenders. Walters (2015) examined risk factors predicting prison misconduct and after controlling for eight static risk factors (i.e., age, race, mental health history, substance use, offense type, criminal background, gang affiliation, and length of prison sentence) found criminal thinking styles accurately predicted future incarceration misconduct. Criminal thinking styles are broadly described as cognitive variables that become automatic, self-perpetuating, and mediate criminal behavior (Walters, 2015). Other studies examining criminal thinking have found similar results (Walters, 1995; Walters, 2015; Walters 2016). More specifically, recent research examining different types of criminal thinking provide information on thinking patterns that predict engagement in future criminal acts. Walters (2016) examined the correlation between two criminal thinking patterns (proactive and reactive) and continued involvement in crime.

Proactive criminal thinking was described as planned, premeditated, and neutralizing whereas reactive criminal thinking was defined as impulsive, careless, and affective. Results found reactive thinking mediated the relationship between previous criminal behavior and future criminal behavior (Walters, 2016). In other words, the existing literature suggests that certain types of thinking patterns may be more important to target in treatment when attempting to alter patterns of criminal behavior among offenders.

Certain personality constructs have been identified in the literature as contributing to individual criminality (Andrews & Wormith, 1989). For instance, one meta-analysis examined 21 empirical studies that all tested a single theory of crime that considers low self-control to be a core concept of criminal behavior (Pratt & Cullen, 2000). Researchers of this meta-analysis concluded that "low self-control increases involvement in criminal and analogous behaviors is empirically supported" (Pratt & Cullen, 2000, p. 953). These results are consistent with other studies that highlight weakened self-control as a strong predictive component of criminal behavior (Andrews, Bonta, & Wormith, 2006; Friehe & Schildberg-Horish, 2014). In addition to low self-control, other personality constructs closely related to self-control have been linked to criminal behavior including aggression, restlessness, adventurous pleasure-seeking tendencies, interpersonal hostility, neuroticism and risk taking (Andrews et al., 2006; Listwan, Van Voorhis, & Ritchey, 2007; Walters, 1995). Previous literature suggests that personality constructs indicative of criminal behavior prevents engagement in socially acceptable behavior, which leads to fewer opportunities for offenders to participate in effective problem solving and constructive goal setting and attainment pursuits.

Another potential developmental barrier offenders have when attempting to set prosocial goals is their association with delinquent peers or colleagues. Currently, this research has focused primarily on children and adolescents and the influences their peers have on criminal behavior. Several research studies find that youth who associate with delinquent peers are significantly more likely to report being personally involved in delinquent behaviors (Boduszek, Adamson, Shevlin, Hyland, & Dhingra, 2014; Brownfield & Thompson, 1991; Entner Wright, Caspi, Moffitt, & Silva, 1999). Associating with delinquent peers is connected to an individual's desire to relate to others and display a sense of competency among similar other persons (Ward & Stewart, 2003). Among antisocial peers, individuals may seek out others who are less critical or rejecting of poor decision-making and problem solving and less cognitively rewarding situations that offenders become involved in when engaging in criminal activity (Ward & Stewart, 2003). Clearly, social connections with deviant peers do not foster engagement in prosocial goals. Consequently, incarcerated offenders may struggle to remain focused on constructive and adaptive goals when the majority of their social interactions are with like-minded peers.

As indicated, behavior is goal driven and criminal offenders are one population that has substantial difficulty setting prosocial and constructive goals. There are several barriers that have the potential to impede offenders' abilities to make responsible decisions, engage in prosocial activities, and cultivate effective coping strategies (McMurran & Ward, 2004). Offenders are one population that would benefit from structured goal setting treatment interventions because of the costs to the individual and

society that result when they set and pursue anti-social or destructive goals (Barnao, Robertson, & Ward, 2010).

Hope and Criminal Behavior

Snyder et al. (1991) defined hope as "a cognitive set that is based on a reciprocally-derived sense of successful agency (goal-directed determination) and pathways (planning to meet goals)" (p. 571). In other words, hope is comprised of two interrelated concepts including agency, the perceived capability to initiate and maintain the activities needed for goal attainment and pathways, the perceived capacity to generate routes to one's goals (Snyder et al., 1996). Consequently, researchers have assumed that hope (goal-directed thinking) is an important element in successful goal achievement (Synder et al., 1996). To put it simply, hope is an overall assessment that one can successfully attain his/her goals.

Hope has been correlated with several beneficial outcomes including increases in life meaning and quality of life (Cheavens et al., 2016; Dunstan, Falconer, & Price, 2017). Further, hope is believed to underlie positive treatment outcomes among different therapeutic treatment interventions (Snyder, Feldman, Taylor, Schroeder, & Adams, 2000). While hope has been shown to be an important psychological construct in promoting well-being, it has remained mostly theoretical and largely understudied among forensic populations. This is surprising given that a lack of hope may put individuals at risk for engagement in criminal and delinquent behavior (Irving, Seinder, & Burling, 1998; Martin & Stermac, 2010).

The limited research examining hope and criminal offenders has demonstrated positive outcomes. For instance, a quasi-experimental design with criminal offenders

examined the effectiveness of an eight-week group treatment focused on hope (Hong-Xue et al., 2017). Results demonstrated increases in both agency and pathways thinking and decreases in symptoms of anxiety among participants in the intervention group (compared to the control group) (Hong-Xue et al., 2017). Further, Woldgabreal, Day, and Ward (2016) proposed a model of community supervision of criminal offenders examining positive psychological states (i.e., optimism, hope, general self-efficacy, and psychological flexibility) to promote positive supervision outcomes (i.e., technical violation, reconviction, imprisonment during follow-up period). The results showed that offenders with higher levels of positive psychological states (including hope) were less likely to experience negative outcomes (i.e., return to prison) and more likely to obey mandatory supervision stipulations (Woldgabreal et al., 2016). In other words, positive psychological states may facilitate constructive behavioral changes among criminal offenders (Moulden & Marshall, 2005). These studies demonstrate the benefit of incorporating hope into research with forensic populations.

Goal Setting Treatment Interventions

Goal setting in mental health treatment has focused on task achievement and productivity. The research that has been conducted demonstrates the usefulness of goal setting among populations with mental health disorders (Clarke, Crowe, Oades, & Deane, 2009). Although not on an offender population specifically, drawing from studies that have implemented goal setting interventions with psychiatric populations provides a useful framework with which to investigate the potential of group goal setting treatment with incarcerated offenders given the high rate of mental health concerns among incarcerated offenders (Glaze & Parks, 2012). Because the research examining goal

setting interventions with incarcerated offenders is scarce, reviewing the effectiveness of these techniques with other related populations provides some guidance on the use of goal setting with offenders with mental illness.

Research examining treatment with individuals receiving mental health services have tended to focus on behavioral goals along with broad psychological factors such as affect, well-being, self-esteem, and locus of control using outcome-based measures (Clarke et al., 2009; Coote & MacLeod, 2012; Farquharson & MacLeod, 2013). One study conducted in Australia examined types of goals that were set among 144 individuals receiving mental health services (Clarke, Oades, & Crowe, 2012). Participants indicated that the most important goals were related to physical health, interpersonal development, and employment. Further, the most commonly set goals were concrete and practical in nature. The study demonstrated the importance of concrete and practical goals and goal setting in achieving their goals among individuals with mental health concerns (Clarke et al., 2012). Conducted in the UK, another study examined formal treatment goals of 139 patients diagnosed with severe mental health disorders receiving intensive comprehensive services (Macpherson, Jerrom, Lott, & Ryce, 1999). Patients set a total of 366 treatment goals and goal progress was reviewed one year later. Treatment goals included improving social functioning through engagement in structured activities, medication adherence, addressing physical health concerns through involvement in healthcare, self-care skill development, reducing substance abuse, reorganizing benefits/finances, and obtaining appropriate housing placements. Results showed that 68% of the treatment goals were met, 11% of goals were partially met, and 20% of goals were not met. Further, 51% of patients achieved all of their goals and only 1% of patients did not achieve any of their

goals (Macpherson et al., 1999). These studies demonstrate the benefits of including goal setting with psychiatric populations and in psychiatric treatment settings and point to the potential for using goal setting interventions with mentally ill incarcerated offenders.

Goal Setting Interventions with Offenders

An early study examining treatment with incarcerated offenders contrasted two different treatment approaches (Leak, 1980). A traditional method utilizing a nondirective unstructured approach was compared to a highly structured approach termed Positive Education Experiences in Relationships (PEER) focused on goal setting and communication techniques. Goals focused on improving interpersonal relationships and self-image among offenders. Incorporating goal setting as a primary component was done "with the idea that successful goal accomplishment will lead to feelings of success and esteem" (p. 521). The results of the study showed significant increases in offenders' reports of empathy, responsibility, and global interpersonal functioning for the structured goal setting condition. Further, these changes were sustained one-year posttreatment (Leak, 1980). This study provided an early demonstration of the usefulness of using goal setting interventions with incarcerated offenders. Unfortunately, little has been done since this time to further examine goal setting interventions with this population.

Historically, interventions for incarcerated offenders were aimed at reducing recidivism and were based on the Risk-Need-Responsivity principle. Undoubtedly, the risk-need approach contributed to improved forms of treatment for offenders (Hollin, 1999). However, researchers argue that historical approaches to treatment in forensic settings have repeatedly failed to consider the importance of self-directedness and autonomy (Barnao et al., 2016). Supporting and fostering an individual's sense of

personal agency can be done by "promoting individuals' personal goals and assisting them with building or restoring the capabilities required to attain them" (Barnao et al., 2016, p. 298). Although slow to incorporate goals into treatment, the last decade has seen some attention to goal setting and they have begun to be considered a useful component of treatment with incarcerated offenders.

The Good Lives Model (GLM) is the newest and most comprehensive theory of criminal offending that considers goal setting to be an important element of treatment. The GLM advocates for treatment focusing on offenders' personal values and goals instead of entirely on the specific criminal offense (Barnao et al., 2016). This strengths-based approach explicitly incorporates goals into treatment that are important to offenders. The GLM provides offenders with the opportunity to learn and develop how to put intrinsic goal-directedness inclinations into meaningful and productive behavior instead of criminal activities (Ward & Brown, 2004). While support for the GLM continues to be mostly theoretical and based on case studies, promising treatment outcome research has been conducted (Barnao et al., 2010; Barnao et al., 2016; Ward et al., 2007). A pilot study conducted by Ferguson, Conway, Endersby and MacLeod (2009) implemented a goal setting and planning group intervention with fourteen incarcerated male offenders with mental health concerns based on the GLM. The study was aimed specifically at improving well-being through increasing engagement in future goals among incarcerated offenders and not directly on improving negative emotions, reducing problems, or offending behavior (Ferguson et al., 2009). Offenders chose goals that were personally relevant and realistic, specific, and time-limited. The content of the group's six-week intervention was an adaptation of the goal setting and planning (GAP) training

focused on identifying personal goals, developing a specific plan to work on the goal, discussing progress and achievements, and reviewing homework (Ferguson et al., 2009). The GAP intervention was modified from its original three-session version designed for use with the general population to better accommodate potential learning and motivational barriers among offenders with mental health concerns (Ferguson et al., 2009). The intervention was manualized and contained group content information and homework exercises. Further, researchers involved in the development of the intervention were also trained in the administration of the intervention. The results of the study demonstrated the effectiveness of the goal setting intervention on increasing subjective reports of incarcerated offenders' well-being (Ferguson et al., 2009). Unfortunately, even though the study implemented a goal setting intervention, researchers did not report the progress participants made on their goals.

The GLM introduced a new approach to treatment with offenders and incorporates goal setting into the treatment framework. Even though the GLM provides a promising treatment approach, it is still a relatively new model with a limited amount of research support (Barnao et al., 2016). While improvements in treatment interventions for offenders have continued to emerge, research with offenders is minimal in general and research on treatment that includes goal setting strategies is even less of a focus.

Summary

This chapter reviewed the literature that supports the use of goal setting interventions and group treatment with incarcerated offenders. Goal setting has been a focus of research in the field of industrial/organizational psychology but has not generalized to jail and prison settings. The few studies that have incorporated goal setting interventions

have not explicitly measured individual's progress towards their goals. Contributions from Locke and Latham (2002) have demonstrated the usefulness of goal setting in task performance, motivation, and achievement. Further, goals have the ability to positively impact well-being, life satisfaction, create meaningful experiences, and promote self-esteem (Griffith & Graham, 2004). Unfortunately, effective and prosocial goal setting is an underdeveloped skillset among offenders. Without these skills they have the potential to show poor judgment, limited problem-solving abilities, and interpersonal disruptions (McMurran & Ward, 2004). There is hope that inclusion of goal setting in the treatment of incarcerated offenders may help them to increase social, emotional, and cognitive developments and engagements.

Chapter 3: Methodology

This chapter outlines the research design, participant characteristics, measures, procedures, and statistical analyses for the study. The purpose of this study was to assess the effectiveness of a goal-setting intervention in a group treatment format with incarcerated offenders. The methodology outlines how the research hypotheses described in Chapter 1 were tested.

Design and Rationale

There is a limited amount of research examining behavioral goal setting with incarcerated offenders. Nonetheless, the research that does exist, points to goal setting as an effective component in treatment. Research on goal setting with incarcerated persons lacks several important aspects including the inclusion of control groups, explicitly measuring progress towards chosen goals, adequate sample sizes, and the inclusion of female participants (Ferguson et al., 2009). The original methodological procedure was written to address these gaps in the literature. As originally proposed, this study was designed to have a comparison group (Group Treatment As Usual; GTAU) and also to include both women and men. The women's unit discontinued programming and therefore it was impossible to run goal setting groups on this unit. The GTAU had considerable drop out for various reasons but mostly because offenders left the facility. After revisions and permission from committee members, this study used a repeated measures (within-subjects) design to examine the effectiveness of a goal setting

intervention with incarcerated male offenders in a group setting. Although there was not a comparison group, participants in the goal setting group treatment were assessed on several variables at different time points throughout the course of the study.

The participants recruited for this study were adult male offenders incarcerated at a jail in the Western US. The jail has units designed specifically to house offenders with identified mental health concerns. Inmates who appear to have mental health concerns are referred by staff at the jail (i.e., deputies, correctional officers, medical professionals, etc.) to one of the units that houses inmates with mental health concerns for further assessment. Once an inmate is admitted to one of these units, individual treatment plans determine the type and amount of treatment each inmate receives. All inmates on these units are required to participate in group treatment, provided they are psychiatrically stable and functional enough to participate. Active engagement in mental health treatment is a requirement to be housed on these units. As a result, inmates housed on these units have some level of motivation to participate in mental health treatment such as individual or group psychotherapy.

Several different treatment groups run regularly and inmates are required to participate in these groups as determined by mental health professionals working on these units. However, inmates are permitted to select which groups they would like to attend. The treatment groups provided to the inmates consist of many different topics including substance abuse, relationships, anger management, trauma, and skill development. None of the groups focus specifically on goal setting or ask inmates to write down and track goal progress. Treatment groups are conducted on the units, last 60 minutes, and are facilitated by one or two group leaders.

Further, group leaders were included as study participants. Group leaders at the jail are student trainees who typically have limited training and experience in group treatment. Group facilitation in correctional institutions can be a demanding and challenging undertaking. For example, groups can consist of many members with diverse levels of cognitive and emotional functioning, often lack structured treatment planning for weekly group content/topics, and experience high attrition or turnover rates. While the research suggests that specialized training in group processes increases the effectiveness of group psychotherapy, research also suggests that trainees do not receive adequate training in group treatment (Ohrt, Ener, Porter, & Young, 2014). In fact, formal training in group work has received little attention, lagging behind the training counselors receive for individual therapy (Markus & King, 2003; Ohrt et al., 2014). Group leaders facilitating the goal setting intervention group were provided specific training before initiation of the study.

The implementation of this proposal was intended to increase mental health trainees' self-efficacy for facilitating goal setting in group treatment, provide clients with consistent treatment methods on goal setting in order to assess goal progress, and to address gaps in the literature that points to limited data on the effectiveness of group procedures that are being implemented in correctional settings.

Participants

Group Members

Participants in this study consisted of adult male inmates, 18 years and older housed in a unit focused specifically on treating offenders with mental illness at a jail in the Western US. The total sample of inmates who completed the informed consent

procedures included 37 adult males (one member specified gender as 'male identified as female') ranging in age from 23 to 64 years old with a mean of 42.5 years of age. The racial/ethnic composition of the participants included African American/Black (32.4%), Caucasian/White (35.1%), Hispanic/Latino (18.9%), Native (2.7%), Biracial (5.4%), Multiracial (2.7%), and Unknown (2.7%). Length of incarceration at the correctional facility where the study was conducted ranged from 21 to 1263 days. With the exception of four participants (10.8%), all group members reported having a mental health diagnosis. Criminal offenses of the participants ranged in type with assault (27%) being the most common. The inclusion criterion included male inmates housed on the mental health unit. Exclusionary criteria included inmates with active psychosis or suicidality, inmates without completed treatment plans, inmates expected to be discharged from the unit during the study's timeframe, and individuals with cognitive impairments that did not allow understanding/engagement in group treatment. Descriptions of the overall demographics among all participants (including participants who were excluded from the data analysis) are displayed in Table 1. Table 2 provides group member characteristics for all group members (including participants excluded from the data analysis).

Table 1
Group Member Demographics

All Group Members from the Goal Setting Treatment Intervention			**Group Members Included in Statistical Analysis**		
Demographic	**N**	**%**	**Demographic**	**N**	**%**
Total participants	37		**Total participants**	24	
Age Range			**Age Range**		
23-35	10	27.0	23-35	8	33.3
36-43	11	29.7	36-43	5	20.8
44-51	9	24.3	44-51	7	29.2
52-59	4	10.8	52-59	2	8.3
60-64	3	8.1	60-64	2	8.3

Gender	**N**	**%**	**Gender**	**N**	**%**
Male	36	97.3	Male	23	95.8
Male identified as female	1	2.7	Male identified as female	1	4.2
Race/Ethnicity	**N**	**%**	**Race/Ethnicity**	**N**	**%**
African American/ Black	12	32.4	African American/ Black	8	33.3
Caucasian/White	13	35.1	Caucasian/White	7	18.9
Hispanic/Latino	7	18.9	Hispanic/Latino	6	25
Native	1	2.7	Native	1	4.2
Bi-racial	2	5.4	Bi-racial	1	4.2
Multiracial	1	2.7	Multiracial	1	4.2
Unknown	1	2.7	Unknown	0	0

Table 2

Group Member Characteristics

All Group Members from the Goal Setting Treatment Intervention			**Group Members Included in Statistical Analysis**		
Characteristic	**N**	**%**	**Characteristic**	**N**	**%**
Total Participants	37		**Total Participant Sample**	24	
Mental Health Disorder			**Mental Health Disorder**		
Adjustment disorder	2	5.4	Adjustment disorder	2	8.3
PTSD	4	10.8	PTSD	3	12.5
Schizophrenia	5	13.5	Schizophrenia	4	16.7
Two listed	15	40.5	Two listed	8	33.3
Three listed	4	10.8	Three listed	2	8.3
Four or more listed	3	8.1	Four or more listed	3	12.5
None	4	10.8	None	2	8.3
Criminal Offence	**N**	**%**	**Criminal Offence**	**N**	**%**
Assault	10	27.0	Assault	7	29.2
Burglary	4	10.8	Burglary	2	8.3
Domestic violence	1	2.7	Domestic violence	0	0
Gun possession	1	2.7	Gun possession	1	4.2
Murder	2	5.4	Murder	2	8.3
Attempted murder	1	2.7	Attempted murder	1	4.2
Unspecified	4	10.8	Unspecified	2	8.3
Drug possession	5	13.5	Drug possession	3	12.5
Robbery	2	5.4	Robbery	2	8.3
Sexual assault	1	2.7	Sexual assault	0	0
Stalking	1	2.7	Stalking	1	4.2
Trespassing	2	5.4	Trespassing	2	8.3
Vehicular assault	1	2.7	Vehicular assault	0	0
Menacing	1	2.7	Menacing	1	4.2

Parole violation	1	2.7	Parole violation	0	0
Length of Imprisonment (days)	**N**	**%**	**Length of Imprisonment (days)**	**N**	**%**
21-60	7	18.9	21-60	4	16.7
61-100	6	16.2	61-100	3	12.5
101-139	2	5.4	101-139	2	8.3
140-178	8	21.6	140-178	6	25
179-217	4	10.8	179-217	2	8.3
218-256	2	5.4	218-256	2	8.3
257-295	0	0	257-295	0	0
296-365	3	8.1	296-365	1	4.2
>366	5	13.5	>366	4	16.7

The sample used for the statistical analyses included adult males (N=24) (one member specified gender as 'male identified as female') ranging in age from 23 to 64 years old with a mean of 42.3 years of age. A total of nine participants were excluded from the data analyses for having more than one week of missing data. The racial/ethnic composition of the participants included in the statistical analyses were African American/Black (33.3%), Caucasian/White (18.9%), Hispanic/Latino (25%), Native (4.2%), Bi-racial (4.2%) and Multiracial (4.2%). Length of incarceration at the correctional facility where the study was conducted ranged from 21 to 1263 days. The majority of participants listed a mental health diagnosis (91.7%) and a criminal offense (91.7%). See Table 1 and Table 2 for a summary of the demographics and characteristics of the group members included in the sample for statistical analyses.

A power analysis using G*Power software was conducted to determine the recommended sample size needed to decrease the likelihood of making a Type II error. The power analysis was conducted for an *a priori* repeated measures, within factors ANOVA, with an alpha coefficient of 0.05, 1 group, 3 time points of measurement, 0.5 correlation among the repeated measures, and a moderate effect size of 0.4 (effect sizes

for problem solving measures in group treatment with offenders range from moderate to large). The results indicated that a sample size of at least 18 participants was recommended for the study's repeated measures design. Further, the Benjamini-Hochberg technique was used to control for the likelihood of making a Type I error due to performing multiple significance tests (Benjamini & Hochberg, 1995).

Group Leaders

Group leaders were graduate student trainees in both a MA counseling program and in a doctoral program in psychology. Licensed psychologists working at the jail supervise the trainees. Graduate practicum/extern students provide a large portion of the mental health services to inmates at the jail and are required to maintain an individual caseload, facilitate a minimum of two weekly group treatments, and conduct brief triage evaluations to determine offenders' appropriate placement in treatment. The amount of clinical training and practical experience varies considerably among trainees. However, what tends to be uniform among trainees is the limited amount of formal training and basic level of coursework on group treatment. There is no incoming or basic level of training required for trainees to begin facilitating groups and they do not receive any formal pre-service training on group treatment. A total of five group leaders were included in the study and one student trainee facilitated each group. The group leaders were 3 females and 2 males. All group leaders identified their ethnic/racial background as Caucasian. Group leaders ranged in age from 25 to 28 years old with a mean age of 26.2. See Table 3 for group leader demographics and Table 4 for group leaders' previous training history.

Table 3
Demographics of Group Leaders

Demographic	**N**	**%**
Total group leaders	5	
Age		
25 years old	3	60
28 years old	2	40
Gender	**N**	**%**
Female	3	60
Male	2	40
Race/Ethnicity	**N**	**%**
Caucasian/White	5	100
Current level of education		
MA	2	40
PsyD	3	60

Table 4
Group Leaders Previous Training History

ID#	**Number of groups led**	**Previous employment group facilitation hours**	**Previous clinical group facilitation hours**	**Number of graduate group classes taken**
L1	2	0	48	1
L2	1	0	0	1
L3	1	2	0	0
L4	2	0	40	2
L5	2	5	0	0

Measures

Group Member Demographic Information: Group members completed the Group Member Demographic Information form consisting of items on age, gender, ethnicity/race, mental health diagnosis, type of offense, and length of incarceration. This form was completed after group members provided informed consent to participate in the study (See Appendix A). To help ensure group member confidentiality, participants were provided an identification number to use throughout the length of the study on all forms and questionnaires.

Group Leader Demographic Information: Demographic information was obtained from each group leader at the beginning of the training session. Group leaders provided information about their age, gender, ethnicity/race, current education level, and amount of formal training and/or the number of groups facilitated. To help ensure group leader confidentiality, participants were provided an identification number to use throughout the length of the study on all forms and questionnaires. This form was completed after group leaders provided informed consent to participate in the study (See Appendix B).

Initial-Treatment Goal Questionnaire – Group Member Form: The questionnaire required group members to record two specific behavioral goals and rank the level of confidence they had for achieving each goal. Group leaders assisted group members in selecting a behavioral, time-limited, measurable goal based on their individual treatment plans. Due to the specificity of the goals that were to be set in the goal setting intervention group, setting appropriate goals occurred over the first two weeks of group time. Group members indicated the amount of confidence they had to achieve each goal on the following scale: 1 = not at all confident, 2 = slightly confident, 3 = somewhat confident, 4 = moderately confident, 5 = very confident (See Appendix C).

Homework – Group Member Form: For each of the two goals, group members wrote down one specific behavior they would engage in over the following week that helped them progress towards each goal. This same homework form was completed on Week 4 and Week 5 (See Appendix D).

Week 3 Questionnaire – Group Member Form: This questionnaire required group members to indicate how much progress they made since the initial goal setting session on their two specified goals. The questionnaire also required group members to give a

specific example of how they had made progress toward their goal (if they stated they had made progress). Group members indicated the level of progress toward each goal on the following scale: 1 = no progress, 2 = some progress, 3 = moderate progress, 4 = close to achieving goal, 5 = achieved the goal (See Appendix E). Group members completed this questionnaire again in Week 6 (*Week 6 Questionnaire – Group Member Form;* See Appendix F).

Post-Treatment Questionnaire – Group Member Form: One week after completion of the final group session, group members listed their two goals and level of perceived goal progress on each goal after completing the group. Group members indicated the level of progress made on each goal one week after completion of the group on the following scale: 1 = no progress, 2 = some progress, 3 = moderate progress, 4 = close to achieving goal, 5 = achieved the goal. Group members also provided one specific example of how they had continued to make progress toward each goal one week after the completion of the group (See Appendix G). Due to the unpredictable and brief incarceration periods at the jail, the post-treatment phase occurred one-week after the end of the group to maximize participant involvement.

Goal Questionnaire – Group Leader Form: This questionnaire was used to independently rate how much progress group leaders assessed each group member made on each of their goals. Group leaders assessed the level of group member progress toward each goal on the following scale: 1 = no progress, 2 = some progress, 3 = moderate progress, 4 = close to achieving goal, 5 = achieved the goal (See Appendix H). Group leaders completed this questionnaire on Week 3, Week 6, and at Post-treatment (1-week following the end of the group). Group leaders completed this questionnaire

independently from group members after the group session of the week group members completed the Goal Questionnaires.

Group Member Participant Tracking Form – Group Leader Form: Group leaders were given a tracking form to write down group members' demographic information and assigned an identification number for the study to use instead of personal information. This form was also used weekly to track the attendance of group members including missed groups and specific measures that were not completed by group members (See Appendix I).

Group Climate Questionnaire – Engagement Subscale (*GCQ*): The engagement subscale is part of the Group Climate Questionnaire – Short Form (GCQ-S) that contains 12 items assessing the interpersonal environment of a therapy group. The GCQ-S contains three scales including Engagement, Avoidance, and Conflict. The Engagement Subscale of the Group Climate Questionnaire measures group cohesion, group members' orientation to the group, and the importance of the group to the members of the group (MacKenzie, 1983). The Avoidance scale is used to determine how much group members avoid responsibility for their individual concerns and rely on other members of the group or the group's leaders. The Conflict scale measures the amount of perceived conflict or interpersonal discord in the group (MacKenzie, 1983). For the purposes of this study only the Engagement subscale was used.

The Engagement subscale contains five items, measured on a 7-point scale: 1 = Not at all, 2 = A little bit, 3 = Somewhat, 4 = Moderately, 5 = Quite a bit, 6 = A great deal, 7 = Extremely (See Appendix K). The Engagement subscale has been used in many different settings and with a variety of populations. For instance, the GCQ-S has been used with

brief group therapies (Thorgeirsdottir, Bjornsson, & Gudmundur, 2015) and psychiatric inpatients (Wongpakaran, Wongpakaran, Intachote-Sakamoto, & Boripuntakul, 2012). The concurrent validity has been shown to range from 0.71 to 0.77. Previous research has found good reliability of the GCQ-S, with alpha coefficients of 0.94 on the Engagement scale (Kivlighan, Miles, & London, 2012).

The State Hope Scale (SHS): The State Hope Scale is a brief self-report measure of continuous goal-directed thinking (Snyder, Sympson, Ybasco, Border, Babyak & Higgins, 1996). The scale is a six-item measure based on a dispositional approach to measurement. In other words, the development of the measure assumed that hope provides a glimpse of an individual's current goal directed thinking among a broad range of situations and events. Hope is the combination of two reciprocally interactive types of goal-directed thinking, namely agentic and pathways thinking. Agency is described as goal-directed determination whereas pathways reflect the route planning for goal attainment (Snyder et al., 1996). On the State Hope Scale, agency and pathways represent two separate subscales and both include three items. The State Hope Scale has favorable psychometric standards including overall internal consistency of 0.88 (ranging from 0.79 to 0.95) and convergent validity with dispositional hope of 0.78-0.70 (Snyder et al., 1996). Other studies report favorable overall reliability coefficients of 0.84 (Ilhan & Malkoc, 2015) and subscale reliability between 0.72 and 0.86 (Martin-Krumm, Delas, Lafreniere, Fenouillet, & Lopez, 2015).

The State Hope Scale asks participants to think about their current self and what is going on in their life. An example item is, "At the present time, I am energetically pursuing my goals." Each item is answered using an 8-point scale: 1 = Definitely False, 2

= Mostly False, 3 = Somewhat False, 4 = Slightly False, 5 = Slightly True, 6 = Somewhat True, 7 = Mostly True, 8 = Definitely True (Snyder et al., 1996). The total score is obtained by summing the scores on each of the items. Scores can range from 6 to 48, with high scores indicating more goal-directed hopeful thinking (See Appendix J). The State Hope Scale has been used with a community sample examining the development of goal-pursuit skills in a group treatment format (Cheavens, Feldman, Gum, Michael, & Snyder, 2006).

Group Leader Self-Efficacy Instrument (GLSI): GLSI is a self-report measure that includes statements asking about trainees' perceived self-efficacy for performing group leadership tasks (Page, Pietrzak, & Lewis, 2001). The GLSI studies the effects of training on self-efficacy for conducting group treatment skills. When trainees receive more group leadership opportunities, their level of self-efficacy has been found to increase (Page et al., 2001). The instrument is based on theoretical understandings of group facilitation and group treatment interventions associated with group work including process skills, individual differences, and microskills (Page et al., 2001).

The GLSI measures trainees' level of self-efficacy for facilitating group treatment. The GLSI contains 36-items, measured on a 6-point rating scale: 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agree. The demographic portion of the instrument includes gender, age, race/ethnicity, graduate course work, group work training, and title of graduate program. Scores on the measure range from 36 to 216, with higher scores indicating higher levels of self-efficacy for group leadership. The GLSI has test-retest reliability of 0.72 (Page et al., 2001). The discriminant validity of the GLSI was examined by comparing correlation between the

total score on the GLSI and the NEO Five-Factor Inventory and the S-Anxiety scale on the State Trait Anxiety Inventory (Page et al., 2001). None of the correlations among these scales were significant indicating the GLSI's discriminant validity (See Appendix L).

In an attempt to ensure that the GLSI specifically measured group leader skills related to goal setting within a group environment, two questions were added to the end of the GLSI relating specifically to goal setting. For example, one of the questions was "I am confident I can help members to set specific, concrete, and attainable goals."

Procedure

A variation of the proposed study was conducted as a pilot in Spring, 2016. The pilot study was approved by the jail's Sherriff and by DU's IRB. The pilot study did not include a comparison group or provide group leaders with formal training on goal setting. Completion of the pilot study provided evidence that offenders given group treatment focused on goal setting were able to report making progress toward their goal. Some even achieved their goal(s) after six weeks. The pilot study pointed to the need for some methodological improvements (i.e., increased sample size, improved communication with professionals at the jail, training group leaders).

The study's intervention was based on the goal setting and planning intervention (GAP) conducted by MacLeod et al. (2008) aimed at increasing life satisfaction and well-being among community participants (mainly psychology undergraduate students). The GAP intervention used by MacLeod et al. (2008) was delivered over a series of three sessions in a group format. Between Session 1 and 2 there was a 1-week gap and between Session 2 and 3 there was a 2-week gap allowing for homework to be completed. The

GAP intervention was manualized with a description of each session included in the schedule (MacLeod et al., 2008).

The GAP intervention outlined by MacLeod et al. (2008) was adapted by Ferguson et al. (2009) to be utilized with incarcerated offenders with mental illness. For instance, the length of the intervention was increased from three to six sessions to take into account cognitive and learning capacities of offenders with mental illness. Further, while the content of the schedule remained the same, Ferguson et al. (2009) simplified and reduced the amount of text in the manual to accommodate various reading levels.

For this study, the content of each session mirrored the schedule outlined by Ferguson et al. (2009) (for a review see Ferguson et al., 2009). While group members in this study were not given a manual, group leaders were provided with a weekly schedule to follow (see Table 5) and handouts provided to group members including Goal Questionnaires (see Appendix C, Appendix E, Appendix F) and homework assignments (see Appendix D).

In addition to the adapted GAP intervention, the goal setting intervention in this study was also informed by Goal Setting Theory indicating that goals meeting particular criteria (i.e., specific, challenging, relevant) and outlining specific intervention components (i.e., feedback) are more likely to be achieved (Locke & Latham, 2006). Additionally, the Good Lives Model informed the strengths-based approach used in this intervention to encourage offenders to focus on personally relevant goals including goals related to their mental health treatment (Barnao et al., 2016). As a result, the development of this study's intervention was based on empirical findings, which were specifically adapted for use with criminal offenders with mental illness.

This study was approved by the jail's Sherriff and by DU's IRB (See Appendix O). The implementation of this study contained three phases that included a pre-treatment phase, the group treatment implementation phase, and the post-treatment phase.

Pre-Treatment Phase

The pre-treatment phase occurred approximately one week prior to the beginning of treatment.

Group Members: This phase focused on group member recruitment. Before entering the treatment groups, inmates entering the groups were informed about the collection of information for research purposes and asked whether they were willing to participate in the research, which was completely voluntary. Psychologists working on the mental health units used the inclusion/exclusion criteria to recruit group members. Psychologists also reviewed the informed consent form with group members and obtained consent from each potential group member (See Appendix M). The psychologists working on the units placed signed informed consent forms and demographic information forms in an envelope that was delivered to group leaders. Once group leaders received the list of group members who were participating in their group, they assigned each group member an identification number that each inmate used on all measures throughout the study.

Inmates that were not interested in participating were not included in a goal setting group. However, they were not denied access to other groups and choosing not to participate did not jeopardize the treatment they received on the unit. For those individuals choosing not to participate, there were many other groups available to them. The implementation of this proposal did not alter the course of treatment for inmates nor did it disrupt the facilitation of group treatment provided to inmates.

Group Leaders: The pre-treatment phase included recruitment and training of group leaders. Group leaders were trainees recruited from the jail where they were completing an extern/practicum placement. Each trainee was asked to participate in the study. Group leaders provided consent to engage in the group training and study procedures (See Appendix N). After group leaders consented to participate in the study, they completed the Group Leader Demographic Information (Appendix B) and the Group Leader Self-Efficacy Instrument (GLSI) (Appendix L). The principal investigator administered the Informed Consent Form, Group Leader Demographic Information Form, and the Group Leader Self-Efficacy Instrument. Group leaders of the goal setting group received formal training on goal setting approaches used in group treatment. Notably, while data from group treatment as usual (GTAU) was not statistically analyzed, group leaders who were selected to facilitate the GTAU provided consent to engage in the study procedures.

Training group leaders on goal setting took place over a one-hour session prior to the implementation of the treatment group. This study's principal investigator conducted the training. Group leader training included an introduction to goal setting and how to work with group members to outline specific, cognitive/behavioral, time-limited goals based on their treatment plans. The training group leaders received included didactic instruction, modeling, examples of specific and positive goals, and strategies on teaching goal setting to a group. A weekly schedule of the goal setting group was provided to group leaders during the training session (See Table 5).

Group Implementation Phase

The weekly schedule for the Group Implementation Phase is provided in Table 5 (For details see page 61). Group treatment was conducted in a separate room near the mental health unit where inmates are housed.

Group Members: Upon orientation to the group's norms and goals, group members completed the Group Member Demographic Information form (See Appendix A). The first group session focused on introducing the group, establishing group norms and expectations, introducing goal setting, and discussing the benefits of goal setting. After a discussion of goal setting, each group member set two specific, cognitive/behavioral, time-limited goals that they worked towards while incarcerated. Group members wrote their two goals on the Initial-Treatment Goal Questionnaire – Group Member Form (Appendix C). After completing the Initial-Treatment Goal Questionnaire, group members independently completed The State Hope Scale (Appendix J) and the Group Climate Questionnaire – Engagement Scale (Appendix K) administered by group leaders.

In each week of the goal setting intervention group, group members discussed both progress and barriers to achieving their goals. They also provided and received feedback about goal progress and barriers to achieving their goals from the group leaders. Additionally, group members provided feedback to each other and were encouraged to help each other problem solve barriers to goal progress. Group sessions also focused on exploring strategies for continued engagement in their progress towards achieving their goals. Group members and group leaders both reinforced and reviewed goal progress each week.

In Week 4 and Week 5, group members completed the homework by identifying specific actions they took in order to make progress towards each of their goals (Appendix D). The homework was worked on as a group in these sessions to ensure group members were selecting specific, measurable, and behavioral targets to work towards on their two goals. The homework was reviewed and discussed in the following group session and group leaders collected homework at the end of the following group session. The homework provided the basis for discussing barriers to goal progress, feedback, and subsequent actions group members could take to make progress.

In Week 3 and Week 6, group members reviewed their progress from the previous week and participated in the content of the group session outlined in the schedule. In the last ten minutes of group, group members independently assessed the amount of progress they believe they made towards each goal since the initial goal setting session on their two specified goals by completing the Week 3 Questionnaire – Group Member Form (Appendix E) and Week 6 Questionnaire – Group Member Form (Appendix F). At this time, group members also completed The State Hope Scale and Group Climate Questionnaire – Engagement Scale. Group leaders administered all of these measures and collected them at the end of the group session. All forms were placed in a folder and given to the principal investigator.

Group Leaders: During Week 1 of the study, group leaders began by introducing goal setting as a treatment intervention to group members. The group leaders then assisted group members in identifying and outlining specific, cognitive/behavioral, and time-limited goals based on their treatment plans. Group leaders followed the weekly group schedule and regularly checked-in with group members about their goals. In the last ten

minutes of group, group leaders administered the Initial-Treatment Goal Questionnaire – Group Member Form, The State Hope Scale, and Group Climate Questionnaire – Engagement Scale to group members.

In Week 4 and Week 5, group leaders assisted group members in identifying specific steps they could perform to complete their homework. The homework was completed as a group using the Homework – Group Member Form (Appendix D). Group leaders reviewed homework from the previous week as well as facilitated discussions about the obstacles to implementing behavioral steps towards goal progress and possible solutions to obstacles.

After the group sessions in Week 3 and Week 6, group leaders independently assessed how much progress they believed each group member made toward their two goals using the Goal Questionnaire – Group Leader Form (Appendix H). In the last ten minutes of these sessions, group leaders administered Week 3 Questionnaire – Group Member Form (Appendix E), Week 6 Questionnaire – Group Member Form (Appendix F), The State Hope Scale, and the Group Climate Questionnaire – Engagement Scale to group members.

Post-Treatment Phase

Group Members: One week after completion of the six-week group, group leaders administered the Post-Treatment Questionnaire – Group Member Form (Appendix G), State Hope Scale, and the Group Climate Questionnaire – Engagement Scale to group members individually. Group members completed the Post-Treatment Questionnaire – Group Member Form to indicate how much progress they had made towards each goal since completion of the treatment group.

Group Leaders: One week after completion of the six-week group, group leaders independently filled out the Post-Treatment Questionnaire – Group Leader Form (Appendix G) for each group member to indicate how much progress they believe each group member made toward their goals since the completion of the six-week group. The principal investigator provided group leaders with a folder with an identification number on it indicating which group the data was being collected from. The principal investigator electronically provided all group leaders the Group Leader Self-Efficacy Instrument (GLSI) to complete for the final time. After all of the data was collected, the principal investigator met with the group leader to collect the deidentified data.

The collected data were entered into the IBM Statistical Package for the Social Sciences (SPSS). A description of missing data and statistical analysis is reviewed in the following chapter.

Table 5
Group Leader Goal Setting Group Schedule

Week	Content	Measures Administered
Prior to start of group	Group Leaders: Complete informed consent, complete demographic information, complete group leader self-efficacy instrument, and participate in goal setting training Group Members: Complete informed consent	Appendix M Appendix B Appendix N Appendix L
1	Introduce the group, establish group norms and expectations, introduce and discuss goal setting, discuss benefits of goal setting, group members complete demographic form and write down goals	Appendix A Appendix C Appendix J Appendix K
2	Discuss action planning and implementation of group member's goals, explore barriers to action steps, provide feedback about goal progress, identify specific steps towards goals group members are going to do for homework	
3	Review progress towards goals, discuss obstacles to implementing behavioral steps towards goal progress, discuss solutions to barriers, provide feedback about goal progress, complete goal progress form, identify specific steps towards goals group members are going to do for homework	Appendix E Appendix J Appendix K Appendix H
4	Review progress towards goals, discuss obstacles to implementing behavioral steps towards goal progress, discuss solutions to barriers, provide feedback about goal progress, explore strategies for continued engagement in goals, identify specific steps towards goals group members are going to do for homework	Appendix D
5	Review homework and progress towards goals, discuss obstacles to implementing behavioral steps towards goal progress, discuss solutions to barriers, provide feedback about goal progress, identify specific steps towards goals group members are going to do for homework	Appendix D
6	Discuss future goals and maintaining progress towards goals, provide feedback about goal progress, complete goal progress form, review individual's progress towards their goals	Appendix F Appendix J Appendix K Appendix H
7	Complete post-treatment measures	Appendix G Appendix J Appendix K Appendix H Appendix L

Summary

This chapter provided an overview of the research design, participants, instruments, and procedures that were used to examine the study's research hypotheses. The naturalistic design of this research study examined the efficacy of a goal setting intervention on hopefulness (goal-directed thinking), engagement in group treatment, and progression towards personal treatment goals. The group treatment format is an advantageous method of delivery for this type of intervention given the popularity of group treatment in correctional settings (Morgan et al., 2006). Group treatment outcomes among inmates who participated in a goal setting intervention group were expected to report goal progress and changes in group treatment engagement and goal-directed thinking over the course of the study. Additionally, group leaders individually assessed the amount of progress each group member made towards their goals over the course of treatment. Group leader level of self-efficacy for group facilitation was also measured over the course of the group.

Chapter 4 describes the data analysis and provides the results of the statistical analyses. This chapter outlines the main analyses and describes the specific findings of the hypotheses that were tested. It also includes a review of the preliminary analyses, missing data analysis, power analysis, and testing of the normality assumptions.

Chapter Four: Results

This chapter provides an outline of the statistical analyses and results of the hypotheses. An overview of preliminary data analyses includes a description of missing data, power analysis, normality assumptions, and within group differences. The main data analyses include repeated measures analysis of variance (ANOVA), Pearson *r* correlations, paired sample t-tests, and effect size (Cohen's *d* and partial eta-squared). Planned contrasts were used to test specific changes over time. The data were analyzed using the IBM Statistical Package for the Social Sciences (SPSS). The alpha level was set at 0.05 and correlation coefficients are based on the recommendation of Cohen (1988) who outlined values of 0.2, 0.5, and, 0.8 to indicate small, medium, and large effect sizes for correlations, respectively. For partial eta-squared, 0.01, 0.06, and 0.14 denote small, medium, and large effect sizes, respectively (Richardson, 2011). Hypotheses One, Three, and Four were examined using a one-way repeated measures ANOVA, which measured change at distinct time points throughout the seven-week study. For Hypothesis One, group members completed measures that tracked the level of goal attainment at Week 3, Week 6, and 1-week post-treatment. For Hypothesis Three and Hypothesis Four, outcome measures determined change over time, specifically the Group Climate Questionnaire (GCQ) completed at Weeks 1, 3, and 6 and the State Hope Scale (SHS) administered at Weeks 1, 3, 6, and 1-week post-treatment. Hypothesis Two was examined using Pearson *r* correlations of group member and group leader reports of goal progress on Goal 1 and

Goal 2. Hypothesis Five used a paired sample t-test to determine changes in group leader self-efficacy for facilitating group interventions from pre- to post-treatment. See Table 6 for a list of the study's hypotheses, instruments, and statistical procedures.

Table 6
Hypotheses, Measures, and Statistical Procedures

Hypotheses	Measures	Statistics
Hypothesis 1: Incarcerated offenders in a goal focused treatment group will rate themselves as making increased progress from Week 3 to Week 6 to 1-week post-treatment towards their goals. A main effect of time will demonstrate a statistically significant difference in goal progress between Week 3, Week 6, and 1-week post-treatment in the goal setting group. There will also be a statistically significant difference on progress towards goals between the post-treatment mean compared to the combined mean of Week 3 and Week 6.	Group members rating of goal progress on the Goal Questionnaires (Progress from Week 3, to Week 6, to 1-week post-treatment)	One-way repeated measures ANOVA Planned contrast between Week 3 and Week 6 + 1-week post-treatment Planned contrast between 1-week post-treatment and Week 3 + Week 6
Hypothesis 2: There will be a positive correlation between group leader and group member reports of progress toward Goal 1 attainment at the end of six weeks of group treatment. There will be a positive correlation between group leader and group member reports of progress toward Goal 2 attainment at the end of six weeks of group treatment.	Goal Questionnaires from both group leaders and group members	Pearson R correlation
Hypothesis 3: Incarcerated offenders who participate in group treatment that is specifically focused on teaching goal-setting skills will have a statistically significantly	Group Climate Questionnaire – Engagement Subscale (Change from Week	One-way repeated measures ANOVA

increase in their level of engagement in the six-week goal focused group treatment. There will be a main effect of time that will demonstrate statistically significant increases on the level of engagement in the group between Week 1, Week 3, and Week 6.	1, to Week 3, to Week 6)	Planned contrasts
Hypothesis 4: Incarcerated offenders who participate in group treatment that is specifically focused on teaching goal-setting skills will have a statistically significantly increase in hopefulness at the end of the seven-week intervention. There will be a main effect of time that will demonstrate statistically significant increases on hopefulness across Week 1, Week 3, Week 6, and 1-week post-treatment.	State Hope Scale (Change from Week 1, to Week 3, to Week 6, to 1-week post-treatment)	One-way repeated measures ANOVA Planned contrasts
Hypothesis 5: There will be a statistically significant increase from pre-treatment to post-treatment in the level of group leader self-efficacy for facilitating group interventions on goal setting over a six-week group among group leaders who receive specific training on facilitating a goal-setting intervention in group treatment.	Group Leader Self-Efficacy Instrument (GLSI) (Change from pre-treatment to post-treatment)	Paired sample t-test

Preliminary Analyses

Missing Data

As previously indicated, the study's original proposal included two group conditions; namely a goal setting intervention group and group treatment as usual (GTAU). While the GTAU condition did not produce enough data to be included in the statistical analyses to serve as a comparison group to the goal setting intervention group, a descriptive analysis of the data that were collected from the GTAU (types and characteristics of goals set) are included to provide comparisons between the two conditions especially as a

comparison of the types of goals that were set at Week 1. Weekly individual group member attendance for the goal setting intervention group is displayed in Table 7 and Table 8 for GTAU.

A total of five goal setting intervention groups were included in this study. The first goal setting intervention group began with eight members and four members completed the group. Two of the group members left the jail at Week 3 and two others left the jail at Week 4. Six members started the second intervention group and three of those members completed Week 6 of the study. Data from these members were not collected at 1-week post-treatment because all of them were discharged from the unit before the 1-week post-treatment time point. Of the three group members that did not complete Week 6 of the study, two of them left the jail after Week 1 and the other left after Week 3. Seven group members started the third goal setting intervention group and five members completed the study. One left the jail after Week 1 and the other left after Week 3. The fourth group began with eight group members who all completed the group although three of the eight participants missed one time point during the course of the group. The fifth group began with eight members and finished with four members. Three group members were discharged from the unit after Week 1 and one group member was discharged after Week 3.

All missing data occurred due to group participants leaving the jail. No group member dropped out of the intervention group for any other reason. Thirteen group members who were part of the goal setting intervention group had missing data for more than one time point and as a result their data were excluded from the statistical analyses. None of the five treatment groups lost more than 50% of their members (i.e., Group 1 =

50%, Group 2 = 50%, Group 3 = 43%, Group 4 = 0%, and Group 5 = 50%). Of the 24 participants, there were none who missed Week 1, 2 participants missed Week 3, 2 participants missed Week 6, and 5 participants missed the 1-week post-treatment session.

For the 24 participants included in the statistical analyses, a missing data analysis was conducted. In psychological and educational research, 15% to 20% of missing data is common (Enders, 2003). Among the 24 participants included in the statistical analysis, there was a total of 11.25% missing data. The sole contributor of missing data in this study was the result of participants leaving the jail; resulting in missingness at the unit level (Dong & Peng, 2013). A missing values analysis using Little's Missing Completely at Random (MCAR; Little 1988) test was conducted and indicated that the data were missing completely at random ($p = 0.386$).

Since only fifteen of the 24 participants included in the statistical analysis had no missing data, the guidelines outlined in Cheema (2014) were used to determine how to address the missing data of the nine participants that were missing one time point of data. According to Cheema (2014), if the data are determined to be missing completely at random and "the resulting sample after listwise deletion provides adequate power for tests of hypotheses, then listwise deletion should be used" (p. 71). However, in this study, listwise deletion would result in inadequate power to test the hypotheses. As a consequence, Cheema (2014) recommends using multiple imputation and/or expectation-maximization imputation when listwise deletion would result in inadequate power to test the hypotheses. Multiple imputation (MI) is a method of addressing missing data using statistical inference that yields *m* set of plausible values for each missing data point to produce *m* sets of complete data. Each of the data sets are then statistically analyzed

using standard statistical procedures and combines the *m* estimates into pooled results to generate a single parameter and standard error estimate (Dong & Peng, 2013). It is also a technique that allows for the retention of participants with missing data in studies with small sample sizes (Dong & Peng, 2013). For this study, multiple imputation was used to impute the missing data.

The existing literature provided some guidance for determining the number of imputations to use for a small sample size (N = 24) with a repeated measures ANOVA statistical analysis. Van Ginkel and Kroonenberg (2015) described the lack of available literature examining the pooling techniques used to attain pooled F-tests for study's using ANOVA for statistical analysis. Further, the authors indicated that proper implementation of MI in statistical software packages for repeated measures ANOVA is an area of statistical application that has been inadequately documented and continues to require complicated manual pre-processing of the data (Van Ginkel & Kroonenberg, 2015). Given the lack of available guidance for applying multiple imputation to repeated measures ANOVA, the findings from Kleinke (2018) were used to determine the number of imputations that could be used with a small sample size. Kleinke (2018) indicated that accurate estimates for missing values in small sample sizes were produced when $m = 1$. As a result, the data were imputed one time.

Table 7

Initial Group Members and Subsequent Participation in the Goal Setting Intervention Group

Group #	Member ID	Week 1	Week 3	Week 6	Week 7 (Post-treatment)
Group 1	1	Completed	Completed	Missing	Missing
	2	Completed	Completed	Missing	Missing
	3	Completed	Missing	Missing	Missing
	4	Completed	Missing	Missing	Missing
	5 *	Completed	Completed	Completed	Completed
	6 *	Completed	Completed	Completed	Completed
	7 *	Completed	Completed	Completed	Completed
	8 *	Completed	Completed	Completed	Completed
Group 2	1	Completed	Missing	Missing	Missing
	2 *	Completed	Completed	Completed	Missing
	3 *	Completed	Completed	Completed	Missing
	4	Completed	Completed	Missing	Missing
	5	Completed	Missing	Missing	Missing
	6 *	Completed	Completed	Completed	Missing
Group 3	1	Completed	Missing	Missing	Missing
	2 *	Completed	Completed	Completed	Completed
	3 *	Completed	Completed	Missing	Completed
	4	Completed	Completed	Missing	Missing
	5 *	Completed	Completed	Completed	Missing
	6 *	Completed	Completed	Completed	Completed
	7 *	Completed	Completed	Completed	Completed
Group 4	1 *	Completed	Completed	Completed	Completed
	2 *	Completed	Completed	Completed	Completed
	3 *	Completed	Completed	Completed	Completed

	4 *	Completed	Missing	Completed	Completed
	5 *	Completed	Completed	Completed	Completed
	6 *	Completed	Missing	Completed	Completed
	7 *	Completed	Completed	Completed	Completed
	8 *	Completed	Completed	Missing	Completed
Group 5	1 *	Completed	Completed	Completed	Missing
	2 *	Completed	Completed	Completed	Completed
	3 *	Completed	Completed	Completed	Completed
	4 *	Completed	Completed	Completed	Completed
	5	Completed	Completed	Missing	Missing
	6	Completed	Missing	Missing	Missing
	7	Completed	Missing	Missing	Missing
	8	Completed	Missing	Missing	Missing

** Participants included in the statistical analysis*

Table 8

Initial Group Members in the Group Treatment as Usual Missing (GTAU)

Participant ID		**Week 1**	**Week 3**	**Week 6**	**Week 7 (Post-treatment)**
Group 1	1	Completed	Completed	Missing	Missing
	2	Completed	Completed	Missing	Missing
	3	Completed	Completed	Missing	Missing
	4	Completed	Completed	Missing	Missing
	5	Completed	Missing	Missing	Missing
Group 2	1	Completed	Missing	Missing	Missing
	2	Completed	Missing	Missing	Missing
	3	Completed	Missing	Missing	Missing
	4	Completed	Completed	Missing	Missing
	5	Completed	Completed	Completed	Completed

	6	Completed	Completed	Missing	Missing
	7	Completed	Completed	Completed	Completed
	8	Completed	Completed	Completed	Completed

**13 GTAU members who were compared to the Goal Setting Intervention Group members on the types of goals chosen*

Within Group Differences

This study involves a within-subjects design, in which each participant was measured at each time point in the study. The design can also be referred to as a Treatment x Subjects design because the goal setting intervention group (the treatment) was crossed with (i.e., was administered to) all of the participants (group members) in the study. In this study the outcome variables were measured at distinct time points over the course of the study. Given that this design included within-subjects variables that were marked by time, the issue of carry-over effects was less of a concern. Carry-over effects result when changes on measures at later time points occur from being exposed to earlier time points (Gamst, Meyers, & Guarino, 2008). In this study, some carry-over effects are likely present given the study's repeated measure design; but these effects are not expected to negatively impact the research design because group members were not previously exposed to a treatment intervention focused specifically on goal setting on the unit. As a result, it is assumed that prior experience with goal setting was not present among group members.

Power Analysis

A power analysis using G*Power software was conducted for an *a priori* repeated measures within factors ANOVA design (Faul, Erdfelder, Lang, & Buchner, 2007). The study's design necessitated a repeated measure within factors ANOVA to address the hypotheses of the study with an alpha coefficient of 0.05, 1 group, 3 time points of measurement, 0.5 correlation among the repeated measures, and a moderate effect size of 0.4 (effect sizes for problem solving measures in group treatment with offenders range from moderate to large). The power analysis resulted in a total minimum sample size of

18 participants in order to reduce the threat of making a Type II error (when conducted for 3 time points of measurement). A total minimum sample size of 15 participants is needed to reduce the threat of making a Type II error when the power analysis is conducted for 4 time points of measurement.

Main Analyses

The following section describes the statistical analyses used to test the five research hypotheses in this study. All statistical analyses were performed using IBM Statistical Package for the Social Sciences (SPSS). To examine Hypothesis One, a one-way repeated measures analysis of variance (ANOVA) was performed. The three time points in this analysis occurred at Week 3, Week 6, and 1-week post-treatment. Hypothesis Two examined the relationship between group members' and group leaders' report of progress towards goals set by group members. This hypothesis was tested using a Pearson *r* correlation. Hypothesis Three measured group members reported changes in outcome effects across time on the Group Climate Questionnaire (Week 1, Week 3, and Week 6) using a one-way repeated measures ANOVA. Hypothesis Four also used a one-way repeated measures ANOVA to measure changes in outcome effects across time on the State Hope Scale (Weeks 1, 3, 6, and 1-week post-treatment). Hypothesis Five used a paired samples t-test to determine if group leaders experienced changes in their perceptions of self-efficacy for facilitating group treatment.

Hypothesis One

The first hypothesis expected that group members in the goal setting intervention group would report making increased progress on their two separate behavioral goals. Goal progress was measured at Weeks 3, 6, and 1-week post-treatment using the Goal

Questionnaire – Group Member Form. Two one-way within-subjects repeated measures ANOVA were conducted to examine the effect of time on reported goal progress. Statistical assumptions of independence, normality, sphericity, and homogeneity of variance for the one-way repeated measures ANOVA were tested and met for both Goal 1 and Goal 2.

For Goal 1, twenty-four group members from five different goal setting intervention groups rated the amount of progress they made towards their goal at three separate time points (Week 3, Week 6, and 1-week post-treatment). Mean progress (on a five-point scale with higher scores indicating greater progress towards the goal) measured for the 3 time points yielded means of 2.73, 3.90, and 4.12 (See Table 9). Based on the one-way repeated measures ANOVA, the results revealed a significant difference across the three time points, $F(2, 46) = 3.71$, $p = .032$, $\eta^2 = .139$ (See Table 10), with higher mean scores across the three time periods (See Figure 1).

Table 9
Descriptive Statistics for Goal 1

	Mean	**Standard Deviation**	**N**
Goal Questionnaire Week 3	2.73	2.58	24
Goal Questionnaire Week 6	3.90	1.87	24
Goal Questionnaire 1-week post-treatment	4.12	1.11	24

Table 10
ANOVA Table for Goal 1

Source		**Sum of Squares**	**df**	**Mean Square**	**F**	***p***	**Partial Eta Squared**
Goal Progress	Sphericity Assumed	26.48	2	13.24	3.71	.032*	.139
Error (Goal Progress)	Sphericity Assumed	164.39	46	3.57			

* $p < .05$.

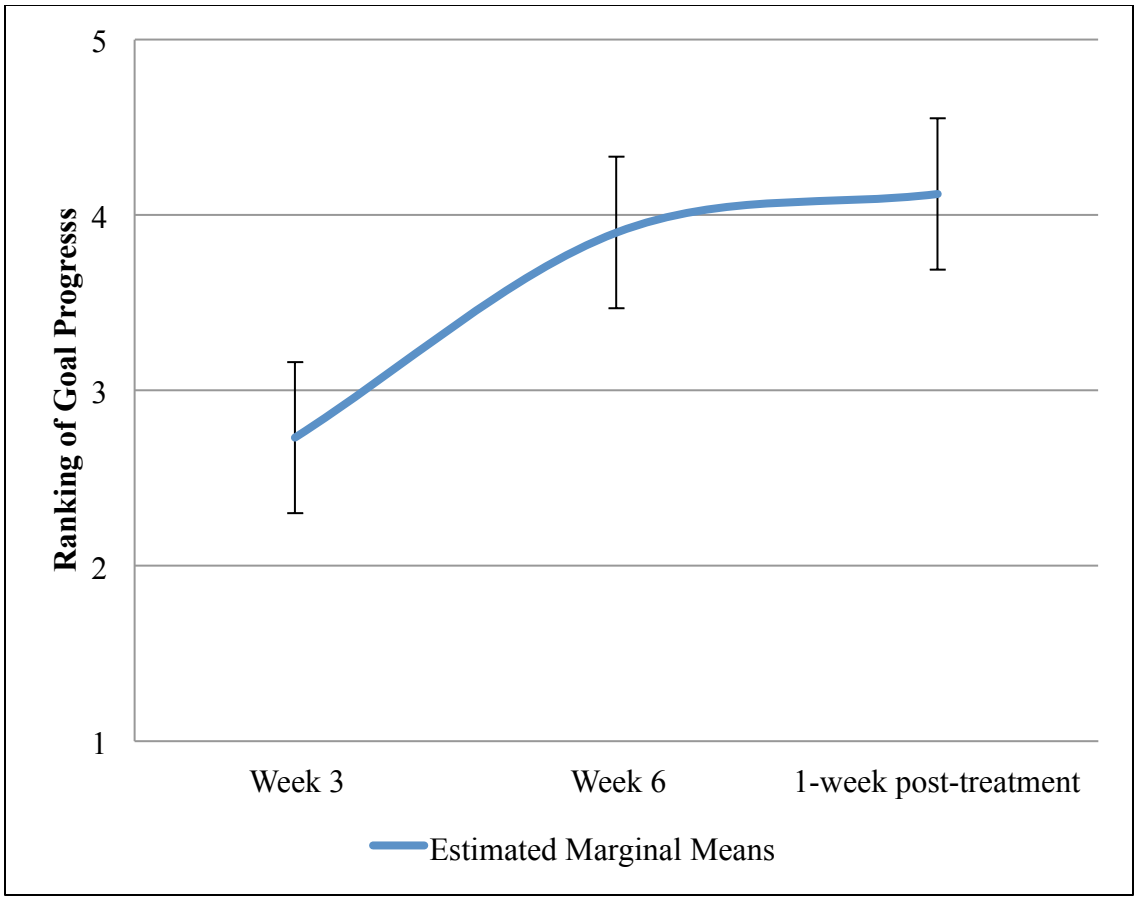

Figure 1. Estimated Marginal Means of Goal Progress on Goal 1

Two planned contrasts were conducted to compare differences in goal progress at the three time points (See Table 11). The first planned contrast (comparing progress on Week 3 to the average progress made on Week 6 and 1-week post-treatment) showed a positive contrast estimate of 1.27 that was statistically different from zero with $F(1, 23) = 5.48$, $p = .028$ (See Table 11). In other words, the average increase in reported goal progress at the beginning of treatment (Week 3) compared to the end of treatment (Week 6 and Week 7) was 1.27. Further, the effect of time on goal progress explained 19.2% of the overall variance in the scores (See Table 11). The results suggest that group members reported making greater progress towards their goals during Week 3 compared to Week 6 and 1-week post-treatment.

The second planned contrast examined goal progress between 1-week post-treatment and the average progress between Week 3 and Week 6. Table 11 presents the results of the second planned contrast, which yielded a nonsignificant result, $F(1, 23) = 3.55$, $p = .072$.

Table 11
Planned Contrasts for Goal 1

Source	Sum of Squares	df	Mean Square	F	*p*	Partial Eta Squared
Contrast 1 (Week 3 and Week 6 + 1-week post-treatment)	38.84	1	38.84	5.48	.028*	.192
Error	163.15	23	7.09			
Contrast 2 (1-week post-treatment and Week 3 + Week 6)	15.45	1	15.45	3.55	.072	.134
Error	100.02	23	4.35			

* $p < .05$.

Group members in the goal setting intervention group set a second goal and again rated the amount of progress they made towards their goal at three separate time points (Week 3, Week 6, and 1-week post-treatment). Mean progress (on a five-point scale) measured at Week 3, Week 6, and 1-week post-treatment yielded means of 2.47, 4.35, and 3.80 (See Table 12). The results of the one-way repeated measures ANOVA revealed a statistically significant main effect of time, $F(2, 46) = 4.38$, $p = .018$, $\eta^2 = 0.160$ (See Table 13 and Figure 2).

Table 12
Descriptive Statistics for Goal 2

	Mean	Standard Deviation	N
Goal Questionnaire Week 3	2.47	2.17	24
Goal Questionnaire Week 6	4.35	3.07	24
Goal Questionnaire 1-week post-treatment	3.80	1.11	24

Table 13
ANOVA Table for Goal 2

Source		Sum of Squares	df	Mean Square	F	*p*	Partial Eta Squared
Goal Progress	Sphericity Assumed	45.08	2	22.54	4.38	.018*	.160
Error (Goal Progress)	Sphericity Assumed	236.54	46	5.14			

* $p < .05$.

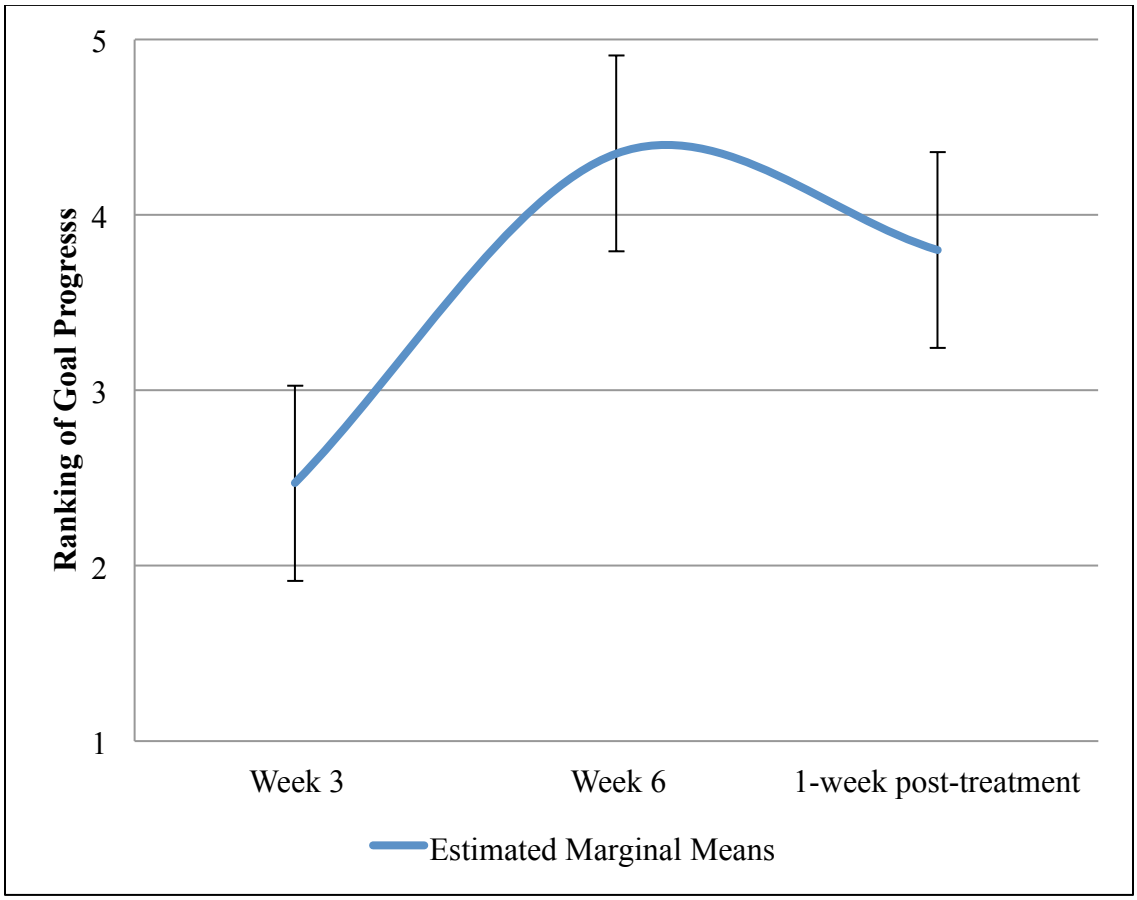

Figure 2. Estimated Marginal Means of Goal Progress on Goal 2

Two planned contrasts were conducted to compare differences in progress on Goal 2 at the three time points (See Table 14). The first planned contrast (comparing progress on Week 3 to the average progress made on Week 6 and at 1-week post-treatment) showed a positive contrast estimate of 1.61 that is statistically different from zero with $F(1, 23) =$

7.42, $p = .012$ (See Table 14). In other words, the average increase in reported goal progress on Week 3 compared to Week 6 and 1-week post-treatment was 1.61. Further, the effect of time on goal progress explained 24.4% of the overall variance in the scores (See Table 14). The results suggest that group members reported making greater progress towards Goal 2 at the beginning of treatment (from Week 3 to Week 6) compared to the end of treatment (Week 6 and 1-week post-treatment).

The second planned contrast examined progress on Goal 2 between 1-week post-treatment and the average progress between Week 3 and Week 6. Table 14 presents the results of the second planned contrast, which was not significant, $F(1, 23) = .755$, $p = .394$ (See Table 14). Hypothesis 1 was fully supported for both Goal 1 and Goal 2.

Table 14
Planned Contrasts for Goal 2

Source	Sum of Squares	df	Mean Square	F	*p*	Partial Eta Squared
Contrast 1 (Week 3 and Week 6 + 1-week post-treatment)	62.03	1	62.03	7.42	.012 *	.244
Error	192.16	23	8.36			
Contrast 2 (1-week post-treatment and Week 3 + Week 6)	3.57	1	3.57	.755	.394	.032
Error	108.71	23	4.73			

* $p < .05$.

Hypothesis Two

It was expected that a positive correlation between group leader and group member reports of progress would be attained at the end of group treatment for both Goal 1 and Goal 2. For this analysis, Pearson *r* correlations were computed separately for each of the five goal setting intervention groups. The analysis was conducted between group leader

and group member reports of progress toward Goal 1 attainment at 1-week post-treatment. This analysis was also conducted for Goal 2. A correlation analysis was used to determine if group leader and group member reports of goal progress were positively related (and the degree of the relationship if statistically significant correlations were found).

The results, shown in Table 15, display the correlations between group leader and group member reports of goal progress in the five goal setting intervention groups at 1-week post-treatment. From Goal Setting Intervention Group 1, the results of the Pearson *r* correlation for Goal 1 indicated a statistically significant positive relationship between group leader and group member report of goal progress, $r(4) = .97$, $p = .034$. Further, the analysis also showed a statistically significant positive relationship on Goal 2 between group leader and group member report of goal progress, $r(4) = 1.00$, $p < .001$. The results suggest a strong positive relationship between group leader and group members assessment of progress towards behavioral goals. Results from Goal Setting Intervention Group 2 did not demonstrate statistical significance on Goal 1 ($r(3) = .35$, $p = .772$) or on Goal 2 ($r(3) = .97$, $p = .163$). Similarly, the results from Goal Setting Intervention Group 3 were not statistically significant on Goal 1 ($r(5) = -.36$, $p = .556$) or on Goal 2 ($r(5) = .11$, $p = .855$). The results from Goal Setting Intervention Group 4 revealed a statistically significant strong positive correlation on Goal 1, $r(8) = .77$, $p = .026$ but no statistically significant relationship was found on Goal 2, $r(8) = .39$, $p = .335$. Goal Setting Intervention Group 5 did not find significant results on Goal 1 ($r(4) = .81$, $p = .19$) or on Goal 2 ($r(4) = .76$, $p = .240$). The findings indicate Hypothesis 2 was partially supported.

Given that group leaders had less direct contact with group members at 1-week post-treatment, correlations among group leaders' and group members' reports of group member progress were assessed at Week 6. The results show four out of the five goal setting intervention groups to have at least one significant correlation for Goal 1 and/or Goal 2. For instance, Goal Setting Intervention Group 1 and 3 yielded a statistically significant result on Goal 2, r(4) = .99, p = .015 and r(5) = .89, p = .045, respectively (see Table 15). Goal Setting Intervention Group 4 demonstrated a statistically significant result on Goal 1, r(8) = -.78, p = .023. On both Goal 1 and Goal 2, Goal Setting Intervention Group 5 revealed the same statistically significant results, r(4) = 1.00, p < .05. Goal Setting Intervention Group 2 was the only intervention group where no significant result was found at Week 6 (see Table 15). These findings indicate that support for this hypothesis is mixed depending on the specific treatment group being examined.

Table 15
Correlations of Group Leader and Group Member Reports of Goal Progress

			1-Week Post-Treatment		**Week 6**	
			GM		**GM**	
			Goal 1	**Goal 2**	**Goal 1**	**Goal 2**
Group 1	**GL**	**Pearson *r***	.97	1.00	.64	.99
		***p* (2-tailed)**	.034**	<.001**	.364	.015*
		N	4	4	4	4
			GM		**GM**	
			Goal 1	**Goal 2**	**Goal 1**	**Goal 2**
Group 2	**GL**	**Pearson *r***	.35	.97	.50	.[a]
		***p* (2-tailed)**	.772	.163	.667	.
		N	3	3	3	3
			GM		**GM**	
			Goal 1	**Goal 2**	**Goal 1**	**Goal 2**
Group 3	**GL**	**Pearson *r***	-.36	.11	.80	.89
		***p* (2-tailed)**	.556	.855	.108	.045*

		N	5	5	5	5
			GM		**GM**	
			Goal 1	**Goal 2**	**Goal 1**	**Goal 2**
Group 4	**GL**	**Pearson *r***	.77	.39	-.78	-.247
		***p* (2-tailed)**	.026*	.335	.023*	.556
		N	8	8	8	8
			GM		**GM**	
			Goal 1	**Goal 2**	**Goal 1**	**Goal 2**
Group 5	**GL**	**Pearson *r***	.81	.76	1.00	1.00
		***p* (2-tailed)**	.19	.240	<.001**	<.001**
		N	4	4	4	4

Note. GL = Group Leader, GM = Group Member.
* $p < .05$.
** $p < .01$.
[a]Cannot be computed because GM variable is constant.

Hypothesis Three

To examine Hypothesis Three, a one-way repeated measures ANOVA was conducted on the GCQ. Hypothesis Three postulated that incarcerated offenders who participated in a goal setting intervention group would demonstrate a statistically significant increase in their level of engagement in the group, as measured by the Group Climate Questionnaire – Engagement Subscale (GCQ), across three time points (Week 1, Week 3, and Week 6). The Group Climate Questionnaire was used to measure group members' assessment of the interpersonal environment of the goal setting intervention group. For the one-way repeated measures ANOVA examining group climate, the statistical assumptions of independence, normality, sphericity, and homogeneity of variance were met. Mean scores measured at Week 1, Week 3, and Week 6 yielded means of 18.60, 22.47, and 25.25 (See Table 16). Based on the one-way repeated measures ANOVA the results revealed a

significant difference in the three time points, $F(2, 46) = 3.37$, $p = .043$, $\eta^2 = 0.128$ (See Table 17).

Table 16
Group Climate Questionnaire Descriptive Statistics

	Mean	Standard Deviation	N
Week 1	18.60	7.51	24
Week 3	22.47	8.37	24
Week 6	25.25	12.55	24

Table 17
Group Climate Questionnaire ANOVA Table

Source		Sum of Squares	df	Mean Square	F	*p*	Partial Eta Squared
GCQ	Sphericity Assumed	535.03	2	267.52	3.37	.043*	.128
Error (GCQ)	Sphericity Assumed	3652.66	46	79.41			

* $p < .05$.

The statistically significant results of the one-way repeated measures ANOVA demonstrated a main effect of time indicating increases in the amount of perceived group cohesion across Week 1, Week 3, and Week 6 (See Figure 3), as a result paired contrasts were conducted. The first planned contrast compared the average amount of cohesion among group members at Week 1 and Week 3 to the amount of cohesion at Week 6. The result of the first planned contrast did not indicate statistical significance, $F(1, 23) = 3.32$, $p = .082$ (See Table 18).

The second planned contrast examined the amount of cohesion reported at Week 1 to the average level of cohesion among group members at Week 3 and Week 6. The results showed a negative contrast estimate of -5.26 that is statistically different from zero with $F(1, 23) = 6.78$, $p = .016$ (See Table 18). In other words, the average score on group cohesion was 5.26 lower at Week 1 compared to the average cohesion score at Week 3

and Week 6. Further, the effect of time on group cohesion explained 22.8% of the overall variance in the scores (See Table 18). Hypothesis Three was supported for group cohesion.

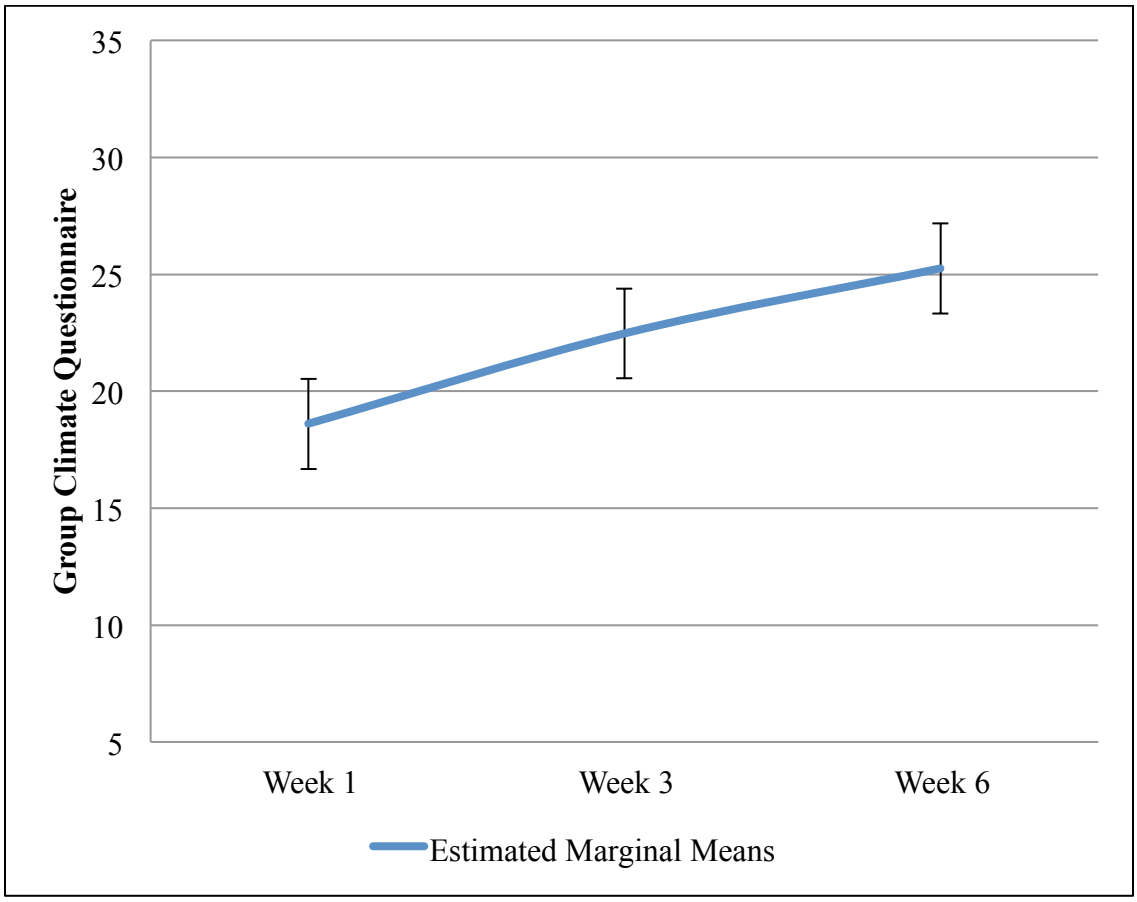

Figure 3. Estimated Marginal Means of the Group Climate Questionnaire

Table 18
Planned Contrasts for GCQ

Source	Sum of Squares	df	Mean Square	F	*p*	Partial Eta Squared
Contrast 1 (Week 1 + Week 3 and Week 6)	533.02	1	533.02	3.32	.082	.126
Error	3695.64	23	160.68			
Contrast 2 (Week 1 and Week 3 + Week 6)	663.65	1	663.65	6.78	.016*	.228
Error	2252.63	23	97.94			

* $p < .05$.

Hypothesis Four

Group members in the goal setting intervention group were expected to show a statistically significant increase in their hopefulness (goal-directed thinking), as measured by the State Hope Scale (SHS), across Week 1, Week 3, Week 6, and 1-week post-treatment. The State Hope Scale is a self-report measure that assumes hope provides a glimpse of an individual's current goal directed thinking among a broad range of situations and events (Snyder et al., 1996). The scale is a six-item measure based on a dispositional approach to measurement. In other words, a one-way repeated measures ANOVA was conducted to assess goal-directed thinking using the SHS as an outcome measure. While the independence, normality, and sphericity assumptions of a repeated measures analysis of variance were met, a statistically significant violation of homogeneity of variance was found in the data. However, analysis of variance is robust with respect to violations of homogeneity of variance with a balanced design. Mean scores increased over the first three time points and then decreased at the final time point 35.17, 36.28, 40.36, and 37.98 (See Table 19). The results of the one-way repeated measures ANOVA revealed a significant main effect of time, $F(3, 69) = 3.07$, $p = .034$, $\eta^2 = .118$ (See Table 20). Follow-up analyses including the planned contrasts were conducted (See Figure 4).

Table 19
State Hope Scale Descriptive Statistics

	Mean	**Standard Deviation**	**N**
Week 1	35.17	7.14	24
Week 3	36.28	4.63	24
Week 6	40.36	10.29	24
1-week post-treatment	37.98	4.54	24

Table 20
State Hope Scale ANOVA Table

Source		Sum of Squares	df	Mean Square	F	*p*	Partial Eta Squared
SHS	Sphericity Assumed	368.72	3	122.91	3.07	.034*	.118
Error (SHS)	Sphericity Assumed	2767.27	69	40.11			

* $p < .05$.

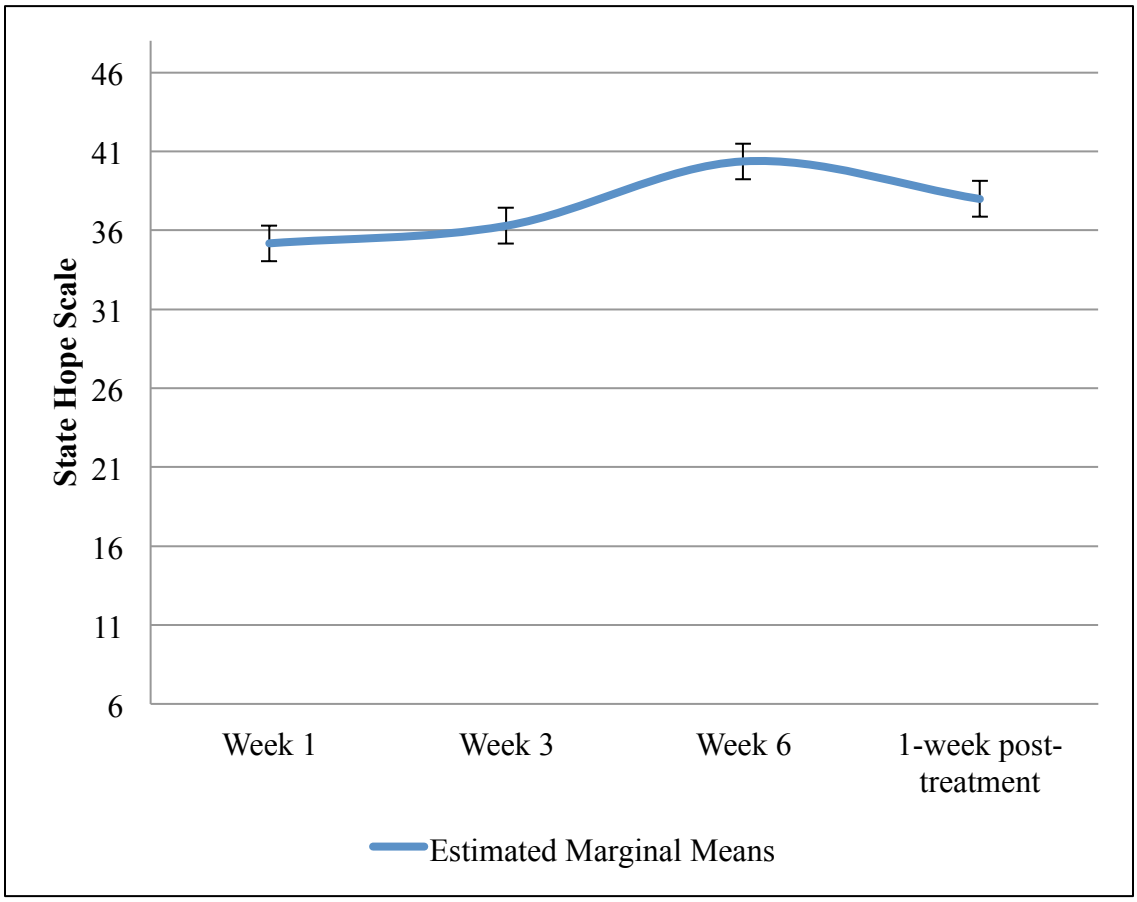

Figure 4. Estimated Marginal Means of the State Hope Scale

Planned contrasts were conducted to examine the amount of goal-orientated thinking. The first planned contrast compared the average amount of goal-focused thinking among group members at Week 1 and Week 3 to 1-week post-treatment. The result of the first planned contrast yielded a positive contrast estimate of 2.26 that is statistically significant, $F(1, 23) = 4.99$, $p = .035$ (See Table 21). In other words, the average increase

on the scores of the SHS at 1-week post-treatment compared to the beginning of treatment was 2.26. The effect of time on goal-orientated thinking explained 17.8% of the overall variance in the scores (See Table 21).

The second planned contrast examined the amount of goal-directed thinking reported at Week 1 to the average at Week 6 and 1-week post-treatment. The results showed a negative contrast estimate of -4.01 that is statistically different from zero with $F(1, 23) = 5.69$, $p = .026$ (See Table 21). In other words, the average score on goal-orientated thinking was 4.01 points lower at Week 1 compared to the average score at Week 6 and 1-week post-treatment. Further, the effect of time on goal-orientated thinking explained 19.8% of the overall variance in the scores (See Table 21). Hypothesis four was supported since the results were significant for hopefulness.

Table 21
Planned Contrasts for SHS

Source	Sum of Squares	df	Mean Square	F	*p*	Partial Eta Squared
Contrast 1 (Week 1 + Week 3 and 1-week post-treatment)	122.36	1	122.36	4.99	.035*	.178
Error	563.82	23	24.51			
Contrast 2 (Week 1 and Week 6 + 1-week post-treatment)	385.06	1	385.06	5.69	.026*	.198
Error	1556.79	23	67.69			

* $p < .05$.

Hypothesis Five

It was expected that a statistically significant increase from pre-treatment to post-treatment in the level of group leader self-efficacy for facilitating group interventions over a six-week group would occur among group leaders who received specific training on facilitating a goal-setting intervention. The Group Leader Self-Efficacy Instrument

(GLSI), a self-report measure, asks trainees about their perceived abilities to conduct group leadership tasks (Page et al., 2001). Group leaders of the goal setting intervention groups were given the measure before conducting the goal setting group and one-week after the completion of the group.

A paired samples t-test in IBM Statistical Package for the Social Sciences (SPSS) was conducted to compare pre-treatment and post-treatment outcome scores among the five group leaders who facilitated the goal setting intervention group. All assumptions of normality and independence were examined and met. The results showed no significant difference in the scores between pre-treatment (M = 179.40, SD = 21.13) and post-treatment (M = 173.60, SD = 21.98) (Table 22); t(4) = 0.82, p = 0.456 (See Table 23).

Table 22
Descriptive Statistics for GLSI

	Mean	**N**	**Standard Deviation**	**Standard Error Mean**
Pre-treatment	179.40	5	21.13	9.45
Post-treatment	173.60	5	21.98	9.83

Table 23
Paired Samples t-test on GLSI

	Mean	**Standard Deviation**	**Standard Error Mean**	**Confidence Interval**		**t**	**df**	***p* (2-tailed)**
				Lower	**Upper**			
Pre-GLSI – Post-GLSI	5.80	15.74	7.04	-13.74	25.34	.82	4	.456

Further, two additional questions relating specifically to goal setting were added at the end of the GLSI in an attempt to ensure that skills related specifically to goal setting within a group environment were measured. The first question was “I am confident I can help members to set specific, concrete, and attainable goals” and the second was “I am confident I can help members focus on achieving/working towards their goals.” The 6-

point rating scale on the GLSI was also used for the response scale on the two additional questions (for a maximum possible score of 12). A paired samples t-test was conducted on the scores of the two additional questions from pre-treatment to post-treatment. No significant difference between the scores on the two additional questions regarding goal setting from pre-treatment (M = 10.20, SD = 1.48) to post-treatment were found (M = 10.00, SD = 1.41), t(4) = .25, p = 0.815. The descriptive statistics are shown in Table 24 and the results of the paired samples t-test are presented in Table 25. Hypothesis five was not supported since the results were nonsignificant for group leader self-efficacy.

Table 24
Descriptive Statistics for Goal Setting Questions

	Mean	**N**	**Standard Deviation**	**Standard Error Mean**
Pre-treatment	10.20	5	1.48	.66
Post-treatment	10.00	5	1.41	.63

Table 25
Paired Samples t-test from Pre- to Post-Treatment on Goal Setting Questions

	Mean	**Standard Deviation**	**Standard Error Mean**	**Confidence Interval**		**t**	**df**	***p* (2-tailed)**
				Lower	**Upper**			
Pre-question – Post-question	.20	1.79	.80	-2.02	2.42	.25	4	.815

Descriptive Analysis

According to Goal Setting Theory, goals meeting specific criteria are more likely to be achieved if certain criteria are met and clearly outlined (Latham & Locke, 2007; Locke & Latham, 2002). The SMART goals acronym highlights the important characteristics of goals including *specific, measurable, attainable, relevant, and time-bound* (Bovend'Eerdt et al., 2009). Goal specificity identifies the steps required to complete a task. Measurable components of a task allow progress to be quantitatively

assessed (Bovend'Eerdt et al., 2009; Latham, 2003). Further, difficult albeit attainable goals increase performance and effort in comparison to easy or moderately challenging goals (Locke & Latham, 2006). Time-bound and personally relevant goals contribute to the continued focus and commitment towards the goal within the individual (Bovend'Eerdt et al., 2009; Earley & Erez, 1991).

The collected data from both the goal setting intervention group and group treatment as usual (GTAU) were compared according to the SMART goals criteria to asses the types and quality of the goals. The princial investigaor independently coded each of the goals as being consistent or inconsistent with the definitions of each SMART goal criteria (outlined above).

The descriptive analysis included a review of the data from all participants who completed Week 1 of the study. A total of 13 participants from the GTAU condition and 37 participants from the goal setting intervention group completed Week 1. Two participants from the goal setting intervention group completed Week 1 but did not set goals. Notable differences between the two conditions were evident from the descriptive analysis (see Table 26 and Table 27). Table 28 displays the goals set by group members in the goal setting intervention group who were included in the statisical analyses (N = 24).

Table 26
Goals set by All Group Members in the Goal Setting Intervention Groups

	Goal 1		**Goal 2**	
	N=35	**%**	**N=35**	**%**
Specific	18	51.4	15	42.9
Measurable	14	40.0	14	40.0
Attainable	32	91.4	33	94.3
Relevant	33	94.3	34	97.1
Time-Limited	11	31.4	9	25.7

Table 27
Goals set by Group Treatment as Usual (GTAU)

	Goal 1		Goal 2	
	N=13	**%**	**N=13**	**%**
Specific	0	-	0	-
Measurable	0	-	0	-
Attainable	9	69.2	11	84.6
Relevant	12	92.3	13	100
Time-Limited	0	-	0	-

Table 28
Goals set by Group Members Included in the Statisical Analysis

	Goal 1		Goal 2	
	N=24	**%**	**N=24**	**%**
Specific	13	54.2	11	45.8
Measurable	11	45.8	10	41.7
Attainable	23	95.8	24	100.0
Relevant	24	100.0	24	100.0
Time-Limited	9	37.5	8	33.3

A review of Table 26 reveals that participants from the goal setting intervention group set goals that largely incorportated important characteristics of goals as outlined in the SMART acroynm (Bovend'Eerdt et al., 2009). This result is also found when goals set by group members included in the statistical analyses are assessed (See Table 28). The goals were assessed on whether or not they had the potential to be attained. In other words, if the goal had the potential to be achieved it was considered attainable. For this analysis, a goal was considered relevant if it was centered on treatment topics (e.g., coping skills, health/wellness). The majority of participants in the goal setting intervention group set goals that were attainable (Goal 1 = 91.4%, Goal 2 = 94.3%) and relevant (Goal 1 = 94.3%, Goal 2 = 97.1%). The goals were classified as specific if descriptive steps necessary to complete the task were identified. A total of 51.4% of participants on Goal 1 and 42.9% of participants on Goal 2 outlined step-wise methods of how their goals would be reached. Measurable components of a task were represented by

numerical indications of changes in cognitions or behaviors. For both Goal 1 and Goal 2, 40% of participants included measurable indicators in their goals by quantifying the performance needed to assess progress towards the goal. Finally, goals were intended to be framed within the study's time period. While 31.4% and 25.7% of participants on Goal 1 and Goal 2 respectively, outlined goals to be completed in the six week time period, the remaining participants set goals that extended beyond the time frame or were not outlined in terms of time. Overall, participants in the goal setting intervention group set goals that incorporated important characteristics that allowed for progress to be measured.

A review of the types of goals set from the goal setting intervention group showed goals fell into categories such as self-care, communication, coping skills, and self-improvement. For instance, one group member's goal was "to communicate with at least one person once a week outside of the jail." Another group member focused on self-care and set a goal to "work out for 1 hour every day during the week." Group members with upcoming release dates focused on goals related to discharge such as "work with my case manager on helping me get into sober living housing once released." These examples highlight which SMART goal characteristics in the goal setting intervention group were either included or not included. In general, the quality and significance of the goals were largely appropriate for the setting and population. As displayed in Table 28, when assessing the SMART goal characteristics for the 24 participants who were included in the statistical analyses, the data were very similar to the 37 group members that started in the group treatment.

In comparison, the goals from GTAU were markedly different from the goal setting intervention group. With the exception of relevance (Goal 1 = 92.3%, Goal 2 = 100%) and attainability (Goal 1 = 69.2%, Goal 2 = 84.6%), goals from the GTAU did not incorporate other characteristics of SMART goals that ensured progress could be monitored or achieved. The goals set were relevant to treatment such as addressing mental health symptoms, but goals were vague and undefined such as "work on depression and anxiety." Group members in GTAU set goals that had the potential to be achievable over the course of the study, for example one participant wrote "learn how to manage stress when it happens." While this participant may have been able to attain some success in managing stress during the course of the study, the lack of numerical and objective indicators made specifying achievement or progress challenging. Similar to the types of goals set in the goal setting intervention group, goals in the GTAU focused on self-care, practicing behavioral coping skills, and managing mental health symptoms. However, goals set in GTAU were mostly undefined and vague.

Summary

This chapter examined the results of the five research hypotheses. Twenty-four participants from five goal setting intervention groups were included in the data analysis. In this study, attrition was the sole contributor to small group sizes and missing data in the intervention group. The technique of multiple imputation was used to address the missing data. An *a priori* power analysis for repeated measures within factors ANOVA indicated the number of participants included in the study that would be adequate to avoid a Type 2 error. Preliminary analyses did not find significant differences among

group participants within the five goal setting intervention groups and subsequent normality assumptions were tested and addressed.

This study's hypotheses and statistical analyses were conducted using SPSS. Hypothesis One indicated that group members made significant progress towards their goals on both Goal 1 and Goal 2.

For Hypothesis Two, statistically significant positive correlations among group leader and group member reports of goal progress at 1-week post-treatment were found on both Goal 1 and Goal 2 for Goal Setting Intervention Group 1 (n = 4). Data from Group Setting Intervention Group 2 (n = 3) and 3 (n = 5) did not demonstrate significant results for Goal 1 or Goal 2. For Goal Setting Intervention Group 4 (n = 8), the results demonstrated a statistically significant positive correlation on Goal 1 but the results on Goal 2 were not statistically significant. The results from Group Setting Intervention Group 5 (n = 4) did not yield significant results on Goal 1 or Goal 2. The results partially supported Hypothesis Two.

Hypothesis Three proposed that there would be increases in total scores on the and Group Climate Questionnaire across three time points and Hypothesis Four expected increases in total scores on the State Hope Scale across four time points. The results were significant for both the Group Climate Questionnaire and the State Hope Scale.

The fifth hypothesis postulated that group leaders who received specific training on goal-setting skills would report increases in group leader self-efficacy from pre-treatment to post-treatment. The results of a paired samples t-test did not demonstrate statistically significant increases in group leader's reports of self-efficacy for facilitating group processes between pre- and post-treatment.

Chapter 5 focuses on the implications of the findings of the study, discusses the limitations and strengths, and proposes clinical recommendations from this study as it relates to group treatment with incarcerated offenders experiencing mental health concerns. It also includes suggestions for future research studies.

Chapter 5: Discussion

Incarcerated offenders struggling with mental health conditions represent a significant proportion of the American population (Bureau of Justice Statistics, 2018). Additionally, offenders with mental illness are disproportionally represented in correctional institutions (Prins, 2014). Research has found a significantly greater prevalence of debilitating forms of psychiatric illness in prison populations (such as post-traumatic stress disorder and psychosis) compared to community populations (Prins, 2014). Consequently, inmates carry a significant burden of psychological morbidity compared to the general population (Yoon et al., 2017).

Given the large number of incarcerated offenders struggling with mental health concerns, effective treatment is crucial especially since jails in the U.S. release approximately 4 million inmates per year, accounting for a considerable number of individuals transitioning into the community (Glaze & Parks, 2012). However, treatment services vary significantly among correctional institutions (Cuellar & Cheema, 2014) and research examining effective treatment outcomes is nearly nonexistent (Morgan et al., 2012). Reiter (2014) commented that "prisons are structurally and bureaucratically closed off from research" (p. 417). The barriers associated with conducting research in correctional settings include access difficulties (Quina et al., 2008), institutional issues (e.g., scheduling treatments, availability of inmates; Yoon et al., 2019), and gaining administrator collaboration (Reiter, 2014).

Research suggests that criminal behavior takes place when individuals lack personal and environmental resources to set and achieve healthy and prosocial goals (Barnao et al., 2016). Goal setting has been shown to have broad and significant impacts on mood, mental health, and overall functioning (Griffith & Graham, 2004). The beneficial impact of successful goal setting and attainment offer a promising area of exploration as a treatment option for incarcerated offenders. The primary purpose of this study was to investigate the effectiveness of a goal setting intervention in group treatment with incarcerated offenders struggling with mental illness.

Specific Findings

Goal Progress in a Goal Setting Group Intervention

An exciting result of this study is that incarcerated offenders were able to set and make progress towards two specific and relevant behavioral goals. Goal setting is a particularly important skillset given that it has the potential to shape constructive and prosocial behaviors (Carroll et al., 2013). Personally relevant goals direct positive behavior and working towards completing tasks and achieving goals provides individuals with a sense of mastery and accomplishment (Martin et al., 2015). Criminal offenders have difficulty setting challenging prosocial goals and working towards their goals in socially appropriate ways (Carroll et al., 2013). The results of this study demonstrate the potential for incarcerated offenders to reap the wide-ranging benefits found to be related to goal setting such as positive well-being, self-esteem, affect, and locus of control (Clarke et al., 2009; Coote & MacLeod, 2012; Farquharson & MacLeod, 2013).

The Good Lives Model (GLM) theory of rehabilitation views criminal offending to be the result of personal and situational limitations that leave them unable to set and achieve

healthy and adaptive goals (Barnao et al., 2016). The GLM suggests that goal setting should be explicitly incorporated into treatment with criminal offenders (Barnao et al., 2016). In this study, group members' set two specific prosocial and personally meaningful behavioral goals in the first group session that were based on their individual treatment plans. Progress on their goals was measured at Weeks 3, 6, and one week after treatment showed that each member of each group took the group sessions seriously, with several of the group members stating that they reached their goals.

Several important components of goal theory and treatment recommendations have been underscored with criminal offenders including formal instruction on goal formulation (Rizvi et al., 1983), homework assignments, (Morgan et al., 2012), and feedback (Locke & Latham, 2002). This study specifically incorporated some of these elements and others found in the literature (homework, feedback, instruction on developing and monitoring goal progress, leader training on goal setting, and verbally describing individual goals to other group members) to increase the likelihood that the intervention would be effective. In fact, similar to previous research demonstrating medium to large effect sizes for group psychotherapy with incarcerated offenders (Morgan & Flora, 2002) and specific treatments for offenders with mental illness (Morgan et al., 2011), this study resulted in large effect sizes. The findings strongly suggest that repeated monitoring and positive feedback in a group setting is advantageous when conducting treatment with incarcerated offenders. Future research could help to determine if skills developed in brief group treatment are retained after group members leave the jail.

The findings provide empirical evidence to support the use of a strengths-based treatment model that encouraged incarcerated offenders to determine personally relevant goal-directed tasks and activities. The intervention helped offenders to focus on attainable goals related to their mental health treatment while incarcerated. The results provide evidence that treatment interventions delivered to individuals in correctional settings are beneficial undertakings that produce positive and meaningful outcomes.

Cohesion in Group Treatment with Incarcerated Offenders

Another important finding from this study is that group members reported feeling more connected to each other as the group sessions proceeded. This strong result is somewhat surprising given that this was only a 6-week intervention. A cohesive group allows group members to feel supported and comfortable and facilitates engagement, involvement, and attractiveness to the group (Burlingame & Jensen, 2017). Although some drop out is common in group counseling, in this study group members only stopped coming to the group because they had left the jail, mostly returning to the community. It is unclear why drop out did not occur in the goal setting groups, although it is possible that the connections between members played a part given that cohesion has been repeatedly linked to positive treatment outcomes in other settings (Burlingame & Jensen, 2017).

Cohesion is an important component of group treatment that examines an individual's orientation to the group and the perceived importance of the group to the members of the group (MacKenzie, 1983). However, the literature examining group treatment with incarcerated offenders has left the quality of the interpersonal environment largely unexamined (Marshall & Burton, 2010). Over two decades ago, Beech and Fordham

(1997) made a case for the benefit of examining this particular group process in treatment with criminal offenders. Their results demonstrated a clear relationship between the group environment and treatment outcomes. In other words, highly cohesive groups were found to be predictive of successful achievement of treatment goals (Beech & Fordham, 1997). The benefits of cohesion on treatment outcomes, such as pro-offending attitudes, have been shown in studies with incarcerated offenders (Beech & Hamilton-Giachritis, 2005). Nonetheless, given the strong relationship between group cohesion and treatment outcomes, it is surprising to find a lack of empirical evidence using this process variable to inform and evaluate group treatment programs in forensic settings.

In this study, the amount of cohesiveness in the goal setting intervention group increased over time and resulted in a large effect size. More specifically, the amount of connectedness between group members was significantly lower at the beginning of treatment compared to the end of treatment suggesting that it takes time to develop comfort, engagement, and focus within group treatment. The results are encouraging given that this study was conducted in an environment where participants may struggle to establish feelings of safety and security in treatment. Given the predictive nature of cohesiveness on successful treatment outcomes, future research endeavors should focus on how to make the best use of this group process variable in an attempt to maximize treatment effectiveness.

Hopefulness in a Goal Setting Group Intervention

Hope has been described as a theory of motivation that encompasses cognitive, behavioral, and affective experiences associated with the assessment of one's goals (Moulden & Marshall, 2005). Another highlight of the findings was that group members

experienced increased goal-oriented thinking as measured by the State Hope Scale. The instillation of hope has been identified as an important characteristic associated with producing change among individuals participating in group treatment (Yalom & Leszcz, 2005). In fact, positive therapeutic outcomes are related to the development and maintenance of hope among group members (Burlingame & Jensen, 2017). Given the difficulties offenders face in the pursuit of prosocial and healthy goals, instilling hope was particularly relevant to the target population examined in this study.

The State Hope Scale (SHS) was used to measure changes in hope over the seven-week intervention. This scale assumes hope provides an indication of an individual's current goal focused thinking (Snyder et al., 1996). In other words, hopefulness is measured as continuous goal-directed thinking among a broad range of situations and events. In this study, group members' level of hopefulness increased over time and remained high (compared to the beginning of treatment). The results of the one-way ANOVA and planned contrasts also demonstrated a large effect size. Encouragingly, offenders participating in group treatment while incarcerated experienced hopefulness in their ability to actively work towards and achieve personally meaningful goals.

A lack of hope has been shown to put individuals at greater risk for engaging in delinquent and criminal behaviors and contributes to the maintenance of these particular behavior patterns (Martin & Stermac, 2010). Consistent with the limited number of previous studies demonstrating the importance of generating hope among criminal offenders to promote positive cognitive/behavioral changes (Martin & Stermac, 2010; Moulden & Marshall, 2005), this study revealed encouraging treatment outcomes

(progress made towards healthy and prosocial goals) that have the potential to be associated with increased hopefulness.

Group Leader and Group Member Reports of Progress Toward Goal Achievement

Although this study was conducted with only five treatment groups, led by five different leaders, there is some evidence that group leaders were able to recognize the growth indicated by the group members. These leaders rated the progress their group members made independently of their group members' reports. These results are certainly exploratory yet it suggests some additional support for the reliability of group member reported goal progress. From the findings it is evident that in a short period of time, offenders reported making important behavioral steps towards their goals and that group leaders also endorsed observing their efforts. Previous research has suggested that goals have the propensity to foster and encourage behavior change (Scobbie et al., 2011). Indeed, incarcerated offenders who participated in the goal setting intervention group made discernable progress towards personally relevant goals.

Accurately monitoring progress towards goals is believed to be a crucial part of goal attainment (Harkin et al., 2016). A descriptive examination of goals set by group members in the goal setting intervention group (N = 24) showed 11 participants (40%) on Goal 1 and 10 participants (41.7%) on Goal 2 set goals that were measurable (as defined by the SMART goals criteria). Comparatively, none of goals set by participants in the group treatment as usual (GTAU) condition were measurable (on either Goal 1 or Goal 2). Stark differences in the quality of goals set by group members in the goal setting intervention group compared to those set by group members in GTAU reveal the benefit of providing instruction and guidance on goal setting.

Group Leader Assessment of Self-Efficacy

Previous research has suggested that there is a lack of formal training and exposure to group treatment among trainees, especially in correctional settings (Magaletta et al., 2011). Consequently, student trainees who served as group leaders in this study were provided specific training and orientation to the goal setting intervention. It was hypothesized that group leaders would endorse an increased level of self-efficacy for conducting group treatment from pre- to post-treatment. While this particular hypothesis was not supported, group leaders were able to successfully facilitate groups leading to positive treatment outcomes among incarcerated offenders. This finding suggests that with brief and specific training on goal setting, group leaders were able to assist group members in setting clear and helpful goals. The large difference in the quality of the goals between the goal setting intervention group and GTAU show the benefit of providing group leaders with formal training on goal setting.

Descriptive Analysis of Goals Set by Group Members

A descriptive analysis of the specific quality and utility of the goals set demonstrated clear superiority among group members in the goal setting intervention group in comparison to group members in group treatment as usual (GTAU). The content of the goals set by both groups were similar (e.g., focus on wellbeing, coping skills), otherwise the goals vastly differed in the specificity, measurability, and timeframe required for completion. For instance, one goal set by a group member in the goal setting intervention group was to "workout 30 minutes a day, 3 times a week" and another group member reported their goal was to "study 2 hours a day, 5 says a week for commercial drivers license by studying the manual and rewriting the knowledge test." Alternatively, a few

examples of goals set by individuals in GTAU were "not to stress at all" and "stop getting angry all the time." The differences in the goals suggest the beneficial impact of instructing, supporting, and facilitating a goal setting intervention on the quality and usefulness of goals individuals' set. Further, the results indicated that group members were able to set goals meeting certain criteria that made them more likely to be achieved (Latham & Locke, 2007).

A review of the goals set by individuals in GTAU provide some insight into the goals that offenders may be setting when there is not specific attention or focus on goal setting. In fact, it would be difficult to determine how progress or achievement of the goals set by members in GTAU would be possible given the vagueness and lack of measurability of their goals. These types of goals likely prevent offenders to successfully advance towards tasks and contribute to continued reliance on ineffective strategies to get their needs. The results demonstrate the challenge of setting meaningful goals and highlight the importance of assisting offenders with developing a beneficial skillset, namely goal setting that may be underdeveloped among individuals who engage in criminal activity. Without providing explicit support and instruction on goal setting, offenders may fail to develop the abilities needed to set and achieve personally meaningful and socially acceptable goals.

Limitations and Strengths of the Study

Study Limitations

There are a number of important limitations that require discussion. One of the challenges associated with conducting research in correctional settings is participant retention. High rates of attrition in correctional settings tend to be the result of transfers,

court dates, releases, administrative segregation, and commissary hours (Cislo & Trestman, 2013). In this study, attrition rates were due to unit transfer, release from the institution, and court dates. Consequently, missing data resulted in group members not being able to complete or participate in the group. With the small sample size, any generalizability of the study's findings is tentative. There was, however, adequate power in the study and the findings were generally strong and significant yet there is a caveat with the sample size pointing to the need for future research.

In an attempt to address the lack of empirical studies within group treatment in correctional institutions that include control groups, this study proposed the inclusion of a group treatment as usual (GTAU) condition. However, logistical and systemic barriers impacted the successful facilitation and completion of treatment as usual groups. For instance, one GTAU was discontinued due to an emergency hospitalization of the group leader and another experienced significant attrition due to a sizeable number of inmates being removed from the unit for behavioral issues. Interestingly, the technical and logistic difficulties experienced with the control groups were not encountered with the intervention groups. While this study attempted to include comparison groups, several complications did not allow for collection of a sample size corresponding to the number of group intervention participants needed to conduct statistical comparisons. Nonetheless, descriptive data collected from all participants (including those in GTAU) was analyzed to determine the types of goals set, the nature of the goals set, and the achievability of goals set among incarcerated offenders.

Another limitation of this study is the lack of female participants. This study originally proposed the inclusion of female participants in an effort to address a particular

gap in the literature highlighting the dearth of research conducted in correctional settings that include female participants (Van Voorhis, 2012). While the study received initial approval to include women, programming changes in the women's mental health unit did not permit facilitation of the study on this unit. Future studies should include women in research in forensic settings as there is a continued need to involve women in the exploration of evidence-based practices to determine the suitability of interventions with female offenders.

This study was conducted on a unit specifically housing criminal offenders with mental health concerns. On this unit, it is a requirement that offenders actively participate in mental health treatment (provided they are mentally and cognitively stable enough to participate). As a result, group members included in this study may have been concurrently attending other group treatments available on the unit and had the opportunity to participate in individual psychotherapy during the course of this study. Further, since engagement in mental health services is a requirement to be housed on this unit, inmates on this unit are likely to have some amount of motivation for engaging in treatment. Participation in various forms of mental health treatment and motivation for treatment may have the ability to influence treatment outcomes. These circumstances provide another potential limitation of the current study. However, the treatment outcomes in this study, specifically those focused on goal setting, are unlikely to be largely impacted by other treatment engagement and motivation given that this was the only group devoted to goal setting and attainment occurring on the unit.

The use of self-report measures is another limitation in this study. Self-report measures have the ability to misrepresent a participant's experience by either over- or

under-reporting on these instruments (Latkin, Edwards, Davey-Rothwell, & Tobin, 2017). Participants may have completed self-report instruments to be viewed desirably by group leaders or researchers. Attempts to reduce social desirability responding were done by providing all participants with an individual identification number. As a result, none of the data collected included personally identifiable information. Further, group leaders independently reported on the amount of progress group members made towards their goals, which hopefully decreased the potential for misrepresentation through self-reporting. Finally, on measures specifically examining goal setting, group members provided an example of how they had made progress towards their goals instead of only saying whether they had made progress or not.

Study Strengths

This study has several notable strengths. It is the first to focus on the effectiveness of teaching incarcerated offenders to set and achieve prosocial and adaptive goals based on their individualized treatment plans. This is especially important given the beneficial impacts of goal setting on well-being, mental health, and positive affect (Griffith & Graham, 2004; MacLeod et al., 2008; Sheldon et al., 2002). Successfully providing a goal setting intervention with a population that is often overlooked and difficult to study (Barnao et al., 2010; Duncan et al., 2006) offers additional evidence to support the use of evidence-based interventions for a significant proportion of the U.S. population receiving psychological treatment in a forensic setting. An increased focus on improving beneficial skillsets such as goal setting among incarcerated offenders is meant to impact the burden of psychological morbidity among this population (Yoon et al., 2017). Unfortunately, offenders especially those with mental health concerns, represent a vulnerable population

for whom structured treatment options have been shown to be effective but continue to remain difficult to study because of challenging institutional constraints, psychologically and behaviorally complex presentations, and frequent transitions within housing and security levels (Yoon et al., 2017).

One of the advantages of this study's design was that it was conducted in a clinical format in which treatment is normally provided to this population. In fact, group treatment is one of the most predominant treatment methods used to deliver mental health services to incarcerated offenders (Morgan et al., 2005). However, the literature examining the effectiveness of group treatment with incarcerated offenders is abound with inconsistencies and limited by the number and quality of outcome studies available for empirical examination (Morgan & Flora, 2002). Continuing to tackle the challenges associated with conducting group treatment in correctional settings is particularly relevant given the frequency of group treatment conducted in correctional settings. This study adds to the literature base demonstrating the positive impact group treatment can have on incarcerated offenders.

Another strength of this study is the heterogeneity of participants on clinical and demographic indicators including type of offense, mental health diagnosis, race/ethnicity, age, and length of incarceration. As Yoon et al. (2017) suggested, incarcerated offender populations are often highly heterogeneous groups and research that focuses on any one single diagnostic characteristic or target symptom presentation can exclude individuals with significant mental health needs or struggle to decipher the true clinical utility of the findings. In other words, incorporating participants with a range of clinical and demographic presentations can both provide more empirically supported treatment

options to incarcerated offenders and offer findings that are more reflective of the diverse population that are found in correctional institutions.

Finally, the study also provided training to novice group leaders who would not otherwise receive formal training on goal setting. In fact, the majority of the training that student counselors receive is specific to individual psychotherapy whereas formal training on group treatment is largely overlooked (Ohrt et al., 2015). Conducting group treatment with limited exposure and formal training can be a demanding task, especially in forensic settings. For example, one of the challenges associated with group treatment in correctional facilities is the lack of structured treatment planning for weekly content/topics. In an attempt to provide more formal training to group leader trainees and ensure that the goal setting intervention group was conducted in a consistent way, group leaders were trained on the goal setting intervention and provided with a weekly schedule of the group.

Implications for Clinical Practice

The current study highlighted several important clinical as well as group treatment implications. Trainees with a limited amount of previous experience in group treatment were able to successfully facilitate an intervention that supported incarcerated offenders with mental illness to set and achieve specific goals. In addition to setting and achieving goals, study participants also reported increases in their level of goal-directed thinking and connectedness among fellow group members. The positive outcomes of this study offer exciting contributions and extensions of previous research pointing to the effectiveness of delivering group treatment to criminal offenders struggling with mental illness (Ferguson et al., 2009; Leak, 1980; Morgan & Flora, 2002).

Frequent systemic and institutional fluctuations meant that a large number of group members who initially started in a group were discharged from the specific unit or facility before the end of the seven-week intervention. As a result, a number of participants were unable to complete the intervention in its entirety. However, encouragingly, none of the group members dropped out of the study. Missing data were only the result of group member unavailability. This positive finding implies that incarcerated offenders were committed to engaging in treatment and motivated to improve their current circumstances in prosocial and adaptive ways. Given that a number of group members were unable to complete the seven-week intervention because of transition or discharge, condensing the treatment intervention by offering more than one group session per week may allow more individuals to complete therapeutic interventions that are scheduled to run for several consecutive weeks.

A jail setting is a unique place to conduct treatment interventions given that these institutions typically house offenders for shorter periods of time, offenders with less serious criminal offenses (i.e., misdemeanors), and/or offenders awaiting transfer to another facility or release to the community (Bureau of Justice Statistics, 2018b). As a result, providing treatment interventions to individuals incarcerated in these facilities, offers a brief window of time in which offenders can develop beneficial skillsets to promote behavioral change. Additionally, because a significant number of incarcerated offenders housed in jails will return back to the community, providing efficacious evidence-based treatment interventions focused on goal setting will offer offenders transitioning back to the community freshly established intrinsic goal-directed inclinations.

Further, structural and institutional changes contributed to the notable modifications that needed to be made to the original study including the lack of comparison groups (i.e., GTAU) and inclusion of female participants. These changes demonstrate the need for flexibility when conducting research in correctional settings. Navigating the institutional barriers to successfully implementing this intervention was largely the result of close collaborative efforts with jail administrators and correctional staff. Consistent with Yoon et al.'s (2017) recommendation for the "early involvement of the relevant custodial staff and departments in the research design and plans for implementation" (p. 790), this study provides clear evidence that collaborative efforts with staff can serve to buffer institutional constraints that can negatively impact successful implementation of research in forensic settings.

Repeated appeals for the development and improvement of outcome-based research for incarcerated offenders have been made over the past several decades (Morgan et al., 2012; Rice & Harris, 1997; Yoon et al., 2017). This study revealed that assessing the effectiveness of a group treatment intervention conducted with incarcerated offenders is feasible without substantial impacts on trainees providing mental health services or incarcerated offenders participating in treatment.

Recommendations for Future Research

Early research in correctional settings pointed to the benefit of incorporating structured goal setting techniques into treatment on offenders' reports of improvement in interpersonal functioning as well as increased levels of empathy and responsibility (Leak, 1980). Unfortunately, until more recently with the development and implementation of the Good Lives Model of criminal offending, the incorporation of structured goal setting

into treatment has remained largely unexplored in the literature (Barnao et al., 2016). With increased attention focusing on behavioral health in forensic settings, evidence-based interventions that are both accessible and feasible for a heterogeneous population is becoming increasingly important. Goal setting has been shown to have beneficial impacts on a number of psychosocial outcomes such as positive affect, life satisfaction, and subjective well-being (Boudreaux & Ozer, 2013; MacLeod et al., 2007). The results of this study provide further support that future research should continue to explore the benefits of including goal setting more regularly in treatment.

The results of this study reinforced previous findings that demonstrate the positive impacts of goal setting and extended these findings to suggest positive outcomes of goal setting by demonstrating that hopefulness increases when individuals are actively pursuing their goals. Further, inmates in a group setting both set and reported making progress towards treatment goals. Group leaders who independently reported observing group members making behavioral progress towards their goals supported this finding. Future research should continue to examine whether treatment effects of goal setting are retained at various short-term follow-up intervals. Goal setting is a complex skillset that can provide structure, motivation, and behavior change; developing this useful skillset among a population that struggles to set pro-social and healthy goals could allow for overall improvements in well-being.

Finally, this study intended to compare outcome measures between two separate group treatment conditions, a goal setting intervention group and group treatment as usual to better examine the impacts of incorporating a goal setting intervention in a group setting. However, as previously discussed, logistic and systemic barriers prevented data

collection from the comparison group. Conducting research in correctional institutions is a challenging undertaking and has been outlined by other individuals. As highlighted by Yoon et al. (2017) the obstacles associated with conducting research in correctional institutions would not necessarily be overcome by improving the research designs being implemented with this population because structural factors (such as treatment schedules and offender accessibility) more often the primary culprits that impede empirical undertakings in correctional settings. Even though conducting research in this setting is difficult, future research should aim to include control and comparison groups to increase the strength and applicability of the findings.

What is clearly missing from the literature is the examination of the cultural context of criminal behavior and crime. According to Tamatea (2017), "as it stands, the role of culture is neither widely-discussed, defined nor understood in this space [forensic and correctional spaces]" (p. 565). Because cultural factors have not been studied, it is difficult to ascertain which aspects of culture could predict engagement in criminal behavior and subsequent prevention of prosocial goal setting. While this study included participants with a wide-range of diverse backgrounds (e.g., age, race/ethnicity, mental illness), future studies incorporating cultural considerations in research with forensic populations would begin to address the scarcity of literature examining cultural factors in this setting.

Conclusions

This study aimed to examine the effectiveness of a goal setting group intervention conducted with incarcerated offenders with mental illness. The wide-ranging benefits of goal setting and attainment on mental health, positive affect, and academic/professional

achievement have been repeatedly demonstrated in the literature (Boudreaux & Ozer, 2013; Griffith & Graham, 2004; MacLeod et al., 2008; Sheldon et al., 2002). However, research with incarcerated offenders has consistently failed to include goal setting as an important aspect of treatment (Ferguson et al., 2009). The results of this study found positive outcomes associated with participating in a group treatment intervention focused specifically on goal setting among incarcerated offenders.

This study is one of the few outcome-based examinations into the effectiveness of treatment with incarcerated offenders and is the first to have group members assess progress at several time points across the group treatment towards their goals. For both Goal 1 and Goal 2, group members reported making significant goal progress. Additionally, over the course of the study, group members experienced significant increases in hopefulness and connectedness to each other in the group. These positive results demonstrate the benefit of goal setting in a clinical format that is typically provided to this population, namely group treatment. This study offers support for the continued examination of personally relevant treatment goals with a population that is regularly overlooked and complex to study.

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Appendix A
Group Member Demographic Information

Instructions: Please complete the following information. You will be given an ID number to keep your identity confidential. Please use that number (instead of your name) on all of the forms.

ID#: _____

Age: _____

Gender: _____

Ethnicity/Race: _____

Mental health diagnosis: _____

Criminal offense: _____

How long have you been in county jail (days, weeks, etc.): _____

Appendix B
Group Leader Demographic Information

Instructions: Please complete the following information.

ID#: _____

Age: _____

Gender: _____

Ethnicity/Race: _____

What is your current level of education? _____

How many groups have you led? _____

What types of training and/or experience have you received/done on the facilitation of group treatment? (Please indicate all that apply).

____ I have no training

____ I have taken graduate level course(s) in group counseling
Please indicate the number/type of classes: _____

____ Previous employment position
Please indicate the number of group facilitation hours: _____

____ Previous employment position
Please indicate the number of group facilitation hours:_____

____ Previous clinical practicum/externship/internship site
Please indicate the number of group facilitation hours: _____

____ Other: _____

Appendix C
Initial-Treatment Goal Questionnaire – Group **Member** Form
WEEK 1 QUESTIONNAIRE

ID#: _____
Instructions: Please write two specific behavioral goals you would like to work on over the next six weeks.

Goal 1:

_____

_____

_____

How confident are you that you will be able to achieve this goal? (circle one number)

1	2	3	4	5
Not at all confident	Slightly confident	Somewhat confident	Moderately confident	Very confident

Goal 2:

_____

_____

_____

How confident are you that you will be able to achieve this goal? (circle one number)

1	2	3	4	5
Not at all confident	Slightly confident	Somewhat confident	Moderately confident	Very confident

Appendix D
Homework – Group **Member** Form

Please **CIRCLE** which week of group you are in: **4** **or** **5**

Instructions: Look back at the goals you wrote down last week in group and write down what action you will take in the next week to make progress towards EACH goal.

ID#: _____ Date: _____

GOAL 1:

_____

_____

_____

Write the **BEHAVIOR** you will do over the next week to make progress towards Goal 1:

_____

_____

_____

Goal 2:

_____

_____

_____

Write the **BEHAVIOR** you will do over the next week to make progress towards Goal 2:

_____

_____

_____

Appendix E
Week 3 Questionnaire – Group **Member** Form

Instructions: Look back at the goals you wrote down three weeks ago in group and answer the following questions.

ID#: _____ Date: _____

GOAL 1:

_____

_____

How much progress have you made towards this goal over the past 2 weeks? (circle one number)

1	2	3	4	5
No progress	Some progress	Moderate progress	Close to achieving goal	Achieved the goal

Give a **specific example** of how you have made progress toward your goal:

_____

_____

_____

Goal 2:

_____

_____

How much progress have you made towards this goal over the past 2 weeks? (circle one number)

1	2	3	4	5
No progress	Some progress	Moderate progress	Close to achieving goal	Achieved the goal

Give a **specific example** of how you have made progress toward your goal:

_____

_____

_____

Appendix F
Week 6 Questionnaire – Group **Member** Form

Instructions: Look back at the goals you wrote down at the beginning of the group and answer the following questions.

ID#: _____ Date: _____

GOAL 1:

_____

_____

How much progress have you made towards this goal over the past 6 weeks? (circle one number)

1	2	3	4	5
No progress	Some progress	Moderate progress	Close to achieving goal	Achieved the goal

Give a **specific example** of how you have made progress toward your goal:

_____

_____

_____

Goal 2:

_____

_____

How much progress have you made towards this goal over the past 6 weeks? (circle one number)

1	2	3	4	5
No progress	Some progress	Moderate progress	Close to achieving goal	Achieved the goal

Give a **specific example** of how you have made progress toward your goal:

_____

_____

_____

Appendix G
Post-Treatment Questionnaire – Group **Member** Form

Instructions: SINCE YOU FINISHED the group, look back at the goals you wrote down seven weeks ago in group and answer the following questions.

ID#: _____ Date: _____

GOAL 1:

_____

_____

How much progress have you made SINCE finishing the group 1 week ago? (circle one number)

1	2	3	4	5
No progress	Some progress	Moderate progress	Close to achieving goal	Achieved the goal

Give a **specific example** of how you have continued to progress toward your goal since finishing the group 1 week ago:

_____

_____

_____

Goal 2:

_____

_____

How much progress have you made SINCE finishing the group 1 week ago? (circle one number)

1	2	3	4	5
No progress	Some progress	Moderate progress	Close to achieving goal	Achieved the goal

Give a **specific example** of how you have continued to progress toward your goal since finishing the group 1 week ago:

_____

_____

_____

Appendix H
Goal Questionnaire – Group **Leader** Form

Please **CIRCLE** which week of group you are completing: **3 or 6 or 7 (post-treatment)**

Instructions: Look back at the goals written by each group member on *the Initial-Treatment Goal Questionnaire – Group **Member** Form* and rate how much progress they made towards their goal by checking the box under the number that best describes their level of progress.
Group Leader ID#: _________

ID#		No Progress **1**	Some Progress **2**	Moderate Progress **3**	Close to achieving goal **4**	Achieved the goal **5**
	Goal 1					
	Goal 2					
	Goal 1					
	Goal 2					
	Goal 1					
	Goal 2					
	Goal 1					
	Goal 2					
	Goal 1					
	Goal 2					
	Goal 1					
	Goal 2					
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	Goal 2					
	Goal 1					
	Goal 2					
	Goal 1					
	Goal 2					
	Goal 1					
	Goal 2					
	Goal 1					
	Goal 2					

Appendix I
Group Member Participant Tracking Form
Group Leader Form

Please use this form to track the attendance of group members. In the Attendance Notes column please identify if the group member attended the entire group, missed groups, missed completing any of the measures, or did not complete the post-treatment measures.

Name	ID number	Attendance Notes

Appendix J
The State Hope Scale
Goals Scale

Directions: read each item carefully. Using the scale shown below, please select the number that best describes *how you think about yourself right now* and put that number in the blank provided. *Please take a few moments to focus on yourself and what is going on in your life at this moment.* Once you have this "here and now" set, go ahead and answer each item according to the following scale: 1 = *Definitely False*, 2 = *Mostly False*, 3 = *Somewhat False*, 4 = *Slightly False*, 5 = *Slightly True*, 6 = *Somewhat True*, 7 = *Mostly True*, and 8 = *Definitely True.*

_____ 1. If I should find myself in a jam, I could think of many ways to get out of it.

_____ 2. At the present time, I am energetically pursuing my goals.

_____ 3. There are lots of ways around any problem that I am facing now.

_____ 4. Right now I see myself as being pretty successful.

_____ 5. I can think of many ways to reach my current goals.

_____ 6. At this time, I am meeting the goals that I have set for myself.

1 = *Definitely False*
2 = *Mostly False*
3 = *Somewhat False*
4 = *Slightly False*
5 = *Slightly True*
6 = *Somewhat True*
7 = *Mostly True*
8 = *Definitely True*

(Snyder, Sympson, Ybasco, Border, Babyak & Higgins, 1996)

Appendix K
Group Climate Questionnaire – Engagement Subscale (GCQ)

Instructions:

- Read each statement carefully.
- **As you answer the question, think about the group you are <u>currently</u> in.**
- For each statement fill in the box under the MOST APPROPRIATE heading that best describes the group sessions as you have experienced them.
- Please mark only ONE box for each statement
- **No group members, or your group leader, will see you responses. Please respond as honestly as possible.**

The 7-point scale is: 1 = Not at all, 2 = A little bit, 3 = Somewhat, 4 = Moderately, 5 = Quite a but, 6 = A great deal, 7 = Extremely.

_____ 1. The members like and care about each other.

_____ 2. The members try to understand why they do the things they do and try to reason it out.

_____ 3. The members feel what is happening is important and there is a sense of participation.

_____ 4. The members challenge and confront each other in their efforts to sort things out.

_____ 5. The members reveal sensitive personal information or feelings.

1 = Not at all
2 = A little bit
3 = Somewhat
4 = Moderately
5 = Quite a bit
6 = A great deal
7 = Extremely

(Mackenzie, 1983)

Appendix L

Group Leader Self-Efficacy Instrument

Directions: Indicate the degree to which you agree or disagree with the following statements by circling the appropriate response.	1- strongly disagree	2- disagree	3- slightly disagree	4- slightly agree	5- agree	6- strongly agree
1. I am confident I can use my eyes to monitor group members	1	2	3	4	5	6
2. I am confident I can use my voice to set the tone of the group	1	2	3	4	5	6
3. I am confident I can change the focus from a topic, a person, or an activity to another topic, person, or activity	1	2	3	4	5	6
4. I am confident I can hold the focus on a topic, an activity or a person	1	2	3	4	5	6
5. I am confident I can impart information or give mini lectures	1	2	3	4	5	6
6. I am confident I can draw out quiet members	1	2	3	4	5	6
7. I am confident I can I can cut off members	1	2	3	4	5	6
8. I am confident I can use rounds effectively	1	2	3	4	5	6
9. I am confident I can use linking to connect members	1	2	3	4	5	6
10. I am confident I can encourage expression of differences	1	2	3	4	5	6
11. I am confident I can give positive feedback	1	2	3	4	5	6
12. I am confident I can give corrective feedback	1	2	3	4	5	6
13. I am confident I can engage in appropriate self-disclosure	1	2	3	4	5	6
14. I am confident I can develop a clear purpose statement for the group	1	2	3	4	5	6
15. I am confident I can screen and select group members	1	2	3	4	5	6
16. I am confident I can conceptualize the group based on theory	1	2	3	4	5	6
17. I am confident I can provide an atmosphere of support and caring	1	2	3	4	5	6
18. I am confident I can provide structure for sessions (e.g., warm up, action, closure)	1	2	3	4	5	6
19. I am confident I can help the group set productive norms	1	2	3	4	5	6

20. I am confident I can provide moderate emotional stimulation	1	2	3	4	5	6
21. I am confident I can make purpose of the group	1	2	3	4	5	6
22. I am confident I can make interventions based on theory	1	2	3	4	5	6
23. I am confident I can respond to the intrapersonal level of the group	1	2	3	4	5	6
24. I am confident I can respond to the interpersonal level of the group	1	2	3	4	5	6
25. I am confident I can respond to the group level of group process	1	2	3	4	5	6
26. I am confident I can respond constructively to an attack by the group	1	2	3	4	5	6
27. I am confident I can respond to a deep disclosure by a member near the end of a session	1	2	3	4	5	6
28. I am confident I can help members process the meaning of experiences	1	2	3	4	5	6
29. I am confident I can help members integrate and apply learnings	1	2	3	4	5	6
30. I am confident I can apply ethical and professional standards in group work	1	2	3	4	5	6
31. I am confident I can help members relate to other members of a difference social class	1	2	3	4	5	6
32. I am confident I can help members relate to other members of a different sexual orientation	1	2	3	4	5	6
33. I am confident I can help members relate to others of a different ethnicity	1	2	3	4	5	6
34. I am confident I can help members relate to other members of a different race	1	2	3	4	5	6
35. I am confident I can help members relate to other members of a different age	1	2	3	4	5	6
36. I am confident I can help members relate to other members of a different religion	1	2	3	4	5	6

37. I am confident I can help members to set specific, concrete, and attainable goals. 1 2 3 4 5 6

38. I am confident I can help members focus on achieving/working towards their goals. 1 2 3 4 5 6

Appendix M
Consent Form for Group Members

You are being asked to be in a research study. This form provides you with information about the study. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part.

Invitation to participate in a research study
You are invited to participate in a research study about goal setting in group therapy at Denver County Jail. Group therapy provides treatment to individuals that struggle with mental health concerns. Group therapy is one way to help support individuals when they are struggling. The researchers in this study are interested in finding out if goal setting in group therapy helps people set their goals and reach their goals.

You are being asked to be in this research study because you are taking part in group therapy in one of the mental health pods at Denver County Jail.

Description of subject involvement
If you agree to be part of the research study, you will be asked to complete four short questionnaires and set behavioral goals during one group in the mental health pod. Because the goals set in the group will be worked towards outside of the group, the study will only require completion of one short questionnaire 1-week after the group ends.

The group will run for a total of 6 weeks. Each week the group will run for 1 hour. Filling out the questionnaires will take about 10 minutes at the beginning of the group.

Possible risks and discomforts
The risks involved in the study are minimal. The content of the goal-setting group for this study does not involve the sharing of private information. However, due to the nature of the group setting and because you are housed in a mental health unit, it is possible that goal setting and the discussion of progress towards goals could be frustrating. Additionally, it may be frustrating to complete the questionnaires and/or think about how much (or little progress) you have made toward your goals. If you decide you do not want to participate, you are able to stop participating in the study at any time throughout the six-week schedule with no penalty. Participation in this study is completely voluntary and choosing not to participate will not impact your placement in the mental health pod.

Possible benefits of the study
This study is designed for the researcher to learn more about goal setting in a group setting in a correctional facility. If you agree to take part in this study, there will be no direct benefit to you. However, information gathered in this study will provide researchers with important information for how goal setting can help people set personalized goals to benefit themselves. The intended benefits to you are based on research measuring the impacts of goal setting and goal achievement. Setting more socially appropriate goals have been associated with personal growth and enhanced life

meaning. This study aims to explore the impacts of teaching you how to set prosocial, adaptive goals that may positively impact you and the larger community.

Study compensation
You will not receive any payment for being in the study.

Study cost
You will not be expected to pay any costs related to the study.

Confidentiality, Storage and future use of data
To keep your information safe:

- Your name will not be attached to any data, but a study number will be used instead.
- The data will be kept on a password-protected computer using special software that scrambles the information so that no one can read it.

The data you provide will be stored in a locked office and will not include your name or any identifying information. The researchers will retain the data for a total of 7 years. The data will not made available to other researchers for other studies following the completion of this research study and will not contain information that could identify you.

The results from the research may be shared at a meeting or in published articles. However, you individual identity will not be revealed when information is presented or published. None of the data will be presented about you specifically and will only be presented as group data.

Who will see my research information?
Although we will do everything we can to keep your records a secret, confidentiality cannot be guaranteed. Both the records that identify you and the consent form signed by you may be looked at by Federal agencies that monitor human subject research and/or the Human Subject Research Committee. All of these people are required to keep your identity confidential. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Voluntary Nature of the Study
Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. If you decide to withdraw early, the information or data you provided will be destroyed. You will not receive any negative consequences for ending participation at any time throughout the study.

Contact Information
The researcher carrying out this study is Marisa Kostiuk, M.A.. You may ask any questions you have now. If you have questions later, you may call Marisa Kostiuk at 303-871-2484. The faculty sponsor associated with the study is Maria T. Riva, Ph.D.

If the researchers cannot be reached, or if you would like to talk to someone other than the researcher(s) about; (1) questions, concerns or complaints regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, you may contact the Chair of the Institutional Review Board for the Protection of Human Subjects, at 303-871-2998 or by emailing Timothy.Sisk@du.edu, or you may contact the Office for Research Compliance by emailing IRBAdmin@du.edu, calling 303-871-2121 or in writing (University of Denver, Office of Research and Sponsored Programs, Aspen Hall North, 2280 S. Vine St., Denver, CO 80208).

Agreement to be in this study

I have read this paper about the study or it was read to me. I understand the possible risks and benefits of this study. I know that being in this study is voluntary. I choose to be in this study. I will get a copy of this consent form.

Signature:_____ Date:_____

Print Name:_____

Appendix N
Consent Form Group Leaders

You are being asked to be in a research study. This form provides you with information about the study. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part.

Invitation to participate in a research study
You are invited to participate in a research study about goal setting within group therapy at a correctional setting. Goal setting within group psychotherapy is one area that often gets overlooked within group therapy and is also a complex skill to incorporate into group when facilitating group therapy. The researchers in this study are interested in increasing mental health trainees' self-efficacy for facilitating and implementing a specific goal setting technique in a psychotherapy group you facilitate in an attempt to assess goal setting effectiveness.

You are being asked to be in this research study because you facilitate one of the psychotherapy groups in one of the mental health pods at Denver County Jail.

Description of subject involvement
If you agree to be part of the research study, you will conduct a group that runs 1 hour a week for 6 weeks. To participate in this study you may need to participate in 3 one-hour trainings, complete 4 Group Leader Self-Efficacy Instrument measures (1 hour in total), and complete short questionnaires at the end of week 3, week 6, and 1-week after the end of the study. The Group Leader Self-Efficacy Instrument is a self-report Likert-scale measure that assesses trainees' level of self-efficacy for facilitating group treatment. The treatment goal questionnaires for group leaders ask you to identify progress group members have made toward their goals. You will also be given forms to assist with tracking. Long-term follow up is not part of this study.

Possible risks and discomforts
The risks involved in the study are minimal. However, it is possible that you may be uncomfortable when training, learning, and implementing a new skill set. While the potential risk for feeling uncomfortable associated with participating in this proposal is minimal, you will be supervised by licensed professionals and will have the contact information of the principle investigator and the faculty sponsor if any concerns arise. At any time you decide to withdrawal from the study no further data will be collected from you. Participation in this study is completely voluntary and choosing not to participate in this study will not impact your practicum placement.

Possible benefits of the study
Knowledge of goal setting in a group psychotherapy setting and confidence with facilitating one method of goal setting within a group therapy context is expected to increase over the course of this study. Because most graduate student trainees receive minimal instruction and/or formal training on goal setting within group therapy, we

believe this proposal will increase your knowledge on one specific method of goal setting in group treatment and build your self-efficacy as a group facilitator.

Proposing the implementation of appropriate goal setting strategies in treatment is particularly relevant for offender populations. Research suggests that while all humans are goal driven, offenders may lack the capacity to obtain their goals in socially acceptable ways (McMurran & Ward, 2004). How offenders tend to meet their needs may not be conducive to positive social interactions, developing healthy coping strategies and engaging in responsible decision-making (McMurran & Ward, 2004). Setting more socially appropriate goals have been associated with personal growth and enhanced life meaning (Griffith & Graham, 2004; MacLeod, Coates, & Hetherton, 2008).

Study compensation
You will receive a $20.00 gift certificate to Target for your participation after the completion of the study.

Study cost
You will not be expected to pay any costs related to the study.

Confidentiality, Storage and future use of data
To keep your information safe:

- Your name will not be attached to any data, but a study number will be used instead.
- The data will be kept on a password-protected computer using special software that scrambles the information so that no one can read it.

The data you provide will be stored in a locked office and will not include your name or any identifying information. The researchers will retain the data for a total of 3 years. The data will not made available to other researchers for other studies following the completion of this research study and will not contain information that could identify you.

The results from the research may be shared at a meeting or in published articles. However, your individual identity will not be revealed when information is presented or published. None of the data will be presented about you specifically and will only be presented as group data.

Who will see my research information?
Although we will do everything we can to keep your records private, confidentiality cannot be guaranteed. Both the records that identify you and the consent form signed by you may be looked at by Federal agencies that monitor human subject research and/or the Human Subject Research Committee. All of these people are required to keep your identity confidential. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Voluntary Nature of the Study
Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. If you decide to withdraw early, the information or data you provided will be destroyed. You will not receive any negative consequences for ending participation at any time throughout the study.

Contact Information
The researcher carrying out this study is Marisa Kostiuk, M.A.. You may ask any questions you have now. If you have questions later, you may call Marisa Kostiuk at 303-871-2484. The faculty sponsor associated with the study is Maria T. Riva, Ph.D.

If the researchers cannot be reached, or if you would like to talk to someone other than the researcher(s) about; (1) questions, concerns or complaints regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, you may contact the Chair of the Institutional Review Board for the Protection of Human Subjects, at 303-871-2998 or by emailing Timothy.Sisk@du.edu, or you may contact the Office for Research Compliance by emailing IRBAdmin@du.edu, calling 303-871-2121 or in writing (University of Denver, Office of Research and Sponsored Programs, Aspen Hall North, 2280 S. Vine St., Denver, CO 80208).

Agreement to be in this study
I have read this paper about the study or it was read to me. I understand the possible risks and benefits of this study. I know that being in this study is voluntary. I choose to be in this study. I will get a copy of this consent form.

Signature:_____ Date:_____

Print Name:_____

Appendix O
IRB Approval Letter

UNIVERSITY of DENVER
RESEARCH & SPONSORED PROGRAMS

DATE:	March 20, 2018
TO:	Marisa Kostiuk, MA
FROM:	University of Denver (DU) IRB
PROJECT TITLE:	[843508-6] Assessing the Effectiveness of Goal Setting in a Correctional Institution
SUBMISSION TYPE:	Response/Follow-Up
APPROVAL DATE:	March 20, 2018
RISK LEVEL:	Minimal Risk
REVIEW TYPE:	Expedited
ACTION:	**Approved**

Thank you for your submission of the Response/Follow-Up materials for this project. The University of Denver (DU) Institutional Review Board has granted **FULL APPROVAL** of your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This study involves the inclusion of prisoners. The IRB determined that this project fulfilled the requirements to approve the involvement of prisoners and does not require any additional protections for prisoner subjects per 45 CFR 46.306(a)(2). A prisoner representative was present and voted during the review of this project.

The following documents were included in the review and approval of this amendment/modification submission:

- Amendment/Modification - Modifications Letter.docx (UPDATED: 03/19/2018)
- Amendment/Modification - Amendment IRB 2018-3.pdf (UPDATED: 03/19/2018)
- Protocol - Narrative IRB Final 3.docx (UPDATED: 03/19/2018)

The following revisions were approved in the amendment/modification request:

The study amendment adding a comparison group to the study has been approved. The approved Consent forms were attached to the Contineuing Review approval [package 5]

Please remember that informed consent is a process beginning with a description of the project and assurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by the DU IRB prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to the IRB. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to the DU IRB.

This study involves the inclusion of minors. The IRB determined that the changes in this amendment did not change the risk or require any additional safeguards for minor subjects. The child risk assessment for this project remains the same: {45 CFR 46.404 / 45 CFR 46.405 / 45 CFR 46.406}.

Please note that all research records must be retained in a secure location for a minimum of three years after the completion of the project.

If you have any questions, please contact the DU Human Research Protecion Program at (303) 871-2121 or at IRBAdmin@du.edu. Please include your project title and IRBNet number in all correspondence with the IRB.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Denver (DU) IRB's records.