Efficacy of Thinking Things Through: A precontemplation and contemplation addictions group at a community treatment agency.

by

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Dedication

I would like to dedicate this thesis to all those who have supported me in my journey; the army of clinicians, supervisors, professors who have guided and humbled me; my fellow classmates who have made me laugh and cry; and the awe-inspiring clients who have shared their stories. Most of all, this is for you mom.

“It matters not what someone is born, but what they grow to be.”
-Albus Dumbledore
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Abstract
This research study was conducted at an addictions team of a community-based addiction and mental health agency, which aimed to assess the effectiveness of a psychoeducational program called Thinking Things Through (TTT). This program runs in partnership with the local probation office and primarily works with probation-mandated clients in the precontemplation and contemplation Stages of Change who have been referred for substance abuse treatment. The purpose of the study was to assess whether a brief psychoeducational program reduces client issues in social role, interpersonal relations, and symptom distress using the Outcome Questionnaire for Adults (OQ-30.1). The study used the pre-test and post-test data from 18 participants (n=18) who completed all four weekly sessions of the program consecutively without the use of a make-up session. It was found that after 4 sessions, scores on the OQ-30.1 decreased denoting a decrease in participants’ overall distress as a result of treatment. Using a related-samples t-test found statistical significance [t(17)=7.02, p<0.05]. Furthermore, using the scoring manual for the OQ-30.1, clinical significance was also found from pre-test to post-test with scores decreasing 10 points or more. Additionally, 9 participants were in the clinically dysfunctional range at pre-test but only five participants remained in that range at post-test. Brief mandated psychoeducational programming for substance abuse may be effective in reducing participant distress. Future research should take a further in-depth analysis using instruments that assess changes in substance use and subscales that analyse psychiatric symptomology. Moreover, it is proposed that follow-up data be collected on participants to assess the durability of intervention effects. While adding to the existing literature regarding both the additions and offender populations, the results of this study may also support mental health professionals in communicating the potential value of rehabilitative practices to policy makers and probation officers.
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Chapter I: Introduction

According to a report by the Canadian Centre on Substance Abuse, in 2001 substance use and addiction cost the Canadian economy an estimated $39.8 billion a year (Rehm et al. 2006). Moreover, Pearson, Jaz, & Ali (2013) note that approximately six million people in Canada will meet the diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) for substance abuse at some point in their lifetime. Substance use and addiction are well recognised in the literature as being amongst the most complex and challenging disorders to treat (Wright, Basco, & Thase, 2006). Therefore, a crucial need exists for efficacious and cost-effective programming for substance use and abuse.

Not all substance use results in negative consequences. However, both society and this research project focus on clients who have experienced negative impacts due to substance use. The negative impact from an individual personal level can take form in either exacerbating or directly resulting in issues related to daily functioning, long and short-term physical health, mental health, financial woes, legal problems, interpersonal relationships, education, and employment (Wormer & Davis, 2013). According to Wormer & Davis (2013), a large proportion of clients who go through addiction treatment are court mandated through probation, parole, or seek to use the program as a part of their legal defence, and particularly so when substances have been involved in their offences. According to a report released in the United States by the National Center on Addiction and Substance Abuse in 2010, 1.5 million of the 2.3 million inmates in prisons and jails fit the diagnostic criteria for either substance abuse or addiction in DSM-IV (CASA, 2010). Furthermore, almost 500,000 more inmates who did not meet the DSM-IV criteria had either a history of issues with substances, were under the influence of substances during their offence, committed the offence to acquire either money or the substances, and/or were imprisoned for a substance law violation (CASA, 2010). For over 50% of the inmates, alcohol was involved and 75% with illicit drugs (CASA, 2010). These statistics demonstrate that there is a high need for substance abuse programs for individuals who have come into contact with the law or experienced jail time.

Typically, probationers who are mandated to substance abuse and addiction programs are ambivalent about changing their behaviours. They either do not see a problem or do not necessarily want to change (Peters & Wexler, 2005). Individuals placed on probation are often required to complete treatment as part of their probation order or suffer the consequences of non-attending, such as a breach of probation, that may lead to further severe repercussions (Peters & Wexler, 2005). If substances were involved in a probationer’s offence, then substance treatment is routinely included in a probation order as part of the rehabilitative process (National Institute on Drug Abuse, 2012). With a lack of motivation and desire towards changing their maladaptive behaviour coupled with a negative attitude towards being mandated to treatment, the primary treatment modality uses a motivational interviewing approach to engage probationers in treatment (Peters & Wexler, 2005). Motivation Interviewing is defined by Miller and Rollnick (2013) as “a collaborative conversation style for strengthening a person’s own motivation and commitment to change.” (p.12). This is a form of conversation aimed at increasing an individual’s motivation and commitment towards change using the concepts of partnership, acceptance, compassion, and evocation in the therapeutic relationship (Miller & Rollnick, 2013). However, using this style requires skills and a need to assess whether programs that use this style continue to be effective to ensure individuals are being effectively treated.

Due to the high cost of substance use coupled with the difficulties of treating addiction, special attention is critical towards program evaluation, especially for provincially mandated
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programming. Most commonly, outcome measures are used when implementing group treatment to measure its efficacy (Bieling, McCabe, & Antony, 2009). Psychological testing can provide a relatively unbiased representation of outcomes for clients with pre-test, post-test, and follow-up data (Gregory, 2013). Furthermore, using tests that are sensitive to change over a period of time is essential, as is the need for valid and reliable measures (Jerrell, 2005).

The program being analysed in this study is at a community treatment agency located in Eastern Ontario. The main purpose of the organisation is to provide services for individuals in need of mental health and addiction support through a wide variety of programs and services, including addictions services, crisis services, assertive community treatment teams, vocational services, housing services, transitional case management, and court support.

Normally, in order to receive treatment outside of the crisis team, coordinated access workers conduct an intake assessment and direct a client to the appropriate service by making a referral to the relevant departments. However, the Thinking Things Through (TTT) program offered by the addictions services team works in conjunction with the local Probation Office, wherein probation officers make referrals and an addictions services worker completes the intake. TTT is a psychoeducational group aimed at individuals on probation or parole who are required to complete a substance abuse program as part of their probation/parole order and/or have been strongly encouraged to do so by their probation officer. The majority of TTT participants had substances involved with their offence, and/or a history of substance abuse and addiction.

The TTT program consists of four weekly sessions of two hours’ duration that individuals are required to attend in order to receive a certificate of completion. The group starts out with 18 participants at the first session and uses psycho-education in order to motivate clients to make changes in their lives with regard to substance use. The target population for the group are those precontemplation and contemplation Stages of Change, where they are not wanting to make a change do not see a problem, or are ambivalent about making the change with regards to their substance use (DiClemente, 2006). Therefore, the goal of the group is to assist in clients moving to the preparation and action Stages of Change with their substance use and life choices moving forward.

TTT has been run for several years at this agency, and due to its large intake of 18 people per round, has reached a large number of clients dealing with issues associated with substance use. There has been significant research linked with the program to assess its efficacy, questionnaires it uses, and distress it causes participants. However, the program has been adapted since the previous research was conducted and providing feedback on whether psychoeducational programming and TTT remain to be effective or the changes have shown an increase in treatment effectiveness is necessary.

Key Terms

Throughout this paper, a number of key terms will be used. To gain a full grasp of what is being discussed, these terms are identified and defined below.

Addiction. An addiction is a behaviour that in its basic form consists of cravings, inability to control in regard to the quantity and frequency, compulsive need, and continuance of use of a substance in spite of consequences (Centre for Addiction and Mental Health, 2012). This definition applies to substances, relationships, process addictions (i.e., gambling or sex addiction), and even things such as TV shows.

Substance abuse. The World Health Organization defines substance abuse as the maladaptive usage of both legal and illegal psychoactive substances (WHO, 2016). Another
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A definition more widely accepted in Canada is from the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association, 2013), that defines a substance use disorder as “a cluster of cognitive, behavioural, and physiological symptoms that indicating that the individual continues using the substance despite significant substance-related problems” (p. 483).

**Precontemplation.** Precontemplation is the initial phase in the Transtheoretical Model (aka Stages of Change), wherein an individual is characterised by an unwillingness to change or recognise a disruptive behaviour chain (DiClemente, 2006). They do not wish change now or in the future, see a need to change, or want to change and this can apply to any behaviours, not just specifically substance abuse related (DiClemente, 2006). The goal of treatment at this stage is to move individuals to the next phase with ambivalence (DiClemente, 2006). Most of the probation clients for the Thinking Things Through group are at this stage when they start.

**Contemplation.** This is the second phase in the Transtheoretical Model (aka Stages of Change). It is associated with ambivalence and the understanding of both the benefit and need for change (DiClemente, 2006). Individuals assess the risks and benefits of change to their behaviour, their values, emotions associated with their behaviour, and engage in rational thinking to assist moving them from this stage to what is hoped into the preparation and action stages (DiClemente, 2006). Some probation clients starting the program are at this stage when they start.

**Hypothesis**

This study seeks to test the hypothesis that from pretest, during treatment, and posttest there will be both clinically and statistically significant change with a decrease in scores which denote an improvement in social role functioning, interpersonal relations, and social role. This will be demonstrated through the score of the outcome measure currently used for the group, the Outcome Questionnaire for Adults (OQ-30.1).

**Overview**

This report will provide a brief history of substance use and addiction, current theories behind how people become addicted, the current diagnostic criteria for substance abuse, treatment modalities for addiction and substance abuse, mandated treatment and probation clients, the Transtheoretical Model (aka Stages of Change) model, precontemplation and contemplation treatment obstacles, the need for continuous program evaluation, an analysis of the Outcome Questionnaire for Adults (OQ-30.1), and a review of previous evaluations of this program. The study will also include an analysis of the methods and procedures used with a breakdown of the group, results of the statistical analysis, subsequent conclusions of the findings, the strengths and limitations of the study, program changes, multilevel challenges, how the project contributes to the field of psychology, and recommendations for future research.
Chapter II: Literature Review

History of Addiction and Substance Use

Substance use and abuse have been well documented throughout history. The first records of alcoholism date back to approximately 7000 BCE in northern China and Iran (Gately, 2008). In religious texts, the consumption of wine is acknowledged and celebrated with even wine being offered to the Gods in tribute (Gately, 2008; Greydanus & Merrick, 2013). Ancient Greece and Rome gave alcohol to its soldiers as part of their rations and Egyptian doctors prescribed alcohol (Gately, 2008). Hallucinogens have been used for thousands of years to produce out-of-body experiences and euphoria (Greydanus & Merrick, 2013). Evidence of opium consumption dates as far back as 5000 BC, and cocaine was in Coca-Cola products until 1903 (VanWormer & Davis, 2013). It was not until the eighteenth century, that literature emerged on the concept of addiction and the idea of the drunkenness as a disease (London, 2005). However, the notion of addiction was attributed to difficulties regarding self-restraint, morality, and religion as foundational reasons (London, 2005).

The concept of addiction has evolved from a model that demonised and stigmatised individuals who are addicted or abusing substances, to a more holistic and nurturing model of addiction as a disease and having multiple factors involved. This has progressed to the “biopsychosocial plus” model. Furthermore, research is demonstrating that addiction isn’t solely related to substances but also behavioural with process addictions such as sex, gambling, and internet addictions becoming areas of significant research and understanding due to its similarities to substance abuse disorders (Grant, Potenza, Weinstein, Gorelick, 2010).

Current Theories of Addiction

With such an extensive history, addiction and substance use ideologies have changed dramatically from the age of demonization for both addiction and mental health (VanWormer & Davis, 2013). Addiction is now commonly seen as having multiple factors and given rise to the biopsychosocial – spiritual model to encapsulate biological foundations, social factors and the impact of the environment, learned experiences, and individual factors (Harrison, Carver, & Prochaska, 2004). Each following theory and concept leads to a greater understanding of addiction and substance use, as well as contributes to the biopsychosocial-spiritual model.

DiClemente (2006) and Harrison, Carver, and Prochaska (2004) describe the biological model as being rooted in genetics with family, adoption, and twin studies that give way to an individual’s vulnerability to addiction should they have had family members who were troubled with addiction, specifically parents. Genetics have a part in determining individual response to substances but cannot explain societal variations in substance abuse, the effects of social and environmental factors, as well as a lack of direct correlation and causality between genes and addiction (DiClemente, 2006; Harrison, Carver, and Prochaska, 2004).

Another model outlined by DiClemente (2006) and Harrison, Carver, and Prochaska (2004) is a social and environmental one that focuses on availability, peer pressure, and cost. It also considers how an individual’s culture interprets substance use and addiction through a systems theory approach and how family factors impact an individual particularly through parenting (DiClemente, 2006). Learned experiences relate to the behaviourist approach. Through classical conditioning with the association of cues for positive feelings when abusing substances or engaging in a pleasurable activity, as well as negative associations related to cravings and withdrawal that lead to engaging in the addictive behaviour (Harrison, Carver, and Prochaska, 2004). Operant conditioning is another behaviourist approach, relating to the idea of consequences that lead to addictive behaviour (Harrison, Carver, and Prochaska, 2004).
Engaging in the behaviour is reinforcing due to the positive and rewarding aspects that lead to continuing and increasing the behaviour. However, there are issues with this theory that relate to the continuing of engaging in the behaviour despite the consequences and it does not explain all the factors involved in addiction and substance abuse (DiClemente, 2006; Harrison, Carver, and Prochaska, 2004). Another behaviourist approach is Bandura’s social learning theory, wherein individuals learn by observing and modelling others with the environment affecting individuals and vice versa (Nevid, Greene, Johnson, Taylor, & MacNab (2013). In relation to addiction and substance use/abuse, social learning theory focuses on expectancies, vicarious learning, and self-regulation as the reasoning behind the development of addiction (DiClemente, 2006). The expectancies associated with a particular substance, such as how it will affect an individual, will influence the use and continued engagement of that particular addiction (DiClemente, 2006). As an example, believing that alcohol makes one more outgoing will increase susceptibility to use alcohol (DiClemente, 2006). Furthermore, the influence of peers and role models also play a significant role and is thus an issue when addressing the impact of the media, television, and movies (DiClemente, 2006). This area of psychology and addiction theory continues to be of high interest and research with differing studies that support or deny that social learning theory is a viable model (DiClemente, 2006).

Individual factors that relate to addiction and substance abuse include personality traits and inner conflicts. Research into personality traits has shown little evidence to support there being a particular trait that exists but rather a collection of factors that demonstrate a likelihood for this to become an issue (Harrison, Carver, and Prochaska, 2004). There is a relationship between certain mental illnesses, impulse control, and antisocial tendencies that lead to addiction (Harrison, Carver, and Prochaska, 2004). Personality features and inner conflicts may contribute to the development of addictive behaviours, but do not provide the full explanation by itself (DiClemente, 2006).

None of the theories reviewed above can stand alone in explaining addiction and substance abuse. However, when combined into the biopsychosocial model with an understanding of an interaction between all the factors, addiction can be better explained as a cyclical process, with the body, genetics, culture and society, mind and brain, and spirituality all in play (VanWormer & Davis, 2013). The “biopsychosocial plus” model allows an approach that enables those in the helping professions to use a holistic approach that may address multiple problems simultaneously (VanWormer & Davis, 2013).

**Diagnostic Criteria for Substance Abuse**

The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-V) is the current basis for diagnosis in Canada and the United States. Changes from the previous DSM-IV include omitting the necessity for recurring legal problems to be present and but added the criterion of “craving or a strong desire or urge to use a substance” (Grohol, 2013). Furthermore, the DSM-V introduces a behavioural addictions category, and does not differentiate between the notion of substance abuse or dependence, and creating separate categories for each substance shows a difference in the DSM-V (APA, 2013).

A substance use disorder is distinguished by “impaired control, social impairment, risky use, and pharmacological criteria” (APA, 2013, p. 483). The APA (2013) also states that a substance abuse disorder must include:

- Taking the substance in a large amount, taking it for longer than originally wanted, desire to stop using or cutting down, several unsuccessful attempts to quit, spending a large amount of time to
get the substance, using the substance, or recuperating, and the focus on the substance while completing daily activities (p.483).

**Treatment Modalities for Substance Abuse**

With an understanding of what is considered to be substance and addiction, the next consideration is how to treat them. A wide spectrum of treatment options exists for mental health and addiction clients, including pharmacotherapy, the well-known Alcoholics Anonymous 12-Step groups, and cognitive-behavioural therapy, among others. While many treatments exist, only the main approaches will be considered here.

Pharmacotherapy relies on the use of drugs such as Methadone to reduce craving for opiates, and Naltrexone to create unpleasant side effects for alcohol (Straussner, 2012). Behavioural therapies include motivational enhancement therapy, cognitive behavioural therapy, and 12-step facilitation. Cognitive-behaviour therapy addresses cognitions associated with substance use in a structured approach that teaches the client skills (Straussner, 2012). Motivational enhancement therapy uses the Transtheoretical Model (aka Stages of Change) and motivational interviewing to motivate clients to recognise and make changes to their drinking based on where they are in the change process (Straussner, 2012). The 12-step therapy model is designed to assist in early recovery through behavioural, spiritual, and cognitive approaches with acceptance of the disease and conceding to a higher power (Straussner, 2012). With so many differing treatments, it is essential for the needs of the client to be matched with treatment modalities to ensure best practices and evidence-based treatment is employed. This fact is exemplified by the meta-analysis completed by Pearson, Prendergast, Podus, Vazan, Greenwell, & Hamilton (2011) who concluded from 232 studies and statistical analyses the principles of matching client needs to treatment and employing evidence-based behavioural therapies were of paramount importance to best practices. Significant research has been undertaken to understand how to best match and treat clients for addiction and substance abuse, such as Project MATCH, a 5-year project to assess the effectiveness of cognitive behaviour therapy, motivational enhancement therapy, and 12-step facilitated therapy (Straussner, 2012). A study focusing on 25 Native American participants from the Project MATCH study assessed the effectiveness of motivational enhancement therapy, cognitive behavioural therapy, and 12-Step facilitation (Villaneuva, Tonigan, and Miller, 2007). The results showed that those assigned to motivational enhancement therapy showed the highest number of days abstinent and least amount of drinking; the least effective treatment for this group was 12-step facilitation (Villaneuva, Tonigan, and Miller, 2007). Adding to the results of Project MATCH, Witkiewitz, Hartzler & Donovan (2010) found that there is support for matching clients based on motivation for change to particular treatment modalities using the previous data. The researchers found that from the 1,726 participants, those with lower motivation to change their substance had more effective outcomes in reducing drinking if in motivation enhancement therapy than in cognitive behavioural therapy (Witkiewitz, Hartzler & Donovan, 2010).

Najavits, Kivlahan, & Kosten (2011) conducted a study of 205 Veteran Affairs staff who were clinicians and program managers such as counsellors, social workers, psychologists, and psychiatrists to assess how effective they found various treatment models for substance abuse disorder and PTSD. The researchers found that the most effective manual-based therapies for treating clients overall and for PTSD/SUD clients specifically were the seeking safety, relapse prevention, cognitive behaviour therapy, and motivational interviewing, listed in order from most helpful to least (Najavits, Kivlahan, & Kosten, 2011). However, another treatment modality that
has high empirical support but not often mentioned in the addiction literature is the behavioural couples’ therapy model for substance abusers as outlined by Klostermann, Kelley, Mignone, Pusateri, and Wills (2011). It is a highly effective family treatment model for cohabitating substance users compared with individualised interventions. This model uses multiple techniques from motivational interviewing and cognitive behavioural therapy to treat the couple in moving towards abstinence (Klostermann, Kelley, Mignone, Pusateri, and Wills, 2011).

An additional venture in addiction treatment is the trauma-informed therapy that trains therapists and counsellors in how to treat substance abuse that arises from trauma. The Seeking Safety model uses this approach to addiction. There is a high prevalence of trauma exposure for substance abuse clients (Mills, 2015). Increasing trauma training and trauma models of care are recommended for the substance use field to better assist clients (Mills, 2015).

It has been demonstrated that assisting individuals through motivational techniques who are resistant to change is efficacious. Even brief interventions using motivational interviewing, which are cost-effective, were found, though a meta-analysis of nine studies, to decrease alcohol consumption in comparison to other treatments and longer sessions (Vasilaki, Hosier, and Cox, 2006). Although there are mixed results on the efficacy of brief interventions, a meta-analysis undertaken by Donoghue, Patton, Phillips, Deluca, and Drummond (2014) showed that brief interventions are effective at reducing weekly alcohol consumption. In the meta-analysis using 23 studies that met the inclusion criteria of having a maximum of 4 sessions with each session lasting from 5-45 minutes, it was found that consumption was reduced by an average of two standard drinks per week between 3 and 12 months but not after 12 months (Donoghue, Patton, Phillips, Deluca, & Drummond, 2014).

Many treatment options exist but for the population that this study targets, it has been demonstrated through the literature that a motivational interviewing approach is considered to be the most efficacious for those resistant to treatment and change, whether the intervention is brief or more long term.

**Mandated Treatment for Probation Clients**

Best practices and an understanding of treatment approaches leads individuals to a need to understand the factors associated with mandated treatment and those individuals within the programs. Mandated substance abuse programs are challenging to implement, understand, and demonstrate as efficacious. This component of the literature review will seek to further outline the characteristics of those who drop out of mandated treatment and the effect of both attitudes and relationships in mandated programs.

A study compared the characteristics of 926 individuals who completed mandated substance abuse programming versus those who dropped out. The study found that dropouts had more issues related to employment, more psychiatric difficulties, and fewer had dependent children with them (Evans, Li, and Hser, 2009). A further analysis of the dropouts at a year follow up highlighted a less successful outcome with higher rates of recidivism with a 34% difference compared to those who completed a drug treatment program (Evans, Li, and Hser, 2009). A study by Brocato (2013) of 43 Hispanic probationers in a residential treatment program, found that individual characteristics were not related to treatment adherence. However, having a psychiatric diagnosis increased the risk of dropout, as did using marijuana, lower motivation and problem recognition, and having prior convictions (Brocato, 2013). Furthermore, it has been shown by Coviello et al. (2013) in a study with 160 participants, that being mandated to 6 months of weekly cognitive treatment, rather than entering treatment voluntarily, resulted in better rates of completion despite less motivation when entering treatment. Tangney et al. (2016)
conducted a study of 305 inmates at an adult detention centre to determine the characteristics involved with inmates’ substance use from pre-incarceration to a year post release. The researchers found that alcohol and marijuana use and abuse decreased in relation to enrollment in a substance treatment program and that females’ drinking decreased more than males’ (Tangney et al., 2016). Furthermore, the researchers also found that higher levels of education and higher years of education were correlated with a greater decrease in use and dependence on alcohol. Also being 39 years old or older was associated with greater declines in alcohol and marijuana use whereas those 38 years old and younger showed decrease in marijuana use but increased in alcohol use, and incarceration for 310 days or more led to higher decreases in marijuana use than short-term incarcerations (Tangney et al., 2016).

According to Shearer & Ogan (2002), attitudes and relationships play a key role in treatment outcomes for probationers. A study using 160 adult male inmates showed that the belief of having entered treatment voluntarily reduced treatment resistance by 20% by creating a pro-treatment environment as opposed to a coercively mandated environment (Shearer & Ogan, 2002). The researchers concluded that an offender’s perception of voluntary attendance is preferred and correctional institutions should focus on motivational techniques to promote entering a substance abuse program voluntarily within the community (Shearer & Ogan, 2002). An additional interesting note is probation officers’ perception of mandating treatment programs. A survey of 145 probation officers who completed a questionnaire found that probation officers support mandated substance treatment, more often refer rather than mandate treatment, are more likely to mandate if they believe treatment to be efficacious (Polcin & Greenfield, 2003). However, the probation officers are often concerned with both treatment availability and level of services available to probationers (Polcin & Greenfield, 2003). Polcin & Greenfield (2003) recommended that probation officers be further educated in the efficacy of substance mandated treatment to increase mandated referrals. An important component of the relationship for assisting in treatment adherence and reduced recidivism is the probation clients’ relationship to their probation officers and counsellors (Skeem, Louden, Polaschek, and Champ, 2007). The researchers found that the level of care, fairness, trust, and an authoritative style in the relationship promoted treatment and rule adherence, as well as increasing treatment motivation (Skeem, Louden, Polaschek, and Champ, 2007).

There are many factors involved in mandated treatment. Those factors associated with dropout are psychiatric diagnoses, employment difficulties, the substance of choice, and length of incarceration. Moreover, the attitudes of both probationer and probation officer towards treatment, the level of motivation, and the therapeutic relationship between the counsellor and client are also important factors.

The Transtheoretical Model (aka Stages of Change)

Grasping the concepts and difficulties associated with mandated treatment leads to a need to understand motivation related to addiction and substance abuse. Miller, Forcehumes, and Zweben (2011) state addiction is a persistent, relapsing issue that requires recurrent treatment over an extended period of time. With the concept of addiction lasting over time, it is sufficient to assume that we do not remain stagnant in the process and that we go through a process on the path to recovery.

The most renowned model for this is the Transtheoretical Model (aka Stages of Change) that explains how individuals go through change as a process that arose from the Transtheoretical Model of Intentional Behavior Change (TTM) (DiClemente, 2006). Each stage has multiple tasks to go through in order to reach the next stage (DiClemente, 2006). The stage of precontemplation
is associated with an unwillingness to change, lack of insight into the need to change, and/or impossible to accomplish (DiClemente, 2006). The next stage, once precontemplation is resolved, is contemplation, which is characterised by ambivalence with evaluating the pros and cons of change and insight into the need to change (DiClemente, 2006). The next stage is preparation that involves planning for action, the beginning of the commitment to the process, and identifying how to change (DiClemente, 2006). Exiting the preparation stage leads to the action stage wherein implementation of the plan begins with engaging in new behaviours (DiClemente, 2006). Once the change has become habitual, part of a lifestyle and the status quo of an individual has moved to the stage of maintenance, it is assumed it will continue unless an individual enters relapse (DiClemente, 2006). Each stage comes with its own tasks, timeline, and treatment tasks (DiClemente, 2006).

Research has shown that individuals are able to move through Stages of Change as a result of consequences that support the Transtheoretical Model (aka Stages of Change) and the Thinking Things Through group, which primarily targets individuals in the precontemplation and contemplation Stages of Change. Pollini, O'Toole, Ford, and Bigelow (2006) illustrated the ability to engage clients in treatment after an acute medical event. The researchers found that 43.6% of the 353 active substance users either moved to a higher stage within the change model or remained in the action stage (Pollini, O'Toole, Ford, and Bigelow, 2006). This study indicates that individuals with addiction problems are able to move through the Stages of Change as a result of treatment. Furthermore, research by Petry (2005) found that being in a particular stage of change outlined by a readiness to change assessment bore relevance on treatment outcomes for 234 pathological gamblers. The higher in the stage of change process, the more effective treatment was for individuals demonstrating that an individual’s stage of change is relevant to treatment outcomes (Petry, 2005). Corsi, Kwiatkowski, and Booth (2009) found that for 491 opiate drug users that were recruited to enter a study for drug treatment, a significant predictor for treatment entry was being in the either contemplation or action stage of change for their drug use.

The literature demonstrates a need for effective interventions that lead individuals to move from precontemplation to contemplation and action for individuals to seek assistance with their addiction. Predominately clients in the Thinking Things Through program reside in the precontemplation or contemplation Stages of Change and the program seeks to aid participants in moving from one stage of the process to the next in relation to their substance use.

**Precontemplation/Contemplation Treatment Obstacles**

Combining awareness of evidence-based practices, the Stages of Change in relation to those in the Thinking Things Through program, and the factors associated mandated substance treatment are critical to take into consideration in treating this special population. However, increasing this understanding by investigating the issues associated with precontemplation and contemplation substance users is essential to ensuring high quality and efficacious services are being delivered to this heavily stigmatised population.

To assess treatment obstacles Coulson, NG, Geertsema, Dodd, & Berk (2009) conducted a study with 66 clients who did not attend their first and second therapy appointment in a drug and treatment community-based outpatient facility. The researchers found that the majority of responses for reasons for not attending were waiting times between referral and entering treatment, issues with mood due to substance use, being busy, and communication issues. Another study aimed at identifying obstacles for a group of 10 individuals who cited the main barriers to accessing treatment were memory problems associated with their mental state, being
overwhelmed by the numerous demands placed on them, being uncomfortable of the unfamiliar, not wanting to leave the house, and life events that impeded their attendance (Gore, Mendoza, & Delgadillo, 2015). The study went further in that clients reported that ensuring appointments suited them, making the location familiar, and assisting them in remembering the appointments were ways to overcome the barriers (Gore, Mendoza, & Delgadillo, 2015).

A study addressing success and failure in drug treatment court found that from 190 participants that several factors were highly important in promoting adherence to treatment and reducing attrition (Cosden, Baker, Benki, Patz, Walker, & Sullivan, 2010). These factors were personal motivation, the importance of the relationship with the counsellor for individual counselling and matching the client to the counsellor, program requirements, and being in group therapy (Cosden, Baker, Benki, Patz, Walker, & Sullivan, 2010). An additional study of 600 adolescents who used marijuana that was involved in treatment and 14 therapists established issues in treatment attendance and adherence as a perception of the necessity, readiness, practical barriers, and level of comfort (Mensinger, Diamond, Kaminer, & Wintersteen, 2006). These factors highlight the importance of motivational interviewing and perception of the relationship with counsellor and treatment.

In a study by Baker, Boggs, and Lewin (2001) of 64 regular amphetamine users in Newcastle, Australia it was found that 21.99% of the participants were in the precontemplation, 37.5% in contemplation, 23.4% for preparation, and 17.2% in action stage for changing their amphetamine use. The researchers conclude that programs that meet individual Stages of Change be made available with needle/syringe exchange programs, brief interventions, and harm reduction goals be employed for those in contemplation and precontemplation (Baker, Boggs, & Lewin, 2001). Furthermore, the researchers call for an increasing awareness and tackling issues of unemployment, health, and risk-taking behaviour to better assist regular amphetamine users in working towards decreasing their substance abuse (Baker, Boggs, & Lewin, 2001).

**Program Evaluation**

The main purpose of the study is to evaluate the Thinking Things Through program. Having a sound knowledge of addiction and substance abuse with the history, theory, evidence-based treatment modalities, and characteristics with obstacles associated with the population the group aims to assist are essential. However, understanding the rationale behind conducting this type of research and program evaluation provides further weight in the necessity of the study.

The provincial government of Ontario mandates reporting on treatment outcomes through the use of the Admission, Discharge and Assessment Tools (ADAT), where the community treatment agency is located. To supplement this need, routine outcome monitoring is deemed advantageous as it justifies the program cost, demonstrates the significance of the work, and provides evidence of clinicians continued exertions (Lawrinson, Roche, & Copeland, 2009). Goodman, McKay, and DePhilippis (2013) further reinforce the need for continued evaluation through evidence-based outcome measures rather than previous methods, which have largely relied on treatment attendance and urine screens. This meta-analysis indicates the benefits of measurement-based progress monitoring for clinicians to see how effective they are and whether the program requires tailoring (Goodman, McKay, & DePhilippis, 2013). These studies clearly show a need for continuous program evaluation that will benefit both agency and clinicians. Moreover, the studies outline the need for this current study.

**Outcome Questionnaire for Adults (OQ-30.1)**

Program evaluation is critical for continued funding and understanding the efficacy of the Thinking Things Through program and evaluating the measure used to evaluating the group is
not at an exception in this case. This program uses the Outcome Questionnaire for Adults to
demonstrate the effectiveness and gathers pre/post data from participants.

The Outcome Questionnaire for Adults (OQ-30.1) is an assessment measure for adults
between the ages of 17 and 80 that is intended to assess a patient’s psychological state
throughout treatment (Lambert et al., 2007). The OQ-30.1 was adapted from the original
Outcome Questionnaire-45 (OQ-45) and much of the research supporting the use of the OQ-30.1
is from the original measure. Some of the evidence that follows will be literature that supports
the OQ-30.1, a comparison of the two, and literature in support of the OQ-45.

Based on research using the instrument, the OQ-30.1 demonstrates high concurrent
validity when compared with the Symptom Checklist-90-R, Beck Depression Inventory and
Social Adjustment Scale, among others (Lambert et al., 2007). These correlations ranged from
.593-.698, which lends credibility to the OQ-30.1 when compared to similar measures (Lambert
et al., 2007). With regard to reliability, a study of 157 college students demonstrated a test-retest
reliability coefficient of .84 and another study of 56 undergraduate students showed that weekly
testing over the course of 10 weeks indicated that the OQ-30.1 was appropriate for tracking
weekly therapeutic progress and stable over time (Lambert et al., 2007). However, the downfall
of the instrument is its lack of clinician ability to provide valid diagnostic information, is subject
to administrator bias, and is rife with the opportunity for false negatives and false positives,
as well as little research using the instrument with ethnic populations (Lambert et al., 2007).

A comparison study assessed the OQ-45 and the OQ-30 using 447 clients from a
university’s counselling department who went through treatment as usual by assessing the level
of agreement between the two measures from total scores (Ellsworth, Lambert, & Johnson,
2006). Using the total scores from the measures it was found that they demonstrated high levels
of agreement in determining client outcomes, however, the OQ-45 was more precise at providing
clinicians with feedback regarding treatment outcomes for clients (Ellsworth, Lambert, &
Johnson, 2006). Furthermore, the OQ-45 generated fewer false signal alarms of individuals
responding negatively to treatment outcomes and higher overall accuracy than the OQ-30
(Ellsworth, Lambert, & Johnson, 2006).

In relation to the OQ-45 and its validity, a study was undertaken using 550 adults in a
psychiatric inpatient unit to assess the divergent, convergent, and concurrent of the OQ-45 and
the BASIS-32 (Doerfler, Addis, & Moran, 2002). It was demonstrated that even when patients
were on the unit for a brief stay with a mean length of stay in the hospital for 6.9 days, there was
moderate evidence for both convergent and divergent validity, as well as sensitivity to change
(Doerfler, Addis, & Moran, 2002). However, the researchers noted a key difference and
implication of their findings with the OQ-45 being more useful for determining therapeutic
outcomes and the BASIS-32 to assess for psychiatric comorbidity (Doerfler, Addis, & Moran,
2002).

It is noted that the measure does possess high test-retest reliability and is relatively easy
to score and administer. However, the instrument is lacking several key characteristics needed to
be an effective tool such as the ability to provide diagnostic information, more subscales to
investigate various aspects of functioning, the ability to demonstrate change more significantly,
and ability to detect positive or negative impression management, and reduce the opportunity for
positive and false negatives. This leads to the conclusion that while the outcome measure is
moderately appropriate, the agency should invest in a more appropriate tool that eliminates these
psychometric deficiencies.
Previous Research

Previous program evaluation was conducted by Laraby (2014) to validate the efficacy of Thinking Things Through (TTT). The research study sought to assess whether the group demonstrated a change in participants’ level of distress and stage of change using 32 research subjects that met the inclusionary criteria (Laraby, 2014). From the data accumulated from the Readiness for Change Questionnaire, it was ascertained that Stages of Change were not altered significantly with 15.5% changing their stage of change positively, 15.5% negatively, and 69% remained unchanged (Laraby, 2014). However, from the data accumulated from the OQ-30.1 demonstrated that the group was able to change scores on the OQ-30.1 as it decreased participants’ level of distress (Laraby, 2014).

Literature in Relation to Current Study

The above literature supports the use of brief motivational techniques for individuals mandated to substance abuse treatment and takes a holistic approach by using the biopsychosocial plus model. Using program evaluation and evidence-based practices are essential to providing efficacious treatment to substance abuse disorder, which is regarded as a challenging treatment disorder (Bieling, McCabe, & Antony, 2009), an overwhelming financial burden on Canadian society, (Rehm et al. 2006), and a major issue for those incarcerated in the United States correctional institutions (CASA, 2010).

Although, the literature also indicates that trauma-informed counselling is highly recommended for future training of clinicians, inciting ambivalence and the process towards action is also critical for individuals on probation or in precontemplation/contemplation. Furthermore, addressing the treatment barriers of psychiatric difficulties, financial and employment difficulties, the demands placed on clients, the relationship and attitudes of the probation officer and counselor, the type of substance abused, prior convictions and client preference towards individual or group therapy and anxiety related to treatment are essential to ensuring adherence and successful outcomes from treatment.
Chapter III: Methodology

Participants

The participants of the Thinking Things Through (TTT) program were those who have been referred to the agency for substance abuse and addiction issues. The majority of the referrals came from the local probation office as part of an offenders’ probation order but they may also be referred to the program through the coordination access department who completes the agency intakes. Therefore, while there is a choice to attend and some participants are voluntary, most participants will have consequences (such as a breach of probation orders) for nonattendance.

The individuals included in this study are all Canadian citizens, one of which is of Aboriginal status. There are 15 males and three females in the sample. The mean age of the sample was 36.82 (SD=11.64), a median of 34, and an age range of 23-58. One participant's age was excluded, as they did not disclose their age.

The agency has several closed and open groups. TTT is a closed group in that a referral is required to the program and acceptance into the program through an intake session by one of the main workers of the program. The intake session includes giving the participant information regarding the type of information going to be discussed, the expectations of the client when in the program, and the benefits of the program. Furthermore, basic client information is collected with birth date, address, full name, telephone number, referral source, medications and psychiatric diagnoses, illnesses, and any threat to harm self or others. The intake worker has the opportunity to gather any other information that they deem relevant in an additional note section.

The 18 participants met the following inclusion criteria: The participants must be at least 18 years of age and may be either male or female as gender is not relevant. All sessions (i.e. four sessions) must have attended consecutively with no makeup session provided and all Outcome Questionnaire’s (OQ-30.1) completed in each session. Furthermore, only individuals who participated in the TTT groups run between March 2016 and August 2016 (when the group format was adapted) were included in this research. Exclusionary criteria for this study were those who did not complete the program, who required a makeup session, or did not complete the four OQ-30.1. Moreover, any individual partaking in the group when the student researcher was co-facilitating the group were excluded to reduce confounding variables or biases.

Consent for the data to be used in the study was obtained through the memorandum of agreement between the agency and the student researcher’s post-secondary institution. However, as part of the orientation process, consent and confidentially forms were completed as required by both the agency and the post-secondary institution (see Appendix A). The participants completed the Thinking Things Through Program Participation Contract and Consent (see Appendix B). The consent form is read and explained to the participants in the first session. Continued attendance provides implied consent for the data used.

Design

This study uses archival data but no current participant data with four offerings of the group since March 2016 to August 2016. A group pretest/posttest non-experimental design was utilised for this study as there is no control group with quantitative data.

The independent variable in this study is the group Thinking Things Through and the information imparted during each of the four sessions. The dependent variable in the study is the individual scores on the OQ-30.1 in each session. Each individual has four total scores. The pre- and post-test scores were analysed using a related samples t-test to assess the difference between the scores on the OQ-30.1 using the statistical software Excel and SPSS 23. Furthermore,
descriptive statistics are provided for each participant and based on the total scores for participants from pre-test and post-test, as well as an analysis of the change in scores related to clinical significance.

**Setting and Apparatus**

The intake sessions take place at either the local Probation Office, or at the community agency office in Eastern, Ontario. However, each session of the group all takes place in a training room that accommodates the maximum of 20 people the group accepts at a time at the community agency office in Eastern, Ontario. Each session lasts approximately two hours with one 10-minute break in the middle of the session.

The group requires various materials to implement and run the program. In all the sessions the following materials are required: a whiteboard and dry erase markers, pens and the OQ-30.1, a computer with the TTT slideshows, and an overhead projector that connects to the computer to display the slide show. In the second session, the alcohol vision goggles activity materials and the standard drink activity materials are required for the interactive component of the session. In the fourth session, the signed certificates of completion are required.

For the analysis of the data in this study, there are other materials required. A computer equipped with Microsoft Excel and SPSS to conduct the statistical analyses and the questionnaires with completed scores. Additionally, the scoring manual of the OQ-30.1 is required to interpret the data and scores accumulated from the outcome measure.

**Outcome Measures**

The Outcome Questionnaire for Adults (OQ-30.1) is the outcome measure used to assess the program efficacy of the Thinking Things Through group. Specifically, and as previously stated, the Outcome Questionnaire for Adults (OQ-30.1) is an assessment measure for adults between the ages of 17 and 80 that is intended to assess a patient’s psychological state throughout treatment (Lambert et al., 2007).

The questionnaire is based on self-report data, has 30 questions, was developed from the Outcome Questionnaire for Adults (OQ-45.2), is non-diagnostic, and can be administered within a group or individual setting (Lambert et al., 2007). The OQ-30.1 is a Level A assessment tool that requires minimal training and can be administered by individuals that do not have psychological training (Gregory, 2013). Responses available for each question uses the categories of "never," "rarely," "sometimes," and "frequently," and "always" (Lambert et al., 2007). The scale measures progress across the dimensions of intrapsychic functioning, interpersonal relationships, and social role but provide no scores for those subscales, only providing a singular global score (Lambert et al., 2007). The literature review of this study provided data with regard to the OQ-30.1 and studies surrounding its test-retest reliability, validity, and its strengths versus weaknesses. A copy of the measure is provided in Appendix C.

**Procedures**

A brief overview and breakdown of each session are provided in Appendix D.

**Session one.** The first session of the TTT program, information is collected with the completion of the OQ-30.1, Readiness for Change questionnaire, and basic profile sheet. The basic profile sheet includes relationship, employment, income, and education level/status, reasons for attending, history of hospitalisation and treatment, medical illnesses or impairments, psychiatric diagnoses, and substances used in the past 12 months and frequency in the past 30 days. Participants are also given an information sheet on what the program is, who can participate, and expectations as a participant. The presentation of the information begins with the facilitator introducing themselves and then an exercise on keeping an open mind and perspective.
that leads into looking what we want in life and grasping what participants’ values are. The next stage of the session focuses on the group generating a pros and cons list of substance use followed by discussing the major factors that influence an individual’s substance of choice such as peer influence, quickness of the high, and availability/cost. The group then goes on to discuss what the factors are that contribute to the risk of developing a problem and how we can identify if a problem with substances exists. Exact definitions *substance abuse* and *drug* are discussed with the session ending in a brief breakdown of the four sessions and the topics that will be covered in each session. The purpose of this session is to begin the thought process regarding values and whether participants’ substance use is problematic.

**Session two.** The second session engages the group by providing interactive experiences for group members to get involved in the program and focuses on alcohol. The standard drink exercise involves four participants simulating pouring liquor for a mixed drink at a party for themselves and then assessing how many standard drinks that drink equates to. This leads to a discussion into what a standard drink, a number of drinks in popular containers, and alcohol percentages. Information regarding the low-risk drinking guidelines is presented. This specifically focuses on a number of drinks required per week to be in low, moderate, or high risk to develop a health issue as a result of drinking and the percentage of the population in Canada that fall within these categories. The second interactive experience uses the vision goggles. Four volunteers are required to walk in a straight line and catch a ball while wearing goggles that equate to differing levels of intoxication of alcohol blood level. The definitions covered in this session focus on *physical* and *psychological dependency, tolerance* and *cross-tolerance, blackouts, and synergistic effects*. The session ends with drug classifications and their effects on the body, which demonstrates the effects of high-risk drinking on the body.

**Session three.** This session focuses on the participants’ decision-making process and values. Participants engage in conversation regarding decision making, the costs and benefits of substance use, the impact of consequences on substance use, and what substances are the most damaging with an explanation of why. This is followed by an exercise to consider how participants’ substance use has impacted themselves, their partner, children/pets, and family. The session concludes with an exercise asking participants to fill out a values worksheet.

**Session four.** The final session of the program discusses what is involved in the change process, the Transtheoretical Model (aka Stages of Change) and how it relates to substance use, why change fails, and the ingredients for success. This information is followed by examining the factors involved in the relapse process and how relapse occurs, behavioural and cognitive warning signs for substance use, and coping strategies to deal with this situation. The session and program conclude with presenting the overall benefits of eliminating or reducing substance use, the next steps available post-group in relation to the change process, and giving out the certificates of completion to those who have completed the program in its entirety.
Chapter IV: Results

The research study sought to examine the effectiveness both clinically and statistically of the Thinking Things Through program offered at the community agency with the Outcome Questionnaire 30.1. It was hypothesised that the participants' scores would change both clinically and statistically from pre-test to post-test. The total scores of 18 participants, all of whom completed the program with no make-up sessions in 2016, were calculated and this data was analysed using Microsoft Excel and SPSS 23. A related-samples t-test compared the OQ-30.1 scores from pre-test to post-test (see Appendix E for a table of total scores). The outputs yielded from Microsoft Excel and SPSS 23 provided information regarding the mean pre- and post- scores and statistical significance (see Table 1). Cohen’s $d$ was also calculated to determine effect size. The OQ-30.1 showed a reduction from pre- to post- treatment scores, representing an increase in patient progress.

Statistical Significance

A related-samples t-test compared the OQ-30.1 scores from pre-test to post-test (see Appendix E for a table of total scores). Pre- and post- test scores were input into both Microsoft Excel and SPSS to obtain an output of statistical information including the mean pre- and post- scores and statistical significance (see Table 1). The OQ-30.1 showed a large mean reduction from pre- to post- treatment scores ($M=11.67$, $SD=7.05$), representing an increase in patient progress within the areas of intrapsychic functioning, interpersonal relationships, and social role performance. The related samples t-test did show statistical significance $[t(17)=7.02, p<0.05]$. Cohen’s $d$ was also calculated using data obtain from the statistical output to determine effect size. Therefore, the data also yielded a large effect size $d=1.65$.

Clinical Significance

Descriptive Statistics of the pre-test results demonstrates that the mean was $M=42.56$, the post-test mean was $M=30.89$, and the mean difference from pre-test to post-test was 11.67. The median for pre-test was $Mdn=44.5$, post-test at $Mdn=27.5$, and the median difference was $Mdn=-13.5$. For the range, the pre-test results fall at 76, for post-test at 67, and for the difference from pre-test to post-test was 29. The minimum score in pre-test was 6, in post-test was 0, and in the difference between pre-test and post-test was 3. The maximum score in pre-test was 82, in post-test it was 67, and in the difference between pre-test and post-test the score was -26. The sum of scores for pre-test was SUM=766, for post-test SUM=556, and for the difference between pre-test and post-test SUM= -210. These figures are represented in Table 2 as the descriptive statistics of the pre and post data from the OQ-30.1, Appendix E represents participants pre-test and post-test scores with the change in score, and Appendix F shows a representation of the participants' pre-test and post-test scores in a bar graph format.

Lambert, Finch, Okiishi, & Burlingame (2005) provide scoring for identifying dysfunctional versus functional individuals. They determined that the cut-off score for the OQ-30.1 to be considered in the functional range is 43 and below, versus the dysfunctional range, a score of 44 and above (Lambert, Finch, Okiishi, & Burlingame, 2005).

At pre-test, nine participants fell in the clinically dysfunctional range and nine participants fell within the functional range according to Lambert, Finch, Okiishi, & Burlingame (2005). At post-test, five participants fell within the clinically dysfunctional range and 13 participants fell within the functional range. Furthermore, Lambert, Finch, Okiishi, & Burlingame (2005) provide a reliable change index of a score of 10, which indicates that the
change in score from pre-test to post-test is reliably a result of the treatment. An analysis of the data shows that the average change in scores for the 18 participants was a decrease of 11.67 points with only one participant showed an increase in score with all others decreasing in their scores (as noted in Table 2).
Table 1

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
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<tr>
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<td>Variance</td>
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<td>470.81</td>
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<tr>
<td>Pearson Correlation</td>
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<tr>
<td>Hypothesized Mean Difference</td>
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<tr>
<td>df</td>
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<td></td>
</tr>
<tr>
<td>t Stat</td>
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<td></td>
</tr>
<tr>
<td>P (T&lt;=t) one-tail</td>
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<td></td>
</tr>
<tr>
<td>t Critical one-tail</td>
<td>1.74</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>2.07E-06</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.11</td>
<td></td>
</tr>
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</table>

Summary statistic data of the pre-test and post-test data from the OQ-30.1

Table 2

Descriptive statistics of the pre and post data from the OQ-30.1.

<table>
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<th>Pre</th>
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<th>Difference</th>
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<td>30.89</td>
<td>-11.67</td>
</tr>
<tr>
<td>Mdn</td>
<td>24.5</td>
<td>27.5</td>
<td>-13.5</td>
</tr>
<tr>
<td>SD</td>
<td>20.65</td>
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<td>3</td>
</tr>
<tr>
<td>Maximum</td>
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<td>67</td>
<td>-26</td>
</tr>
<tr>
<td>Count</td>
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</tr>
<tr>
<td>Sum</td>
<td>766</td>
<td>556</td>
<td>-210</td>
</tr>
</tbody>
</table>
Chapter V: Discussion

The present study attempted to discover the efficacy of a brief substance abuse program mandated through the probation office at a community-based mental health and addictions agency. The results from the 18 participants (that met the inclusion criteria) indicate that the four-week intervention both clinically and statistically reduced scores on the Outcome Questionnaire for Adults (OQ-30.1). The scores were evaluated using the scoring and administration manual for the OQ-30.1 and a related samples t-test with Excel and SPSS 23. The results indicate reductions in symptom distress, interpersonal relations, and social role for participants following treatment. Therefore, the results allow for the rejection of the null hypothesis and accept the claim that the Thinking Things Through program does demonstrate change for probation mandated substance abuse clients using the OQ-30.1. This research has some similarities and differences to the existing literature. There are also a number of strengths and limitations discovered throughout the process of completing this study. Similarly, a variety of challenges are identified at the multiple levels of service implementation. Finally, a number of implications for the field of behavioural psychology are identified and future directions for research are discussed.

Relevance to Literature

Treatment modalities. The findings of this study coincide with the existing literature regarding brief interventions using motivational interviewing that uses a psycho-educational basis being efficacious. Straussner (2012) outlines that tailoring treatment to individuals by recognising an individual's stage of change and using motivational interviewing is an evidence-based treatment modality that the results of this research study further reinforces as efficacious. The Thinking Things Through program uses motivational interviewing and meeting individuals in the precontemplation and contemplation Stages of Change by using a psychoeducational approach. Additionally, the results further support the findings from Project Match, as well as Witkiewitz, Hartzler, and Donovan (2010) that treatment matching with client motivation is integral to produce change with clients that have low motivation to change. Moreover, the results of the aforementioned literature adds to the mixed results of previous data by strengthening the results of the meta-analysis conducted by Donoghue, Patton, Phillips, Deluca, and Drummond (2014) that brief interventions are effective in reducing alcohol consumption. In addition, it contributes to the research of Baker, Kavanagh, Kay-Lambkin, Hunt, Lewin, Carr, and Connolly (2010) who demonstrated the efficacy of brief interventions compared to 10 sessions of cognitive behaviour therapy for depression and alcohol use. While numerous treatment modalities are available for addiction clients such as cognitive behavioural therapy, the seeking safety model, and many others, this research project outlines that motivational interviewing and psychoeducational approaches are efficacious.

Mandated treatment for probation clients. Follow-up data and levels of substance use were not tracked in the present study, however, the results support the literature presented regarding mandating clients to treatment. Coviello et al. (2013) found that mandating clients to treatment increased program adherence, and Tangney et al. (2016) also found that treatment resulted in decreased alcohol and marijuana use. In comparison, this study established that treatment was successful in reducing issues in relation to symptom distress, interpersonal relations, and social role. These results also further aid research provided by Shearer & Ogan (2002) and Polcin & Greenfield (2003) that probation officer beliefs and a pro-social environment heavily influence treatment. The presence of the research in the literature and the results of this research study demonstrates efficacious results when probationers complete all
sessions in the order of program delivery. The combination of these factors allows probation officers to see that the Thinking Things Through program is effective for substance abuse.

**Program evaluation.** The demonstrated efficacy of the program coincides with the research of Lawrinson, Roche, & Copeland (2009) who outline that conducting program evaluation aids in justifying program costs, the significance of the work, and validates clinicians' efforts are justified. With the program changes and comparison with previous research on this program, recommendations by Goodman, McKay & DePhilippis (2013) outline the need for continuous program monitoring another aspect this research study successfully demonstrated in this treatment program.

**Outcome Questionnaire for Adults (OQ-30.1).** Test-retest reliability and ability to demonstrate change was successfully displayed through the outcomes of the 18 participants over 4 sessions. This is consistent with Lambert et al., (2007) that from 157 college students tested weekly over 10 weeks that progress could be appropriately measured using the OQ-30.1. However, as noted later in the limitation section, and by Lambert et al. (2007) the assessment measure is unable to provide subscales for useful diagnostic information relevant to clinicians. As such, this limitation continues to be a weakness with using the OQ-30.1.

**Previous research.** The previous research conducted by Laraby (2014) and results of this research study both corroborate to support the TTT program’s ability to decrease scores on the OQ-30.1. Laraby (2012) demonstrated the change through 32 participants and this research study used 18 participants both groups using the OQ-30.1, so combining the results from each study increases the validity and value of the program.

**Strengths**
There are a number of strengths of this intervention shown through the results of this study, including specific knowledge of the treatment population, and cost-effectiveness for agencies implementing the treatment. Strengths of this study are the specificity of the target population and the vast age range of participants, which ranged from 23 to 58 years of age. The study also targets only individuals who complete the program without using a make-up session, which minimises the influence of extraneous variables. Additionally, the probation population is at high risk for relapse and motivation remains a large factor; therefore evaluating projects that target these individuals is essential.

In regards to the group itself, it meets the needs of multiple learning styles by using group discussions, interactive activities, worksheets, and lecture style presentation of information. The brief nature of the group only lasting four sessions makes the program less arduous on participants and the group can run frequently to ensure a short waitlist. Furthermore, the group accepting a maximum of 20 people per session allows for the group to treated clients frequently and with a substantial attendance level. This is in comparison to cognitive behavioural therapy groups that traditionally accept a maximum of 10 participants for 10-12 sessions. Additionally, therapeutic groups often use two facilitators whereas the Thinking Things Through program only requires a single facilitator, which in turn decreases program cost and burden on the agency.

**Limitations**
There were various limitations in relation to this research study and the group itself. The OQ-30.1 is based on self-report from participants. Individuals may not be reporting accurately or truthfully, especially when taking into account evaluation apprehension as a factor (Rosnow & Rosenthal, 2013). This concept implies that participants using a self-report measure may alter their responses due to the fear of being evaluated, which may be a fear for individuals on probation (Rosnow & Rosenthal, 2013). Additionally, response bias may play a factor with
THINKING THINGS THROUGH

participants responding to the OQ-30.1 in a way that they perceive the group facilitator desires. These factors involved with self-report measures may alter the scores and the final statistics. A limitation in only utilising one outcome measure may result in not encapsulating the entirety of change within the group. The OQ-30.1 has high test-retest reliability but only uses 30 questions and does not contain a subscale for substance abuse, which is the main purpose of the group. Not adding an outcome measure that includes substance abuse and psychiatric symptomology gives only a general image of change due to treatment. An additional limitation of the study is the exclusion of participants who required a makeup session to complete the program. Should these participants have been included it may have influenced the results to increase or decrease the significance. The inclusion criteria of only having participants who completed the program consecutively may have only included highly motivated participants who wanted to show change and end probation sooner. Including individuals who completed the program fully may have created a larger sample size and results that are more significant.

Multilevel Challenges to Service Implementation

Client level issues. The Thinking Things Through program focuses on working with clients who are on probation over four brief sessions. Clients on probation are mandated to attend if their offence is associated with substances or their probation officer suspects a problem. Nonattendance results in a breach of their probation order and may have highly negative consequences. Therefore, clients may attend but not due to choice or desire to change, which may create a negative therapeutic environment with challenging group behaviours, withdrawn demeanour, aggressive attitudes, and disinterest that may impede other clients who are more motivated. This may have affected the research study, as more client data may have been available to demonstrate the efficacy of the program through attendance, but the lack of participation and lack of engagement in the program.

Program level issues. At a program level, assessing the efficacy of programs is essential to determine whether programs are meeting the needs of the clients, they seek to assist. However, working with a probation-mandated group may result in response bias and positive impression management with participants responding more favourably than is realistically true to appear more desirable to both the counsellor and probation officer. Bias in the self-report method may result in flawed group data and therefore excessive credence in regards to efficacy. This factor may lead to the research study being inaccurate in the assumptions and claims it makes regarding the efficacy of the program. However, participant data results from the OQ-30.1 shows a vast array of total scores with significant variance and even a participant reporting a higher score from pre-test to post-test to pacify this factor.

Organisation level issues. Mental health and addiction agencies are notoriously underfunded and understaffed. Not all addiction counsellors and program managers support the treatment of probation clients. Especially when clients mandated to treatment do not desire to make changes and tend to receive treatment before clients who are seeking services and are in more advanced Stages of Change. Treating this clientele leads to an interpretation of misallocation of staff time and resources on clients’ not making changes versus working with clients motivated to change and seeking help. This was particularly true for the agency in this study as it had a substantially long waitlist for non-mandated clients. Therefore, in relation to this research study, the results strengthen the efficacy and continuance of the program to policymakers, organisational heads, and other team members within the agency.
Societal level issues. Stigma is rife for individuals in the addiction population and those in the criminal offender population. Combining these two populations creates a highly stigmatised environment that is discouraging for clients that should be focusing its efforts on supporting recidivism, recovery, and rehabilitation. The programming and individuals that clients meet are critical in providing a positive environment that actively encourages making a long lasting change rather than continuing the negative path of addiction and criminal offending. The impact of these attitudes contributes to overcoming the barriers that society and stigma present. However, society should also focus its efforts on prevention programming to help counteract criminality and addiction. These efforts would decrease the need and cost of intervention programs. The outcome of the research study validates the importance and usefulness of a rehabilitative process for offenders and probationers as interventions can be effective in producing statistically and clinically significant change for this population.

Implications for the Behavioural Psychology Field
The results of this research study have contributed to the field of addictions and assisted in adding to the literature of how to best meet the needs of probation clients, as well as individuals in the precontemplation and contemplation Stages of Change. The study demonstrated that brief psychoeducational treatment programs using motivational interviewing might assist individuals in reducing issues with symptom distress, interpersonal relations, and social role. This research may affect other agencies within the region in providing similar programming for youth and correctional institutions due to the low cost of implementation of the program, the short duration of its cycles, and ability to facilitate a group exceeding 15 clients in each cycle. These results may interest correctional institutions in particular as this intervention provides brief programming for substance use and abuse for inmates. While incarcerated, inmates could benefit from this intervention so when they are released into the community, they may be more willing to seek more in-depth services to seek additional change. With regard to youth programming, brief psychoeducational and interactive groups may be helpful in prevention programs for substance abuse to avoid the further burden on the system. However, more research into the efficacy of such a program is required with a youth population.

This research also aids the probation office in demonstrating that mandating clients to treatment has a clinically significant impact on probation clients lives and increasing the number of referrals in hope of reducing recidivism. As noted in the literature review, it also demonstrates that clinicians and policy makers need to better inform and train probation officers regarding both the efficacy and usefulness of treatment, as well as their direct role in the success of reducing recidivism with probationers. Better informing probation officers may include highlighting the success of these programs through the demonstration of evidence and training probation officers on establishing a rapport that fosters a treatment and recidivism approach rather than a punitive and authoritarian attitude.

Recommendations for Future Research
Although the present study demonstrated both clinically and statistically change from the use of pre-test and post-test data, follow-up data at the three to six-month mark post-group should be accumulated to demonstrate the long-term efficacy of the group. Additionally, the inclusion of non-mandated clients into the group who are in the planning and action Stages of Change may further demonstrate the efficacy of the group across differing Stages of Change. Moreover, expanding the inclusion criteria for the study to allow participants who complete the program but using makeup sessions should be included to demonstrate whether the order of sessions is essential, increase the sample size, and eliminate potential extraneous variables.
A highly recommended course of action that may aid future research and guide the direction of the group would be to include additional outcome measures. A major drawback of the OQ-30.1 is the lack of subscales and demonstration of change specifically with alcohol and Stages of Change. While brief and effective at measuring efficacy on the surface, the OQ-30.1 does not track much-needed data, such as a change in depression scores, a number of beverages consumed, and movement to differing Stages of Change to demonstrate these changes are a result of treatment. The student researcher recommends investigating as to whether other outcome measures could be more appropriate. Some examples of possible measures to include could be the Drug-Taking Confidence Questionnaire (Annis, Sklar, & Turner, 2001) and Alcohol Use Disorders Identification Test (Babor, de la Fuente, Juan, Saunders, Grant, 2001) to track alcohol and substance use, the Symptom Assessment – 45 Questionnaire (Strategic Advantage, Inc, & Marush, 2001) to assess psychiatric symptomology or the GAIN Short Screener from the Chestnut Health Systems to assess both substances and psychopathology, and a readiness for change questionnaire. The use of additional outcome measures such as these, combined with the use of follow-up data may further validate the efficacy of the group and provide needed information regarding the efficacy of brief interventions over time.

Final Conclusions

Evaluation of both the provided research data and existing literature surrounding addiction and probation clients demonstrates a critical need for efficacious interventions that meet them in their particular stage of change. This research project successfully identifies improved outcomes via 18 participants pre-test and post-test data through the use of the Outcome Questionnaire for Adults (OQ-30.1) scores and analysis using the scoring manual for the OQ-30.1 and statistical analysis using Excel and SPSS 23. The results of a related-samples t-test demonstrated that the Thinking Things Through was able to decrease scores related to difficulties in social role, symptom distress, and interpersonal relations because of treatment. The results demonstrate the usefulness of a brief psychoeducational substance abuse program with offenders, which may direct clinicians to resort to condensed treatment models to cope with long waitlists and clients in the precontemplation and contemplation Stages of Change.

While the research and group itself have various strengths and limitations, future research could potentially focus on information regarding the ability to reduce substance use, follow-up data for long-term intervention effects, and more diagnostically relevant outcomes measures to assess what aspects of treatment can affect client symptomology. Additionally, results of this research study may aid clinicians in communicating with probation officers, specifically in regards to the need, importance, and relevance of therapeutic programming for their clients to shift towards and therapeutic attitude and approach to reduce recidivism.
References


Behavioral Health Services & Research, 29(4), pp. 394-403. doi: http://dx.doi.org/eztest.ocls.ca/10.1007/BF02287346


Appendix A: Consent & Confidentiality Forms

CONFIDENTIALITY AGREEMENT

I acknowledge that I have read and understood the policies and procedures on privacy and confidentiality.

I understand that:

• all confidential and/or personal health information that I have access to or learn through my employment or affiliation with the agency is confidential, during and after my employment ends,

• as a condition of my employment or affiliation with the agency I must comply with these policies and procedures, and

• my failure to comply may result in the termination of my employment or affiliation with the agency and may also result in legal action being taken against me by the Agency and others.

I agree that I will not access, use or disclose any confidential and/or personal health information that I learn of or possess because of my affiliation with the agency unless it is necessary for me to do so in order to perform my job responsibilities. I also understand that under no circumstances may confidential and/or personal health information be communicated either within or outside of the Agency, except to other persons who are authorized by the Agency to receive such information.

I agree that I will not alter, destroy, copy or interfere with this information, except with authorization and in accordance with the policies and procedures.

I agree to keep any computer access codes (for example, passwords) confidential and secure. I will protect physical access devices (for example, keys and badges) and the confidentiality of any information being accessed.

I will not lend my access codes or devices to anyone, nor will I attempt to use those of others. I understand that access codes come with legal responsibilities and that I am accountable for all work done under these codes. If I have reason to believe that my access codes or devices have been compromised or stolen, I will immediately contact my supervisor and/or System Administrator as applicable.

Name (please print) __________________________ Signature __________________________ Date ____________

*For the purposes of agency confidentiality, this form was modified to not include the agency name.
Appendix B: Participant Contract Consent Form

- Thinking Things Through Program Participation Contract and Consent

- In order to fully benefit from the Thinking Things Through program you will need to attend all sessions and actively participate. In order to successfully complete the program and receive a certificate of completion, you must attend all 4 sessions.

- Some guidelines have been created and your successful completion depends on the following:

1. To abstain from alcohol and other drugs (excluding prescriptions taken as directed) for previous 24 hours. No one is to attend while under the influence or in acute withdrawal and if there is suspicion of use by any staff member you may be asked to leave.

2. To maintain the confidentiality of other clients in the group. This means that you need to keep what is said in group in group. Your confidentiality will also be maintained by (agency name) staff, except for limits to confidentiality discussed in group.

3. Respectful communication is necessary at all times while at (agency name). Insulting and/or discriminatory behaviour will not be tolerated and you will be asked to leave the session. Your Probation Officer will be notified of such behaviour for further action. Because there is information that needs to be completed each week, you will be reminded to share time appropriately.

4. Cell phones are to be turned off and are not to be out on tables.

5. Thinking Things Through starts at 1:30 sharp. If you are more than 5 minutes late or upon returning from break, you will be considered absent.

6. If you are absent for session 2, 3 or 4, you must come back to complete that session in the following round of the group in order to successfully complete the program with the approval of the program facilitator.

These guidelines are your agreement to participate in the Thinking Things Through program. This form will also act as a consent form for (agency name) to contact whomever you list below to confirm your attendance and participation in the program.

- I (print name) ________________________________ agree to participate in the Thinking Things Through group at (agency name).

- I agree that (agency name) can disclose my attendance and participation in the Thinking Things Through program to ________________________________.

- Signature ________________________________ Date ________________.
Appendix C: Outcome Questionnaire for Adults (OQ-30.1)

**OUTCOME QUESTIONNAIRE (OQ®-30.1) FOR ADULTS**

**INSTRUCTIONS:** Looking back over the last week, including today, help us understand how you have been feeling. Read each item carefully and mark the box under the category which best describes your current situation. For this questionnaire, work is defined as employment, school, housework, volunteer work, and so forth.

<table>
<thead>
<tr>
<th>Almost</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have trouble falling asleep or staying asleep.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. I feel no interest in things.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. I feel stressed at work, school or other daily activities</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. I blame myself for things.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. I am satisfied with my life.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6. I feel irritated.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. I have thoughts of ending my life.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. I feel weak.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. I find my work/school or other daily activities satisfying</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10. I feel fearful.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. I use alcohol or a drug to get going in the morning.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. I feel worthless.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. I am concerned about family troubles.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. I feel lonely.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. I have frequent arguments.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Almost</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. I have difficulty concentrating.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. I feel hopeless about the future.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. I am a happy person.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>19. Disturbing thoughts come into my mind that I cannot get rid of.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. People criticize my drinking or drug use. (If not applicable, mark “never”)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21. I have an upset stomach.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
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</tr>
<tr>
<td>22. I am not working/studying as well as I used to.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. I have trouble getting along with friends and close acquaintances.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. I have trouble at work/school or other daily activities because of drinking or drug use. (If not applicable mark “never”.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. I feel that something bad is going to happen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. I feel nervous.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. I feel that I am not doing well at school or in other daily activities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. I feel something is wrong with my mind.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. I feel blue.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. I am satisfied with my relationships with others.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

(Lambert, et al., 2003)
Appendix D: Thinking Things Through Session Breakdown

<table>
<thead>
<tr>
<th>Session Number</th>
<th>Topics covered</th>
</tr>
</thead>
</table>
| Session 1      | • Introduction to instructor/s.  
                  • Influences on substance use.  
                  • Definition of a drug, substance abuse, and addiction.  
                  • Consequences of substance use.  
                  • Program breakdown and rules/expectations.  
                  • Participant information and OQ-30.1 paperwork completed. |
| Session 2      | • What is a standard drink?  
                  • Low to high risk drinking  
                  • Definition of dependency, tolerance, blackouts, and synergistic effects.  
                  • Effects of high risk drinking. |
| Session 3      | • Decision making process.  
                  • Temporary benefit but long-term cost of substance use.  
                  • Personal values. |
| Session 4      | • The Stages of Change model, what it looks like, and why it is difficult.  
                  • Relapse.  
                  • Coping strategies.  
                  • Low risk drinking guidelines.  
                  • Benefits of reducing and eliminating substances.  
                  • The next step.  
                  • OQ-30.1 completed, certificate of completion, and termination of the group. |
Appendix E: Table Representing Participant Pre-test and Post-test Data

<table>
<thead>
<tr>
<th>Participant #</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>0</td>
<td>-15</td>
</tr>
<tr>
<td>2</td>
<td>74</td>
<td>66</td>
<td>-8</td>
</tr>
<tr>
<td>3</td>
<td>53</td>
<td>51</td>
<td>-2</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>0</td>
<td>-9</td>
</tr>
<tr>
<td>5</td>
<td>58</td>
<td>47</td>
<td>-11</td>
</tr>
<tr>
<td>6</td>
<td>43</td>
<td>26</td>
<td>-17</td>
</tr>
<tr>
<td>7</td>
<td>57</td>
<td>60</td>
<td>+3</td>
</tr>
<tr>
<td>8</td>
<td>82</td>
<td>67</td>
<td>-15</td>
</tr>
<tr>
<td>9</td>
<td>28</td>
<td>11</td>
<td>-17</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>1</td>
<td>-5</td>
</tr>
<tr>
<td>11</td>
<td>47</td>
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<td>12</td>
<td>43</td>
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<td>13</td>
<td>50</td>
<td>36</td>
<td>-14</td>
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<tr>
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<td>25</td>
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<tr>
<td>18</td>
<td>42</td>
<td>39</td>
<td>-3</td>
</tr>
</tbody>
</table>
Appendix F: Bar Graph Demonstrating Participants Pre-test and Post-test Data