A Meta-Analysis of Three Years of Data on Outcomes of Therapy Groups for Inmates in the Virginia Department of Corrections

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A META-ANALYSIS OF THREE YEARS OF DATA ON OUTCOMES OF THERAPY GROUPS FOR INMATES IN THE VIRGINIA DEPARTMENT OF CORRECTIONS

by

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ABSTRACT

A META-ANALYSIS OF THREE YEARS OF DATA ON OUTCOMES OF THERAPY GROUPS FOR INMATES IN THE VIRGINIA DEPARTMENT OF CORRECTIONS

Abie Carroll Tremblay
Old Dominion University, 2021
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The Virginia Department of Corrections (VADOC) is responsible for about 28,000 inmates and 66,000 probationers and parolees annually. Mental health services are often conducted through therapeutic groups, many of which are manualized and based in cognitive behavioral therapy theory. In the three years, 2017 through 2019, VADOC conducted 172 therapeutic group therapy studies, and the resulting data, in the form of t-test scores, were made available for academic research. This meta-analysis investigated whether cognitive behavioral group therapy produced superior outcomes when compared to other theoretical orientations in group therapy in VADOC, if manualized group therapy treatments produced superior outcomes when compared to non-manualized treatments in VADOC group therapy, and what influence gender, security level, or mental health level had on group treatment outcomes. The meta-analysis revealed that other theoretical orientations produced superior outcomes as compared to cognitive behavioral therapy and the manualization of treatments did not significantly improve the group therapy outcomes. Further analysis showed that males are predicted to have better outcomes than females, and as inmates’ security level decreases, group treatment outcomes are expected to improve; significant differences were not observed between mental health levels.

*Keywords*: CBT, manualize, group therapy, prison, inmate, meta-analysis, VADOC
This dissertation is dedicated foremost to my partner, Andy Tremblay. Without his continued support and encouragement this work would have been near impossible. His belief in me and my dream has been my anchor through this process. This dissertation is also dedicated to all my children, Dan, Gill, Miles, Jenna, Sara, Sireen, Sondos, Sarra, Mona, Åsta, Jan, Nenna, Ellis, Lara, Christoph, Rosa, Marlene, Elgeta, Leila, Carolin, Tabea, and Erika. Please know that I missed being with you when I was writing. Lastly, this dissertation is dedicated to the incarcerated people in our world who, for one reason or another, did not have the same support and opportunities as I.
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NOMENCLATURE

ACE adverse childhood event – “Potentially traumatic events that occur in childhood (0-17 years)” (CDC; 2020, April 3b).

ACT acceptance and commitment therapy – “A unique empirically-based psychological intervention that uses acceptance and mindfulness processes, and commitment to behavior change processes to produce psychological flexibility” (APA, 2020a, p. 1).

CAM complementary and alternative medicine [method] – “A group of therapies and health care systems that fall outside the realm of conventional Western medicine practice… Complementary medicine [method] is used as an adjunct to conventional treatment; alternative medicine [method] stands alone and replaces conventional treatment” (APA, 2020a, p. 1).

CBT cognitive behavioral therapy – “A form of psychological treatment that has been demonstrated to be effective for a range of problems including depression, anxiety disorders, alcohol and drug use problems, marital problems, eating disorders, and severe mental illness” (APA, 2020a, p. 1).

CPT cognitive processing therapy – “A form of cognitive behavior therapy originally used with victims of rape or sexual trauma and later applied to those with posttraumatic stress disorder resulting from any trauma. CPT emphasizes cognitive strategies to help people alter erroneous thinking that has emerged because of a traumatic event” (APA, 2020a, p. 1).
DBT  dialectical behavioral therapy – “A flexible, stage-based therapy that combines principles of behavior therapy cognitive behavior therapy, and mindfulness” (APA, 2020a, p. 1).

Exposure Therapy

“A psychological treatment that was developed to help people confront their fears” (APA, 2020a, p. 1).

Gender  VADOC currently houses inmates based on their gender assigned at birth, male or female.

Manualized  “Interventions that are performed according to specific guidelines for administration, maximizing the probability of therapy being conducted consistently, across settings, therapists, and clients” (APA, 2020a, p. 1).

MH Code  Mental Health Code – The VADOC uses a coding system to delineate mental health illness, or lack of same. The codes are 0, 1, and 2 for less serious mental health concerns, and 2S, 3, and 4 for more serious mental health concerns.

MI  motivational interviewing – “A client centered yet directive approach for facilitating change by helping people to resolve ambivalence and find intrinsic reasons for making needed behavior change” (APA, 2020a, p. 1).

Mindfulness  “Awareness of one’s internal states and surroundings” (APA, 2020a, p. 1).

Positive Psychology

“A field of psychological theory and research that focuses on the psychological states, individual traits or character strengths, and social institutions that enhance subjective well-being and make life most worth living (APA, 2020a, p. 1).
Process group A group therapy modality that contains an “interpersonal component of a group session, in contrast to the content (such as decisions or information) generated during the session (APA, 2020a, p. 1).

Psychoeducational

“A professionally delivered treatment modality that integrates and synergizes psychotherapeutic and educational interventions (APA, 2020a, p. 1).

Psychotherapy “Any psychological service provided by a trained professional that primarily uses forms of communication and interaction to assess, diagnose, and treat dysfunctional emotional reactions, ways of thinking, and behavior patterns” (APA, 2020a, p. 1).

REBT rational emotive behavioral therapy – “A form of cognitive behavior therapy based on the concept that an individual’s self-defeating beliefs influence and cause negative feelings and undesirable behaviors” (APA, 2020a, p. 1).

SA substance abuse – “A pattern of compulsive substance use marked by recurrent significant social, occupational, legal, or interpersonal adverse consequences” (APA, 2020a, p. 1).

SAMHSA Substance Abuse and Mental Health Services Administration – A government agency within the U.S. Department of Health and Human Services which awards research grants, offers training and materials to the public, and helps citizens connect with services.

Security Level Security levels within VADOC are delineated to reflect the inmates’ level of violence in crimes and their progression through incarceration with good or poor
behaviors. Security levels 1 and 2 are considered low, 3 is medium, and 4 and greater are high.

SFBT  Solution-Focused Brief Therapy – “Brief psychotherapy that focuses on problems in the here and now, with specific goals that the client view as important to achieve in a limited time” (APA, 2020a, p. 1).

SLT  Social Learning Theory – “The general view that learning is largely or wholly due to modelling, imitation, and other social interactions” (APA, 2020a, p. 1).

SoC  Stages of Change – “The five steps involved in changing health behavior according to the transtheoretical model: precontemplation (not thinking about changing behavior), contemplation (considering changing behavior), preparation (occasionally changing behavior), action (practicing the healthful behavior on a regular basis, resulting in major benefits), and maintenance (continuing the behavior after six months of regular practice)” (APA, 2020a, p. 1).

SPSS  Statistical Package for the Social Sciences – A software package for statistical analyses.

VADOC  Virginia Department of Corrections – The Virginia Department of Corrections is the public organization responsible to citizens for the safe, humane, and restoration of incarcerated, paroled, and probationer persons within the state of Virginia.
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CHAPTER I
INTRODUCTION

In the 1998 Annual Report to Congress for fiscal year 1997, the National Institute of Justice (NIJ) outlined the use of cognitive training for substance abuse rehabilitation for prison inmates. Soon afterwards, the cognitive community model was developed, and was based in restructuring the cognitive process of the inmate by allowing them to express their thoughts, as long as they do not act in an inappropriate manner. This was done within the community of the individual prison and allowed behavior and thinking to be challenged both internally and by others. Additionally, this model provided both peer-support and staff-support for thinking and behavioral change (Bush 2018).

The National Institute of Justice (NIJ) presently certifies 628 rated programs, which means each program on the NIJ list was evaluated by way of research, and the program is expected to produce the same results if conducted in the same manner (NIJ, 2020). The Virginia Department of Corrections (VADOC) implemented the cognitive community model in 2004 (Bush, 2018), and continues to use it now. VADOC currently offers more than 125 programs for inmates and those in community supervision, most of which are based in manualized cognitive behavioral therapy (mCBT; VADOC, 2020a). Manualized CBT groups seek to support cognitive restructuring to manage anger, cope with stress, live productively with depression and anxiety, inhibit illicit substance use, decrease trauma symptoms, and manage other mental health concerns (SAMHSA, 2020a).

The data in this study were collected in the years 2017, 2018, and 2019, and were made available to the researcher in 2020 by the chain of command within the Virginia Department of Corrections for use in dissertation analyses. The data collected and available for analyses were
the Initial Evidence Based Practice Program Description which outlined the group therapy study conducted, the institutions at which the studies were administered, and the quantitative results of each group therapy study in the form of single $t$-test results. Because the institution of the groups is known, the gender is known, as Virginia houses male and female inmates separately.

In this chapter, the study is introduced by providing a background of the topic, followed by a statement of the problem and research questions to explore. Then, the purpose of the study, rationale, and significance are set forth, as well as the delimitations and limitations of this study. Next, the assumptions, operational definitions, and a brief description of the study are delineated. Lastly, an overview of the remaining chapters is provided.

**Background**

Since 1936 there were numerous historical studies about group psychotherapy and psychoeducational groups to support their effectiveness in treating mental health disorders and improving behaviors within the prison population (Epstein & Slavson, 1962; Fawcett, 1961; Lubin & Johnson, 1997; McCorkle, 1952; Rappaport, 1971; Scott, 1993; Taylor, 1961). As early as 1936, group therapy was reported effective in Great Britain (Great Britain Prison Commission, 1938; Shapland, 2019). These early groups in Wakefield Prison, Great Britain, though, resembled psychotherapy of the time-period, or training groups, and did not seem to resemble current group therapy or psychoeducational structures. Wakefield Prison in the U.K. reported the simultaneous reduction in recidivism and the launch of group psychotherapy among their incarcerated populations (Great Britain Prison Commission, 1938). Furthermore, while these more dated group study reports did not document methodology and data as is done in more current studies, the older studies provide a foundation on which current studies were reviewed in Chapter Two.
Following the reports from the U.K. in the 1930s, group therapy in prisons was more prominently published in the 1950s when group therapy was used in U.S. male and female prisons. McCorkle (1952) reported 39 U.S. prisons used process, psychodynamic groups for general inmate wellbeing. Rosenthal and Shimburg (1958) reported using group therapy successfully to treat marijuana use in lieu of the ‘or else’ tactics often used in prisons. Group therapy in prisons continued to evolve in the 1960s to treat narcotic addiction using process and life purpose development (Fawcett, 1961), to understand membership impacts within the group (Taylor, 1961), and to improve interpersonal relationships in sex offenders (Uehling, 1962). Ostby (1968) reported a five-year study of group therapy with inmates and their family members to improve familial relationships. Uehling’s report (1962) was consistent with group therapeutic factors later identified by Yalom (1970) as “instillation of hope, universality, imparting information, altruism, development of socializing techniques, interpersonal learning, catharsis, and existential factors” (p. 1-2). These therapeutic factors originally identified by Yalom are still recognized as a fundamental piece of the group therapy process (Brown, 2018; Yalom & Leszcz, 2020).

Group therapy use continued to increase and mature in prisons through the 1970s, 1980s, and 1990s. Two noteworthy studies include Rappaport (1971) who stated group members believed the groups helped them in the areas of “interpersonal relationships and intrapsychic conflicts” (p. 489), and Scott (1993), who reported the successful use of group therapy with inmates who had borderline personality disorder and who were previously “poorly diagnosed and unsuccessfully treated” (p. 143). By the early 2000s, group therapy in prisons was being researched using cognitive behavioral therapy (CBT) and solution-focused brief therapy (SFBT) techniques with criterion-referenced assessment tools for goal attainment (Lange, 2001).
Group Cognitive Behavioral Therapy

The Substance Abuse and Mental Health Services Administration (SAMHSA; 2020b) and the American Psychological Association (APA; 2017a) stated that Cognitive Behavioral Therapy (CBT) has been an effective intervention for anger, substance use, depression, anxiety and phobias, traumatic responses, self-harm behaviors, and other mental health concerns for many years. Cognitive Behavioral Therapy is often used as a primary intervention in the treatment of diverse disorders and mental health concerns through randomized control trials (RCTs; Crawcour et al., 2012). In more recent years, mCBT programs were developed and adopted by individual therapists and organizations with the expectation of eliminating group facilitator biases and variances (Ringle et al., 2015). Many mCBT interventions currently used were based on the Clark and Wells model for social phobia published in 1995 (Clark & Wells, 1995; Crawcour et al., 2012; UCL, 2020). Because of the positive outcomes in research, presented in Chapter 2, mCBT was, and remains, the predominant choice for group treatments in VADOC (Brownlee et al., 2017; Conklin et al., 2020; Eifert et al., 1997; Eiraldi et al., 2019; Howard & Kendall, 1996; Iwamasa & Orsillo, 1997; Koffel & Farrell-Carnahan, 2014; Montreuil et al., 2016; Nickel et al., 2010; NIJ, 1998; Palmstierna et al., 2012).

Cognitive behavioral therapy (CBT) is a treatment orientation based in the belief that people suffer some mental health conditions because of faulty thoughts, which lead to unhelpful behaviors. The practice of CBT in treatment is to help the suffering person to identify their thought distortions, to cope with discomfort, and learn new behavior responses to their discomfiture (APA, 2017a). Manualized CBT (mCBT) uses the foundation of CBT and then prescribes how the sessions will be conducted. This therapy prescription generally includes the number of sessions in the manual/program, a topic for each session, duration of each session,
psychoeducation materials, therapist responses to questions, homework assignments between sessions, and general instructions on how to use that particular manual (Clark & Wells, 1995; SAMHSA, 2015).

**Group Therapy in Virginia Department of Corrections**

In the 2010s, the Commonwealth of Virginia recognized the growing need for rehabilitative and ongoing mental health services for the males and females within its prisons. Using the increasing available information about group dynamics as an evidence-based practice, Virginia Department of Corrections (VADOC) implemented group therapy using various theoretical approaches, such as acceptance and commitment therapy, anger management, dialectical behavior therapy, positive psychology, and trauma treatment (VADOC, 2020a). Even though VADOC introduced multiple theoretical approaches within the group therapy options, most of the group designs were, and continue to be, based in mCBT (Bush, 2018) addressing substance abuse recovery, anger management, sexual assault trauma recovery, trauma recovery, depression, and anxiety, to name a few (VADOC, 2020a). Virginia DOC remains vested in mCBT because of the preponderance of successful studies using this technique for treatment of a wide range of disorders in diverse populations (Morland, 2011; NIJ, 2020; SAMHSA, 2013; SAMHSA, 2020a; SAMHSA, 2020b; VADOC, 2020b; WHO, 2020).

**Statement of the Problem**

Since the inception of the cognitive community for prisons in 1997 and the implementation of this program in Virginia in 2004, Virginia has succeeded in reducing recidivism to 23.1 percent, based on year ending 2019 (VADOC, 2020b). Virginia DOC states its Mission as: “We are in the business of helping people to be better by safely providing effective incarceration, supervision, and evidence-based reentry services to returning citizens, parolees,
and probationers” (VADOC, 2020c). Group therapies are one of tools by which VADOC provides evidence-based practices to those entrusted to the organization (VADOC, 2020a). The problem statement for this study is, do the mCBT group interventions contribute to the decrease of negative mental health symptoms and the increase of prosocial coping skills?

The question of whether mCBT is a sufficient intervention in group therapy for VADOC is important. One reason is the cost of using mCBT group programs. The mCBT programs which are utilized in VADOC were vetted by other states and by the National Institute of Justice (NIJ, 2020). This eliminates the need to conduct local research or to use employee-hours in creating new programs. On the other hand, if mCBT group therapy is not equally effective in outcomes as other theoretical orientations, it might be possible that the preponderance of mCBT programs hinders the improvements in mental health symptoms and prosocial coping skills.

The other question of importance is whether mCBT groups are equally sufficient across genders, mental health levels, and security levels within VADOC inmates and persons under community supervision. Virginia DOC is responsible to serve both males and females equitably, as well as inmates with varying levels of mental health concerns, as well as those persons who committed more, or lesser, violent crimes. If mCBT groups are not effective with males and females, with mild to severe mental health concerns, and across all security levels, is this possibly contributing to higher recidivism?

**Research Question 1:** Does cognitive behavioral group therapy produce superior outcomes as measured by *t*-test scores when compared to other theoretical orientations in group therapy in VADOC?
**Research Question 2:** Do manualized group therapy treatments produce superior outcomes as measured by $t$-test scores when compared to non-manualized treatments in VADOC group therapy?

**Research question 3:** Do gender, security level, or mental health level influence group outcomes in VADOC?

**Purpose of the Study**

The purpose of this study was to determine the efficacy of manualized Cognitive Behavioral Therapy (mCBT) group treatments in Virginia’s 40 prison populations. The study explored the effectiveness of mCBT group treatment in reduction of negative mental health symptoms and expansion of prosocial coping skills within VADOC’s diverse population as outlined in the group treatment designs. The performance of the mCBT groups were compared to the performance of non-mCBT groups through quantitative analyses. Additionally, the influence of gender, security level, and mental health level was explored as characteristics of the group treatment participants that might have influenced the group treatment outcomes. As an employee within VADOC, the data from 172 group therapy studies, conducted 2017 through 2019, were made available for academic study.

**Rationale for the Study**

Group therapy is widely used for many rehabilitative and therapeutic purposes in the Commonwealth of Virginia Department of Corrections (VADOC). Many of these groups ($n = 124$ of 172) are manualized Cognitive Behavior Therapy (mCBT) programs (VADOC, 2020a). Manualized CBT is an evidence-based treatment used for a wide variety of mental health disorders (SAMHSA, 2020a). As funding shrinks and mental health needs increase, the use of mCBT as a group therapy intervention allows VADOC to provide mental health services to a
greater number of inmates, using evidence-based practices, and in a cost-effective manner (Olmstead et al., 2007; Otto et al., 2000; PEW, 2017; Roberge et al., 2008; VADOC, 2019b). This study seeks to affirm the effectiveness of mCBT in the treatment of multiple mental health concerns in a diverse population.

Significance of Study in Body of Research

Evaluation of the effectiveness of mCBT group interventions within VADOC could add to the understanding of mCBT groups in diverse populations. Regarding VADOC, the evaluation of mCBT groups might indicate what the needs of this incarcerated population are. Thus, the findings of this study will contribute to VADOC’s use and/or modification of mCBT with its incarcerated persons.

Assumptions, Delimitations, and Limitations

It is largely accepted that all research contains some flaws by way of design, collection of data, interpretation of data, researcher biases, and other embedded unexpected, confounding variables (Church et al., 1996; Dhulkhed et al., 2021; Dunkin, 1996; Grey et al, 2020). This study attempted to identify and account for as many of these as possible through strong methodology and conscientious examination of original research.

Assumptions

In addition to the assumption of researcher integrity and trustworthiness in conducting this study, the researcher was bound in a meta-analysis to assume the original research was done and reported with the same integrity and trustworthiness. The original research was assumed to be conducted using trained group facilitators, who were trained in both the theoretical orientation used in the group and in group facilitation.
Delimitations and Limitations

This study was bound to incarcerated persons and other persons being supervised in the community by VADOC and who lived within the Commonwealth of Virginia. This study was also bound by access to specific and full participant demographic information because the inmate population is protected. The VADOC group therapy studies were only available for this study because the participant identities were 100 percent hidden. Therefore, only gender, security level, and mental health level were considered in the analysis. Another delimitation was the original research gave only $t$-test results; there was no option to garner additional data for complex results from the original studies.

It is possible either the group treatments or the group facilitators, or both, were not adapted culturally to deliver group treatments to VADOC’s highly diverse inmate population, which could have impacted the treatment outcomes and could limit interpretation of the study outcomes. Treatments that lack meaning to the group members because of cultural adaptation omissions have been found to be less effective (Soto et al., 2018). Some research demonstrated that mCBT was used successfully to treat many mental health concerns, including trauma symptoms (Crowcour et al., 2012; SAMHSA, 2020a; VADOC, 2020a). Other research showed decreased positive outcomes with mCBT in diverse populations (CDC, 2020a; Dye, 2018; Glantz et al., 2017; ISTSS, 2019). In this issue, the limitation for the current study was the paucity of individual group member information.

Because this study used research conducted exclusively in the Commonwealth of Virginia, it can be generalized in a very limited capacity. It should also be noted that a retrospective analysis does not determine cause and effect or amend problems or limitations within the original studies. Interpretations of results were, therefore, limited to the findings.
Lastly, it was reported the researcher is an employee of Virginia Department of Corrections and is bound by employee codes of conduct and ethical considerations.

**Study Overview and Key Definitions**

In research, robust methodology is the framework on which the study, results, and interpretations are built. In the case of meta-analyses, the methods are historically varied in the details and organization of information, yielding inconsistent, sometimes unreliable, findings (Moher et al., 2015).

**Theoretical Orientation**

This study was oriented in cognitive behavioral theory (CBT). The American Psychological Association (APA) stated that CBT is “a form of psychological treatment that has been demonstrated to be effective for a range of problems including depression, anxiety disorders, alcohol and drug use problems, marital problems, eating disorders, and severe mental illness” (APA, 2017a, p. 1). The APA, Mayo Clinic, and Neukrug, contend that CBT is based in the principles that psychological problems are the result of unhelpful behaviors which are rooted in faulty thoughts. Cognitive behavior therapy treatment includes teaching a person to recognize their faulty thoughts, re-evaluating and changing how they think about their current situation, and then acting in a different manner to their situation. Over time, the individual will develop new behavior patterns and demonstrate fewer negative psychological symptoms (APA, 2017a; Mayo Clinic, 2021; Neukrug, 2021). Thus, cognitive behavioral therapy was the guide for this study.

**Methodology**

This study used data provided by the Virginia Department of Corrections (VADOC) for a three-year period (calendar years 2017, 2018, and 2019) and used retrospective data analysis to
compare treatment types (CBT vs. non-CBT and manualized treatments vs. non-manualized treatments).

Proposed Sample

The sample for the meta-analysis was 172 group therapy studies conducted in Virginia Department of Corrections in 2017, 2018, and 2019. Individual demographic information about studies’ group members was not available because inmates are a protected population. Broad categories of demographic information about the group, in general, are known, e.g., security level – high, medium, or low, mental health category – most serious or not most serious, and gender – male or female. Because specific demographics, such as absolute age, religious identity, cognitive abilities, etc., were not available for this study, group demographics were not considered in this study.

Key Definitions

There were several key definitions that impact the contextual understanding of this study. Because of the concentrated focus of the original studies, e.g., VADOC, some terminology is used to further parse the data provided in those original studies.

Cognitive Behavioral Therapy – A therapeutic intervention that seeks to improve psychological wellbeing by helping the individual become aware of and adjust faulty cognitions and core beliefs (Neukrug, 2021).

Faulty cognitions – Also called faulty thoughts and cognitive distortions, faulty cognitions are thoughts individuals have automatically and in isolation without input from another perspective, and which reinforce behaviors and reactions to stimuli. Examples of faulty cognitions are all or nothing thoughts, catastrophizing, mind reading, overgeneralization, should or must, and discounting the positive (Neukrug, 2021).
Core beliefs – “embedded, deep-seated beliefs about self” (Neukrug, 2021, p. 76), which affect all other thoughts and behaviors. Most core beliefs fall into one or more of three classifications: “I am helpless, I am unlovable, or I am worthless” (Neukrug, 2021, p. 78).

Groups – In this context, the group consists of multiple persons who have the intention of interrelating with each other and the group facilitator(s) with the intention of improving mental health symptoms, learning how thoughts and behaviors and feelings are connected, gain coping skills, and in the best cases, healing occurs (Brown, 2018; Yalom & Leszcz, 2020).

Manualized – “Interventions that are performed according to specific guidelines for administration, maximizing the probability of therapy being conducted consistently across settings, therapists, and clients. Also called manual-assisted therapy and manual-based therapy” (APA, 2020a, p. 1).

Virginia Department of Corrections (VADOC) – The state-funded and operated organization charged with public safety, including housing and rehabilitation of inmates and re-entry and monitoring of the same into and within the community (VADOC, 2020a).

Overview of Remaining Chapters

Chapter two provides a review of the existing body of literature relevant to group therapy amongst incarcerated persons, efficacy of group theoretical orientations especially within diverse populations, and characteristics of incarcerated persons. Chapter two ends with a cursory review of the studies utilized in these meta-analyses. Chapter three details what information was available in the original data, how the original data was handled, and the analyses that were used in the meta-analyses. Chapter four describes the analyses that were used in detail, discusses why the individual analyses were chosen, and the findings of the statistical analyses. Chapter five
details the evidence garnered from the analyses, if and how the evidence can be generalized, conclusions and implications of the research, and recommendations for future research.
CHAPTER II

LITERATURE REVIEW

In this chapter, the relevant literature was reviewed in the areas of prison populations, costs and problems, the effects of trauma, group therapy history in prisons, manualized cognitive behavioral therapy (mCBT) and the use of mCBT in incarcerated populations. In the case of this study, limited to a finite three years in Virginia’s Department of Corrections, the historical literature was reviewed to lay a foundation for this study.

History of Prison Costs, Populations, and Treatment Problems

In 2019, Virginia was responsible for 28,996 inmates and 66,640 probationers and parolees, costing the state $1,287,018,048. This is approximately $13,457 per person for the year 2019 (VADOC, 2019b). Jails are operated by localities within the state and are not considered in these statistics. Because VADOC is responsible to tax paying citizens, the Department, along with several other states, uses the Correctional Offender Management Profiling for Alternative Sanctions (COMPAS) assessment to determine the likelihood of an individual to retain a trait of violence and the prediction to recidivate (Brennan et al., 2009; Skeem & Louden, 2007). In Virginia, the COMPAS assessment is also used as “a tool for determining the criminogenic needs that are used to develop case plans and set programing” (VADOC, 2019a, p. 1). As of the end of year 2019, Virginia had the lowest reported U.S. recidivism rate at 23.1 percent (VADOC, 2020e). Recidivism rate was measured as not reoffending within three years of release from incarceration (VADOC, 2020e). Because a lower recidivism rate impacts VADOC spending, the Department is vested in effective inmate programs that result in reduced recidivism.
Prison Populations in Virginia

The 2019 U.S. Census report for Virginia stated 61 percent of the people living in Virginia were White non-Latinx, 20 percent Black, 10 percent Latinx, and 9 percent all others (Asian, Pacific Islander, Alaska Native, Native Indian, or mixed race; US Census Bureau, 2020). The U.S. Census (2020) also reported 51 percent of Virginia’s population as female. Virginia DOC’s 2019 inmate demographic report announced 41 percent White, 55 percent Black, three percent Latinx, and less than one percent all others (VADOC, 2020d). Virginia DOC reported a female population of eight percent in 2019 (VADOC, 2020d). Using this information, it is clear that Virginia has a higher number of Black incarcerated persons well above both U.S. and Virginia resident populations, as well as fewer Latinx, other races, and females.

Treatment Problems in Prisons

The Code of Federal Regulations outlines specific regulations that enhance the protections for incarcerated persons in the U.S. who are involved in research. The U.S. federal government delineates those inmates cannot fully volunteer to participate in research because they do not have full civil and human freedoms while incarcerated, and that they are under the care and protection of the government that holds them (USDHHS, 2018). The American Counseling Association, the American Psychological Association, and the National Association of Social Workers have ethical codes in place which require these mental health professionals to take steps to safeguard those who have decreased or diminished decision-making capacity, of which inmates are included in this group (ACA, 2014; APA, 2017b; NASW, 2017). While these protections are vital to the well-being and safety of incarcerated persons, they also provide somewhat of a hurdle to mental health therapy, because inmates often have personality disorders
and other mental health concerns which prevent them from identifying their need for mental health treatment (Skeem & Louden, 2006).

**Challenges with Groups in Prisons**

Lowenstein et al. (2020) reported qualitatively on the challenges of the groups in a low-security, male prison setting. The challenges were reported as: group members pushing boundaries and commenting negatively, the desire to fix another group member, overly sedated members being engaged, low cognitive capacity, focus of the group on one behavior to the exclusion of the agenda, normalizing/expressing anger during the group, the effect of the group on the entire housing unit, and mixed criminal histories within the group members. The authors stated that successful groups can be run if the focus is maintained on the group and not derailed by individuals.

**Prison Life as a Barrier to Treatment with Group Therapy**

The Substance Abuse and Mental Health Services Administration (SAMHSA) identified several factors that are specifically disruptive to cohesive group therapy, such as unruly participants, withdrawn participants, emergent bi-lingual members, those members with identified and unidentified intellectual disabilities, and sporadic attendance (2015). The SAMHSA continued by stating that inmates have multiple draws on their daily routine, including work assignments, education opportunities, and medical appointments (2013). Additionally, within prison settings, screening group members is not always possible – those who are there must be treated (SAMHSA, 2013). Daniel (2007) reported that inmates are subject to a “complex array of inter-related and self-reinforcing risk factors” (p. 409), which include chronic stress because of separation from family, confinement, victimization, substance abuse, mental illness, and staff errors. Sotero et al. (2016) described some of the obstacles to providing therapy to involuntary
clients such as differing motives, degrees of readiness, safe context for treatment, and the amount of pressure to apply to the individual and the group. This confirmed some of the barriers to treatment noted by McCorkle (1952): lack of understanding the origins of deep feelings, and the belief that “this is personal; I can’t tell anybody about it” (p. 25). In a related area, primary school educators reported highest absenteeism in students of color, emerging bi-lingual students, and students with disabilities (Marsh, 2019). Connecting this information with the known demographics of VADOC inmates, it is possible group members identifying in these categories would have higher absenteeism. Additionally, MacNair-Semands (2002) reported social phobia and anger/hostility decreased attendance in group therapy. It could be postulated that inmates in VADOC felt angry or hostile during these therapeutic group windows and, therefore, did not attend groups consistently. The combination of sound ethical and safety practices, institutional demands, and individual problems and concerns create an entangled setting in which VADOC is tasked to provide sound, evidence-based group therapy to the persons in their care.

**Trauma as a Barrier to Treatment**

The Centers for Disease Control (CDC) reported two-thirds of surveyed adults reported at least one adverse childhood event (ACE); 25 percent of these adults reported three or more ACEs, and about 17 percent reported four or more events (CDC, 2020a). Adverse childhood events (ACEs) are violence, abuse, neglect, witnessing violence in home or community, family member attempt or die by suicide, substance abuse (SA), mental health problems, instability from parental absence or incarceration (CDC, 2020b). The lasting impacts of ACEs may include traumatic brain injury, fractures, burns, depression, anxiety, suicidality, PTSD, unintended pregnancy, pregnancy complications, fetal death, HIV, sexually transmitted infections, cancer, diabetes, heart disease, substance misuse and addition, unsafe sex, education, occupation, and
income (CDC, 2020a). Further impact of ACEs is prolonged toxic stress impacting brain
development, later resulting in adults who struggle with attention deficit, impulsivity, and
learning challenges (CDC, 2020b). The CDC reported ACEs have an economic cost of hundreds
of billions per year, including lack of sustained employment, generational incarceration, and
medical costs (CDC, 2020b). Dye (2018) further explains the cumulative exposure to trauma in
childhood creates complex trauma in the individual and significantly decreases the individual’s
ability to regulate emotions, maintain healthy interpersonal relationships over time, and leads to
increased risk of substance use and suicidal ideations.

Glantz et al. (2017) stated the ACEs of incarcerated males are largely not addressed,
which alters the effectiveness of treatments in this population. Glantz and colleagues continued
by stating that trauma is not screened within the corrections system, and thus, goes untreated in
many cases. The authors stated this failure to understand and design trauma-informed treatments
for males leads to higher rates of recidivism. Brencio and Novak (2019) describe the experience
of anxiety as a disorder that “reveals the fragmentation of the self as well as the finitude and
vulnerability of being human” (p. 14). Brencio and Novak continued by stating the excessive
stimuli on the brain creates conditions where the brain cannot process any more information, and
thus shuts down; this cognitive shut down is then expressed outwardly as the fight, flight, and
freeze behaviors.

Additionally, the International Society for Trauma Stress Studies (2019) reported “Hate-
based violence is a type of potentially traumatic stressor intended to instill fear and anxiety,
inflict psychological damage, diminish a sense of belonging, exclude a group identified as
‘other,’ and/or expunge a group from the community” (p. 3). ISTSS stated that trauma from hate-
based violence and victimization, like ACEs and other trauma, impacts health, well-being, and
contains complex stressors which are often difficult to identify as directly affecting a person’s health and well-being (ISTSS, 2019). Therefore, childhood hate-based violence contributes to adverse childhood events (ACEs).

Because of the propensity of historical and current traumatic events in the U.S., combined with the racial demographics in Virginia prisons, it could be supposed that a certain percentage of incarcerated persons have a traumatic history. Emotional dysregulation, anxiety, depression, and interpersonal behavioral skills are some of the concerns often addressed in group therapies; therefore, it seems that failure to address the trauma could be a barrier to effective group treatments.

**Historical Studies of Adult Group Therapy in Prisons**

Ho (1976) reported the use of fishbowl group therapy in Oklahoma, citing that this group therapy modality “replaced acting-out behavior…acquire social skills for interpersonal relationships…learn to deal with reality…understand the connections among one’s feelings, talk, and overt behavior…accept greater responsibility for one’s behavior…and obtain parole as early as possible” (p. 235-236). Ho stated the fishbowl experience created a more open atmosphere for sharing and increased the ability for the participants to see themselves through the experience of others.

During the 1990s, group therapy in prisons became more commonplace in the treatment of mental health disorders and behavioral change therapy. Wilson (1990) reported significant outcomes using cognitive group interventions with inmates in a high security level prison in the Pacific Northwest who had depressive symptomology. Landreth and Lobaugh (1998) reported a group for incarcerated fathers which had a basic structure using Landreth’s filial therapy training model and included both psychoeducational portions for the father and interactive portions
between the father and their child. The authors concluded that filial therapy and training was significantly effective in lowering parental stress, improving parental acceptance of the child, decreasing problem behaviors in the child (parental report), and improving the child’s self-concept.

In the early 2000s, group therapy researchers in prisons began looking at specific theoretical orientations for both genders in group therapy and more specific outcome targets. For example, Ferszt et al. (2009) reported the need for group therapy for incarcerated females processing grief. The researchers stated that most women who are incarcerated experience grief from loss of interpersonal relationships in the community. Ferszt et al. continued to state that the grief is compounded through being disenfranchised, because many of the relationships are not recognized in a legal or official manner; thus, the women’s grief is not addressed. Ferszt et al. added that women both desire and a safe place and designated time to process their grief with others who are also grieving. Bradley and Follingstad (2003) reported positive outcomes in their pilot study using dialectical behavioral therapy skills development as the theoretical orientation with incarcerated females. The authors concluded that the intervention was effective based on the significant decrease in depressive symptoms.

Ezell and Levy (2003) reported a three-year study which utilized a complementary and alternative medicine (CAM) intervention in the form of an art program with juvenile inmates. Workshops consisted of arts, writing, music, wood-working, photography, drama, and other techniques involving the use of hands and materials in self-expression and creation. The program was considered successful based in the reduction in recidivism in this group as compared to the general juvenile population. Vannoy and Hoyt (2004) reported statistical significance in their study with male inmates using cognitive behavior therapy groups to reduce anger.
Erickson and Young (2010) used a psychoeducational and complementary and alternative method combination in a group of incarcerated females who had limited education and were defensive with regard to therapeutic interventions. This intervention introduced a therapeutic topic, such as fear or self-esteem, and then asked the participants to work at the art tables to explore their thoughts about the topics. The results of this study were measured through semi-structured interviews in which the following themes were identified: decreased loneliness, lowered drug cravings, an easing of self-critical thinking, and a lessening of boredom. Two group therapy studies were reported in 2013 and 2014 concerning the treatment of female trauma survivors (Karlsson et al., 2014; Paquin et al., 2013). Paquin et al. (2013) investigated the use of the trauma recovery and empowerment model (TREM) in group therapy of incarcerated females with PTSD symptoms. The authors reported no significant change in the person-group fit perceptions over time within the treatment groups, which they attributed to the brief time the participants had to form relationships, as TREM was previously studied in long-term group relationships. Karlsson et al. (2014) studied the PTSD symptomology of 14 incarcerated female sexual assault survivors using psychoeducation and brief exposure therapy. The authors reported the decrease of PTSD symptoms following treatment and suggested the need for specially designed treatment for females who survived sexual trauma in prisons.

Within the most recent years, group therapy in prisons evolved to use many diverse theories of orientation, a variety of complementary and alternative methods, and the research to discern under what circumstances and with which populations these various techniques and theories work best. One example was interpersonal violence groups for women (Bridges, et al., 2020; Karlsson et al., 2019) and for multi-gender survivors of adverse childhood events (ACEs; Lowe et al., 2017). Lowe et al. (2017) reported the use of person-centered group therapy in the
treatment of ACEs survivors. The authors reported improvement in depression, anxiety and stress, physical problems, addictions, trauma and abuse, bereavement and loss, self-esteem, interpersonal relationships, and living and welfare after the intervention. Karlsson et al. (2019) reported the use of exposure therapy to treat PTSD in incarcerated female survivors of sexual violence. Karlsson and colleagues reported positive outcomes for PTSD symptoms, depression, and anxiety. Using the same treatment as Karlsson et al. (2019), Bridges et al. (2020) did not find any difference in the amount of time the females had been incarcerated.

Another manner in which research has evolved in prisons is the study of a specific theoretical orientation, such as acceptance and commitment therapy (ACT) in the treatment of both genders and inmates with varied mental health concerns. Mahmoudi and Ghaderi (2017) reported the use of ACT group therapy for treatment of male prisoners in Tabriz, Iran. The authors reported positive outcomes with a reduction in stress and anxiety, but not an improvement in depressive symptoms. Riley et al. (2019) reported the use of manualized ACT group treatment in female inmates in South Australia in 2017 and 2018. The authors reported positive outcomes in this pilot study for all females, and the Indigenous group showed greater improvement.

Yet another perspective focuses mental health treatments to repair attachment disorders and cultivate parenting and prosocial behavior skills using treatment combinations and innovations (Brennan et al., 2018; Chuk & Sek-wing, 2018; Galbursera et al., 2017; Kersten et al., 2016; Lo et al., 2020; Mak & Chan, 2018; Richards et al., 2019; Sparks et al., 2017; Stetina et al., 2020; Stewart, 2016; Walker et al., 2017; Zerwas et al., 2016). Zerwas et al. (2016) found comparable positive outcomes in cognitive behavioral therapy groups for bulimia nervosa in both face-to-face and video-chat delivery modalities. Kersten et al. (2016) reported use of a
manualized cognitive behavioral therapy program focused on improving emotional regulation, interpersonal skills, and future-oriented thinking and behaviors in incarcerated persons, with one of the outcome variables the decrease in disciplinary charges. Kersten et al. (2016) reported a decrease in disciplinary charges during and after the group therapy intervention. Stewart (2016) reported a qualitative study done in Surrey, U.K. with females who were incarcerated with infant children or gave birth to their child after incarcerated. Stewart reported the mother-infant group therapy assisted in healthy attachment between the parent and child without the greater risk of “perverse enmeshment” (p. 162).

In 2017, three studies on group therapies in prison were published, one psychodynamic study with females who self-harm, one using CAM letter-writing to support mother-child bonding, and one using body-oriented psychotherapy as an intervention for persons with schizophrenia. Galbusera et al. (2017) started with the belief that a person with schizophrenia diagnosis is disconnected with their body rhythms, emotional expression, and interactions between their body and the exterior world. The authors reported the emphasis on body experience was essential for therapeutic change in this population. Sparks et al. (2017) conducted a qualitative study on a group of incarcerated mothers who sent letters to their children in expectation of strengthening their relationships with their children. The authors reported improvements in self-efficacy by the females and the “intense cathartic” aspect of the group (p. 368). Walker et al. (2017) reported a mixed-methods study conducted in three prisons in the U.K. for females who self-harm. The researchers concluded the program was helpful in decreasing feelings of depressive symptoms, hopelessness, and suicidal ideation.

Three studies reported group interventions with incarcerated persons in 2018. The first group (Brennan et al., 2018) was a diversionary intervention for women who were arrested for
non-violent, low-severity crimes in the U.K. The authors reported a statistically significant drop in re-arrest rates following participation this diversionary group treatment program. Chuk and Lee (2018) conducted a qualitative study using group narrative therapy with females and males in Hong Kong prisons. The authors reported the narrative group therapy program was helpful, with emerging themes of “positive experiences of the group process, activities that resonated, hopes and dreams, [and] inspiration from the group” (p. 11). Mak and Chan (2018) compared the use of group therapy based in CBT and groups based in positive psychology (PPI) and as-usual therapy in a Hong Kong female prison for the reduction of psychological distress and improving psychological well-being. The authors reported both the CBT and PPI interventions superior to treatment as usual, with PPI being slightly more effective in reducing psychological distress over cognitive behavioral therapy.

Richards et al. (2019) incorporated rap music into traditional group therapy as “an interpretive approach to help give an organic and authentic voice…of the participants’ narratives and experiences as group members” (p. 480). The researchers reported this study supports previous literature, that music and language together are powerful tools in supporting clients through emotional experiences.

Stetina et al. (2020) reported positive outcomes for both male and female inmates in Austria; males more in socio-emotional competencies and females in self-esteem. The study used dog-assisted group therapy, with one Labrador retriever and two human therapists. Overall, both males and females improved, with males showing the greatest change, and females reporting lower levels of competencies, generally, and the authors stated animal-assisted therapy in prisons is promising. Lo et al. (2020) reported on skills groups using positive psychology, CBT, and mindfulness in a South Australian, female prison. The researchers formed two stake-holder
groups to ensure the groups met the needs of the inmates and facility, and the other to ensure the
treatment was culturally appropriate for the Aboriginal and Torres Strait members. The authors
reported moderate improvement in wellbeing and reduction in psychological distress.

Finally, four systematic reviews and meta-analyses on group therapy interventions in
prisons, and conducted within the past five years, were located during this review of literature.
These systematic reviews and meta-analyses sought a more comprehensive understanding of
successful inmate group therapies (Auty et al., 2017; Fazel et al., 2017; Hacker et al., 2016; Kim
et al., 2016). Hacker et al. (2016) used the PRISMA model to systematically review and
quantitatively analyze 46 studies which used a manualized ACT program in a randomized
controlled design to assess anxiety or depression. Hacker et al. (2016) reported that ACT was
effective in the treatment of anxiety and depression but could not present conclusions regarding
the efficacy of ACT for psychoses or other more involved mental health concerns, or for physical
health conditions. Kim et al. (2016) performed a meta-meta-analysis on the efficacy of group
therapy treatment for sex offenders and compare results to a previous meta-analysis which
evaluated the efficacy of sex offender treatment 1995-2002. Kim and colleagues reported that
current sex offender treatment is more robust in lowering recidivism than previous treatments
with insight-oriented therapy as the least effective treatment and hormonal castration as the most
effective.

The third systematic review and meta-analysis was conducted by Auty et al. (2017) on
yoga treatments for psychological wellbeing in incarcerated persons. Auty and associates
concluded that yoga and meditation programs have positive effects on inmates’ behavior and
psychological wellbeing. Fazel et al. (2017) conducted a systematic review and meta-analysis to
understand the prevalence of substance use disorders in inmates and the heterogeneity of the
studies. This study also demonstrated an increase in substance use disorders in prisons in recent years. The researchers also uncovered correlations between greater therapy participation and lower drug use, as well as psychiatric assessment possibly decreasing substance use.

The History of Manualized Cognitive Behavioral Therapy (mCBT) Groups

The American Psychological Association defines manualized therapy as “interventions that are performed according to specific guidelines for administration, maximizing the probability of therapy being conducted consistently across settings, therapists, and clients” (APA, 2020, p. 1). Therefore, mCBT is a manualized therapy process based in cognitive behavioral theory. The need for effective group therapies in prisons was identified almost 100 years ago (Great Britain Prison Commission, 1938). Ross et al. (1988a) and Ross et al. (1988b) stated that, because of the many behavioral, economic, situational, and cognitive factors identified in inmates, group therapy needed an element of education, instead of being purely psychotherapy. The researchers continued by reporting that review of current treatments with inmates revealed that all the successful programs used a technique that supported a shift in the inmate’s cognitions.

Clark and Wells (1995) developed a cognitive approach to the treatment of social phobias becoming one of the first substantive mCBT processes for group therapies. The conclusion drawn by Clark and Wells, that “the problem persists because…[people] are using their own impression of themselves as the main evidence for the idea that other people are negatively evaluating them” (p. 90). This simple statement by Clark and Wells was sustained through two more years of research and honing the manualized CBT group process (Wells & Clark, 1997). On the heels of Clark and Wells, Muñoz and Miranda (1996) developed a mCBT group treatment for depression and were followed by Rosselló and Bernal (2007) in adapting this
mCBT depression group treatment for Puerto Rican adolescents. Muñoz and Miranda developed their manual through randomized controlled trials with the outcome goals “increasing pleasant activities, interpersonal skill training, or changing the way patients think” (p. 4). The manual included an outline for sessions, rules for group conduct, a daily mood scale for participants’ use, psychoeducational material, and cognition worksheets for every session. The 2007 adaptation by Rosselló and Bernal used the same manual outline with some minor cultural adaptations in phrasing of statements.

By the early 21st century, researchers and clinicians continued to confirm the use of mCBT as a reliable and trustworthy group therapy delivery method for multiple concerns and disorders. Some of these include parenting skills (Sangganjanavanich et al., 2010), symptom relief for PTSD and intimate partner violence (Ford et al., 2013; Hinton et al., 2011; Morland et al., 2011; Palmstierna et al., 2012; Zlotnick et al., 2009), mood disorders and associated behaviors (Conklin et al., 2020), anxiety disorders (Hoyer et al., 2017; Montreuil et al., 2016; Rubel et al., 2019), substance use disorders (Brownlee et al., 2017; Windsor et al., 2015), psychoses (Montreuil et al., 2016; Young et al., 2010), insomnia (Koffel & Farrell-Carnahan, 2014), and criminological traits (Berman, 2004). While all these mCBT group therapy studies were not conducted in prisons, it is important to explore the breadth of study using mCBT because the variety of study participants is reflected in the breadth of inmate populations.

Sangganjanavanich et al. (2010) conducted a qualitative study using mCBT with a group of mothers to investigate whether the mothers could learn to think of their child and approach parenting differently. The group therapy included psychoeducation in how to play with a child, demonstrations of play sessions, supervision, and play sessions with their child. Sangganjanavanich et al (2010) reported the results thematically in that, while participants felt
challenged in integrating the skills presented, they also felt empowered by the group support, and the mother-child relationships changed in positive manners, as did the child’s behavior.

Six studies addressed PTSD and interpersonal violence symptomatology. The first was Morland et al. (2011) who investigated the use of mCBT for anger management in military veterans with PTSD. The study included male veterans, most from the Vietnam War era in cohort format. The analyses showed no significant effects in the therapist conducting the sessions, the modality used (e.g., video or in-person), or the domain of ratings. The authors reported the use of video conferencing did not impact the therapist’s ability to adhere to the mCBT protocol. Hinton et al. (2011), also studying PTSD, investigated cultural adaptation of CBT (CA-CBT) as an intervention for treatment-resistant Latina females diagnosed with PTSD, in comparison to the applied muscle relaxation (AMR) intervention. The investigators reported both interventions were effective in the reduction of symptomatology, and CA-CBT was found more effective than the AMR treatment. Ford et al. (2013) studied incarcerated female participants with PTSD and affect dysregulation using the Trauma Affect Regulation: Guide for Education and Therapy (TARGET) program in comparison to a manualized Support Group Therapy (SGT). The TARGET treatment was reported to decrease PTSD symptoms and increase forgiveness but did not improve affect regulation more than the SGT treatment. Palmstierna et al. (2012) used a manualized group treatment for men seeking help for intimate partner violence in Norway. The researchers reported a statistically significant and substantial reduction in violent behaviors in the males receiving the mCBT treatment. Zlotnick et al. (2009) conducted a randomized controlled trial with females who have PTSD and substance use disorder using mCBT (Seeking Safety) versus treatment as usual (TAU). The authors reported that primary analysis showed a slightly better outcome in the realm of psychopathology only. Koffel and
Farrell-Carnahan (2014) conducted a study using group mCBT in the treatment of insomnia in veterans as prescribed by the Veteran’s Administration. The authors reported this mCBT intervention was feasible for use with veterans in a medical center setting and that the veterans were agreeable to this style of intervention. Additionally, the researchers reported significant improvement in sleep during the study, and continued improvement after completion of the program.

One study by Conklin et al. (2020) reported the use of mCBT for mood disorders involved in the treatment of vasomotor disorders in females. The researchers reported the study had excellent retention, reduction in menopause-related burden, symptoms of anxiety, stress, and depression, and improvement in quality of life.

Multiple studies were conducted using group mCBT as intervention for anxiety, and the most recent three studies are presented here. Montreuil et al. (2016) investigated the use of group mCBT in treating social anxiety in persons with first-time psychotic episodes. While the researchers reported the group mCBT treatment seemed to be effective with this population, they recommend continued study in this area. Hoyer et al. (2017) also researched group mCBT for anxiety in Germany. The study is based in the Clark and Wells group cognitive model for social phobias manual (1995) as the intervention as compared to CBT treatment as usual (TAU). The authors concluded the additional training in mCBT using the Clark and Wells model did not significantly raise the results of treatment. Rubel et al. (2019) reported using mCBT to treat anxiety in Switzerland. The authors concluded the way the therapists implemented the mCBT intervention, focus on the manual versus focus on the group members, did not significantly change the outcomes.
Two studies were located that used mCBT as a group intervention targeting substance abuse. Windsor et al. (2015) reported a meta-analysis of mCBT used as intervention for substance use disorders seeking efficacy across racial diversity. The differential effect size between White and non-White groups was significant, suggesting that mCBT produce stronger therapeutic results in White groups than ethnically and racially diverse groups. Brownlee et al. (2017) reported client engagement in group mCBT treatment in Ireland for the treatment of substance use between 2010 and 2013. The researchers reported that younger members were more likely to fail to complete the program, males dropped out more than females, members referred by their general practitioner failed to complete the program more than members who were referred from a crisis center or mental health team, members referred for the first time completed the program more often than those with multiple referrals, and members with alcohol use disorders completed more often than poly-substance users.

Two studies were located that reported using mCBT to treat psychoses. The first was previously reported above (Montreuil, 2016), and the second was Young et al. (2010) evaluation of Reasoning and Rehabilitation for Mentally Disordered Offenders (R&R2M) group mCBT intervention in two correctional facilities in the U.K. The authors reported the R&R2M group mCBT intervention was effective in reducing antisocial thinking and behaviour.

Berman (2004) conducted a study in Sweden reporting the use of the Reasoning and Rehabilitation (R&R) mCBT program as an intervention with male inmates. The author reported that participants who completed the program demonstrated an increase in prosocial behaviors, sense of coherence, impulsiveness, venturesomeness, empathy, and had a 25 percent lower recidivism rate. Berman also stated there was no significant change in attitude towards law, court, and police or identification with criminal others, and those who failed to complete the
program had a statistically significant higher recidivism rate than the controls and those who completed the program.

Extensions of Manualized Group Therapy

Currently, the Substance Abuse and Mental Health Services Administration (SAMHSA) advertises about 40 manuals available to treatment providers for several mental health and substance abuse concerns. These Treatment Improvement Protocols (TIPS) manuals address lifespan, families, substance addiction and recovery, trauma-informed treatments, cultural competencies in treatment, use of technology in treatment, clinical supervision, depression, group and individual techniques, and chronic pain management, to list a few (SAMHSA, 2020a). And, most recently, the World Health Organization (WHO; 2020) developed and promulgated a manualized generic group therapy program. The WHO’s *Group Problem Management Plus* (*Group PM+*) intends to provide mental health support for adults in remote communities who are exposed to adversity and cannot access conventional treatments.

Summary

This literature review presented evidence that both CBT and non-CBT group therapies are historically successful in treating numerous mental health concerns in different populations. However, the more recent results of non-CBT group therapies, such as Positive Psychology (Hacker et al., 2016; Mak and Chan, 2018), and the ethnic and racial comparison of CBT in a meta-analysis (Windsor et al., 2016) compelled this current study. As an employee of VADOC and the VADOC’s commitment to rehabilitation and successful re-entry into the community, the opportunity to analyze three years of group therapy data clamored for attention. Thus, the long history of group therapy used in prisons and the data available from the mCBT studies and non-CBT studies provide the foundation on which this proposed study is designed. This study aimed
to statistically analyze the effectiveness of CBT and mCBT with Virginia inmates as compared to other types of group therapies within the same population. It was expected the results of this study would add to the body of knowledge for group therapies in Virginia prison populations, and add insight into the seminal question: Is there a way to improve our services within VADOC?
CHAPTER III

METHODOLOGY

Introduction

This study used data provided by the Virginia Department of Corrections (VADOC) for a three-year period (calendar years 2017, 2018, and 2019) and used a retrospective data analysis to compare treatment types (mCBT vs. non-mCBT). In this study, mCBT studies included any study which was manualized and had a CBT theoretical orientation. This included manualized group therapy studies which were a combination of CBT and another theoretical orientation, e.g., CBT and ACT, or CBT and positive psychology. The non-mCBT studies were all studies that were not manualized or did not have a CBT component, e.g., non-manualized ACT, or manualized DBT.

Research Questions

The research questions for the study were:

Research Question 1: Does cognitive behavioral group therapy produce superior outcomes as measured by t-test scores when compared to other theoretical orientations in group therapy in VADOC?

Research Question 2: Do manualized group therapy treatments produce superior outcomes as measured by t-test scores when compared to non-manualized treatments in VADOC group therapy?

Research question 3: Do gender, security level, or mental health level influence group outcomes in VADOC?
Rationale

Comparisons of treatment methods and outcomes have not been recorded for VADOC’s group therapy studies. Studies have been checked for significance on an individual basis only. Integration and analysis of mCBT outcomes across studies as compared to outcomes of other theoretical orientations across studies could provide valuable information in inmate treatment and rehabilitation within Virginia and in places with similar prison and probation systems and demographics.

Data Provided

As an employee of the Virginia Department of Corrections (VADOC), I requested access to the group therapy results through my chain of command, and access was granted on 11 August 2020 (see Appendix A). All group therapy studies in VADOC have Initial Evidence Based Practice Program Descriptions approved through the mental health chain of command. The mental health chain of command starts with the Psychology Associate Senior at the individual prison and/or the regional Mental Health Clinical Supervisor, goes through the Mental Health Steering Committee, the individual prison’s warden, and two state program managers. The Psychology Associate Senior, the regional Mental Health Clinical Supervisor, or both, are licensed professionals in psychology, professional counseling, or clinical social work. Group therapy studies done in VADOC are required to have a pre- and post-test, and quantitative analyses for significance are reported in t-tests. Group therapy studies in VADOC are facilitated by master’s or doctoral level mental health practitioners, or by bachelor’s level human services or mental health individuals with specific training in group facilitation. Thus, these 172 studies done in the three calendar years of 2017 to 2019 appear to have qualities consistent for comparison. Detailed descriptions of all group therapy studies are found in Appendix B.
Eligibility Criteria

This following information describes the specific inclusion and exclusion criteria which was inspected to determine which of the 172 VADOC group therapy studies could be utilized in the quantitative analyses. Included in this section is an introduction to the groups’ designs, the participants, and the outcome measures of the groups’ studies.

Inclusion Criteria

To be included in this study, the study must have had a VADOC-approved Initial Evidence Based Practice Program Description. The use of the VADOC-approved Initial Evidence Based Practice Program Description as inclusion criteria ensured the group therapy studies were reviewed and approved by multiple qualified mental health and correctional professionals prior to implementation. This Initial Evidence Based Practice Program Description contains the group study name, the prison or facility at which the group was conducted, goal or purpose, the criminogenic factors targeted, the mental health factors targeted, supporting research, the type of group (e.g., manualized, process, psychoeducational, support), the theoretical orientation of the group study (e.g., CBT, ACT, DBT, Stages of Change, CAM, Positive Psychology), participant eligibility and exclusionary criteria, a description of the study’s activities including any manuals used, the pre- and post-test measures, the minimum qualifications of the group study facilitator, the length of the study session (e.g., 60, 90 minutes), the frequency of the study sessions (e.g., weekly, ongoing, bi-weekly), the number of sessions required to complete the program, and the number of inmates/participants in each study. In addition to the Initial Evidence Based Practice Program Description, the study must have a quantitative pre- and post-test measure, and the study must specifically address a mental health symptom or criminological behavioral change. This information, plus the security level of the
prison or facility (e.g., low, medium, or high, correlating to the potential risk of violence), the
mental health level of the facility (e.g., less serious or more serious mental health concerns), and
the gender (male or female only) housed in the prison or facility, was included in a working
spreadsheet for organization and comparison. Lastly, the number of group participants must have
been fixed, a closed group, meaning new group members are not admitted to the group
throughout that study.

**Exclusion Criteria**

Studies were excluded if the pre- and post-test measure was narrative. It is thought that
narrative measures could have confounded the results of this study’s meta-analyses. Exclusions
also included ongoing group therapy studies with intermittent measures, and studies in which the
gender make-up could not be determined. Only studies conducted within the prisons were
considered; the two studies conducted with probationers and parolees in the community were
excluded. Lastly, any study which did not have an approved Initial Evidence Based Practice
Program Description was excluded. In the case of studies which had reported poor attendance or
high attrition, the study(ies) were evaluated as to reasons for this phenomenon and analyzed for
inclusion using this insight. Poor attendance or high attrition was defined in each group’s Initial
Evidence Based Practice Program Description; with the exception of the one open, on-going
Cardio group, the attendance required for the group certificate was absenteeism of zero, one, or
two group meetings.

**Groups Study Designs**

The current study started with data resulting from the 172 group therapy studies done in
the calendar years 2017, 2018, and 2019 in the Virginia Department of Corrections (VADOCS) for
incarcerated persons and citizens who returned to the community and remain under the
purview of VADOC. All groups run for these studies were designed, outlined, reviewed, and approved by at least two of the following prior to convening the group: Psychiatrists, Licensed Clinical Psychologists, Licensed Clinical Social Workers, or Licensed Professional Counselors. The groups were facilitated by either professional master’s- or doctoral-level mental health clinicians or by trained bachelor’s-level group technicians. All groups in the Virginia Department of Corrections were founded in evidence-based practices and are documented as such in the approval process.

Because these group therapy studies were not randomized controlled trials (RCTs), they were termed as quasi-experimental using pre- and post-tests and producing outcomes in the form of single $t$-tests and using $\alpha = .05$ for the threshold of significance. Fifty-two group therapy studies were conducted in 2017, 58 in 2018, and 62 in 2019 ($N = 172$). Within these 172 group therapy studies, 614 individuals participated in group therapy studies in 2017, 612 participated in 2018, and 658 participated in 2019, for a total of 1,884 group study participants in VADOC during the three years of the current study data.

**Information about the Groups Studied.** Within the 172 group therapy studies, there were 38 different types of group therapy studies conducted. These studies varied in theoretical orientation and in whether they were manualized or not. The groups, collectively, targeted the mental health factors of coping skills, impulse control, emotional stability, self-care, anxiety disorder, trauma resolution, mood disorder, thought disorder, symptom management, personality disorder, medication management, and family issues. In 2017, the U.S. Department of Justice defined criminogenic needs as “characteristics, traits, problems, or issues of an individual that directly relate to the individual’s likelihood to commit another crime, such as low levels of education and employment performance, or substance abuse” (BOP-A, 2017). The VADOC
groups in this study targeted the criminogenic factors of criminal peers and associates, dysfunctional family ties, low self-control, criminal personality, criminal involvement, criminal opportunity, criminal attitudes, substance abuse, and antisocial values.

Within the total of group therapy studies conducted, two were conducted in the community with probationers and parolees, 69 were conducted in high security level facilities (most risk of violence), 86 in medium, and 15 in low security level facilities (lowest risk of violence). Fifteen of the group therapy studies were conducted with female participants, 156 with male participants, and one with unknown gender composition in the community. The two group therapy studies conducted in the community with probationers and parolees had mixed mental health categories, 24 groups were conducted with participants categorized as having the most serious and/or urgent mental health concerns, and the remaining 146 group therapy studies consisted of participants who had no mental health concerns or who were considered stable. The number of group participants ranged from five to 25. All groups met weekly, except one group that met twice weekly, and one group that met once or twice a month. The number of group sessions ranged from four to 20, with one group identifying as on-going. The length of group sessions ranged from 57 groups meeting for 60 minutes, one group meeting for 75 minutes, 105 groups meeting for 90 minutes, eight group meetings for 120 minutes, to one group meeting for 150 minutes (See Appendix C1). For the purposes of this meta-analysis, the variances in participant numbers, number of sessions, and length of sessions was not being integrated into the analyses. These factors of each group were implemented into the group study designs based on the security level and mental health level of the participants; thus, it is presumed the group designs are equivalent and can be compared.
Within the group therapy studies, six were conducted as complementary and alternative medicine groups, such as music, art, or horticulture, 21 were psychoeducational, 17 were psychoeducational and process, 124 were manualized across all theoretical orientations, three were process, and one was physical. The theoretical orientations of the 172 group therapy studies were three as Acceptance and Commitment Therapy (ACT), six as complementary and alternative medicine (CAM), 109 as strictly cognitive behavioral therapy (CBT), one CBT and CAM, one CBT/Mindfulness/CAM, three CBT/REBT/mindfulness/positive psychology, one cognitive processing therapy, 25 dialectical behavioral therapy (DBT), nine motivational interviewing/CBT/Stages of Change, four positive psychology, one psychotherapy, two REBT/CBT, four solution-focused brief therapy (SFBT), and three social learning theory (SLT; see Appendix C2.). The total number of groups that used CBT and were manualized was 93. The remaining 79 groups using theoretical orientations other than CBT or were non-manualized CBT.

Participants

All 172 VADOC group therapy studies were conducted using adults, 17 years and older, under the supervision of the Virginia Department of Corrections. Specific demographics of individual group members, such as race, age, mental health status, specific sentence lengths, types, or nature, of criminal offenses, are not available because inmates are a protected population, and this anonymity is the reason the data was available for study. The two group therapy studies that were conducted in the community (outside of the prisons) with probationers and parolees were excluded from this study. For the purpose of this study, security levels of the institutions were grouped as low, medium, and high, with high being the most severe crimes and greatest risk of continued violence, and low being the least severe crimes and those inmates who
have demonstrated the greatest rehabilitation and a lower risk of continued violence. This grouping was consistent with the security assignments per the U.S. Department of Justice, Federal Bureau of Prisons (BOP, 2019). As with security levels, mental health status was grouped into two subsections or groupings, less serious for those with no current mental health concerns or who were currently stable, and most serious for those who had the most serious mental health concerns or were not stable.

The following information presented for participants was reported directly from Virginia Department of Corrections publication *State Responsible Offender Demographic Profile* (VADOC, 2020d).

In this meta-analysis of 172 group therapy studies, 15 were conducted with female participants, 156 with male participants. Two groups were conducted in the community and were not considered in this study. Of the 172 studies, 24 group therapy studies were conducted with seriously mentally ill individuals in crisis and crisis recovery. The other 146 group therapy studies were conducted with individuals who range in mental health classification between no current dysfunction to serious, and stable, mental illness. Regarding security levels of the participants, 69 groups studies were conducted with high, or maximum, security level inmates, 15 were conducted with low security level inmates, and 86 were conducted with medium security inmates. The remaining two were conducted in the community with probationers and parolees who do not have a security level assigned; these two groups will not be considered in this study (See Appendix C1).

The number of inmates who were incarcerated for violent crimes ranged between 33 to 90 percent in males and zero to 17 percent in females. The number of inmates who were incarcerated for non-violent crimes ranged between five to 49 percent in males and zero to 49
percent in females. The number of inmates who were incarcerated for drug crimes ranged between two to 26 percent in males and zero to 27 percent in females. The number of inmates who were incarcerated for crime types not reported ranged between one to 25 percent in males and zero to eight percent in females (See Appendix C3).

The number of inmates serving a regular sentence ranged between 72 and 100 percent. Inmates serving a single life sentence ranged from zero to 16 percent. Inmates serving multiple life sentences ranged from zero to 11 percent. Some inmates are rated with no sentence because they are in a diversionary treatment program. Lastly, zero to two percent of the inmates are classified as “other” for this study; this group consists of inmates with more than three incarcerations for more severe crimes and those on death row (See Appendix C3).

Inmates between the age of 18 and 29 years made up 11 and 34 percent of the groups, with the exception of one facility which had less than one percent of inmates in this range. Inmates between the ages of 30 and 39 made up 30 to 56 percent of the groups, with the exception of the previously mentioned facility which had two percent of inmates in this range. Inmates between the age of 40 and 49 made up 17 to 27 percent of the groups. Inmates between the age of 50 and 59 made up six to 18 percent of the groups, with the exception of one facility which had 47 percent of inmates in this range. Inmates between the age of 60 and older made up zero to 11 percent of the groups, with the exception of one facility which had 32 percent of inmates in this range. It should also be noted that one facility houses the ten inmates who are 17 years old and were tried and convicted as if they were adults over 18 years; these youthful offenders were not participants in any of these studies (See Appendix C3).

**Outcomes**
Research outcomes were defined as “variables that are monitored during a study to document the impact that a given intervention or exposure has on the health of a given population. Typical examples of outcomes are cure, clinical worsening, and mortality” (Ferreira & Patino, 2017). Group therapy outcomes in VADOC included mental health symptoms (mental health factors) and behavior modification (criminogenic factors) and were quantified using t-test scores. Some examples of these were: depression, anxiety, distress tolerance, anger management, social skills, feeling of well-being, coping skills, mindfulness, satisfaction, and locus of control. Some group therapy studies had multiple outcome measures, and some outcome measures addressed multiple symptoms.

In this study, the following mental health factors were targeted in the original group therapy studies: coping skills, impulse control, emotional stability, self-care, anxiety disorder, mood disorder, thought disorder, personality disorder, trauma resolution, symptom management, medication management, and family issues. The criminological factors targeted were criminal peers and associates, dysfunctional family ties, low self-control, criminal personality, criminal involvement, criminal opportunity, criminal attitudes, substance abuse, and antisocial values. Using the VADOC-approved Initial Evidence Based Practice Program Description and the t-test quantitative outcome(s) for each group study, this study compared cognitive behavioral therapy (CBT) outcomes to other group study theoretical orientations and manualized outcomes to non-manualized outcomes.

Initial examination of the 172 group therapy studies and 215 individual t-test outcomes available, 149 data points were from CBT outcomes, and 66 were all other theoretical orientations outcomes; additionally, 158 were from manualized treatment outcomes, and 57 were from not-manualized treatment outcomes. Of the 149 CBT group data points, 79 had statistically
significant results, while 70 were not statistically significant. Of the 66 non-CBT group data points, 32 had statistically significant results, while 34 were not statistically significant. Of the 158 manualized treatment data points, 75 had statistically significant results, while 83 were not statistically significant. Of the 57 non-manualized treatment data points, 36 had statistically significant results, while 21 were not statistically significant. See Table 1 for more details regarding data points of theoretical orientation and manualized treatment.

**Table 1**

*Number of Data Points Based Within Theoretical Orientation and Manualization*

<table>
<thead>
<tr>
<th>Theoretical Orientation and/or Manualization of Treatment</th>
<th>Total Number of Data Points</th>
<th>Number of Statistically Significant Data Points (percentage)</th>
<th>Number of Non-Statistically Significant Data Points (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBT</td>
<td>149</td>
<td>79 (53%)</td>
<td>70 (47%)</td>
</tr>
<tr>
<td>non-CBT</td>
<td>66</td>
<td>32 (48%)</td>
<td>34 (52%)</td>
</tr>
<tr>
<td>Manualized</td>
<td>158</td>
<td>75 (47%)</td>
<td>83 (53%)</td>
</tr>
<tr>
<td>non-Manualized</td>
<td>57</td>
<td>36 (63%)</td>
<td>21 (36%)</td>
</tr>
<tr>
<td>CBT + Manualized</td>
<td>114</td>
<td>55 (48%)</td>
<td>59 (52%)</td>
</tr>
<tr>
<td>non-CBT + Manualized</td>
<td>44</td>
<td>20 (45%)</td>
<td>24 (55%)</td>
</tr>
<tr>
<td>CBT + non-Manualized</td>
<td>38</td>
<td>25 (66%)</td>
<td>13 (34%)</td>
</tr>
<tr>
<td>non-CBT + non-Manualized</td>
<td>21</td>
<td>11 (52%)</td>
<td>10 (48%)</td>
</tr>
</tbody>
</table>

*Note.* Total number of data points in 172 groups studies $N = 215$.

**Information Sources**

Three years of data, 2017, 2018, and 2019, were provided as three Excel spreadsheets, and the Initial Evidence Based Practice Program Descriptions were accessed through the VADOC intranet. Because of the proprietary nature of these studies, the original data was not available for study, and the Initial Evidence Based Practice Program Descriptions were, and are not available for public viewing unless requested through official channels. All other information presented in this study regarding programs and inmate demographics was garnered from public websites and referenced as such.
Study of Records

The following paragraphs discuss how the records and data were managed. Other information regarding inclusion and exclusion criteria will also be discussed.

Data Management

The data were originally obtained in three Excel spreadsheets, one for each calendar year. Each original spreadsheet contained: the year of the studies, the name of each group therapy study, the location where each study was conducted, the t-test statistic for each measurement in each group study, and any notes regarding attendance and instruments irregularities.

A new Excel spreadsheet was created to organize the VADOC group therapy studies. This new working spreadsheet first imported the data from the original three spreadsheets. Then, the VADOC intranet and the Initial Evidence Based Practice Program Descriptions were combed for further information regarding each group study at each facility. The resulting working spreadsheet included: the name of the group study, the prison or facility at which the group was conducted, the security level of the prison or facility, the gender housed in the prison or facility, the number of participants in the group, the number of sessions for each study, the frequency of the group sessions, the length of session meetings (e.g., 60, 90 minutes), the type of group (e.g., manualized, process, psychoeducational, support), the theoretical orientation of the group (e.g., CBT, ACT, DBT, Stages of Change, CAM, Positive Psychology), pre- and post-test instruments used, and mental health factors and criminogenic factors targeted. All electronic records were, and remain, in passworded files on a private, passworded computer with single-person access.

Selection Process

The working spreadsheet of 172 VADOC group therapy studies was examined using the previously defined inclusion and exclusion criteria. If a study failed to meet all the inclusion
criteria, that study was highlighted in red on the worksheet. Notes and graphics were kept on Word documents to track the exclusion process; this document was labelled “Study Eligibility Flow Chart” (See Appendix D).

**Risk of Bias**

Meta-analyses, by definition, use data collected from other researchers; thus, the results are only as good as the original research (Drucker et al., 2016). Although I did not conduct any of the original research group therapy studies, I am professionally associated with the original researchers. Because of this professional relationship, the meta-analysis sections of Cochrane’s Risk of Bias (RoB) tool were used to assess the bias within the original studies and this current study (Cochrane, 2020a; Cochrane 2020b; Stern et al., 2019). Using Cochrane’s RoB tool required consideration of the multiple aspects of the relationships between the group facilitators (researchers) and the inmates (participants), any evidence of non-adherence to group structure or manuals, if the quantitative analyses were appropriate for the instrument and the study, and if there was evidence of missing data. This framework by which bias was assessed contributed to the trustworthiness of this study.

**Meta-Analysis Procedures**

The “meta-analysis is a quantitative, formal, epidemiological study design used to systematically assess the results of previous research to derive conclusions about that body of research” (Haidich, 2010, p. 29-30).

**Data Analyses**

The random effects model was used because the treatment conditions within the groups varied and because moderating variables such as facilitator differences, gender, security levels, mental health status, and possibly other variables were yet to be uncovered (Field, 2018). The
data being utilized was interval data, as the t-tests were named, ordered, and had a proportionate interval between the measurements. This study compared two independent variables, mCBT and non-mCBT groups. The nature of the data was preemptively explored using SPSS. The data were found non-parametric \((n = 215, \text{range} = .810, M = .117, SD = .141, skewness = 1.520, kurtosis = 2.327)\). A QQ plot of the data revealed a curvilinear plot, and a histogram also showed a strong positive skew. Because of the non-parametric nature of the data, the Chi Square, the Kruskal-Wallis \(H\) one-way ANOVA, and the Mann-Whitney \(U\), as well as log, reciprocal, reverse score, and square root transformation methods were considered to explore the means of mCBT as compared to the means of non-mCBT (Ali & Bhaskar, 2016; Brown & Hettmansperger, 2002; Calver & Fletcher, 2020; Field, 2018; McCrum-Gardner, 2008). After substantial examination of literature regarding the use of parametric and non-parametric methods on positively skewed data, the two-way analysis of variance (ANOVA) \(F\)-test was chosen as best for avoiding interpretation conflicts and to maintain the integrity of the original data (Blanca et al., 2013; Delucci & Bostrom, 2004; Field, 2018; Field & Wilcox, 2017; Glass et al., 1972; Grayson, 2004; Hutchinson, 2000; Jahan, 2017; Levine & Dunlap, 1982; Norman, 2010; Schmider, et al., 2010; Stigler, 2010). To explore any possible influence gender, security level, or mental health level on group outcomes, the multiple regression model was used (Ali & Bhaskar, 2016; Field, 2018; McCrum-Gardner, 2008). Because this dataset descriptive statistics were explored at the time of proposal, outliers and extreme values were expected. To retain the weight of those scores if present, the plan was to winsorize (Field, 2018; Leys et al., 2019; Pollet & van der Meij, 2017; Stigler, 2010). Following quantitative analyses, the results were interpreted within the context of the original group therapy studies. Lastly, the study remained open to additional data becoming available throughout the process. Had this happened, the
dissertation committee would have been consulted for handling and analyzing changes. No additional data became available.

**Summary**

This research performed a meta-analysis on 172 group therapy studies conducted over three years in the VADOC. The meta-analysis was done to determine if there was a significant difference between the outcomes of CBT and non-CBT, and manualized and non-manualized group therapy with inmates in Virginia, and whether gender, security level, or mental health level had a relation to the group outcomes.
CHAPTER IV
RESULTS AND FINDINGS

Introduction

The purpose of this study was to compare cognitive behavioral therapy (CBT) group outcomes with non-CBT group outcomes, and manualized group outcomes with non-manualized group outcomes using three years of results from inmates’ group therapy studies in Virginia state prisons. This study also explored any impact mental health level, gender, or security level had on group outcomes. This chapter presents the results of the meta-analysis conducted to address these research questions:

**Research Question 1:** Does cognitive behavioral group therapy produce superior outcomes as measured by t-test scores when compared to other theoretical orientations in group therapy in VADOC?

**Research question 2:** Do manualized group therapy treatments produce superior outcomes as measured by t-test scores when compared to non-manualized treatments in VADOC group therapy?

**Research question 3:** Does gender, security level, or mental health level influence the group therapy outcomes in VADOC?

This chapter describes the data set, process of combing the group therapy studies for exclusion criteria, choice of statistical analyses, and the process and results of the statistical analyses.

**The Data Set**

In August 2020, the data were provided by Virginia Department of Corrections (VADOC) for academic study. The data set consisted of three years of group therapy studies conducted in VADOC facilities from 2017 through 2019. The original data was comprised of
172 group therapy studies. The information available in the studies included the $t$-test scores for the group study outcomes, the gender of group members as male and female only, the security level (Sec Lev) of the group members as low, medium, and high, and the mental health level (MH Level) of the group members as less serious and more serious (See Table 2). For this study, the types of groups were also divided into those with a cognitive behavioral therapy component (CBT) and those without any cognitive behavioral therapy component (non-CBT). Separately, the groups were also separated into those which provided a manualized, structured treatment plan for the group leaders to follow (Manualized) and those which were semi-structured or not structured and did not have a manual for the leaders to follow (non-Manual).

**Table 2**

*Demographics and Types of Groups*

<table>
<thead>
<tr>
<th></th>
<th>CBT</th>
<th>Non-CBT</th>
<th>Manualized</th>
<th>Non-Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Totals</strong></td>
<td>125</td>
<td>47</td>
<td>127</td>
<td>45</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>157</td>
<td>115</td>
<td>116</td>
<td>41</td>
</tr>
<tr>
<td>Female</td>
<td>15</td>
<td>10</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td><strong>Sec Lev</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>15</td>
<td>8</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Med</td>
<td>85</td>
<td>60</td>
<td>65</td>
<td>20</td>
</tr>
<tr>
<td>High</td>
<td>70</td>
<td>55</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>MH Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Serious</td>
<td>149</td>
<td>112</td>
<td>108</td>
<td>41</td>
</tr>
<tr>
<td>More Serious</td>
<td>21</td>
<td>11</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note.* This dataset represents 172 group therapy studies run in VADOC over three years, 2017-2019.

**Group Leaders and Member Screening**

For these group therapy studies, VADOC mental health staff solicited group members from referral waiting lists and from inmates who voluntarily participated in the groups. All groups were facilitated by licensed clinicians with a master’s or doctoral degree in psychology, clinical social work, or professional counseling, or hold a bachelor’s degree in a mental health field and received specialized training for group facilitation. The facilitators screened inmates’
records for group inclusion criteria and formed the groups as prescribed by the Initial Evidence Based Practice Program Description for that group study. In each study, the inmates completed individual pre- and post-tests administered by the group leader, the results of those tests were recorded and reported to the VADOC staff member who is distinct from all groups, and the statistical tests (t-test scores) were calculated for the whole group and reported.

**Mental Health and Criminogenic Factors Targeted**

The Initial Evidence Based Practice Program Description for each group study stated what mental health factors and what criminogenic factors the group study design targeted. The mental health factors targeted, collectively, were coping skills, impulse control, emotional stability, self-care, anxiety disorder, trauma resolution, mood disorder, thought disorder, symptom management, personality disorder, medication management, and family issues. The three mental health factors that were targeted by at least 50 percent of the were coping skills (85%), impulse control (75%), and emotional stability (65%). One hundred of the CBT groups targeted coping skills, and 25 CBT groups did not target coping skills. Forty-four of the non-CBT groups targeted coping skills, and three non-CBT groups did not target coping skills. Ninety-six CBT groups targeted impulse control, and 29 CBT groups did not target impulse control. All 25 DBT groups targeted impulse control; however, only 10 of the other 22 non-CBT groups targeted impulse control. Emotional stability was targeted by 112 groups; the groups that did not target emotional stability were the Cardio CAM group, three of the four SFBT groups, the three SLT groups, one DBT group, and 50 CBT groups.

The U.S. Department of Justice reported that “criminogenic needs [factors] are characteristics, traits, problems, or issues of an individual that directly relate to the individual’s likelihood to commit another crime, such as low levels of education and employment
performance, or substance abuse” (BOP-A, 2017). The criminogenic factors targeted, collectively, were criminal peers and associates, dysfunctional family ties, low self-control, criminal personality, criminal involvement, criminal opportunity, criminal attitudes, substance abuse, and antisocial values. The criminogenic factor of low self-control was targeted by more than 50 percent of the group therapy studies ($n = 61\%$) across all theoretical orientations. Interestingly, all four SFBT group therapy studies targeted low self-control. Substance abuse was the next most frequent criminogenic factor targeted ($n = 55; 32\%$). All theoretical orientations split the targeted factor of substance abuse, except SFBT; all SFBT did not include substance abuse as a targeted factor. More complete accounting of the mental health and criminogenic factors targeted can be found in Appendix F.

Mental health factors and criminogenic factors were not considered in the current study because the group study designs using the same manuals were inconsistent in the inclusion and exclusion of the mental health and criminogenic factors targeted. For example, the exclusion of emotional stability as a mental health factor targeted by only one of the DBT groups was not able to be explained at this time. Thus, these factors were not considered in this study.

**Group Study Outcomes**

The group therapy studies outcomes were derived from the outcome measures of each study, e.g., Trauma Symptoms Checklist-40, Clinical Anger Scale, etc., and the subsequent quantitative analyses results reported in the form of $t$-test scores. The $t$-test scores comprised 215 data point measurements of which 101 outcomes were statistically significant. Two studies were excluded because they were conducted in community settings (probation or parole) where the gender, mental health levels, and security levels of participants were not known. Four studies were excluded because the researcher was not able to quantitate the results; one of these four had
a note that the study needed a better instrument. Twelve data points were questioned because of high attrition rates as defined by each study’s Initial Evidence Based Practice Program Description as zero, one, or two absences. Finally, one group was excluded because it was an open, on-going cardio training group. This left 165 group therapy studies and 208 data points (See Table 3).

**Table 3**

*Meta-analysis Inclusion Criteria*

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>VADOC Group Therapy Studies, 2017-2019</td>
<td>172</td>
</tr>
<tr>
<td>Conducted within a prison</td>
<td>170</td>
</tr>
<tr>
<td>Quantifiable results</td>
<td>166</td>
</tr>
<tr>
<td>Closed group</td>
<td>165</td>
</tr>
</tbody>
</table>

The number of data points in each theoretical orientation and the number of statistically significant outcomes are captured in Table 4. In this meta-analysis, only the comparison of the CBT outcomes versus all outcomes from groups which did not use CBT was conducted.

**Table 4**

*Group Study Outcomes*

<table>
<thead>
<tr>
<th>Theoretical Orientation</th>
<th>No. of Data Points</th>
<th>No. of Significant Outcomes</th>
<th>Percentage of Significant Outcomes</th>
<th>No. Attributed to Attrition or Inadequate Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBT</td>
<td>153</td>
<td>73</td>
<td>48</td>
<td>12</td>
</tr>
<tr>
<td>DBT</td>
<td>33</td>
<td>18</td>
<td>55</td>
<td>0</td>
</tr>
<tr>
<td>CAM</td>
<td>9</td>
<td>4</td>
<td>44</td>
<td>0</td>
</tr>
<tr>
<td>ACT</td>
<td>6</td>
<td>1</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Positive Psych</td>
<td>4</td>
<td>1</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>SFBT</td>
<td>4</td>
<td>1</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>SLT</td>
<td>3</td>
<td>3</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Psychotherapy</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CPT</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>215</strong></td>
<td><strong>101</strong></td>
<td><strong>47 (average %)</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

*Note:* The table displays the number of data outcome points, the number of significant outcomes, and the percentage of significant outcomes in the original data set received from VADOC.
This meta-analysis also compared manualized treatments against non-manualized treatments. The same information regarding attrition rates and potentially inadequate instrument applied to the same 13 data points. The numbers of data points in each type of group and the number of statistically significant outcomes are captured in Table 5 for manualized treatments, psychoeducational, complementary, and alternative techniques.

### Table 5

**Group Study Outcomes**

<table>
<thead>
<tr>
<th>Type of Group Delivery Style</th>
<th>No. of Data Outcome Points</th>
<th>No. of Significant Outcomes</th>
<th>Percentage of Significant Outcomes</th>
<th>No. Attributed to Attrition or Inadequate Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manualized</td>
<td>158</td>
<td>75</td>
<td>48</td>
<td>11</td>
</tr>
<tr>
<td>Psychoeducation</td>
<td>47</td>
<td>29</td>
<td>62</td>
<td>2</td>
</tr>
<tr>
<td>Complementary</td>
<td>10</td>
<td>5</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>109</td>
<td>51 (average %)</td>
<td>13</td>
</tr>
</tbody>
</table>

*Note: The table displays the number of data outcome points, the number of significant outcomes, and the percentage of significant outcomes in the original data set received from VADOC.*

**Study Selection**

A typical systematic review and meta-analysis is usually conducted on published studies. This study had the original data for the group studies as the data set for the current study. The quantitative analyses (*t*-test statistics) were calculated by a Licensed Clinical Psychologist in VADOC. Additionally, I was employed by the VADOC for six months in 2017 but was not working in any of the facilities where the studies were conducted during those six months. Because of my association with the original research, and in order to reduce potential personal bias, the meta-analysis portions of Cochrane’s Risk of Bias (RoB) tool (Cochrane, 2020a; Cochrane, 2020b; Higgins et al., 2019) were used to minimize personal biases in this study. Cochrane’s RoB tool was developed for assessing the threats to internal validity in randomized controlled trial study designs used for meta-analyses, and the RoB Tool sets forth an algorithm.
for levels of concern about research bias. Tables 6a and 6b outline those RoB Tool questions and algorithm risk for meta-analyses used in this study.

**Table 6a**

*Cochrane’s Risk of Bias Meta-Analysis Questions for the Original Research*

<table>
<thead>
<tr>
<th>RoB Question</th>
<th>Decision or Rating</th>
<th>Risk of Bias Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the assessment adhere to the intervention?</td>
<td>Yes</td>
<td>Low risk</td>
</tr>
<tr>
<td>Were the people delivering the intervention aware of the participation in a study?</td>
<td>Yes</td>
<td>High risk</td>
</tr>
<tr>
<td>Were the participants aware of their participation in a study?</td>
<td>Yes</td>
<td>High risk</td>
</tr>
<tr>
<td>Were there deviations from the intended intervention?</td>
<td>No</td>
<td>Low risk</td>
</tr>
<tr>
<td>Was an effective analysis used to assess the intervention?</td>
<td>Yes</td>
<td>Low risk</td>
</tr>
<tr>
<td>Could the outcomes have been influenced by the knowledge of the intervention?</td>
<td>Possibly yes</td>
<td>Some concerns</td>
</tr>
<tr>
<td>What is the predicted direction of bias?</td>
<td>Unknown</td>
<td>Some concerns</td>
</tr>
</tbody>
</table>

**Table 6b**

*Cochrane’s Risk of Bias Meta-Analysis Questions for the Current Study*

<table>
<thead>
<tr>
<th>RoB Question</th>
<th>Decision or Rating</th>
<th>Risk of Bias Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>What sources were used in the literature review, journal articles, conference abstracts, grey literature, communication with a sponsor, etc.?</td>
<td>Journal articles and books</td>
<td>Low risk</td>
</tr>
<tr>
<td>What is the predicted direction of bias?</td>
<td>Unknown</td>
<td>Some concerns</td>
</tr>
</tbody>
</table>

Applying the Cochrane RoB Tool to both the original research and the current study, many of the answers (4 out of 9) were rated as “low risk,” and one-third (3 out of 9) of the answers were rated as “some concerns.” Therefore, the 172 studies used in this meta-analysis were at an overall low risk for researcher bias, with the greatest risk being the knowledge of the group leaders and group members of their participation in a study. In the case of these studies done in Corrections settings, a bias direction cannot be predicted. This is because the intentions of the
participants to please the group leaders and report positively or the intention to negatively impact the outcomes was unpredictable.

Performance attrition, diffusion, experimenter bias, group leaders’ experience in groups, and maturation were possible threats to the internal validity of the 172 studies and 215 data points. There were 215 data points in 172 studies because some group therapy studies reported multiple measurements, e.g., positive symptoms and negative symptoms in the same study, which resulted in 215 points of outcome (See Appendix E). Threats to external validity included situational factors, group member selection bias, and the use of pre- and post- tests. Because these threats to internal and external validity could no longer be addressed, and because it could be argued these threats to validity will continue to exist for groups and studies at VADOC, all studies were included with regard to bias.

**Statistical Analyses**

The dataset used in the current research was collected from group treatment studies conducted during a three-year period, 2017-2019, in VADOC and was presented as t-score statistics for 172 group therapy studies (See Appendices D and E). This meta-analysis performed two-way analysis of variance (2-way ANOVA) to evaluate the statistical significance of CBT groups versus non-CBT group outcomes, and manualized versus non-manualized group outcomes. Hierarchical Multiple Regression (HMR) was also conducted to determine if the gender, mental health level, or security level influenced the group outcomes.

Descriptive statistics were computed to explore the shape of the dataset. The data were found to be positively skewed (\( M = .117, SD = .141, skewness = 1.520, kurtosis = 2.327, Shapiro – Wilk W(211) = .798, p < .001; Hair, et al., 2010\)). Because the skewness was greater than +/- 1, the use of non-parametric analyses was explored. The non-parametric
analyses considered were the Chi Square, the Kruskal-Wallis $H$, or the Mann-Whitney $U$, and the transformation of the data in a log, reciprocal, reverse score, or square root transformation. After consideration and review, these options were not used as outlined in the following paragraphs.

Using a rank-order analysis would eliminate outliers and lessen the impact of skewness. Superficially, this seems to be a prudent plan. However, by artificially normalizing the dataset, the distance between data points is lost, and the understanding of the shape of the dataset is no longer its true form (Field, 2018). Additionally, by ranking the data, the weight of data groups becomes distorted and does not always represent the original data (Hutchinson, 2000). Using a transformative process means that geometric information is now being compared, rather than the original mathematical means, which impacts interpretations of results (Field, 2018).

Additionally, it has been demonstrated that 1) most often transformations fail to improve validity (Glass, et al., 1972), 2) transforming the data can make interpretations less clear (Grayson, 2004), and 3) datasets often remain skewed even after the transformation (Field & Wilcox, 2017).

A deeper look into parametric tests, non-parametric tests, and the construct of robustness was summarized best by Stigler (2010), “…there was and is no shortage of important and exciting research on robustness” (p. 280). Stigler also stated that prior to Huber’s publication in 1964 reporting a “best robust answer” (p. 278), robustness was thought of as an argument of concessions between statisticians and theoreticians. McCrum-Gardner (2007) stated that failure to choose the correct analysis results in “invalid results and misleading conclusions” (p. 38). McCrum-Gardner reported that, even though non-parametric analyses are generally not as adaptable and powerful as the corresponding parametric analysis, they should be used if the assumptions for parametric methods analyses cannot be supported.
Levine and Dunlap (1982) recommended transforming skewed data if the goal is to maintain higher power through the analyses. Levine and Dunlap also reported that finding the correct transformation can be challenging, and that sometimes transformations create other “discrepancies in group variances” (p. 280). Levine and Dunlap’s final statement indicated the use of conservative alpha values in the parametric testing of skewed and leptokurtotic data would yield robust results and could lower the power of the analysis when rejecting the null hypothesis.

Several additional studies supported the use of rank sums, non-parametric testing to avoid problems with parametric assumptions (Dunn, 1964; Keselman et al., 2008; Vargha & Delaney, 1998). Other studies reported that type I error (α) and type II error (β) do not change with assumptions of parametric violations (Schmider et al., 2010), that larger samples will meet the parametric assumptions (Delucci & Bostrom, 2004), that robust methods will yield reliable conclusions even if the data is non-linear (Norman, 2010), that normal distribution is not typical in real data (Blanca et al., 2013), and that skewness has little effect, if any, on the power of the ANOVA $F$-test (Jahan, 2017).

The decision was to use the two-way ANOVA to avoid interpretation challenges and any discrepancies in group variances, and to maintain the integrity of the original data. The two-way analysis of variance (ANOVA) $F$-test is considered a robust parametric method, even in the case of skewed data sets. The two-way ANOVA was also chosen to seek any interaction effect between theoretical orientation and manualized treatment, in addition to the main effects of the theoretical orientation and manualized treatment.

Secondarily, a hierarchical multiple regression was chosen to demonstrate the effect of the covariates, gender, security level, and mental health level in predicting the outcomes of group therapies in VADOC. Standard multiple regression does not allow a shared variation to be
attributed to any particular, or specific, independent variable. In hierarchical multiple regression, the shared variation is assigned to the variables in the preceding regression equation. Thus, when an independent variable is added, the result explains the added, or unique, variation to the dependent variable from that added covariate.

**Overall Findings**

This meta-analysis study was designed to explore the main effects and interaction of two dichotomous, nominal independent variables, CBT theory vs. all other theories as a group and manualized vs. non-manualized, on the continuous dependent variable, group therapy outcomes, measured in $t$-score statistics, in VADOC. Secondarily, the study design included examination of any impact of three nominal covariates in predicting the outcomes of group therapies in VADOC. All analyses were conducted through the IBM SPSS statistical analysis package, version 27. The two-way ANOVA interaction effect between theoretical orientation and manualized treatment was found not significant, as was the main effect of manualized treatments. The main effect of theoretical orientation was found to significant in that non-CBT groups demonstrated statistically significant better outcomes that CBT groups. The Hierarchical Multiple Regression (HMR) found a statistically significant impact of gender and security level on the group outcomes, but no statistical significance in the impact of mental health level on group outcomes. The results of these analyses are reported and discussed further in the following paragraphs.

The two-way ANOVA was conducted. The boxplots were then run on the residuals; residuals being the differences between the individual value and the mean of the group’s values (Field, 2018). The mCBT group had 10 outliers and one extreme value, and non-manualized CBT had four outliers and four extreme values. The non-CBT theoretical orientations, whether
manualized or not, displayed no outliers. The decision was made to retain the outliers and extreme values at this time. The data were found not normally distributed, as assessed by Shapiro-Wilk’s test, mCBT $F(109) = .760, p < .001$, non-manualized CBT $F(39) = .704, p < .001$, non-CBT, manualized $F(37) = .865, p < .001$, and non-CBT, non-manualized $F(23) = .914, p = .049$. The decision was made to continue the analysis and interpretation at this time with the non-parametric data. There was homogeneity of variance as assessed by Levene’s test for equality of variances, Levene($3,204$) = 1.388, $p = .248$. There was no statistically significant interaction between theoretical orientation and manualization for group therapy $t$-test scores, $F(1,204) = .084, p = .773$, partial $\eta^2 < .001$.

As planned at this point, the option of trimming or winsorizing was evaluated to normalize the outliers and extreme values. Trimming data involves truncating the data at the point where the outliers exist; all outliers and extreme scores are completely eliminated from the dataset. This trimming of values eliminates all impact of these outliers and extreme values on the analyses. Stigler (2010) reported that, in their research, the original sample did almost as well as a ten percent trimmed mean, so trimming does not add value to the analysis in many instances. Winsorizing data involves changing the outlier and extreme value scores to the next greatest score that is not an outlier. Thus, winsorizing retains the score’s place in the dataset and acknowledges some of the value of those scores in the overall analyses and interpretation (Field, 2018).

Pollet and van der Meij (2017) warn against indiscriminate elimination or modification of data because the results can change from insignificant to significant. Leys et al. (2019) discussed examining the individual data points to determine whether the datum is a legitimate value. Leys et al. stated the most important aspect of outlier handling is to make a decision prior to running
the analysis, e.g., ANOVA, about how outliers and extreme scores will be handled. During the
design phase of this study, the decision was made that outliers and extreme values would be
winsorized in order to somewhat retain the weight of those scores in the analyses. In the 208
datum points, 19 scores were winsorized, approximately nine percent of the dataset.

Another boxplot was run, and no outliers were observed. Using Shapiro-Wilk’s test, the
assumption for normalcy was violated in all cases, mCBT $F(109) = .808, p < .001$, non-
manualized CBT $F(39) = .848, p < .001$, non-CBT, manualized $F(37) = .865, p < .001$, and
non-CBT, non-manualized $F(23) = .914, p = .049$. The decision was made to continue the
analysis and interpretation at this time with the winsorized, non-parametric data. Using Levene’s
test of equality of variances, the assumption for homogeneity of variances was violated based on
the median with adjusted degrees of freedom Levene (3, 166.514.) = 9.482, $p < .001$. The analyses were continued because of studies reporting that ANOVA produces valid and reliable
results when assumptions for normalcy are violated (Blanca et al., 2013; Delucci & Bostrom,
2004; Jahan, 2017; Norman, 2010; Schmider et al., 2010).

A two-way ANOVA was run using the winsorized dataset and there was not an
interaction effect between the theoretical orientation of groups and the manualization of groups,
$F(1,204) = 1.492, p = .223$, partial $\eta^2 = .007$ (see Table 7). This indicated there was not a
statistically significant additive effect of theoretical orientation and manualization on the group
therapy outcomes (Faraway, 2015).

Table 7

Two-way ANOVA

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>$F$</th>
<th>$\eta^2_p$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBT vs. Non-CBT</td>
<td>1</td>
<td>19.616</td>
<td>.088</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Manualized or Non-manualized</td>
<td>1</td>
<td>3.009</td>
<td>.015</td>
<td>.084</td>
</tr>
<tr>
<td>Theoretical Orientation*Manualization</td>
<td>1</td>
<td>1.492</td>
<td>.007</td>
<td>.223</td>
</tr>
</tbody>
</table>
Analysis of the main effects assessed the effect of one independent variable on the dependent variable while ignoring the other independent variable. It must be noted that this study was considered an unbalanced design because there were unequal numbers of cases in cells of the design, e.g., 148 CBT vs. 60 non-CBT cases, and 146 manualized vs. 62 non-manualized cases. The unbalanced design was reported as common in observational designs (Iversen & Norpoth, 1987). This was important in interpretation of the main effects because main effects/independent variables are not only sensitive to the type of sum of squares (SS) used, but main effects are also sensitive to possible confounding in unbalanced designs (Fox, 2016; Stevens, 2009). SPSS used Type III SS, which evaluated the effect of each variable after accounting for other factors; additionally, Type III SS was able to analyze the main effects in the presence of possible insignificant interactions because interaction effect was in the model (University of Goettingen, 2021; University of Toronto, 2021). It was also reported that some interaction will always exist between independent variables in social science studies, even if it is not at a significant level (Faraway, 2015; Fox, 2008; Searle, 2006); thus, the Type III SS was maintained in this model.

The two-way ANOVA main effect for the use of CBT or another theoretical orientation was evaluated, and there was a statistically significant main effect of theoretical orientation in VADOC group therapy on group therapy outcomes, $F(1,204) = 19.616, p < .001$, $\eta^2 = .088$. This indicated that using CBT or another theoretical orientation significantly impacted the outcome of group therapies in VADOC. The difference was in the pairwise comparison, and theoretical orientations other than CBT were associated with a mean outcome score of $0.080, 95\% CI [.044,.115]$ higher than groups using CBT, $p < .001$. 

The two-way ANOVA main effect for manualized treatment was evaluated, and there was no statistically significant main effect of manualized treatment in VADOC group therapy on group therapy outcomes, $F(1,204) = 3.009, p = .084, partial \eta^2 = .015$. This indicated that using a manual or not using a manual did not significantly impact the outcome of group therapies in VADOC. No post hoc analyses were necessary because of the lack of statistical significance in this main effect.

The third research question inquired about any possible influence gender, security level, or mental health level covariates might have on the group therapy outcomes in VADOC. Hierarchical multiple regression (HMR) was used because HMR allows shared variance from preceding models to be accounted for, and the contribution of the most recent, specific covariate/independent variable is quantified as the unique contribution of that specific variable on the dependent variable.

The six assumptions for HMR were examined. Assumptions one and two were met, as the dependent variable, $t$-test scores from group therapy outcomes, was a continuous scale variable, and the independent variables and covariates were all nominal scale variables. There was independence of residuals as assessed by a Durbin-Watson statistic of 1.870. A somewhat linear relation existed between the $t$-test scores and theoretical orientation, manualized treatment, gender, security level, and mental health level as observed on scatter plots. There was not homoscedasticity of residuals as assessed by a visual inspection of a plot of studentized residuals versus unstandardized predicted values. Multicollinearity was not present as all Pearson correlation values were $r < .7$ (Field, 2018), and the Collinearity Statistics, Tolerance, and VIF were greater than .1 and less than 10, respectively. There were no outliers noted, as defined by a
standardized residual greater than \( +/− 3 SD \) cutoff. The residuals/errors had a slight positive skew and were approaching normal distribution as observed on the histogram.

The hierarchical models were established using theoretical orientation and manualized treatment in model one, adding gender in model two, mental health level in model three, and security level in model four. The use of theoretical orientation and a manual as predictors of group outcomes in VADOC was statistically significant, \( R^2 = .094, F(2,205) = 10.655, p < .001 \). The addition of gender to the prediction of the group outcomes led to a statistically significant increase in \( R^2 \) of .023, \( F(1,204) = 5.368, p = .022 \). The addition of mental health level to the prediction of group outcomes was not significant, \( R^2 \) increased .015, \( F(1,203) = 3.401, p = .067 \). The addition of security level to the prediction of the group outcomes led to a statistically significant increase in \( R^2 \) of .040, \( F(1,202) = 9.695, p = .002 \). The full model of theoretical orientation, manualization, gender, mental health level, and security level to predict group therapy outcomes in VADOC was statistically significant, \( R^2 = .172, F(5,202) = 8.374, p < .001 \), adjusted \( R^2 = .151 \) (see Table 8).

Table 8

*Hierarchical Multiple Regression Results*

<table>
<thead>
<tr>
<th></th>
<th>( R^2 )</th>
<th>( F ) Change</th>
<th>df 1</th>
<th>df 2</th>
<th>( p ) – value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>.094</td>
<td>10.655</td>
<td>2</td>
<td>205</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Model 2</td>
<td>.023</td>
<td>5.368</td>
<td>1</td>
<td>204</td>
<td>.022</td>
</tr>
<tr>
<td>Model 3</td>
<td>.015</td>
<td>3.401</td>
<td>1</td>
<td>203</td>
<td>.067</td>
</tr>
<tr>
<td>Model 4</td>
<td>.040</td>
<td>9.695</td>
<td>1</td>
<td>202</td>
<td>.002</td>
</tr>
<tr>
<td>Full Model</td>
<td>.172</td>
<td>8.374</td>
<td>5</td>
<td>202</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

*Note: Predictors*

Model 1: CBT or non-CBT, manualized or not
Model 2: CBT or non-CBT, manualized or not, gender
Model 3: CBT or non-CBT, manualized or not, gender, MH Level
Model 4: CBT or non-CBT, manualized or not, gender, MH Level, Security Level
Slope coefficients were checked. For CBT versus non-CBT theoretical orientations, $B = .061, p < .001$; therefore, non-CBT theoretical orientations are predicted to yield .061 greater outcomes than CBT. For use of a manual in group therapy versus not using a manual, $B = -.034, p < .039$; therefore, the predicted outcomes for non-manualized treatments are .034 less than group therapy using a manual. For male versus female, $B = .090, p = .002$; therefore, the predicted group therapy outcomes for males are .090 greater than the outcomes for females. For mental health levels, $B = .030, p = .148$; therefore, the predicted group outcomes for those with less serious mental health concerns versus those with more serious mental health concerns is not significantly different. For security levels, $B = -.042, p = .002$; therefore, the predicted group outcomes will improve at a rate of .042 as security level decreases.

**Summary of Findings**

Overall, there was no significant interaction between theoretical orientation and manualization of treatment, and there was not a statistical significance in whether treatments were manualized or not. There was, however, a statistically significance in the use of CBT or theoretical orientations that did not have any CBT component, with non-CBT groups yielding a higher outcome than CBT groups. There was a statistically significant impact of gender and security level on the outcomes of the groups. The predicted outcomes for male groups were greater than those of female groups, and the predicted outcomes for security levels increased as security levels decreased. The predicted outcomes for different mental health levels were not found statistically significant.
CHAPTER V

CONCLUSIONS

This chapter provides a summary of the information, generalizability of the findings, conclusions, limitations of this study, and possible implications of this meta-analysis. The purpose of this meta-analysis was to compare the group treatment theoretical orientations (CBT vs. non-CBT), the manualization of group treatments, and to investigate any impact gender, mental health levels, or security levels had on group treatments in Virginia Department of Corrections (VADOC) during 2017, 2018, and 2019. Results of this meta-analysis will augment existing evidence about group treatments in Corrections, and aid VADOC in decisions regarding further group treatments. A synopsis of previous chapters is provided for the convenience of the reader.

Chapter One provided the historical accounting of group therapy treatments in prisons that were developed originally in England as psychotherapy groups and employment training groups (Great Britain Prison Commission, 1938; Shapland, 2019), and, through time, transformed group therapy into a vast array of treatments encompassing multiple theoretical orientations (CBT, DBT, ACT, SFBT, etc.), manualization, and numerous modalities (i.e., psychoeducation, process, complementary and alternative methods, etc.; Crawcour et al., 2012; Fawcett, 1961; Lang, 2001; McCorkle, 1952; Morland, 2011; Ostby, 1968; Rappaport, 1971; Rosenthal & Shimburg, 1958; SAMSHA, 2020b; Scott, 1993; Taylor, 1961; Uehling, 1962; WHO, 2020). The problem statement was the need to review the effectiveness of manualized cognitive behavioral therapy (mCBT) as a dominant group treatment within VADOC’s particular demographics. The purpose of this study was to examine whether CBT group treatments were superior in outcomes when compared to non-CBT group treatments, and whether manualized
group treatments were superior in outcomes when compared to non-manualized group treatments in VADOC for the years 2017 to 2019. While group treatment outcomes were recorded in VADOC, a quantitative evaluation of the combined outcomes had not been conducted. The rationale for examining the performance of collective group treatments over three years and throughout the state was that this meta-analysis might provide evidence of which treatment types provide the best outcomes in Virginia prison populations, and this would inform VADOC as to best practices for evidence-based, group treatments among a diverse population. The significance of the current research was to add to the understanding of group treatment methods within VADOC, and to influence choices made regarding future group treatments in VADOC populations.

Delimitations of this meta-analysis were the boundaries of persons and groups within VADOC, dearth of individual demographic information, and access to only t-test outcomes from the original studies. The limitations of the current study were possible deficiency in cultural adaptation of treatments to population needs, generalizability, and that this study is a meta-analysis and cannot be used for cause and effect.

This study was based in cognitive behavioral theory (CBT) as the most prevalent theoretical orientation for VADOC group treatments. Cognitive behavioral theory was determined to be highly effective in treating multiple mental health concerns and behavioral issues (APA, 2017a; SAMHSA, 2020a). Cognitive behavioral therapy premise is that, if a person can identify their faulty cognitions, they can change their behavior (Mayo Clinic, 2021; Neukrug, 2021).

Chapter Two presented a literature review and historical accounting of the costs of incarceration in VADOC, and group therapy as used and reported in prisons globally. It was
noted that Virginia taxpayers spent more than $1.2 million in 2019 to care for more than 90,000 inmates, probationers, and parolees in the state (VADOC, 2019b). Demographics for Virginia and VADOC in 2019 were delineated: Commonwealth of Virginia as 61 percent White (non-Latin), 20 percent Black, 10 percent Latinx, and 9 percent all others, with females representing 51 percent of Virginia’s populations (U.S. Census, 2020), and VADOC as 41 percent White (non-Latin), 55 percent Black, three percent Latinx, and less than one percent all others, with females representing eight percent of the VADOC population (VADOC, 2020d).

The literature review included challenges of conducting groups, such as low cognitive capacity or education, mixed criminal histories, desire to fix others, negative comments, and pushing of personal boundaries (Lowenstein et al., 2020). Barriers to group treatment in prisons were emergent bi-lingual participants, literacy, unruly participants, work assignments, medical appointments, sporadic attendance, stressors because of family separations and mental health issues, motivation, lack of emotional regulation or understanding emotions, anger, and social phobia (Daniel, 2007; MacNair-Semands, 2002; Marsh, 2019; SAMHSA, 2013; SAMHSA, 2015). Trauma, including hate-based violence, was identified as a hidden barrier to treatment because trauma frequently happens in childhood and goes nameless, especially in males, even though the health problems, mental health concerns, and behavioral issues become pronounced (CDC 2020a; CDC, 2020b; Dye, 2018; Glantz et al., 2017; ISTSS, 2019).

Historical studies of group treatments in prisons were reviewed, providing an impression of more and less successful group treatment research conducted with incarcerated participants. This literature review focused on the recent past because most reports prior to the 1990s were vague and research did not adhere to current protocols. Studies in prisons were located that examined treatments for substance abuse, depression, filial training therapy, multiple theoretical

The use of manualized treatment was reviewed with Clark and Wells (1995) as the seminal use of a manual in group treatment for social phobias. Muñoz and Miranda (1996) developed a manualized group treatment for Spanish-speaking people to treat depression. Fifteen studies reported manualized CBT as highly successful in group treatments for many mental health and behavioral issues (Berman, 2004; Brownlee et al., 2017; Conklin et al., 2020; Ford et al., 2013; Hinton et al., 2011; Hoyer et al., 2017; Koffel & Farrell-Carnahan, 2014; Montreuil et al., 2016; Morland et al., 2011; Palmstierna et al., 2012; Rubel et al., 2019; Sangganjanavanich et al., 2010; Windsor et al., 2015; Young et al., 2010; Zlotnick et al., 2009). The use of manuals in group treatment was further supported when the U.S. Department of Health and Human Services’ Substance Abuse and Mental Health Services Administration (SAMHSA) developed treatment manuals for multiple issues and provided these manuals to clinicians free of charge (SAMSHA, 2020a). The efforts of SAMHSA to provide treatment guidelines to group therapists was followed by the World Health Organization’s development of a mental health treatment manual for lay helpers (WHO, 2020). This literature review gave context to the study of VADOC’s three years of group treatment data.

Chapter Three outlined the methodology of the study. Because the study is a meta-analysis, all methods were decided *a priori*. Inclusion criteria was established as: a VADOC-approved Initial Evidence Based Practice Program Description must be completed and available for review, a quantitative pre- and post-test measure, the study addressed at least one mental health or criminological behavioral change, and the group must be closed. Exclusion criteria was established as: a narrative pre-post-test measure, gender make-up not available, security level or
mental health level not available, open groups, no VADOC-approved Initial Evidence Based Practice Program Description, and the study must be conducted with persons still incarcerated – groups in the community with probationers and parolees were excluded.

The data set available contained t-test results for 172 group therapy studies conducted inclusively 2017 to 2019 in VADOC; this data set yielded 215 data points and reflected the treatment of 1,884 VADOC inmates, probationers, and parolees. Of the 172 group treatment studies, 15 were conducted with females and 157 were conducted with males. Twenty-four group therapy studies were conducted with inmates with more serious mental health concerns, 146 were conducted with those inmates who had less severe or stable mental health concerns, and the two community-administered group treatments in which mental health level was not able to be determined. Sixty-nine of the 172 group therapy studies were conducted with inmates having high security levels, 86 with medium security levels, 15 with low security levels, and two community-administered group treatments in which security level was not able to be determined.

Because I am professionally associated with the original researchers, the meta-analysis section of Cochrane’s Risk of Bias Tool was used to assess researcher and study bias and to provide trustworthiness to the study (Cochrane, 2020a; Cochrane, 2020b; Higgins et al., 2019). Cochrane’s Risk of Bias Tool applied to the original research and the current researcher bias yielded overall low risk.

The nature of the data was pre-emptively probed and found to be positively skewed, resulting in investigation into both parametric and non-parametric analyses. It was decided that, in order to maintain data integrity and to avoid interpretation concerns, the two-way analysis of variance (ANOVA) F-test would be used to seek information regarding the superiority of CBT versus non-CBT group treatments, manualized versus non-manualized treatments, and any
interaction between the theoretical orientation and manualization (Blanca et al., 2013; Delucci & Bostrom, 2004; Field, 2018; Field & Wilcox, 2017; Glass et al., 1972; Grayson, 2004; Hutchinson, 2000; Jahan, 2017; Levine & Dunlap, 1982; Norman, 2010; Schmider, et al., 2010; Stigler, 2010). It was also decided Hierarchical Multiple Regression (HMR) would best serve to explore any influence of gender, mental health level, and security level on group outcomes, because HMR allows for the impact of individual covariates to be uniquely quantified (Ali & Bhaskar, 2016; Field, 2018; McCrum-Gardner, 2008). Finally, because this data set was found to be positively skewed, outliers and extreme values were predicted. It was decided to winsorize those values to maintain the weight of the outliers and extreme values in the study (Field, 2018; Leys et al., 2019; Pollet & van der Meij, 2017; Stigler, 2010).

Summary of Evidence

Chapter Four presented the results of the meta-analyses. The study selection process resulted in 165 studies retained for analyses. The findings were reported to answer the first research question: Does cognitive behavioral group therapy (CBT) produce superior outcomes when compared to other theoretical orientations in group therapy in VADOC? Where the null hypothesis was that CBT group treatments are the same as all other theoretical orientations in group treatments in VADOC, the null was rejected. It was found that theoretical orientations other than CBT in VADOC group treatments were statistically superior to CBT, $F(1,204) = 19.616, p < .001$, $\text{partial } \eta^2 = .088$.

The findings were reported to answer the second research question: Does manualized group treatment produce superior outcomes when compared to non-manualized group treatments in VADOC? Where the null hypothesis was that manualized group treatments were the same as non-manualized group treatments in VADOC, the null was maintained. There was not a
statistically significant difference in manualized and non-manualized group treatments in VADOC, \(F(1,204) = 3.009, p = .084, \text{partial } \eta^2 = .015.\)

The findings were reported to answer the third research question: Do gender, security level, or mental health level impact group outcomes in VADOC? The null hypothesis stated that none of the characteristics, gender, security level, or mental health level of the participants influenced the group treatment outcomes. In the case of using HMR, each covariate was analyzed for its unique contribution to the treatment. In the case of gender, where the null hypothesis was there was no difference between male and female group outcomes, the null hypothesis was rejected. It was found that males have a statistically significant improvement in group outcomes compared with females in VADOC, \(B = .090, p = .002.\) In the case of mental health levels, where the null hypothesis was there was no difference between less serious mental health concerns and more serious mental health concerns in group outcomes, the null hypothesis was maintained. It was found that there was not a statistically significant difference in group outcomes in VADOC for those with more versus less serious mental health concerns, \(B = .030, p = .148.\) In the case of security level, where the null hypothesis was there was no difference between group outcomes regardless of security level, the null hypothesis was rejected. It was found that, as security level decreased (most violent to non-violent/rehabilitated), the group outcomes improved, \(B = -.042, p = .002.\)

The main findings of this study did not support the historical reports that CBT is the premier theoretical model for group treatments used with VADOC inmates. The findings supported manualized group treatments as equivalent in outcomes as compared to non-manualized group treatments over these three years in VADOC. The main findings did not
support the belief that treatments are equal across genders and security levels and did find treatments equitable across mental health levels.

**Generalizability**

In the past decade, the generalizability of meta-analysis results became an interest of study (Aguinis et al., 2011; Beets et al., 2020; Howard et al., 2017; Tett et al., 2017). The discussion of how deeply or broadly a researcher can generalize meta-analyses findings is, itself, broad. Aguinis et al. (2011) broached the topic of myths surrounding the use of meta-analyses with regard to findings, conclusions, and inferences about causal relations. Aguinis and colleagues reported that one point estimate should be used cautiously when discussing the extent of findings implications, that low-quality studies will potentially yield errors or misinterpretations in meta-analysis findings and use of the words “‘effect’ and ‘impact’…are subtle and implicit statements about causality” (p. 308). Tett et al. (2017) reported that, while meta-analyses are complex and paradoxical, this form of data synthetization is remains “a highly valuable tool” (p. 452) for the information it generates. Tett et al. stated that researchers using meta-analyses should be definite about the output with regards to exactly what is being generalized, cognizant of the conditions under which the generalization can be made, to what degree the generalization can be made, and to what level the researcher can be certain of the generalizability. In response to Tett et al. (2017), Howard et al. (2017) expounded that researchers should “look more critically and less dichotomously at degrees of generalizability” (p. 496). Howard et al. suggested looking closely at patterns of heterogeneity and homogeneous subgroups and to judiciously define situations broadly enough to be able to identify variations. Most recently, Beets et al. (2020) defined “risk of generalizability biases as the degree to which features of the intervention and sample in the pilot study are not scalable or generalizable to the
next stage of testing in a larger, efficacy/effectiveness trial” (p. 2). Beets and colleagues reported questions to ask regarding synthesizing data for a meta-analysis that will impact the generalizability of the meta-analysis findings, e.g., Who delivered the intervention? and How much of the intervention was provided? Beets et al. (2020) reported these biases in pilot studies are not significant enough to be of concern when considering a larger trial from a meta-analysis of pilot studies. Using the above suggestions for generalization of meta-analyses, the findings of this meta-analysis are strictly limited to group therapy treatments administered by trained group facilitators in VADOC. Slightly more loosely, the findings might be useful to a jail or prison with similar demographics, and only within those institutions which can segregate the group treatments by gender, security level, and mental health levels.

Conclusions

The intent of this meta-analysis was to answer the question: Is mCBT the most effective group treatment in VADOC? To address this question, three research questions were presented:

Research Question 1: Does cognitive behavioral group therapy produce superior outcomes as measured by t-test scores when compared to other theoretical orientations in group therapy in VADOC?

Hypothesis 1: Cognitive behavioral group therapy produces superior outcomes as measured by t-test scores when compared to all other group therapy theoretical orientations in VADOC.

Null Hypothesis 1: There is no difference in the outcomes in theoretical orientations as measured by t-test scores in group treatment outcomes in VADOC.

Research Question 2: Do manualized group therapy treatments produce superior outcomes as measured by t-test scores when compared to non-manualized treatments in VADOC group therapy?
**Hypothesis 2:** Manualized group therapy produces superior outcomes as measured by \( t \)-test scores when compared to non-manualized group therapy in VADOC.

**Null Hypothesis 2:** There is no difference in the outcomes in group treatment outcomes as measured by \( t \)-test scores in VADOC dependent on the treatment being manualized.

**Research question 3:** Do gender, security level, or mental health level influence group outcomes in VADOC?

**Hypothesis 3:** Gender, security level, and/or mental health level influence group outcomes in VADOC.

**Null Hypothesis 3:** There is no difference in the outcomes in group treatment outcomes in VADOC in gender, security level, or mental health level.

In the case of Research Question 1, CBT was to be found less effective than other theoretical orientations, collectively, in group treatment outcomes within VADOC during 2017-2019. This is inconsistent with previous Corrections findings. Duwe (2017) reported for the National Institute of Justice that CBT programs have the best outcomes for prison misconduct and returns on investments (ROIs). Duwe did not report whether these CBT programs were mental health programs, were group treatments, or were administered by CBT practitioners. The findings were, however, consistent with the systematic review and meta-analysis report that CBT was only modestly effective in decreasing depressive and anxiety symptoms in inmates (Yoon et al., 2017). Additionally, the findings were consistent with the report that CBT was not found to be the superior treatment in non-White populations (Naz et al., 2019; Windsor et al., 2015). Naz and colleagues (2019) stated this disparity in reported CBT efficacy was because most CBT therapists and manuals were trained/developed in White, Western environments and were not culturally adapted to non-White populations. When taken in context that the VADOC 2019
population was reported 59 percent non-White (VADOC, 2020d), the report by Naz et al. (2019) and the statistical findings of this study hold meaning, if not cause.

In the case of Research Question 2, both manualized treatments and non-manualized treatments were found comparable in efficacy. This was not consistent with the findings reported as early as the 1952 prison group therapy studies (McCorkle) and as recent as the 2020 manual written for lay-person group facilitators (WHO) which both state that manuals provide superior group treatments. This lack of statistical significance could be informative for future research.

In the case of Research Question 3, both gender and security level were found as predictors for statistically significant improved outcomes. Regarding gender group outcomes, previous research established that males and females differ in their paths to criminal activity and to substance abuse. Females reported that relationships with family and self influence their behaviors. Additionally, females were stated to receive greater benefit from longer treatments (Messina et al., 2006). Because VADOC group treatments did not differ in length of the program more than two sessions, it is possible this finding could inform future VADOC group treatment development for female inmates. Regarding a decrease in security level predicting better group treatment outcomes, no previous research was located for this covariate. Regarding mental health level failing to predict group treatment outcomes, no previous research was located for this covariate.

**Implications**

As of July 2021, the Virginia Department of Corrections (VADOC) is responsible for 24,467 inmates housed in 43 facilities and 65,458 probationers and parolees across the Commonwealth (VADOC, 2021a). In April 2021, VADOC reported the current three-year recidivism rate of 23.9 percent, which means that, of the inmates who returned to the community
in 2016, 23.9 percent of those individuals were re-incarcerated within the first three years after the previous incarceration ended. It should be noted, however, that, of the individuals released from prison in 2016, 54.2 percent of those individuals were re-arrested within the first three years following the previous incarceration. The difference between those arrested and those re-incarcerated could be based in various conditions, e.g., re-arrested and awaiting trial in a local jail or re-arrested and released versus re-incarceration. Incarceration is costly in both dollars to taxpayers and the emotional toll on communities and families.

The population in Virginia’s state prisons is predominantly non-White (VADOC, 2020d). Cognitive behavioral therapy has been found by some studies to be less effective in non-White populations (CDC, 2020a; Dye, 2018; Glantz et al., 2017; ISTSS, 2019; Naz et al., 2019; Windsor et al., 2015). Culturally adapted CBT showed improved symptoms in Latino females (Hinton et al., 2011; WHO, 2020). The use of mCBT is reported as challenging because clients are riddled with “complex issues and numerous psychosocial stressors” (p. 1) and some clinicians feel constrained by its format (Ringle et al., 2015). This historical evidence, combined with the current study, suggest that existing CBT models do not produce the best possible group treatment outcomes in the population served in VADOC. Ringle et al. (2015) research, and conversely the data produced from SAMHSA studies (SAMHSA, 2020a), invites examination of whether manualized group treatments are necessary in VADOC. Additionally, if manualized treatments are determined to provide necessary consistency in application of the treatment across locations and facilitators, would the manualized group treatments be more effective if the manuals were culturally adapted to the population served in VADOC?

Because literature was not identified for review regarding group treatments and correlations to security levels or mental health levels, comparison to this study’s findings was not
possible. Possible implications for no statistical significance in mental health differences include the assumption that VADOC group therapists conduct appropriate group treatments for the different mental health levels. Therefore, mental health level would not significantly influence outcomes.

Regarding group outcomes improving as security level decreases, the possible explanations include lower security levels being associated with less intense criminological factors/lower risk of violence (VADOC, 2019a), the anticipation of being released from prison in the comparatively near future (VADOC, 2019a), and the possibility of exposure to previous group treatments. It is possible that any or all these factors, or others, confound the current understanding of these results. Regarding the superior outcomes males had when compared to female outcomes, it is possible the treatments were not long enough to achieve greater outcomes in female groups (Messina et al., 2006); consideration might be given to extend the number of group treatment sessions for females to explore improved outcomes. It is also possible that incarcerated females perform in group treatments more like non-White males and might have improved group treatment outcomes if the treatments were culturally/gender adapted (Hinton et al., 2011).

This study also supports the crucial need for credible instruction in mental health clinical education, training, and supervision in the area of cultural competencies when working with incarcerated populations (Hendricks et al., 2015; Hernández et al., 2007; Soto et al., 2018; Toporek & Worthington, 2014). Soto et al. (2018) reported the improved therapeutic outcomes when the therapists were culturally competent to treat the clients. Hernández et al. (2007) reported that the clinician’s ability to attend to culture and gender in therapeutic interventions improved outcomes. Hendricks et al. (2015) reported the ethical obligation to be trained in and
utilize culturally appropriate treatments. Toporek and Washington (2014) reported social justice training and intervention skills in clinicians working with homeless and near-homeless individuals produced more positive outcomes. With extensive education, training, and supervision in the factors that lead to incarceration, group facilitators might deliver an improved group treatment.

**Recommendations for Future Research**

In 2019, the recidivism rate in Virginia was 23.1 percent and was the lowest in the U.S. Recidivism rates in the U.S. for 2019 ranged from 23.1 percent to 63.5 percent (VADOC, 2020e). Future longitudinal research to investigate a possible connection between recidivism and group treatments could inform inmate rehabilitation and restoration in the community. If changes are made to include more non-CBT group treatments and manuals are culturally adapted to the VADOC population, it would be informative to compare future meta-analyses results with this first meta-analysis. Continued monitoring of group treatment study results through meta-analyses would provide VADOC with ongoing feedback in group treatment efficacy.

More specifically, future research could address use of different, culturally adapted, group treatments for differing security levels and genders. Regarding security levels, which are the inmates who previously committed more violent crimes or who are at risk to commit future violent crimes, do the strong antisocial and narcissistic personality traits of the incarcerated individuals impact these individuals’ outcomes (Chantry & Craig, 1994; DeLisi et al., 2018; Gacono, 1990; Solomon, 2020; Tinetti, 2020; Warren et al., 2002a; Warren et al., 2002b; Wygant et al., 2020)? Another area for future research would be to standardize the mental health factors, criminogenic factors, assessment tools, and group sizes used for each type of group treatment. Standardization of individual group treatments would allow for more aggregate
comparisons in future meta-analyses which would, ultimately, beget added value to group
treatments for a vulnerable, underserved population because the comparisons would be more
specific. Addressing the group facilitators, VADOC could provide cultural competency training
for the group facilitators to learn whether this skill impacts group outcomes in VADOC. And,
because of the disproportionate number of female group treatments in VADOC, future research
could focus on treatment outcomes of females only.

It must also be stated that CBT group treatments performed less powerfully than expected
when compared to non-CBT group treatments in this study. These results, combined with
historical studies concerning the preponderance of incarcerated persons with adverse childhood
events (ACEs), sexual trauma, and adult traumatic-response symptoms, and understanding how
trauma impacts physical health, mental health, and behaviors (Brencio & Novak, 2019; CDC
2020a; CDC, 2020b; Glantz et al., 2017; ISTSS, 2019), illuminate the need for culturally
appropriate, trauma-informed group treatments in VADOC.

Lastly, this cursory examination of the three years’ data roused more questions regarding
this dataset. In the more immediate future, the ‘all-other’ theoretical orientations will be broken
down and compared individually to pure CBT and hybrid CBT group treatments, and then
manualized treatments will be compared to non-manualized treatments in the same theoretical
orientation. The same will be done for deeper exploration of the influence of gender, security
levels, and mental health levels on the group outcomes, providing a more extensive
understanding of the three years group therapy studies in VADOC.

One Final Note

In the context of conducting this meta-analysis through the COVID-19 pandemic, in the
midst of highly contentious global discussions about racial equity, systemic oppression, and
human rights, I found myself internalizing the results of this study through a lens of progressive and daring leadership. My original inspiration for this study was to investigate whether mCBT group treatments contributed to decreasing negative mental health symptoms and increasing prosocial coping skills. The findings of this study showed manualized CBT might not be the best group treatment in VADOC. And I am curious as to whether mCBT could impact the recidivism rate of almost one-quarter of those previously incarcerated in VADOC. Thus, my question has now become, are we using group treatments that address culture diversity, generational trauma, and on-going systemic oppression?
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Appendix A

COMMONWEALTH OF VIRGINIA
Department of Corrections
Division of Operations
Eastern Region

14545 Old Belfield Road
Capron, VA 23829

August 11, 2020

To Whom it May Concern,

Ms. Abie Tremblay is granted permission to utilize the data that was collected from pre/post test scores from group therapy clients for inclusion in her dissertation.

Respectfully,

[Signature]

Julie A Fink, PhD, LCP, CSOTP
Mental Health Clinical Supervisor
Appendix B

**ACT for Emotions.** These studies were based in Acceptance and Commitment Therapy (ACT) theoretical orientation. All three ACT group therapy studies were conducted in male, medium security level facility, and with inmates with the most serious mental health concerns. The ACT group therapy studies had 10 participants per study, met for 10 sessions weekly for 90 minutes. The ACT group therapy studies were process groups with homework worksheets. The ACT group therapy studies targeted coping skills, emotional stability, thought disorder, and symptom management mental health factors and criminal attitudes criminological factors, and used the Positive and Negative Affect Schedule – X (PANAS-X) and the Acceptance and Action Questionnaire-II (AAQ-II) as instruments of measure.

**Advanced Anger Management.** These studies were based in cognitive behavioral therapy (CBT) theoretical orientation. Of the 16 group therapy studies conducted, all were conducted in male facilities, nine in medium and seven in high security level facilities, and only one with inmates having the most serious mental health concerns. Two of the Advanced Anger Management groups had five participants per study and met for 120 minutes; the group conducted with the most serious mental health concerns had 10 participants and met for 90 minutes, six groups had 12 participants and met for 90 minutes, and seven groups had 15 participants and met for 90 minutes. All groups met weekly for 12 weeks. The Advanced Anger Management groups studies were manualized and used *Anger Management for Substance Use Disorder and Mental Health Clients* by the Substance Abuse and Mental Health Services Administration (SAMHSA). The Advanced Anger Management group therapy studies targeted mental health factors coping skills and impulse control, and criminological factor low-self-control and used the Clinical Anger Scale (CAS) as instrument of measure.
**Therapeutic Art Program.** These studies were based in complementary and alternative therapy (CAM) theoretical orientation. Of the two group therapy studies conducted, both were conducted in male facilities, one in medium and one in high security level facilities, and none with inmates having serious mental health concerns. One of the Art Program groups had six participants per study and met for 90 minutes for 20 weeks; the other group had eight participants and met for 60 minutes for 10 weeks. The Art Program groups studies were process groups. The Art Program group study that met for 20 weeks targeted mental health factors coping skills, impulse control, emotional stability, anxiety disorder, trauma resolution, mood disorder, and thought disorder, and the criminological factors criminal personality, criminal involvement, and criminal involvement, using the Depression, Anxiety, and Stress Scale (DAAS) and the Hamilton Depression Rating Scale (HAM-D) as the instruments of measure. The group that met for 10 weeks targeted mental health factors coping skills, emotional stability, and self-care, and the criminological factor criminal personality, using the Depression, Anxiety, and Stress Scale (DAAS) as instrument of measure.

**Beyond Trauma.** This study was based in CBT and mindfulness theoretical orientations. The Beyond Trauma group study was conducted in the community with female probationers and parolees. The Beyond Trauma group study had eight participants, met for 12 sessions weekly for 90 minutes. The Beyond Trauma group study was a manualized group using *Beyond Trauma: A Healing Journey for Women* by Stephanie Covington. Beyond Trauma targeted self-care, trauma resolution, and symptom management mental health factors and no criminological factors and used the PTSD Checklist for DSM-5 (PCL-5) as the instrument of measure.

**Cardio Activity.** This study was based in CAM theoretical orientation. The Cardio Activity group study was conducted in a medium security level facility with male inmates who
have the most serious mental health concerns. The Cardio Activity group study had 14 participants, met twice per week for 75 minutes as an ongoing group treatment. No mental health or criminological factors were addressed in this group. The instrument of measure was a therapeutic interview.

**Changing Course.** These studies were based in CBT, motivational interviewing (MI), and Stages of Change theoretical orientations. All four Changing Course group therapy studies were conducted in a solitary male, high security level facility. None of the inmates had the most serious mental health concerns. The Changing Course group therapy studies had 10 participants per study, met for 10 sessions weekly for 90 minutes. The Changing Course group therapy studies were manualized using Interactive Journaling by James Prochaska and The Change Company. The Changing Course group therapy studies targeted impulse control mental health factor and criminal personality, substance abuse, and antisocial values criminological factors, and used the University of Rhode Island Change assessment (URICA) as the instrument of measure.

**Cognitive Processing Therapy.** This study was based in cognitive processing therapy (CPT) theoretical orientation. The one CPT group study was conducted in a male, medium security level facility. None of the inmates had the most serious mental health concerns. The CPT group study had eight participants, met for 12 sessions weekly for 90 minutes. The CPT group study was manualized using Cognitive Processing Therapy for PTSD by Resick, Monson, and Chard. The CPT group study targeted coping skills, emotional stability, trauma resolution, and symptom management mental health factors and dysfunctional family ties, low self-control, and antisocial values criminological factors, and used the PCL-5 as the instrument of measure.
**Coping with Stress.** These studies were based in cognitive behavioral therapy (CBT) theoretical orientation. Of the 16 group therapy studies conducted, all were conducted in male facilities, one in low, four in medium and 11 in high security level facilities, and two with inmates having the most serious mental health concerns. Nine of the Coping with Stress groups had 15 participants per study, met for 90 minutes weekly, and met for 10 sessions. Three of the groups had 10 participants per study, met for 60 minutes weekly, and met for eight sessions; two of these groups had participants with the most serious mental health concerns. Four groups had 12 participants per study, met for 90 minutes weekly, and three groups met for 10 weeks, and one group met for eight weeks. The Coping with Stress groups studies were psychoeducational in nature. The Coping with Stress group therapy studies targeted mental health factors coping skills, impulse control, emotional stability, self-care, anxiety disorder, and symptom management, and criminological factor low self-control. Twelve of the Coping with Stress group therapy studies used the Stress Management Knowledge Questionnaire and the Stress Management Self-report as instruments of measure; four studies used the Perceived Stress Scale (PSS) as the instrument of measure.

**Dialectical Behavior Therapy (DBT) Skills.** These studies were based in dialectical behavior therapy (DBT) theoretical orientation. Of the two group therapy studies conducted, both were conducted in male, medium security level facilities, and one with inmates having serious mental health concerns. Both of the DBT Skills group therapy studies had 10 participants per study and met weekly for 60 minutes per session; the group with the most serious mental health concerns met for eight sessions and the other group met for 10 sessions. The DBT Skills group therapy studies were manualized groups using *Dialectical Behavior Therapy Manual* by Marsha Linehan. The DBT Skills group with the most serious mental health concerns targeted mental
health factors coping skills, impulse control, emotional stability, personality disorder, and family issues, and the criminological factors criminal personality, and criminal attitude. This group used Emotion Reactivity Scale (ERS) as the instrument of measure. The other DBT Skills group study targeted mental health factors coping skills, impulse control, emotional stability, self-care, personality disorder, and family issues, and criminological factors dysfunctional family ties, low self-control, criminal personality, and criminal attitudes. This group used the DAAS, Distress Tolerance Scale (DTS), Barratt Impulsiveness Scale (BIS-11), and Impaired Control Scale as the instruments of measure.

**Distress Tolerance Skills.** These studies were based in DBT theoretical orientation. Of the 13 group therapy studies conducted, 12 were conducted in male facilities, one in low, three in medium and nine in high security level facilities, and four with inmates having the most serious mental health concerns. Ten of the Distress Tolerance groups had 10 participants per study, seven met for 60 minutes weekly for 10 sessions, three met for 90 minutes weekly for eight sessions. One group study had 12 participants, met for 90 minutes weekly for eight sessions. Two groups in a high security level facility and with the most serious mental health concerns had five participants per study, met for 90 minutes weekly for eight sessions. The Distress Tolerance Skills were manualized using *Dialectical Behavior Therapy Manual* by Marsha Linehan. The Distress Tolerance Skills group therapy studies targeted mental health factors coping skills, impulse control, emotional stability, anxiety disorder, and personality disorder. The criminological factors targeted were dysfunctional family ties, low-self-control, and substance abuse. Multiple instruments were used to measure outcomes with five groups using DBT Ways of Coping Checklist (WCCL), seven using DAAS, eight using Distress Tolerance Scale (DTS), seven using BIS-11, and seven using Impaired Tolerance Scale.
**Emotion Regulation.** These studies were based in DBT theoretical orientation. Of the four group therapy studies conducted, one was conducted in male, medium security level facilities. Three Emotion Regulation group therapy studies were conducted in female facilities, one in a medium security level and two in low security level. None of these groups had participants with the most serious mental health concerns. All groups met weekly for 90 minutes. One group study had 15 participants, two had 12 participants, and one had 10 participants. Two groups met for 10 sessions, and two met for eight sessions. The Emotion Regulation groups studies were manualized, using *Dialectical Behavior Therapy Manual* by Marsha Linehan. The Emotion Regulation group therapy studies targeted mental health factors coping skills, impulse control, emotional stability, self-care, anxiety disorder, mood disorder, personality disorder, and criminological factors dysfunctional family ties, low self-control, and substance abuse. Three of the Emotion Regulation group therapy studies used Difficulty in Emotion Regulation Scale (DERS), two used DAAS, one used Emotion Reactivity Scale (ERS), one used DTS and BIS-11 as the varied instruments of measure.

**Interpersonal Effectiveness DBT Skills.** These studies were based in DBT theoretical orientation. Both Interpersonal Effectiveness group therapy studies were conducted in a male, medium security level facilities with inmates who did not have the most serious mental health concerns. Both of the Interpersonal Effectiveness group therapy studies had 12 participants per study, met for eight sessions weekly for 90 minutes. The Interpersonal Effectiveness group therapy studies were manualized using *Dialectical Behavior Therapy Manual* by Marsha Linehan. The Interpersonal Effectiveness group therapy studies targeted coping skills, impulse control, emotional stability, and personality disorder mental health factors and criminal peers and
associates, dysfunctional family ties, low self-control, criminal personality, and substance abuse criminological factors, and used the WCCL as the instrument of measure.

**Mindfulness.** These studies were based in DBT theoretical orientation. Four Mindfulness group therapy studies were conducted with two in a male, medium security level facilities. These two group therapy studies had 12 participants each and met 90 minutes weekly for eight sessions. The third male group study was conducted in a low security level facility, had 12 participants, and met 90 minutes weekly for 12 sessions. One Mindfulness group study was conducted at a low security level female facility; this group had 10 participants and met 90 minutes weekly for 10 sessions. None of these group therapy studies had participants with the most serious mental health concerns. The Mindfulness group therapy studies were manualized using *Dialectical Behavior Therapy Manual* by Marsha Linehan. The Mindfulness group therapy studies targeted coping skills, impulse control, emotional stability, self-care, anxiety disorder, mood disorder, and personality disorder mental health factors and dysfunctional family ties, low self-control, criminal personality, and substance abuse criminological factors. The Mindfulness group therapy studies used MAAS, Cognitive Distortion Scales, and WCCL as the instruments of measure.

**Empowering the Hero Within.** These studies were based in Solution-Focused Brief Therapy (SFBT) theoretical orientation. Four Empowering the Hero Within group therapy studies were conducted in male facilities, two low security level, two medium security level. All four group therapy studies met weekly for four sessions. Three of the groups had 10 participants, one group had 15. Three groups met for 90 minutes, and one group met for 60 minutes. None of these group therapy studies had participants with the most serious mental health concerns. The Empowering the Hero Within group therapy studies targeted coping skills, impulse control, and emotional stability mental health factors and criminal peers and associates, dysfunctional family...
ties, and low self-control criminological factors. The Empowering the Hero Within group therapy studies used Prison Locus of Control and an eight-item SFBT-based questionnaire as the instruments of measure.

**Errors in Critical Thinking.** This study was based in CBT theoretical orientation. The Errors in Critical Thinking group study was conducted in a male, high security level facility; none of the participants had the most serious mental health concerns. Errors in Critical Thinking had 12 participants, met weekly for 120 minutes for 12 sessions. The Errors in Critical Thinking group study was manualized using *Commitment to Change: Overcoming Errors in Thinking* by Stanton Samenow. Errors in Critical Thinking targeted coping skills, impulse control, emotional stability, thought disorder, and personality disorder mental health factors and criminal peers and associates, low self-control, criminal personality, substance abuse, and antisocial values criminological factors, and used the Texas Christian University (TCU) Critical Thinking Scale as the instrument of measure.

**Finger Knitting.** This study was based in CAM theoretical orientation. The Finger Knitting group study was conducted in a male, high security level facility; none of the participants had the most serious mental health concerns. Finger Knitting had 15 participants, met twice weekly for 90 minutes for eight sessions. Finger Knitting targeted coping skills, impulse control, emotional stability, anxiety disorder, trauma resolution, mood disorder, and thought disorder mental health factors and low self-control, criminal personality, and antisocial values criminological factors, and used the DAAS as the instrument of measure.

**Grief and Loss.** This study was based in CBT theoretical orientation. The Grief and Loss group therapy studies were conducted in male facilities, one high security level facility and two in a medium security level facility; none of the participants had the most serious mental health
concerns. All three Grief and Loss group therapy studies had 10 participants, met 90 minutes weekly for 10 sessions. Grief and Loss group therapy studies were psychoeducational in nature. Grief and Loss targeted coping skills, impulse control, emotional stability, self-care, thought disorder, and symptom management mental health factors and dysfunctional family ties criminological factor, and used a Knowledge of Grief and Loss Questionnaire as the instrument of measure.

**Houses of Healing.** These studies were based in CBT theoretical orientation. All eight group therapy studies were conducted in male facilities, one in low, one in medium, and six in high security level facilities. None of the participants has the most serious mental health concerns. All of the Houses of Healing group therapy studies met 90 minutes weekly for 12 sessions, except one group that met for 120 minutes. One group study had 15 participants, three had 12, and four groups had 10 participants. The Houses of Healing group therapy studies were manualized using *Houses of Healing: A Prisoner’s Guide to Inner Power and Freedom* (5th ed.) by Robin Casarjian. The Houses of Healing group therapy studies targeted mental health factors coping skills, impulse control, emotional stability, self-care, anxiety disorder, trauma resolution, mood disorder, and family issues. The criminological factors targeted were criminal peers and associates, dysfunctional family ties, low-self-control, criminal personality, and antisocial values. The instruments of measure used were Hamilton Anxiety Scale (4), Hamilton Depression Scale (4), Mindful Attention Awareness Scale (MAAS; 2), and Houses of Healing Questionnaire (4).

**Illness Management and Recovery for Seriously Mentally Ill.** These two groups studies were based in CBT, motivational interviewing (MI), and Stages of Change theoretical orientations. Both group therapy studies were conducted in a solitary male, high security level facility. All of the inmates had the most serious mental health concerns. The two Illness
Management and Recovery for Seriously Mentally Ill group therapy studies had six participants per study, met for 10 sessions weekly for 90 minutes. The Illness Management and Recovery for Seriously Mentally Ill group therapy studies were manualized using the Illness Management and Recovery Program by SAMHSA. The Illness Management and Recovery for Seriously Mentally Ill group therapy studies targeted emotional stability, self-care, anxiety disorder, mood disorder, thought disorder, symptom management, and medication management mental health factors and criminal attitudes criminological factors, and used the Symptom Assessment 45 Questionnaire (SA-45) as the instrument of measure.

**Managing Co-Occurring Disorders, Modules 1-5.** These five Managing Co-Occurring Disorders (MCOD) modules were conducted as five distinct group therapy studies and were based in CBT theoretical orientations. These five group therapy studies were conducted in a solitary male, medium security level facility. None of the inmates had the most serious mental health concerns. The five MCOD group therapy studies had the same 12 participants in all five studies and met for four sessions weekly for 60 minutes per study. The MCOD group therapy studies were manualized using the Interactive Journaling by James Prochaska and The Change Companies. The MCOD group therapy studies targeted coping skills mental health factor and substance abuse criminological factor and used the CBT Skill Acquisition manuals: Corrective Action Journal System, My Individual Change Plan Journal System, Maintaining Positive Change Journal System, and Healthy Relationships Journal System as the instruments of measure.

**Motivational Enhancement Therapy (MET).** This study was based in CBT, MI, and Stages of Change theoretical orientations. The Motivational Enhancement Therapy (MET) group study was conducted in a male, high security level facility. None of the inmates had the most
serious mental health concerns. The MET group study had 12 participants, met for eight sessions weekly for 90 minutes. The Beyond Trauma group study was a manualized group using *Motivational Enhancement Therapy Manual* by Miller, Zweben, DiClemente, and Rychtarik. The MET group study targeted self-care and symptom management mental health factors and antisocial values criminological factors and used the URICA as the instrument of measure.

**Mind Over Mood.** These studies were based in cognitive behavioral therapy (CBT) theoretical orientation. Of the 20 group therapy studies conducted, all were conducted in male facilities, one in low, 13 in medium and six in high security level facilities, and four with inmates having the most serious mental health concerns. All of the Mind Over Mood groups had 10 participants per study and met weekly. Five group therapy studies met for 90 minutes weekly, and 15 met for 60 minutes. One study had 13 sessions, eight studies had 12 sessions, and 11 studies had 10 sessions. The Mind Over Mood groups studies were manualized using *Mind Over Mood: Change How You Feel by Changing the Way You Think* by Greenberger and Padesky. The Mind Over Mood group therapy studies targeted mental health factors coping skills, impulse control, emotional stability, anxiety disorder, mood disorder, symptom management, and family issues, and criminological factors dysfunctional family ties, low self-control, criminal personality, criminal attitudes, and antisocial values. Five of the Mind Over Mood group therapy studies used the Center for Epidemiological Studies Short Depression Scale (CES-D 10), and 15 of the studies used Mind Over Mood Depression Inventory and Mind Over Mood Anxiety Inventory as the instrument(s) of measure.

**Mood Management for Depression.** This study was based in CBT, Rational Emotive Behavioral Therapy (REBT), Mindfulness, and Positive Psychology theoretical orientations. The Mood Management for Depression group study was conducted in a male, medium security level facilities.
facility. None of the inmates had the most serious mental health concerns. The Mood Management for Depression group study had 12 participants, met for eight sessions weekly for 60 minutes. The Mood Management for Depression group study was psychoeducational in nature. The Mood Management for Depression group study targeted no mental health factors and no criminological factors and used the DAAS as the instrument of measure.

**Overcoming Anxiety and Depression.** These were based in CBT, Rational Emotive Behavioral Therapy (REBT), Mindfulness, and Positive Psychology theoretical orientations. These two group therapy studies were conducted in a solitary female, medium security level facility. None of the inmates had the most serious mental health concerns. The Overcoming Anxiety and Depression group therapy studies had 15 participants and met 60 minutes weekly for eight sessions. The Overcoming Anxiety and Depression group therapy studies were psychoeducational in nature. The Overcoming Anxiety and Depression group therapy studies targeted coping skills, impulse control, emotional stability, self-care, anxiety disorder, mood disorder, symptom management, and medication management mental health factors and low self-control and substance abuse criminological factors, and used the Beck Anxiety Inventory (BAI), CES-D, and Warwick-Edinburgh Mental Well-being Scale as the instruments of measure.

**Positive Psychology.** These four studies were based in Positive Psychology theoretical orientations. All four Positive Psychology group therapy studies were conducted in a solitary male, medium security level facility. None of the inmates had the most serious mental health concerns. The Positive Psychology group therapy studies had 12 participants per study, met 90 minutes weekly for 12 sessions. The Positive Psychology group therapy studies were manualized using *Positive Psychology Group Therapy for Long-Term Incarceration* by Alecia Chahine. The Positive Psychology group therapy studies targeted coping skills, impulse control, emotional
stability, self-care, anxiety disorder, mood disorder, symptom management, and family issues
ment health factors and criminal peers and associates, criminal personality, criminal
involvement, criminal opportunity, and criminal attitudes criminological factors, and used the
Purpose in Life (PIL) as the instrument of measure.

**Rational Emotive Therapy (RET).** These were based in CBT and Rational Emotive
Therapy (RET) theoretical orientations. These two group therapy studies were conducted in male
facilities, one medium security level and the other a high security level facility. None of the
inmates had the most serious mental health concerns. The RET group therapy studies had 10
participants and met 90 minutes weekly for 10 sessions. The RET group therapy studies were
psychoeducational in nature. The RET group therapy studies targeted coping skills, impulse
control, emotional stability, and thought disorder mental health factors and criminal peers and
associates, low self-control, criminal personality, and antisocial values criminological factors,
and used knowledge of RET as the instrument of measure.

**Seeking Safety.** These studies were based in cognitive behavioral therapy (CBT)
theoretical orientation. Of the 11 group therapy studies conducted, six were conducted in male
medium security level facilities, and one with inmates having the most serious mental health
concerns. Five of the Seeking Safety group therapy studies were conducted in female facilities,
three low security level and two medium security level. The two female groups in the medium
security level had five participants and met 90 minutes weekly for five sessions; the other three
female groups in the low security level facilities had 12 participants and met 90 minutes weekly
for 12 sessions. Four male groups met 90 minutes weekly for 12 sessions; two male groups met
60 minutes weekly for 12 sessions. One male group study had eight participants; all other male
groups had 12 participants. The Seeking Safety groups studies were manualized using **Seeking**
Safety: A Treatment Manual for PTSD and Substance Abuse by Lisa Najavits. The Seeking Safety group therapy studies targeted mental health factors coping skills, impulse control, emotional stability, self-care, anxiety disorder, Trauma resolution, thought disorder, symptom management, medication management, and family issues, and criminological factors criminal peers and associates, dysfunctional family ties, low self-control, substance abuse, and antisocial values. Eight of the Seeking Safety group therapy studies used the Trauma Symptoms Checklist-40, one used the PTSD Checklist – Civilian Version (PCL-C), and two used an essay “What Safety Means to You?” as the instrument of measure.

Self-Management. These studies were based in cognitive behavioral therapy (CBT) theoretical orientation. Of the seven group therapy studies conducted, six were conducted in male high security level facilities without the most serious mental health concerns, and one in male medium security level with some serious mental health concerns. Three of the groups met 60 minutes weekly, and three groups met 90 minutes weekly. One group met 90 minutes twice per month. Four groups had eight participants for 12 sessions, two groups had 12 participants for 20 sessions, and one group had 20 participants and was on-going. The Self-Management group therapy studies were manualized using Interactive Journaling by James Prochaska and The Change Companies. The Self-Management group therapy studies targeted mental health factors coping skills, impulse control, emotional stability, self-care, anxiety disorder, mood disorder, thought disorder, symptom management, personality disorder, medication management, and family issues, and criminological factors low self-control, criminal personality, and substance abuse. Four of the Self-Management group therapy studies used DAAS, two used CBT Skills Acquisition: Challenge Series, and one used self-report of symptoms as the instrument of measure.
Social Skills for Seriously Mentally Ill (SMI). These were based in Social Learning Theory theoretical orientations. These three group therapy studies were conducted in male facilities, one medium security level and two in a high security level facility. All of the inmates had the most serious mental health concerns. Each Social Skills for SMI group therapy studies had six participants and met 60 minutes weekly for eight sessions. The Social Skills for SMI group therapy studies were psychoeducational in nature. The Social Skills for SMI group therapy studies targeted coping skills and impulse control mental health factors, no criminological factors were named, and the groups used Global Social Functioning and Social Adaptive Functioning Evaluation (SAFE) as the instrument of measure.

Anger Symptom Management with Art. These studies were based in cognitive behavioral therapy (CBT) theoretical orientation. Of the seven Anger Symptom Management with Art group therapy studies conducted, all were conducted in male facilities, four in medium security level, and three in high security level facilities. Three groups were comprised of participants having the most serious mental health concerns. All of the groups had eight participants and met weekly. Five of the groups met 90 minutes for 12 weeks, and two groups met 60 minutes for 10 weeks. The Anger Symptom Management with Art groups studies were manualized using Anger Management for Substance Abuse Disorder and Mental Health Clients by SAMHSA. The Anger Symptom Management with Art group therapy studies targeted mental health factors coping skills, impulse control, mood disorder, symptom management, and personality disorder, and criminological factors low self-control, criminal personality, and criminal attitudes. All of the Anger Symptom Management with Art group therapy studies used Clinical Anger Scale as the instrument of measure.
**Symptom Management – Emotions and Music.** These studies were based in CAM theoretical orientation. Of the two Emotions and Music group therapy studies conducted, both were conducted in male, high security level facilities. None of the participants had the most serious mental health concerns. Both of the groups had 10 participants and met weekly for 12 sessions. One of the groups met 90 minutes, and the other group met 120 minutes. The Emotions and Music group therapy studies were process groups in nature. The Emotions and Music group therapy studies targeted mental health factors coping skills and symptom management, and criminological factors low self-control and criminal personality. The Emotions and Music group therapy studies used PANAS-X as the instrument of measure.

**Symptom Management – Healthy Relationships Through Horticulture.** This study was based in CBT and CAM theoretical orientations. The Healthy Relationships Through Horticulture group study was conducted in a male, medium security level facility. None of the inmates had the most serious mental health concerns. The Healthy Relationships Through Horticulture group study had 10 participants, met 90 minutes weekly for 12 sessions. The Healthy Relationships Through Horticulture group study was a process group using CAM expression techniques. The Healthy Relationships Through Horticulture group study targeted coping skills, self-care, symptom management, and family issues mental health factors and criminal attitudes criminological factors and used Managing Emotions and Quality of Life Scale as the instruments of measure.

**Taking Charge of Your Mental Health for Seriously Mentally Ill (SMI).** This study was based in CBT, MI, and Stages of Change theoretical orientations. The Taking Charge of Your Mental Health for SMI group study was conducted in a male, high security level facility. All of the inmates had the most serious mental health concerns. The Taking Charge of Your
Mental Health for SMI group study had five participants, met 120 minutes weekly for four sessions. The Taking Charge of Your Mental Health for SMI group study was a psychoeducational group. The Taking Charge of Your Mental Health for SMI group study targeted emotional stability, self-care, anxiety disorder, mood disorder, thought disorder, symptom management, and medication management mental health factors and low self-control criminological factors and used URICA as the instrument of measure.

**Therapeutic Support Group.** This study was based in psychotherapy theoretical orientations. The Therapeutic Support Group study was conducted in a male, medium security level facility. None of the inmates had the most serious mental health concerns. The Therapeutic Support Group study had 15 participants, met 120 minutes weekly for 12 sessions. The Therapeutic Support Group study was a psychoeducational group. The Therapeutic Support Group study targeted coping skills, emotional stability, and symptom management mental health factors and criminal peers and associates, low self-control, and antisocial values criminological factors and used PANAS-X as the instrument of measure.

**Trauma Resolution.** These studies were based in cognitive behavioral therapy (CBT) theoretical orientation. Of the five Trauma Resolution group therapy studies conducted, three were conducted in male facilities, and two in female facilities. Three were in medium security level facilities, and two in low security level facilities. No groups were comprised of participants having the most serious mental health concerns. All groups met weekly for 12 sessions. Two groups had 10 participants, and one group each had 12, 20 and 25 participants. Four groups met for 90 minutes, and one group met for 60 minutes. The Trauma Resolution group therapy studies were psychoeducational in nature. The Trauma Resolution group therapy studies targeted mental health factors coping skills, emotional stability, anxiety disorder, trauma resolution, and
symptom management, and criminological factors low self-control, criminal involvement, and
criminal opportunity, and substance abuse. All of the Trauma Resolution group therapy studies
used PCL-C as the instrument of measure.

**Trauma Stress and Resilience.** These studies were based in cognitive behavioral
therapy (CBT) theoretical orientation. Of the eight Trauma Stress and Resilience group therapy
studies conducted, all were conducted in male facilities, five in medium security level facilities,
and three in high security level facilities. No groups were comprised of participants having the
most serious mental health concerns. All groups had eight participants and met 60 minutes
weekly for 8 sessions. The Trauma Stress and Resilience group therapy studies were manualized
using Interactive Journaling by James Prochaska and The Change Company. The Trauma Stress
and Resilience group therapy studies targeted mental health factors coping skills, impulse
control, emotional stability, anxiety disorder, trauma resolution, mood disorder, thought disorder,
and symptom management, and criminological factors criminal personality, and criminal
attitudes, and substance abuse. All of the Trauma Resolution group therapy studies used CBT
Skill Acquisition: Cognitive Actions Journal System as the instrument of measure.

**Victim Impact.** These studies were based in CBT theoretical orientation. Of the two
Victim Impact group therapy studies was conducted in a male, medium security level facility; the
other was conducted in the community with an unknown gender composition of probationers and
parolees. None of the participants had the most serious mental health concerns. The group in the
male prison had 12 participants and met 120 minutes weekly for 12 sessions. The community
group had 12 participants and met 150 minutes weekly for 13 sessions. The Victim Impact group
therapy studies were manualized using Justice Programs Victim Impact Curriculum. The Victim
Impact group therapy studies targeted criminological factors: criminal personality, criminal
involvement, and criminal attitudes. The Victim Impact group therapy studies used Victim Impact: Listen and Learn Test as the instrument of measure.

**Wellness and Recovery.** This study was based in CBT, MI, and Stages of Change theoretical orientations. The Wellness and Recovery group study was conducted in a male, high security level facility. None of the inmates had the most serious mental health concerns. The Wellness and Recovery group study had eight participants, met 60 minutes weekly for eight sessions. The Wellness and Recovery group study was manualized using *Interactive Journaling* by James Prochaska and The Change Company. The Wellness and Recovery group study targeted coping skills, impulse control, emotional stability, anxiety disorder, mood disorder, self-care, and symptom management mental health factors and criminal peers and associates, criminal attitudes, and substance abuse criminological factors and used DAAS as the instrument of measure.
Appendix C

Table C1

*Group therapy studies by VADOC Classifications and Time*

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<th>Security Levels</th>
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Table C2

*Group Theoretical Orientations and Types*

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<th>Theoretical Orientation of Group</th>
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Table C3

*Participants’ Criminal Levels, Sentences, and Ages*

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Note: These numbers represent VADOC averages during 2017-2019

*One facility had 47% in this range

**One facility had 32% in this range
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<td>170</td>
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<td>166</td>
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complementary & alternative=CAM
| group with | manualized= | physical= | process= | psychoeducational= | total # of groups in 3 years | support= |
| worksheets=XX w | M | PH | P | ED | 172 | S |
## Appendix F Mental Health and Criminogenic Factors Targeted in Group therapy studies

### Mental Health Factors

<table>
<thead>
<tr>
<th>Factor Targeted</th>
<th>n Targeted</th>
<th>Theoretical Orientations That Did Not Target This Factor</th>
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<tr>
<td>Coping Skills</td>
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<td>Some CBT groups did not target coping skills</td>
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<tr>
<td>Impulse Control</td>
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<td>Emotional Stability</td>
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<td>Some CBT groups, 3 of 4 SFBT, Cardio CAM, SLT</td>
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<td>Groups in all theories except DBT; all DBT groups targeted Anxiety Disorder</td>
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<tr>
<td>Mood Disorder</td>
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<td>Some CBT, DBT, SLT, SFBT, psychotherapy, ACT, CAM</td>
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<td>Self-care</td>
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<td>Groups in all theories except DBT; all DBT groups targeted Self-care</td>
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<td>Family Issues</td>
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<td>Trauma Resolution</td>
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<td>Personality Disorder</td>
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<tr>
<td>Thought Disorder</td>
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<td>Some CBT, DBT, positive psychology, CPT, SFBT, CAM</td>
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<td>Symptom Management</td>
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### Criminogenic Factors

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<tr>
<th>Factor Targeted</th>
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<td>Low Self-control</td>
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<td>Some groups in all theories except SFBT; all SFBT targeted Low Self-control</td>
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<td>Substance Abuse</td>
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<td>Criminal Personality</td>
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<td>Groups in all theories</td>
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<td>Dysfunctional Family Ties</td>
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<td>Antisocial Values</td>
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<td>Criminal Peers and Associates</td>
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<tr>
<td>Criminal Opportunity</td>
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<td>Only the 4 positive psychology groups targeted Criminal Opportunity</td>
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</table>
VITA AUCTORIS

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Old Dominion University
Darden College of Education and Professional Studies
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EDUCATION
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      Old Dominion University, Anticipated graduation December 2021. Dissertation Title: A
      Meta-Analysis of Three Years of Data on Outcomes of Therapy Groups for Inmates in
      the Virginia Department of Corrections
2016  Master of Science in Education, concentration in Counseling. GPA 3.84
      Old Dominion University, specialized in Clinical Mental Health Counseling
2014  Bachelor of Science, concentration in Psychology. GPA 3.97
      Old Dominion University
1998  Graduate Certificate, concentration in Strategic Intelligence Studies. GPA 3.85
      National Intelligence University
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      Leadership. GPA 3.60
      National University
1986  Bachelor of Business Administration. GPA 3.66
      National University
1985  Associate of Science, concentration in Medical Laboratory Technique.
      George Washington University

CERTIFICATIONS
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2018  Certified Clinical Mental Health Counselor
2018  Certified Advanced Alcohol and Drug Counselor

ACADEMIC EXPERIENCE
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2016-2021  T-Group facilitator for graduate student training (co-teach)
2017-2020  Counseling and Psychotherapy Techniques (co-teach)
            Advanced Counseling Theory and Practice (co-teach)
            Testing and Client Assessment (co-teach)
            Group Counseling and Psychotherapy (co-teach)
            Mental Health Counseling (co-teach)
            Foundations of Career Development (co-teach)
            Complementary and Alternative Techniques in Mental Health (co-teach)
            Psychoeducational Groups (Instructor of Record)
Intervention and Advocacy with Children (Instructor of Record)
Field Observation (Instructor of Record)
Substance Abuse Treatment and Research (co-teach)

United States Naval Academy: Department of Seamanship and Navigation. Annapolis, Maryland
1996-1998 Seamanship and Navigation (Instructor of Record, Subject Matter Expert)
Strategy and Tactics (Instructor of Record, Subject Matter Expert)

**CLINICAL EXPERIENCE**

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Virginia Department of Corrections Probation & Parole, District 19 & District 30
2020-2021 Psychology Associate I
Deerfield Correctional Center, Capron, Virginia
2019-2020 Intensive Outpatient Treatment Facilitator, prn
The Farley Center, Williamsburg, VA
2017-2020 Volunteer Mental Health Counselor
Indian Creek Correctional Center, Chesapeake, Virginia
2016-2017 Psychology Associate I
Greensville Correctional Center, Jarrett, Virginia
2016 Intern, Clinical Mental Health Counseling
Indian Creek Correctional Center, Chesapeake, Virginia
2015 Intensive Home Treatment
True Life Destinations, Hampton, Virginia