Measuring the Effectiveness of the GAIN-SS as an Assessment Tool for the Thinking Things Through Program: A Substance Abuse Intervention

By

Megan Edwards

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Dedication

First and foremost, I would like to dedicate this thesis to those who constantly feel stuck in their addiction and believe that they are not capable to make a change. To those individuals, always remember that there is a fighter in you and that a door will always be open whenever you are ready to make that change. Believe in yourself and know that **YOU CAN DO THIS!**

Secondly, I want to dedicate this thesis to my family and friends who supported my choice of going into the field of Behavioural Psychology and for always pointing out to me that I had a natural talent towards helping others.

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“Change will not come if we wait for some other person or some other time. 
We are the ones we’ve been waiting for. 
We are the change that we seek”

~ Barrack Obama
Abstract

A research study focused on a substance abuse group, called the Thinking Things Through (TTT) program, held at an addiction and mental health agency in south-eastern Ontario. The Global Appraisal of Individual Needs – Short Screener (GAIN-SS) assessment was used as a pre- and post-test to measure 16 mandated clients’ progress in the TTT program, and the effectiveness of this assessment measure was evaluated. This research study examines whether the GAIN-SS would demonstrate similar results to the Outcome Questionnaire 30.1 (OQ-30.1).

A previous study, conducted by Tudor Price (2017), illustrated TTT to be an effective program by using the OQ-30.1. Therefore, it was hypothesized that the GAIN-SS would also confirm the efficacy of the TTT program by evaluating the participants’ pre- and post-test scores within the substance use domain of the assessment. At the conclusion three rounds of intervention, a paired sample t-test was used to measure whether the participants’ scores were statistically significant. The statistical analysis did not show a decrease in the participants’ pre- and post-test scores, which indicated that the study did not exemplify a statistical significance [$t(15) = -2.9, p = .774$]. Despite the results not confirming the study’s hypothesis, the findings of the study contributed important additional literature. Further discussions of the study’s findings are provided at the end of the paper with recommendations for future research.

Keywords: Thinking Things Through, Transtheoretical Model, Psychoeducation, GAIN-SS
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Chapter I: Introduction

In 2019, the Canada Mental Health Association Ontario stated that approximately 21% of Canadians, at some point in their life, met the criteria for a substance use disorder (SUD). For most of these individuals, they might describe their addiction to be continuous, and comparing it to a never-ending highway. This highway can ultimately take clients down a very twisted path, leading to potential death due to their addiction. Studies have shown that substance abuse has been the cause of more deaths, illnesses, accidents, and disabilities compared to any other health deficit (Straussner, 2004). Furthermore, Straussner (2004) stated that 3 out of 100 deaths have been indirectly caused by an individual’s alcohol dependency, as it has led to a multitude of comorbid illnesses such as liver or pancreas diseases, cancer, and/or heart-problems.

In 2018, the Canadian Centre on Substance Use and Addiction reported that only a fraction of Canadians have sought out effective treatments for their addiction issue. People in today’s society may ask why these individuals do not look for the help that they need. However, this question can be hard to answer as many of those who struggle with substance abuse do not see their substance use as a problem. Without acknowledging the problem, individuals are not ready to make the necessary changes to their substance use. Connors, Donovan, and DiClemente (2001) stated that individuals who abuse substances often do not realize their use is problematic, or if they do, they are unwilling to make changes that are required to alter a behaviour. According to Prochaska and DiClemente’s Transtheoretical model (TTM), individuals who display these behaviours are in the precontemplation or contemplation stage of change (Connors et al., 2001; DiClemente, 2006). One specific demographic that can be categorized within these two phases of change are clients that are mandated to addiction treatment.

Thinking Things Through (TTT) Program

Thinking Things Through (TTT) is a four-week substance use intervention program that targets the population of mandated clients at Addiction and Mental Health Services – Kingston, Frontenac, Lennox, and Addington (AMHS-KFLA), in Kingston Ontario. TTT has been offered at AMHS-KFLA since 2003, after being purchased from Pinewoods Centre: The Pathways Program in Oshawa, Ontario. TTT is the only program in the agency that solely works with mandated clients. Mandated clients are known to be a difficult population for facilitators to work with (Natarajan, 2010). These clients have historically been viewed to have low motivation towards changing their substance use and have been ordered into treatment with the threat of punishment if they do not comply into treatment programs (Natarajan, 2010). It can be challenging for these individuals to gain the full effect of programs, as they are focused more on satisfying their authoritative supervision by completing the programs rather than absorbing the information provided (Berg & Shafer, 2004). Typically, mandated clients hold onto the pleasurable sensations (i.e. positive effects) that one receives when consuming a substance. This helps to explain why these individuals often find themselves stuck in the precontemplation or contemplation phase of change. The goal of TTT is to educate clients with information about addiction and the effects that substance abuse can bring to oneself and others. If clients can learn about their addiction from the group material, and from the peer interaction of the group, then it can be predicted that clients will have the ability to identify their stage of change. Conceivably, the TTT program may influence the clients desire to make changes to their substance abuse.

To determine the efficacy of the TTT program, a pre- and post-test assessment is given to each participant. Over the years, TTT made one notable addition of the Global Appraisal of
Individual Needs – Short Screener (GAIN-SS) assessment. The GAIN-SS was introduced as a pre- and post-test assessment, which replaced the formally utilized Outcome Questionnaire-30 (OQ-30.1). The GAIN-SS helps to clarify whether the materials and techniques learned in each session of TTT play an effective role in influencing clients to shift to the next phase of the TTM. The following key components are important aspects of the TTT program: motivational interviewing (e.g., open-ended questions, reflective listening, affirmation, and summarization); concepts behind the Biopsychosocial Plus, Pleasure Scale, and TTM models; psychoeducation; and presenting the information according to the clients’ learning styles (e.g., visual, auditory, and kinesthetic). Furthermore, the GAIN-SS is a thorough assessment that is hoped to ultimately help determine the efficacy of the TTT program, which leads into the rationale of this research study.

Rationale
When TTT was developed in 2003, the OQ-30.1 was the original pre and post self-reported screening tool used for this program. In 2017, Tudor Price, a previous student in the Behavioural Psychology program at St. Lawrence College, conducted a research study that showed positive changes in client’s pre- and post-test scores. His research overall proved the efficacy of the TTT program utilizing the OQ-30.1 assessment. Recently, the OQ-30.1 was eliminated as an evaluation tool and was replaced with the GAIN-SS due to the Local Health Integration Network (LHIN). LHIN, the primary funder of AMHS-KFLA, integrated mandated changes that required the GAIN series of assessments to be used across all addiction services in Ontario. Therefore, since the recent introduction of the GAIN-SS assessment, there has never been a research study to evaluate if the assessment is effective in demonstrating a reduction in mandated clients’ substance use domain scores. More specifically, a study is needed to determine if the results of the participants’ scores, in the substance use domain of the GAIN-SS assessment, will display similar results to the OQ-30.1 scores shown in Tudor Price’s (2017) study. If similar results are concluded in this research study, this will ultimately help affirm the GAIN-SS as an effective assessment tool.

Thesis Question
Tudor Price’s (2017) research indicated TTT to be an effective program in decreasing mandated clients’ substance use by using the OQ-30.1 as a pre- and post-test assessment tool. Therefore, if the GAIN-SS is an effective assessment tool, would similar results be demonstrated when evaluating the program through participant’s pre- and post-scores in the substance use domain of the GAIN-SS assessment?

Thesis Overview
The following thesis is comprised of four chapters: literature review, methodology, results, and discussion. In the literature review chapter, multiple books and empirical articles analyze areas such as, amongst others, the diagnostic criteria for SUD, the challenges of working with mandated clients, theoretical models (e.g. Biopsychosocial Plus, Pleasure Scale, and TTM model), motivational interviewing, and the GAIN-SS. Within the methodology chapter, there is an in-depth description of the procedure of the study (e.g. participants, research design, settings and materials, measures, and breakdown of the four sessions). The results chapter focuses on the author providing and evaluating the answer to their thesis question through visual analysis (e.g., tables and graphs). Lastly, the discussion chapter completes the paper by reviewing the following areas: a summary of the study; strength, limitations, and challenges of the study; practical
application within the field of behavioural psychology; and recommendation for future studies.
Chapter II: Literature Review

What is Addiction?
Addiction is defined by the repetitive engagement in a rewarding behaviour that results in a sense of pleasure, which often entails an individual to inadequately compare the negative consequences against the positive effects (Herie & Skinner, 2014). Herie and Skinner (2014) further defined addiction as an enacted behaviour that does not discriminate within the human population. Everyone is capable of abusing a substance (i.e. repetitively consuming a substance in a condensed time period) or developing a dependency towards a substance at any given point in their lifetime (Herie & Skinner, 2014). Herie and Skinner (2014) continued to explain that an addiction should be viewed on a continuum. For instance, individuals are most likely placed on the left side of the continuum if they do not partake in consuming substances; whereas individuals who consume substance(s) on a regular basis but are able to function without it for a period of time, would be placed in the middle of the continuum. However, individuals are placed on the opposite end of the continuum (i.e. right side) if they are dependent on a substance and focus on drug seeking behaviours rather than completing their daily responsibilities. Clients can move back and forth based on the stage of change they are in; thus, they are also able to move back and forth along the continuum. Since people can not predict what could happen to them daily, there is a sense of vulnerability that can occur due to experiencing difficult life events (e.g., someone’s child getting sick, losing a relative, losing a job, etc.). Therefore, at times, individuals who are placed on the right side of the continuum may transition to the middle or opposite end to cope with the reality of life events. Consequently, in most cases of addiction, individuals want to feel ‘numb’, which can lead an individual to become dependent on a substance to cope with reality.

Physical dependency, psychological dependency, and withdrawal are important concepts when addressing addiction. Physical dependency, the notion behind tolerance, can be defined as the amount of substance one needs to feel an effect. However, psychological dependency entails an individual to experience cravings due to their minds producing unhelpful thoughts towards using a substance (Herie & Skinner, 2014). Herie and Skinner (2014) defined withdrawal as the effects an individual experience due to the absence of a drug. Therefore, if an individual demonstrates symptoms of physical or psychological dependency towards a substance, it is likely that this individual has an increased chance of receiving a diagnosis of a substance use disorder (SUD).

Diagnostic Criteria for a Substance Use Disorder
The Diagnostic and Statistical Manual of Mental Disorders (DSM-V) is a guide used to assist health care practitioners to determine a diagnosis based on the criteria guidelines outlined in the manual. Wu, Boettcher, Durand, and Barlow (2014) noted that the distinction between substance abuse disorder and substance dependence disorder has been disregarded in the DSM-V. However, the criteria for diagnosing a SUD continues to include symptoms demonstrated under both categories.

The American Psychiatric Association (APA; 2013) proclaimed that in order for an individual to meet the criteria for a SUD diagnosis, the following domains must be displayed: Consuming a large quantity of a substance; using the substance for a longer timespan than anticipated; a desire to reduce the use of a substance or to abstain from using; multiple unsuccessful attempts to stop using; devoting a significant amount of time using and looking
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for—or recovering from the effects of—the substance; and obsession towards using a substance while implementing daily activities. Therefore, the APA (2013) characterized SUD as an “impaired control, social impairment, risky use, and pharmacological criteria” (p. 483).

Once an individual receives a diagnosis of a SUD by either their doctor, psychologist, or psychiatrist, the healthcare provider will encourage the individual to receive treatment. In some instances, clients will be mandated to receive treatment as part of a legal action. The criminal justice system views substance abuse programs as a cost-efficient method to implement as opposed to an imprisonment sentence (Berg & Shafer, 2004). Clients that attend TTT do not have to be diagnosed with SUD; however, clients must display current or a history of problematic substance use. Clients of TTT are often stuck in the precontemplation or contemplation stage of change, as many of these clients do not wish or care to be in the program. Thus, working with mandated client encompasses many additional challenges.

The Challenges of Working with Mandated Clients

The mandated population is known to be challenging for clinicians to work with. (Lincourt, Kuettel, & Bombardier, 2002). Lincourt et al. (2002) noted that a mandated population may be challenging to work with for the following reasons: Clients may not acknowledge that they display symptoms of a substance use deficit; clients may not be motivated to complete programs as they feel forced into them; and, one of the most challenging factors, the lack of client commitment to commence or complete a program. Denial and resistance are common factors that lead to challenges when working with mandated clients (Lincourt et al., 2002). Similarity, Berg and Shafer (2004) stated that mandated clients frequently associate interventions with ‘doing time’. Therefore, sometimes facilitating groups that strictly target mandated clients can act as a limitation, as Berg and Shafer (2004) stated that clinicians feel as though they do not get the chance to build a trusting relationship with these clients. This is due to the clients feeling as though the justice system is ‘unjust’ or ‘unfair’ (Berg & Shafer, 2004). However, research has shown that mandated clients who have attended small motivational interventions (like the TTT program) prior to an intensive treatment were more likely to remain abstinent (Lincourt et al., 2002). Therefore, motivation is a key component that invites mandated clients to recognize the need for change, to seek treatment, and to maintain their sobriety (DiClemente et al., 2004).

Motivational Interviewing

An American clinical psychologist, William Miller, developed Motivational Interviewing (MI), which is used as a technique for individuals who display addictive behaviours (MacKillop, VanderBroek-Stice, & Munn, 2018). Miller came up with this idea when working with psychology students who asked provocative questions that he believed were provoking change; this inspired him to write an essay, in 1983, called “Motivational Interviewing with Problem Drinkers” (Asheim, 2014). As time went by, MI became popular as several studies integrated MI techniques into their research and demonstrated the effectiveness of MI being used amongst substance users (Asheim, 2014). Not only was MI effective with substance users, but the technique started to be implemented on other treatment programs that focused on different areas such as eating disorders, couple counselling, and sexual health, etc. (Asheim, 2014).

**What is motivational interviewing?** MI is described as a communication style that influences an individual wanting to change their behaviour based on their own interest and values (Miller & Rollnick, 2012). Miller and Rollnick (2012) further explained that MI is comprised of four processes. The first process is *Engaging*, which focuses on counsellors
building a connection/relationship with their clients (Miller & Rollnick, 2012). The next process is known as *Focusing*. Focusing puts the emphasis on building an agenda for individuals to pursue towards and maintain (Miller & Rollnick, 2012). The third process is *Evoking*, and according to Miller and Rollnick (2012), evoking is the heart of MI as it prompts an individual to develop motivation and to put that motivation into action. The last process is *Planning*, which is when an individual puts their motivation into action by developing achievable goals (Miller & Rollnick, 2012).

Similar to Miller and Rollnick’s (2012) description, Asheim (2014) describes MI as a “relationship-centred, client-centred system of change by which the counsellor utilizes various techniques and interpersonal skills known to be effective agents of change.” (p. 147). Asheim (2014) also emphasizes the fact that MI is a transtheoretical approach (i.e. which intertwines with the stages of change model) that motivates and builds a client’s self-efficacy for them to make a commitment towards change. Once a client displays a commitment, a clinician will begin to integrate MI principles, processes, and techniques to help strengthen and maintain the client’s commitment towards change.

**The primary principles of MI.** There are four pillars that fall within the primary principles of MI. The first pillar is known as *Expressing Empathy*. In this pillar, the counsellor displays empathy to their clients by trying to understand the client’s point of view within all aspects of their life (Asheim, 2014). Asheim (2014) noted that this helps to normalize a client’s ambivalence. The second pillar, *Developing Discrepancy*, focuses on counsellors displaying active listening and reflecting techniques when engaging with a client (Asheim, 2014). The third pillar is *Rolling with Resistance*. Within this pillar, counsellors are encouraged to not argue with their client, but instead accept their client’s resistance and take it as a sign to shift the session into a different direction (Asheim, 2014). Lastly, the fourth pillar is *Support Self-Efficacy*, which emphasizes the importance for clients to build the belief that change is possible (Asheim, 2014). When these four pillars exist within a therapeutic relationship between a counsellor and their client, it allows the client to make changes in their life internally rather than feeling forced by external factors (Asheim, 2014); especially when these individuals are mandated to treatment.

**MI techniques.** In addition to the four pillars, MI also involves several different techniques. One technique is using open-ended questions, which entails counsellors asking questions that require clients to answer using sentences rather than one-worded answers such as “yes” or “no” (Asheim, 2014; Miller & Rollnick, 2012). Another technique is reflective listening. Reflective listening allows counsellors to paraphrase what clients are saying to allow them to have a second chance to think about their thoughts and feelings (Asheim, 2014; Miller & Rollnick, 2012). Affirmation can be a general or specific technique used in MI that is also seen as a way of thinking and supporting the client by the counsellors expressing their appreciation for their client’s effort. This most often strengthens the client’s ability to continue in their change process (Asheim, 2014; Miller & Rollnick, 2012). Another technique used in MI is summarization. Summarization involves summary statements that reflect what the client has been talking about, which provide the client time to hear their own words again and potentially explore the context in a deeper manner (Asheim, 2014; Miller & Rollnick, 2012).

Overall, MI was intentionally developed to be used within the addiction population and has shown to be effective towards mandated clients (Asheim, 2014). MI increases the success rate for clients to continue treatment and decrease their use of substances (Martino et al., 2016). Therefore, by integrating MI’s process, principles, and techniques into mandated substance use
interventions (such as TTT), it is more likely for these programs to demonstrate a positive result.

Furthermore, even though MI has been deemed as a best practice treatment approach for treating addiction, other theories such as the Biopsychosocial Plus, Pleasure Scale, and Transtheoretical models have been found to enhance addiction treatments.

The Biopsychosocial Plus Model

The Biopsychosocial (BPS) Plus model was introduced in 1977 by Engel, “a specialist in internal medicine with psychotherapeutic training” (p. 271), who acknowledged the BPS as a holistic model (Becoña, 2018). Engel identified the BPS model to be holistic, as Engel saw the model as a substitute to the pre-existing model in the biomedical field (Becoña, 2018). Becoña (2018), as reinforced by Al Ghaferi, Bond, and Matheson (2017), noted that the BPS model focused on the following three main perspectives: biological, psychological, and social. These three factors are believed to have a large contribution towards the development of addiction, and that each factor must be met when treating someone who experiences addiction (Becoña, 2018; Ghaferi et al., 2017). The first factor of the model is biological. This is where the roots of an individual’s genetic background (e.g., family) plays a key role, especially if the individual’s parents have displayed a problem towards substance use (DiClemente, 2006; Harrison, Craver, and Prochaska, 2004). For the psychological dimension, factors such as thoughts, emotions, and behaviours are evaluated (Jaini & Lee, 2015). Whereas the social factor is often entailing an individual’s environmental surroundings such as availability, social peers, and socio-economics (DiClemente, 2006; Harrison et al., 2004; Jaini & Lee, 2015). With continued research, culture and spirituality were added as factors into the model, which is now recognized as the Biopsychosocial Plus model. Factors such as gender, sexuality, heritage, and all that encompasses an individual is what is focused within the culture perspective (Herie & Skinner, 2014). Lastly, the spiritual dimension examines mindfulness and peace within an individual, as well as their relationship with others and higher powers (Herie & Skinner, 2014).

Therefore, the BPS Plus model can apply to any population, including mandated clients, as the BPS factors are often found to be key components towards an individual’s addiction and can provide an explanation as to where an individual may stand in their change process. Within the TTT program, the previously noted factors are discussed to help enhance a clients’ ability to understand, make connections, and develop influential thoughts for change surrounding their substance use. Furthermore, the Pleasure Scale model can be used to help clients enhance their understanding of the behaviours changes they are required to decrease their substance abuse.

The Pleasure Scale Model

While Herie and Skinner (2014) and Al Ghaferi et al. (2017) described addiction from a biopsychosocial framework, Stalcup, Christian, Stalcup, Brown, and Galloway (2006) described addiction as a disease that primarily focuses on “the pleasure-producing chemistry of the brain” (p. 189). Therefore, Stalcup et al. (2006) established a concept known as the Pleasure Scale model, which acts as a treatment model for cravings. The Pleasure Scale model is seen as a two-sided scale, where the left side of the scale displays components of dysphoria compared to the right side which displays components of euphoria (see Appendix A).

Stalcup et al. (2006) developed the theoretical framework for the Pleasure Scale model as they believed that addictive drugs (i.e. whether they are classified as a legal or illegal drug) are associated with pleasurable sensations. This ultimately allows a reward chemistry to occur within the pathways of the brain (Stalcup et al., 2006). Reward chemistry in the brain appears when
pleasure serves as a drive, learned, or motivating behaviour towards rewarding activities (Stalcup et al., 2006). These rewarding activities help demonstrate the euphoric side of the scale, as the consumption of a drug—within a shorten timespan—causes a high concentration of rewards to occur in the brain. This amplifies the amount of dopamine and endorphins to appear, which helps create the ‘high’ that individuals would experience (i.e. otherwise known as the euphoria; Stalcup et al., 2006).

However, if an individual overstimulates the reward chemistry in the brain, a neuroadaptation can transpire due to the brain region decreasing its sensitivity to the normal consumption of a particular drug. Therefore, when neuroadaptation (i.e. physical and psychological dependency) occurs, it is more likely for an individual to fall onto the other side of the scale where there is the inability to experience pleasure (i.e. anhedonia); this is otherwise known as dysphoria (Stalcup et al., 2006). On this side of the scale, the norm of the individual’s mental state can alter from feeling good to feeling bad, which increases the chance for boredom and anhedonia (Stalcup et al., 2006). In addition, Garfield, Cotton, and Lubman (2016) noted that anhedonia can involve multiple components including motivational anhedonia (e.g., low motivation, interest, or desire of a reward) and decisional anhedonia (e.g., inability to make decisions related to rewards). Garfield et al. (2016) further explained that if anhedonia is present, then the individual would experience withdrawal which would increase the chance of a relapse to occur if the individual were to pursue abstinence.

Due to the intensity, severity, and extreme discomfort withdrawal and cravings can bring to a substance user (Stalcup et al., 2006), it can be understandable as to why it is so challenging for these individuals to want to make a change towards their substance use. If a client does not want to make changes to the pleasure they are experiencing and continue to engage in substance use to avoid anhedonia, they would fall within the pre-contemplative stage of change in the Trantheoretical Model.

**The Transtheoretical Model**

DiClemente and Prochaska developed the Transtheoretical Model (TTM; Stages of Change), which is a five-stage model providing a framework that guides a person struggling with addiction through the five stages of change (DiClemente, 2006; see Appendix B). The first stage is known as the Precontemplation stage (Connors, Donovan, & DiClemente, 2001; DiClemente, Schlundt, & Gemmell, 2004). Within this stage, substance users are unaware of their substance use problem and display no interest towards making changes to their substance use (Connors et al., 2001; DiClemente et al., 2004). Once an individual recognizes that they have a substance use problem, they can transition into the next stage called Contemplation (DiClemente et al., 2004). In Contemplation, an individual begins to connect their problems to substance use and begins to question whether they want to make a change (Connors et al., 2001; DiClemente et al., 2004). For this reason, this stage is often referred to as the “Yeah...But” stage (Connors et al., 2001; DiClemente et al., 2004). If an individual decides to change their substance use, they would transition into the third phase called Preparation (Connors et al., 2001; DiClemente et al., 2004). This stage is where the individual would make a commitment to their decision and develop a change plan (Connors et al., 2001; DiClemente et al., 2004). The Preparation stage is often considered as the shortest stage due to the tendency of individuals only staying in this phase for a maximum of six months (Connors et al., 2001; DiClemente et al., 2004). Once the change plan has been finalized, an individual would move into the Action stage. The action stage prompts the person to take certain steps to execute their change plan (Connors et al., 2001; DiClemente et al.,
2004). After the individual accomplishes the steps in their change plan, this leads them into the last stage referred to as Maintenance. Maintenance is when an individual has completely developed a new behaviour pattern, which becomes normal unless an individual relapses (i.e. which is often considered as a sixth phase; Connors et al., 2001; DiClemente et al., 2004). This theoretical framework brings importance to this paper as the TTT program is an intervention that was developed to help clients move from the precontemplation or contemplation phase into the preparation or action phase of change.

**Clinical studies on the TTM.** Many research studies have demonstrated the effectiveness of implementing the TTM into treatments, such as TTT. These treatments have shown that the model provides helpful explanations towards individuals transitioning throughout the cycle due to encountering consequences. For example, a study conducted by Pollini, O’Toole, Ford, and Bigelow (2006) involved 353 active substance users where 68.3% of the participants reported that their hospitalization was due to their substance use. Pollini et al. (2006) founded in the study that the following were some of the main predictors for the participants wanting to make a change to their substance use: tired of using (88.4%), physical health concerns (83.3%), mental health concerns (74%), family concerns (64.6%), and personal safety (61.8%). Furthermore, the participant readiness for change baseline scores indicated that 41% of participant were in the precontemplation stage, 35.9% were in the contemplation stage, and 23.1% were in the action stage (Pollini et al., 2006). Whereas by the end of the study, 43.6% transitioned themselves into the precontemplation and contemplation stage or remained in the action phase of the TTM. Therefore, this study suggested that because the participants connect their health problems to their substance use, they were able to transition themselves into the contemplative stage of change (Pollini et al., 2006).

Similarly to the participants in Pollini et al.’s (2006) study, clients of TTT have underlining time sensitivity factors (e.g., legal problems) that may encourage the clients to progress through the stages of change within the TTM. One goal of the TTT program is to raise the awareness about the clients’ legal problems and to connect those problems with their substance use. Therefore, literature has supported the need for individuals to access effective interventions that will allow them to move from the precontemplation to the contemplation, preparation, and/or action phase of change for them to seek some treatment for their addiction. Furthermore, in contrast to time sensitivity factors, different environmental factors will result in individuals being in different stages of change during their addiction process.

**Psychoeducation and Learning Styles**

When counsellors incorporate MI and develop group conversations that involves concepts such as the BPS Plus, TTM, and Pleasure Scale models, these strategies and concepts can all be useful when implementing psychoeducation. Lukens and McFarlane (2004) described psychoeducation as therapeutic and educational procedure. They further stated previous studies have shown psychoeducation to be an effective technique for providing individuals’ knowledge behind illness, disorders, and/or behaviours. Psychoeducational programs are often provided in a classroom setting and involves group discussions (Rawson, McCann, & Marinelli-Casey, 1993). Additionally, psychoeducational materials tend to be presented to others through slideshow presentations and videotapes (Rawson et al., 1993). Since these materials are presented in a classroom like setting, it is important to consider the learning styles of the clients. According to Gilakjani (2012) and Tulbure (2011), teachers are encouraged to match the students’ learning style to their teaching method for their student to fully gain the understanding of the material.
being presented. In general, individuals tend to fall under one of the three learning styles: visual, auditory, and kinesthetic (Gilakjani, 2012). Studies have indicated that by incorporating all three learning styles into a teaching method, it is more likely to increase a student’s learning (Gilakjani, 2012). In addition, research has shown that individual’s achievements and satisfaction are ranked higher when a teaching method is matched with their learning style (Gilakjani, 2012; Tulbure, 2011). Therefore, since the TTT program is a group psychoeducational program for substance use, it is important for counsellors to meet all learning styles to ensure that the clients are receiving the full benefit of the program.

The Global Appraisal of Individual Needs Assessment – Short Screener (GAIN-SS)

Along with the importance of matching a client’s learning style with the way counsellors present the materials in TTT, it is also important to ensure the efficacy of the program. A previous student in the Behavioural Psychology program, Tudor Price (2017), conducted his thesis on TTT by evaluating the program using the OQ-30.1. His study consisted of 18 participants (15 males and 3 females), that represented a decrease in the participants’ overall mean by 11.67 points in their post-test of the OQ-30.1 assessment. Therefore, Tudor Price’s (2017) results indicated TTT to be an effective program. However, within this research study, the author is attempting to determine the effectiveness of the program by using an assessment known as the Global Appraisal of Individual Needs – Short Screener (GAIN-SS); as this assessment tool has been newly introduced for evaluation by the AMHS-KFLA funder.

The GAIN-SS was developed by Chestnut Health Systems in 2006 (Smith, Hawke, Chaim, & Henderson, 2015; see Appendix C). According to Dennis, Feeney, and Titus (2013), the GAIN-SS is a semi-structured assessment that can often be used as a quick (approximately takes 5 minutes to complete) and accurate self-reported screening tool for the adolescent and adult population (Dennis et al., 2013). However, it is important to note that the following are significant disadvantages when using self-report instruments. The validity may alter as individuals are required to complete the assessment independently and may misinterpret items on the assessment (Truax, 2002). According to Truman, Sharan, and Pompe (2011), response bias is more likely to occur within the GAIN-SS as clients feel the need to receive a score that would please the authoritative figure. Lastly, some participants may alter their answers to avoid the feeling of guilt, embarrassment, or stigmatization (Truman et al., 2011).

The GAIN-SS has four different subscales that are in the assessment: (1) internalizing disorders; (2) externalizing disorders; (3) substance use disorders; and (4) crime/violence (Dennis et al., 2013; Smith et al., 2015). The GAIN-SS also includes a fifth scale providing additional questions surrounding other areas such as eating disorders, gambling, psychotic symptoms, and traumatic events (Smith et al., 2015). However, for this study, the author only focuses on the substance use scale within the adult population. Furthermore, Dennis et al., (2013) stated that the assessment involved 23 items where individuals are required to answer the items using a 5-point frequency scale (e.g., 4 = Past month; 0 = Never). Once an individual has completed the assessment, the assessment gets scored by counting the number of times an individual responded in each time frame (e.g., 4 = Past month; 0 = Never; Dennis et al., 2013).

For example, within the problematic of substance use domain, if an individual responded three times in the past month, then they would receive a score of three (Dennis et al., 2013). After all the four subscales are scored, a Total Disorder Screener (TDScr)—within each time frame—gets scored by adding the number of responses from each time frame within each subscale (Dennis et al., 2013). Therefore, the purpose of administering the GAIN-SS is to indicate if an individual
display low (0 past-year symptoms), moderate (1 to 2 past-year symptoms), or high severity (3 or more past-year symptoms) within the four subscales (Dennis et al., 2013). Dennis et al. (2013) stated that if an individual score displays a moderate to high severity on the substance use domain, then further treatment is recommended (e.g., individual/group counselling or in extreme cases detoxification services).

Reliability and Validity. Aside from the purpose of the GAIN-SS, it is important to discuss the reliability and validity of the screening tool.

Alpha reliability. Dennis et al. (2013) examined the internal consistency of the GAIN-SS by using Cronbach’s alpha. Dennis et al. (2013) found that TDScr demonstrated exceptional internal consistency within the adult population (.88), especially within the internalizing disorders, externalizing disorders, and substance use disorders (the focus of this thesis).

Test-retest reliability. Carney, Myers, & Louw (2016) indicated that the GAIN-SS displayed a high test-retest reliability on South African substance use disorders. The results of the study displayed a high test-retest reliability as the Intraclass Correlation Coefficient (ICC) and the alpha values (α = 0.80) were significant, which showed the effectiveness of using the GAIN-SS.

Validity. Dennis et al. (2014) compared the GAIN-SS to the full GAIN assessment and found that the correlation between the two were high. Dennis et al. (2014) stated that four out of the five scales were correlated at .90 or higher, which indicated that the GAIN-SS showed strong evidence for construct validity within the subcategories of concurrent validity. Another study also compared the GAIN-SS to the full GAIN, which was conducted by Dennis, Chan, Rodney, and Funk (2006). Their study also showed that the subscales of the GAIN-SS correlated with the full GAIN by displaying a diagonal correlation of .84 to .90, which indicated that GAIN-SS displayed a good discriminant validity (i.e. another subcategory of construct validity).

Overall, the GAIN-SS has been found to be a reliable and valid self-reported screening tool to be used within the adolescent and adult population. Due to the high reliability and validity that the GAIN-SS displays, the assessment was introduced as a pre- and post-test measure at AMHS-KFLA due to the full GAIN assessment now being an agency standard for substance use.

Conclusion

In conclusion, the importance of individuals receiving effective interventions is critical in helping clients transition throughout the TTM. Interventions that target mandated clients in the precontemplation/contemplation phase, such as the TTT program, are interventions that are often difficult to facilitate (Lincourt et al., 2002). According to Lincourt et al. (2002) mandated clients who have received brief motivational interventions are more likely to access other services and/or remain abstinent. For instance, in session four of TTT, decisional balance and psychoeducation (e.g., group discussions on the pleasure scale model, TTM, and BPS Plus model) are used to create dissonance to help clients connect their own problems to their substance use. Furthermore, this also supports the efficacy of implementing MI and psychoeducational techniques into substance use programs.

Along with the concerns of matching clients’ learning style with the way the material is presented (Gilakjani, 2012; Tulbure, 2011), it is important to evaluate the efficacy of a program. For this study, TTT will be evaluated by using the GAIN-SS, which has recently introduced and replaced the previously used OQ-30.1. Tudor Price (2017) completed research in 2017 and demonstrated TTT to be an effective program, as 17 out of the 18 participant’s OQ-30.1 outcome scores decreased by 11.67 points in their post-test from their pre-test. Therefore, other than the
possibility of validity being altered (Truax, 2002) and the likelihood of response bias/social desirability to occur (Truman et al. 2011), research has indicated the GAIN-SS to be a valid instrument (Dennis et al., 2006; Dennis et al., 2014).

Therefore, given that the previously explained articles support the implementation of MI, psychoeducation, and the GAIN-SS, it is hypothesized that the GAIN-SS will demonstrate a decrease in the participants’ pre- and post-scores in the substance use domain, similar to the results shown in Tudor Price’s (2017) study.
Chapter III: Methodology

Participants

In contrast to the multiple open groups that AMHS-KFLA provides, TTT is a closed group that required the participants to be referred to the program for substance abuse and addiction issues. Many of the participants are recruited by the facilitator of TTT from the Kingston’s parole and probation office. Clients are often referred to the facilitator of TTT to address the needs of their probation orders. The facilitator of TTT attends the Kingston parole and probation office once a week (i.e. on Monday’s afternoons) for four hours to complete an intake form (South Eastern Ontario Addiction & Mental Health Service Access Form; see Appendix D) with potential clients. During intake, participants are notified that their participation towards the program is voluntary. However, most participants are warned that absences from a session or failure to complete the program may result in consequences including breaching probation orders for nonattendance.

In order to be a participant in this research study, participants were required to meet the following inclusion criteria. All participants were required to be 18 years or older and were assumed, by the facilitator of TTT, to be within the precontemplation or contemplation stage of change, as the intake did not identify where participants stand within their stage of change process in the TTM. The recipients were mandated by their parole/probation officer, had demonstrated a history of involvement in substances (past or present), and/or experienced consequences from the use of substances. In addition, the participants must attend all four sessions, but did not have to attend the sessions in an orderly manner. If a participant missed a session, they were given an opportunity to make up the session during the next round of the program. However, it was more beneficial for the participants to attend the four sessions consecutively. Lastly, participants were also required to have completed the program between October 2018 to December 2018. This required the participants to also sign a consent form, that was develop by the student researcher, in order to participate in the research study.

The following were the exclusionary criteria for this research study: Participants who classified themselves in the action or maintenance stage of change, if a participant was identified as a vulnerable young women (due to the groups dynamics), if a participant did not complete the program during the timeline of the research study, or if a participant did not complete the pre and post self-reported GAIN-SS assessment.

Demographics. This study conducted three rounds of the TTT program with different participants in each round. In total, there were 16 individuals (14 males and 2 females) that met the criteria for this research study, and they all identified themselves as a Canadian citizens. The mean age of the sample was 31.56 ($SD = 5.79$), a median of 30.50, and the ages ranged from 24 to 46. In the first round there were four participants (3 males and 1 female) that met the criteria. The mean age was 33.50 ($SD = 4.09$), a median of 32.00, and the ages ranged from 30 to 40. In the second round, there were seven participants (all males) that met the criteria. The mean age was 30.29 ($SD = 6.86$), a median of 28.00, and the ages ranged from 24 to 46. Lastly, in the third round, there were five participants (4 males and 1 female) that met the criteria. The mean age was 31.80 ($SD = 4.75$), a median of 22.00, and the ages ranged from 24 to 38. The participants in this group were the most engaged out of the three groups throughout the program. Due to the unstructured intake process, the student researcher was not able to gather additional information.

Informed consent. Before participants could be involved in the study, they were required to sign a consent form. The student researcher of the study designed a consent form (see
Appendix E), which was approved by their college supervisor and the St. Lawrence College Research Ethics Board. Participants were provided consent at their first session. The student researcher guided the participants through the consent form, which outlined the following domains: The purpose of the research study; requirements of the participants; potential risks and benefits; voluntary participation; right to confidentiality; right to withdraw at any time; and the student researcher, student researcher supervisor, and St. Lawrence College Research Ethics Board contact information. Once the consent forms were read through by both the student researcher and the participants, the participants were given an opportunity to ask any clarifying questions before signing the consent form. By gaining the participants’ signature, the participants implied consent for their data to be used in this research study.

Design

This research study only contains data from participants who completed the TTT program during the October 2018 – December 2018 timeframe; therefore, archival data was not included. The TTT program was served as the independent variable, which was facilitated by the student researcher and Amanda Shand (an addiction counsellor at AMHS-KFLA). The participants’ rating from the frequency scale of the GAIN-SS acted as the dependent variable. Since this research study only focuses on the substance use domain, everyone will have two scores by completing the pre- and post-test of the GAIN-SS.

Furthermore, a paired sampled t-test research design was used for this study to analyze the effectiveness of the program transitioning clients in the precontemplation/contemplation stage into the preparation or action stage of change. The t-scores got analyzed by using the statistical software Excel and PSPP (GNU Project, 2015). In addition, descriptive statistics of participants pre- and post-test scores were documented into a Microsoft Excel data sheet. Therefore, the t-scores were used to statistically analyze the data collection from the participant’s pre and post self-assessment of the GAIN-SS.

Setting and Materials

The intake sessions were administered on Monday afternoons by TTT’s facilitator, Amanda Shand, and were taken place in a boardroom at the Kington’s probation and parole office for three hours. The intake form was the South Eastern Ontario Addictions & Mental Health Service Access Form, which entailed referral source, client information, risk factors, current situation (history and diagnosis), and consent.

Each TTT session was held in the training room at the AMHS-KFLA building, in Kingston Ontario. The seating arrangements consisted of tables placed in a form of a horse shoe, where seats were an arms-length apart to ensure that the participants felt comfortable and secure in an open and safe environment. Each session was 2 hours in duration with one 10-minute break approximately half way through the session.

The TTT program required multiple materials for each session. For all four sessions, the following materials were required: a whiteboard with dry erase markers and an eraser, a laptop that contained the sessions’ PowerPoints, a projector and projector screen, a dongle to connect the laptop to the projector, writing utensils (e.g., pens and pencils), attendance sheet with the participants name on it, and coffee and tea supplies. Within session one, the “TTT Session One” booklet handout, the student researcher consent form, and the GAIN-SS pre-test assessment were needed. During the second session, the following additional materials were required: The Sum-It-Up Kit for the standard drink activity, and Fatal Vision Goggles Kit for the beer goggle
activity. Furthermore, session three required the “Participant Workbook” booklet which included multiple worksheets. One of which, the “Effects on the Family and Others” worksheet (Appendix H), required red, blue, yellow, and green circle stickers. Lastly, session four required the pre-measure of the GAIN-SS assessment, the program feedback form, and the participants’ certificates.

Further resources were required to complete the data analysis of the results of this study. For instance, a laptop that provided Microsoft Excel and a computer that had access to PSPP (GNU, Project, 2015) to conduct the statistical analyses of the participants score from the pre and post self-reported GAIN-SS assessments. Lastly, the scoring manual of the GAIN-SS was required to interpret the data and scores accumulated from the GAIN-SS measures.

Measure

Participants were administered a pre and post self-reported GAIN-SS assessment that was developed in 2006 by Chestnut Health Systems (Smith et al., 2017; see Appendix C). The GAIN-SS assessment evaluates the five scale scores of the participants (e.g. internalizing disorders, externalizing disorders, substance use disorders, crime/violence, and the seven additional questions; Smith et al., 2017). However, for this research study, there was a major focus on solely the substance use domain. Participants rated the 29 items using a 5-point frequency scale (i.e. 4 = Past month; 0 = Never). The pre-assessment was administered during the first session and the post-assessment was administered during the fourth session. For this research study, the GAIN-SS was utilized as a screening tool. This assessment measure was selected as previous evidence based clinical studies (including Carney et al. (2016), Dennis et al (2006), Dennis et al. (2013), and Dennis et al. (2014) studies) demonstrated a strong alpha and test-retest reliability, as well as a strong construct, concurrent, and discriminant validity for the measure. Therefore, the student researcher implemented the GAIN-SS screening tool, as several research studies have verified the assessment, to be an effective tool.

Procedures

The TTT substance use intervention took place over a four-week period. Each session was approximately 2 hours long with one 10-minute break half way through each session. The sessions were broken down into four different didactic learning topics: (1) an introduction into the TTT program; (2) The use and abuse of psychoactive substances; (3) making logical decisions; and (4) setting goals and making changes (Shand, n.d., p 15-18).

Session one. The first session started off by the facilitators introducing themselves, taking the attendance, providing information such as where the participants were able to get beverages (e.g., coffee, tea, and water), and provided the locations of the washrooms. The session officially began by completing a group activity that entailed a group discussion on an optical illusion photograph. Afterwards, a decisional balance activity is introduced where participants are asked to complete a pros and cons list on substance use. These two activities are done in hope for the participants to present an open mind and be able to identify their life values. The session continued by the facilitators presenting information surrounding influential factors on choice of substance(s) (e.g., peer influence, availability and cost, and family history), along with risk factors (i.e. used before age 18 and traumatic experience). Afterwards, the facilitators introduced self-evaluation, in which participants are provided questions regarding their substance use problem. The next stage of this session involves the facilitators to define key terms such as Drug and Substance Use Problem. In addition, the facilitators identify consequences that can
occur due to using a substance and discuss the nature of a substance use problem. Near the end of this session, the facilitators provide the overall breakdown of each session, as well as the group expectations. Lastly, the session ended by facilitators handing out, and having the participants complete, a basic profile sheet (which asked for information such as relationship/employment status, history of hospitalization and substance use, etc.; Appendix F), a TTT program participation contract and consent form (Appendix G), the pre-test of the GAIN-SS (Appendix C), and the student researcher’s consent form (Appendix E). Overall, the main purpose of session one is to have the participants to start thinking about their substance use and if they see their substance use to be problematic.

**Session two.** Session two began by defining the terms *trigger* and *coping strategies*, where the participants are asked as a group to develop a list for each category. This activity leads the facilitators to introduce harm reduction strategies, such as providing information on low risk drinking guidelines (i.e. standard drink). The facilitators began this topic by having some of the participants partake in an exercise in which they were asked how much they would pour hard liquor into a cup at a party. This allowed the facilitators to discuss what a standard drink is for alcoholic beverages (e.g., beer, cider, cooler, wine, fortified wine, and liquor) and the amount of standard drinks that are consumed in larger containers (e.g., a mickey). Following this discussion, the group is led into another activity which entailed participants to attempt to walk in a straight line and throw/catch a ball while wearing fatal vision goggles (i.e. beer goggles). Upon completion of this activity, the facilitators move on by defining more key terms such as *blackout, synergistic effect, tolerance, cross tolerance*, and *physical/psychological dependency*. Lastly, the session ended with the facilitators going through a high-risk drinking and the body diagram that outlined the physiological effects that can be cause from problematic drinking. Overall, the purpose of session two is for the participants to build a foundation of alcohol and the risk factors that are correlated with the consumption of alcohol.

**Session three.** Session three focuses on the participants revisiting their life values and to look at their decision-making process surrounding their substance use. The facilitators began the session by listing different substances (e.g., opiates, crystal meth, barbiturates, etc.) and ask each participant to pick a substance they believe does the most damage, with an explanation as to why they chose that drug. Following this discussion, the facilitators introduce the four main drug classifications and had the participants list what drug would fall under each category. Afterwards, the facilitators then played a five-minute video that talked about how drugs affect the human brain. Once the participants finished watching the video, they redid the decisional balance (which they had completed during the first session) to see if there was any similarities or differences. Lastly, the session ended with participants completing two worksheets. The first worksheet had participants identify factors that their substance use has impacted the following domains: themselves, their partner, their children/pets, and others (Appendix H). The second worksheet requested the participants to identify their life values (Appendix I).

**Session four.** The final session of the program focuses on the participants deciding whether they would like to make changes or set goals to reduce their substance use. The facilitators began the session by introducing the TTM (i.e. stages of change) and connecting the theory to substances by displaying what the process of change may look like. The sessions continued by discussing the key ingredients for making a successful change (e.g., motivation, lifestyle change, and supports). Afterwards, the facilitators discuss common factors that can cause a relapse to occur (e.g., negative feelings, physical discomfort, etc.) and the differences between the terms *relapse* versus a *slip*. The next stage of the session involved the facilitators to
introduce goal settings (e.g., abstinence, harm reduction strategies, and coping strategies) and provide information on where the participants can go after completing the TTT program, if they decided to make a change to their substance use. The facilitators concluded the session by having participants complete the GAIN-SS post-test (Appendix C), the program feedback form (i.e. including questions pertaining to the clients likes and dislikes about the program, if there was anything they would change about the program, and the one thing that they would take away from the program), and distributed participants’ program completion certificates.
Chapter IV: Results

The research study examined the Thinking Things Through (TTT) program by measuring the effectiveness of the program using the GAIN-SS assessment. Since the study had a major focus on the addiction population, the substance use domain was the only scale that was measured from the GAIN-SS. It was hypothesized that this study would demonstrate a similar result to Tudor Price’s study, as it was predicted for the participants’ scores to decrease from their pre- and post-test scores due to the proven efficacy of the four-week program. There was a total of 16 participants that completed the program between the study’s timeline (October 2018 to December 2018). The scores were calculated and analyzed by Microsoft Excel and PSPP (GNU Project, 2015).

Statistical Significance

A paired sample t-test was used to compare the means of the participants’ pre- and post-test scores (Appendix J for participants’ raw scores). The outcome from the participants pre-test showed that 5 participants scored high (scores ranging between 4 to 5), 1 participant scored moderate (scores ranging between 2 to 3) and 10 scored low (scores ranging between 0 to 1); Whereas the outcome of the participants post-test demonstrated that five participants scored high, three scored moderate, and eight scored low. Overall, once the participants completed both their pre- and post-test of the GAIN-SS, 10 participants’ scores remained the same, 3 participants’ scores had increased, and only 3 participants’ scores had decreased. Therefore, this information indicated that there was minimal movement in the participants’ scores.

Table 1 contains statistical significance that also features descriptive statistics, whereas Figure 1 displays a visual representation of the difference between the means of the participants pre- and post-test scores. Furthermore, Table 1 and Figure 1 demonstrated that there was no significant difference between the participants’ pre-scores ($M = 1.81, SD = 2.04$) and post-scores ($M = 1.94, SD = 2.08$). For the results of this study to be determined statistically significant, the outcome of the paired sample t-test needed to fall within the critical region of 0.05. However, in this study; the GAIN-SS did not demonstrate a reduction between the participants’ pre- and post-test scores. Therefore, the paired sample t-test did not illustrate a statistical significance [$t(15) = -2.9, p = .774$].

\[
\begin{array}{lcccccc}
\hline
\text{SDScr 3 Scores} & \text{Pre-Test} & \text{Post-Test} & \text{95\% CI for Mean Difference} \\
\text{M} & \text{SD} & \text{n} & \text{M} & \text{SD} & \text{n} & \text{t} & \text{df} \\
\hline
\text{Substance Use Domain} & 1.81 & 2.04 & 16 & 1.94 & 2.08 & 16 & -1.04, 0.79 & -.29 & 15 \\
\hline
\end{array}
\]

Note. **SDScr 3 = Problematic of Substance Use Domain; M=Mean; SD= Standard Deviation.**
Figure 1. Visual Representation of the Difference Between the Means of the Participants Pre- and Post-Scores within the Problematic of Substance Use Domain of the GAIN-SS
Chapter V: Discussion

Summary  
Addiction and Mental Health Services – Kingston, Frontenac, Lennox and Addington (AMHS-KFLA) has recently introduced the GAIN-SS as the new pre- and post-test screening tool for the agency, replacing the Outcome Questionnaire 30.1 (OQ-30.1). Due to the introduction of the GAIN-SS, this research study was implemented to determine whether the GAIN-SS would present similar results to Tudor Price’s (2017) study. The GAIN-SS re-evaluated the efficacy of the TTT program through the participants’ substance use domain scores. In this thesis, the empirical literature supported the use of Motivational Interviewing (MI), theoretical concepts (e.g., Biopsychosocial Plus, Pleasure Scale, and Transtheoretical model), psychoeducation and learning styles, and the GAIN-SS to be implemented into substance abuse interventions. Furthermore, a study conducted by Tudor Price, in 2017, demonstrated significant results. The former Behavioural Psychology student evaluated TTT using the OQ-30.1 and concluded that 17 out of 18 participants’ scores displayed a substantial decrease from their post-test scores. Therefore, it was hypothesized that the participants’ mean scores would exhibit a similar result to Tudor Price’s research by displaying a decrease between their pre- and post-test in the substance use domain of the GAIN-SS, following completion of the TTT program. However, when analyzing the participants outcomes, the difference between their pre- and post-scores showed no statistical significance. The results of this research study may have occurred due to the following reasons. The participants may be unaware or in denial of their substance use deficit, which Lincourt et al. (2002) have stated to be a contributing factor towards mandated clients being a challenging population to work with. Unlike Pollini et al. (2006) study where their participants connected their health problems with their substance use, participants in this study may have had difficulties connecting their health and legal problems with their substance use. Therefore, this may have led the participants in this research study to remain, or struggle to identify themselves, in the precontemplation or contemplation phase of change in the TTM. Lastly, in contrast to research that indicated the GAIN-SS to be a valid screening tool (Dennis et al., 2006; Dennis et al., 2013), the participants’ scores may have shown no statistical significance due to two main reasons: participants may have misinterpreted items on the assessment that could have altered the validity (Truax, 2002) or response bias and social desirability may have occurred (Truman et al., 2011). Thus, the student researcher’s hypothesis was not confirmed.

Strengths  
Recognized strengths of this research study included factors in the following areas: the program was offered to a specific population that involved a vast age range; the knowledge and lessons that were provided to the clients in the program; and the intervention was a cost-efficient program for the agency to run.

Thinking Things Through (TTT) was developed to target a specific population (e.g. mandated clients) that accepted a wide age range of participants. Lincourt et al. (2002), in addition to Natarajan (2010), reiterated the challenge clinicians are likely to experience when working with mandated clients and highlighted the importance of creating a group designed strictly for this population. Thus, considering mandated clients are more likely to display low motivation (Natarajan, 2010), denial and resistance (Lincourt et al., 2002), it is essential that the general population does not participate in the TTT program. Incorporating the general population
in the program designed for mandated clients may result in a lack of cohesion between the general and mandated client population. Furthermore, developing a group comprised of clients who share similarities provides increased opportunities for group members to learn from each other, especially when there is a vast age range within the group.

Additionally, another strength was that the TTT program provided psychoeducation as pervious studies supported the technique to be effective for individuals who are required to gain a greater knowledge around illnesses, disorders, and behaviours (Lukens & McFarlane, 2004). Throughout the study, the facilitators of TTT taught educational material by integrating multiple learning styles (e.g., visual, auditory, and kinesthetic; Gilakjani, 2012) that attempted to meet the needs of all participants. By the facilitators integrating all three teaching methods, it was common for participants to provide positive comments on the programs feedback form; this supported Gilakjani (2012) literature regarding how students learning increases when all three-learning styles are used.

Lastly, the group itself was identified as a strength in the study as TTT is a cost-efficient program for the agency to run. The program is considered to be cost-efficient as TTT is a brief four session intervention where the agency has a seamless transition with the probation office. Furthermore, programs frequently require a minimum of two facilitators whereas TTT only requires one, which decreases the overall cost for the agency to run the program.

Limitations

Even though this research study demonstrated multiple strengths, it also presented notable limitations that should be acknowledged.

A significant limitation to this research study is that the GAIN-SS was used a pre- and post-measure when the intentions of the assessment is for clinicians to indicate whether clients have one or more behavioural health disorders (Chestnut Health Systems, 2019). Additionally, Stucky, Eleden, and Ramchand (2014) stated that the GAIN-SS is used as a subset for the Global Appraisal of Individual Needs – General Individual Severity Scale (GAIN-GISS). Therefore, similar to what Chestnut Health Systems (2019) stated, Stuckey et al. (2014) also proclaimed that the purpose of the GAIN-SS is for professionals to provide clinical referral, develop a treatment plan, and program evaluation with clients who have been screened for multiple mental health disorders. Moreover, the assessment has a 5-point frequency scale (4 = Past month, 3 = 2 to 3 months, 2 = 4 to 12 months, 1 = 1 year, and 0 = Never). The problem with this assessment is that these selection options do not promote the likelihood for a significant change to occur if clients are asked to complete the post-measure only four weeks after completing the pre-measure. Therefore, these factors could have affected the results of the study, as one can suggest that the GAIN-SS is not an effective assessment to be used when measuring client’s changes within a substance use intervention program.

In addition, the study itself was based on a self-reported pre- and post-test for mandated clients. This presented opportunities for the validity of the results to be altered due to the participants having to complete the assessment independently. This, as mentioned by Truax (2002), may have been due to the participants misinterpreting the questions being asked. In addition, there were higher chances of response bias/social desirability to occur, as most of the participants who attended TTT were there to complete a probation order. Therefore, as Truman et al. (2011) stated, participants would have had the motivation to change their response on the GAIN-SS in order to please or impress their facilitator. Furthermore, the study had a small sample size of 16 participants that only focused on one subscale in the GAIN-SS. These factors
would be considered as a limitation as only having 16 participants does not demonstrate an accurate representation of the population or the outcome of the results. Furthermore, focusing solely on one subscale (i.e. substance use domain) that involves five items does not promote an in-depth evaluation of the participants change process within the TTM.

Another limitation to the study included the intervention (i.e. TTT) itself. First and foremost, TTT only incorporates four sessions using the GAIN-SS assessment, which increased the likelihood of poor validity and reliability to occur. Furthermore, implementing a four-session based treatment creates time constraints for facilitators to implement their therapeutic techniques and educational material. Moreover, participants may not be able to absorb the material given before new information is taught in the next session. Secondly, the group lacked female participants and therefore could present gender bias to transpire; especially if this restricted the female participants to obtain the full benefits of the group. Lastly, as mention by Berg and Shafer (2004), mandated clients often associated intervention with ‘doing time’ which inhibited the ability for therapeutic rapport to be built between the facilitators and the participants.

**Multilevel Challenges to Service Implementation**

- **Client level issues.** A major challenge that was presented within the client level of service implementation was the lack of motivation that many clients had in attending the TTT program. Within TTT, the program targeted mandated clients who felt that they were forced to be there by their superior (e.g. probation or parole officer, employer, etc.) due to offences involving substance abuse. If clients missed a session, they were given negative consequences (e.g. going back to jail or their probation getting extended) as a result of breaching their probation order. Hence, clients might have attended the sessions strictly to follow their probation orders rather than wanting to change their substance use and voluntarily attending the sessions. Additionally, TTT did not require clients to be abstinent, which meant that the facilitators did not have control of the participants substance use between each session. Overall, these factors may have affected the study, as the factors may have interfered with the clients’ motivation, the therapeutic rapport between the facilitators and the clients, and the clients’ results in their GAIN-SS assessment. Therefore, it is essential for facilitators to implement MI techniques, as Asheim (2014) noted that MI is an effective technique used for mandated clients. Furthermore, according to Martino et al. (2016), MI has shown to increase clients’ success rates in treatment while decreasing their substance use during the process.

- **Program level issues.** Within the program level, a challenge that occurred is the use of technology and how the TTT program were evaluated through a self-report assessment (e.g., GAIN-SS). Even though the facilitators of TTT implemented multiple learning styles, there were periods where all learning styles were not met at the same time; especially when technology was utilized as the means to share the materials. For instance, TTT utilized various technological equipment (e.g., PowerPoint presentation and videos), which individuals who experienced visual and auditory impairments may have struggled to read the information presented on the slides or the information that was provided in videos. In addition, individuals who lack literacy skills may have struggled completing their self-reported GAIN-SS assessment. Furthermore, assessing the efficacy of the TTT program through the GAIN-SS, as a self-reported screening tool, also presented challenges. This developed more opportunities for response bias and social desirability to occur, which ultimately could have skewed the overall statistical results of the participants’ scores.
Organizational level issues. One of the most challenging issues at the organizational level is the lack of funding and staffing that AMHS-KFLA are given. This might help explain why TTT only provides four sessions due to AMHS-KFLA not having the funding to extend the group into more sessions. In addition, one of the challenges of TTT is the timing of the group (i.e. Wednesday afternoons), as the participants found it difficult to shift their work schedule around to attend group. Ideally, participants would prefer the group to be held during the evenings. However, due to the lack of staff members and funding, this solution is unfortunately not plausible.

Further, addiction counsellors often dislike facilitating in programs that target mandated clients, as this population is known to be in the precontemplation stage where they often disregard their substance use as a problem and are uninterested to make changes (Connors et al., 2001; DiClemente et al., 2004). To reduce the likelihood of experiencing burnout, clinicians may prefer working with clients who are in an advanced stage within the TTM.

Lastly, within the past year the Local Health Integration Network (LHIN) has made multiple mandated changes to the agency and continue to restructure many services and programs. These changes included AMHS-KFLA addiction service being restricted from providing the regulated act of psychotherapy. Therefore, these mandated changes can be problematic for the facilitators of TTT because it prevents them using powerful and effective techniques that could benefit the clients’ needs.

Societal level issues. Within the societal level, negative stigma is a constant challenge for the addiction population and, specifically, mandated clients. Mandated clients often entail offenders who are instructed to complete TTT as a probation order regarding their rehabilitation. Additionally, a large portion of this population could have experienced previous trauma, which may have impacted their willingness to participate in treatment. Due to the negative stigma that society places onto these populations, and previous underlying trauma, clients may come into the agency already feeling judged by staff members and other individuals within the environment. Consequently, this may result in clients becoming discouraged or feeling helpless, which may cause mandated clients to display denial or resistance throughout interventions. Therefore, it is important to continue implementing these research studies to help show society the significance and effectiveness of running substance abuse interventions. By promoting the effectiveness of substance abuse interventions, this can encourage society, and clients, to focus more on decreasing recidivism and increasing recovery and rehabilitation.

Contribution to the Field of Behavioural Psychology

Despite the results of this research study, it contributed to the Behavioural Psychology field (specifically addiction field) by providing additional literature surrounding the needs for probation and mandated clients. More specifically, clients who identify themselves within the precontemplation or contemplation phase of the TTM. Even though the study showed no statistical significance, three participants (participant 2, 9, and 15) demonstrated a decline between their pre- and post-test scores, (refer to Appendix J). This demonstrated that the study still displayed the importance of implementing psychoeducational programs using motivational interviewing and theoretical concepts (e.g., Biopsychosocial Plus, Transtheoretical, and Pleasure Scale model). Therefore, it is essential to continue this kind of research across the addiction population (i.e. mandated clients) and addiction agencies.

This research study promoted a cost-efficient program which may spark an interest towards youth associations and institutions to start up a substance abuse intervention for youth
who are currently or beginning to misuse substances. Additionally, provincial and federal correctional facilities may want to incorporate the idea of the TTT program into a voluntary program in addition to the Integrated Correctional Program Model (ICPM). Inmates attending the group will gain access to learning more about physical dependency, psychological dependency, and the TTM, which was discussed within Herie and Skinner’s (2014) and DiClemente’s (2006) literature. Furthermore, within the group, the offenders would review and develop healthy coping strategies that could motivate these individuals to further their process in the TTM by joining and completing more individual and/or group programs. However, in these programs, it is suggested for facilitators to use a suitable pre- and post-test instrument that is effective in measuring the level of changes within participants’ substance use (i.e. as the GAIN-SS is not to be used to evaluate participants’ substance use changes). Overall, this ultimately would enhance inmate’s recovery and rehabilitation and decrease the chance of recidivism to occur.

Additionally, if further research studies implement similar substance abuse interventions (e.g., TTT) that promotes successful outcomes, then these interventions could be adapted across different areas of addiction such as gambling, sex, internet, and shopping. Furthermore, currently AMHS Kingston’s location is the only agency that implements mandated programs. Therefore, if the TTT program demonstrates strong outcomes of clients transitioning within the TTM, other AMHS locations, such as Napanee, Belleville and other areas across Ontario, may become more interested towards implementing TTT at their agency.

**Recommendations for Future Research Studies**

Even though this research study had many limitations, these limitations prompted multiple recommendations for future research.

First, future researchers may want to consider changing the participant inclusion criteria by requiring participants to complete the program sessions in a consecutive and ordinally manner. Furthermore, researchers may also aspire to test whether making TTT into an abstinent intervention would demonstrate more successful outcomes of the program.

Secondly, it is recommended to include more concepts into the group such as mindfulness and Cognitive Behavioural Therapy (CBT). According to Garland and Howard (2018), a recent meta-analysis—that they completed with their colleagues (Li, Howard, Garland, McGovern, and Lazar, 2018)—produced positive effects towards decreasing addictive cravings and misuse; this suggested mindfulness to be an effective technique for addiction. Whereas according to McHugh, Hearson, and Otto (2010), integrating CBT with the combination of other techniques (e.g., motivational interviewing) into substance abuse programs have displayed robust outcomes. Therefore, this might enhance researchers’ interest to incorporate these components, while making more room to expand on and have participants practice different coping strategies. In addition, researchers may want to include more health effects on crystal methamphetamine, like what this study did with alcohol through body diagrams and videos, as crystal methamphetamine has been becoming more problematic within the Kingston area. However, to include mindfulness, CBT, health effects on crystal meth, and interactive components, future researchers are suggested to implement TTT twice a week in a four-week timespan (i.e. expanding the intervention from four sessions into eight sessions)

Lastly, it is recommended for a researcher to conduct a full analysis of the efficacy of the GAIN-SS at the AMHS-KFLA Kingston location to determine if the assessment effectively
measures the addiction groups and the clients transition within the TTM. If a future study demonstrates that the GAIN-SS is not an effective assessment to be using, then it would be recommended to switch to a different assessment that focus more on the client’s substance use and the TTM.
References


GNU Project. (2015). GNU PSPP (Version 0.8.5) [Computer Software]. Free Software Foundation, Boston, MA.


Appendix A

The Pleasure Scale Diagram

Appendix B

The Stages of Change Diagram

### Appendix C

Global Appraisal of Individual Needs – Short Screener (GAIN-SS) Assessment

<table>
<thead>
<tr>
<th>IDSr 1. When was the last time that you had significant problems with...</th>
<th>Past month</th>
<th>2 to 3 months ago</th>
<th>4 to 12 months ago</th>
<th>1+ years ago</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. feeling very trapped, lonely, sad, blue, depressed, or hopeless about the future?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>b. sleep trouble, such as bad dreams, sleeping restlessly, or falling asleep during the day?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>c. feeling very anxious, nervous, tense, scared, panicked, or like something bad was going to happen?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>d. becoming very distressed and upset when something reminded you of the past?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>e. thinking about ending your life or committing suicide?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>f. seeing or hearing things that no one else could see or hear or feeling that someone else could read or control your thoughts?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EDScr 2. When was the last time that you did the following things two or more times?</th>
<th>Past month</th>
<th>2 to 3 months ago</th>
<th>4 to 12 months ago</th>
<th>1+ years ago</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Lied or conned to get things you wanted or to avoid having to do something</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>b. Had a hard time paying attention at school, work, or home</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>c. Had a hard time listening to instructions at school, work, or home</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>d. Had a hard time waiting for your turn</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>e. Were a bully or threatened other people</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>f. Started physical fights with other people</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>g. Tried to win back your gambling losses by going back another day</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SDSr 3. When was the last time that...</th>
<th>Past month</th>
<th>2 to 3 months ago</th>
<th>4 to 12 months ago</th>
<th>1+ years ago</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. you used alcohol or other drugs weekly or more often?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>b. you spent a lot of time either getting alcohol or other drugs, using alcohol or other drugs, or recovering from the effects of alcohol or other drugs (e.g., feeling sick)?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>c. you kept using alcohol or other drugs even though it was causing social problems, leading to fights, or getting you into trouble with other people?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>d. your use of alcohol or other drugs caused you to give up or reduce your involvement in activities at work, school, home, or social events?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>e. you had withdrawal problems from alcohol or other drugs like shaky hands, throwing up, having trouble sitting still or sleeping, or you used any alcohol or other drugs to stop being sick or avoid withdrawal problems?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
(Continued)

After each of the following questions, please tell us the last time, if ever, you had the problem by answering whether it was in the past month, 2 to 3 months ago, 4 to 12 months ago, 1 or more years ago, or never.

<table>
<thead>
<tr>
<th>CVScr</th>
<th>When was the last time you...</th>
<th>Past month</th>
<th>2 to 3 months ago</th>
<th>4 to 12 months ago</th>
<th>1+ years ago</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>a. had a disagreement in which you pushed, grabbed, or shoved someone?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>b. took something from a store without paying for it?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>c. sold, distributed, or helped to make illegal drugs?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>d. drove a vehicle while under the influence of alcohol or illegal drugs?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>e. purposely damaged or destroyed property that did not belong to you?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

The original GAIN-SS (sections 1 through 4) is copyrighted by Chestnut Health Systems 2003-2013. For more information on the measure or licensure, please see www.gains.org or email gainsinfo@chestnut.org.

Additional questions (CAMH modified)

After each of the following questions, please tell us the last time, if ever, you had the problem by answering whether it was in the past month, 2 to 3 months ago, 4 to 12 months ago, 1 or more years ago, or never.

<table>
<thead>
<tr>
<th>AQ5. When was the last time you had significant problems with... (not related to alcohol/drug use)</th>
<th>Past month</th>
<th>2 to 3 months ago</th>
<th>4 to 12 months ago</th>
<th>1+ years ago</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. missing meals or throwing up much of what you did eat to control your weight?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>b. eating binges or times when you ate a very large amount of food within a short period of time and then felt guilty?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>c. being disturbed by memories or dreams of distressing things from the past that you did, saw, or had happen to you?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>d. thinking or feeling that people are watching you, following you, or out to get you?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>e. videogame playing or internet use that caused you to give up, reduce, or have problems with important activities or people of work, school, home or social events?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>f. gambling that caused you to give up, reduce, or have problems with important activities or people at work, school, home, or social events?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

5. Do you have other significant psychological, behavioural, or personal problems that you want treatment for or help with? (If yes, please describe below) Yes No

v1.
Appendix D

South Eastern Ontario & Mental Health Service Access Form

Agency Granted Access for Purpose of This Thesis
Appendix E

The Student Researcher’s Participant Consent Form

**Project Title:** Measuring the Effectiveness of the Thinking Things Through Program Through the Use of the GAIN-SS Assessment.

**Principal Investigator:** Megan Edwards: medwards23@sl.on.ca

**Name of Supervisor:** Stacey Dowling B.A M.A: sdowling@sl.on.ca; (613) 530-6300

**Name of Institution:** St. Lawrence College – Kingston Campus

**Name of Institution/Agency:** Kingston Addiction and Mental Health Services (AMHS-KFLA)

**Invitation**

You are offered an opportunity to partake in a research study. I am a student in my fourth year of the Honours Bachelors Behavioural Psychology degree program at St. Lawrence College. I am currently completing my placement at the Addiction and Mental Health Services – Kingston, Frontenac, Lennox & Addington (AMHS-KFLA) in Kingston Ontario; more specifically with the Addiction Services. As part of this placement, I am required to conduct and complete an applied thesis. Therefore, during this time I would like to ask for your help to complete this study. The information provided below will help you gain a better understanding behind this research project. Please read the following information carefully, take as much time as you need, and please do not hesitate to ask any questions throughout the process. Once you have carefully read through this form, and we have gone over any questions or concerns that you may have, you will be able to decide on whether you would like to participate in this study.

**Why is this research study being done?**

My project will focus on the effectiveness of the “Thinking Things Through” (TTT) program by using the Global Appraisal of Individual Needs - Short Screener (GAIN-SS) assessment, which is used as a pre and post self-reported assessment. This research study is being implemented to see if client’s scores from the pre-GAIN-SS assessment changes after participating in a four-week substance use intervention program (i.e. TTT) and determining if whether the participants score changes within the problematic substance use domain of the GAIN-SS assessment.
Due to the changes that AMHS-KLFA have been experiencing (such as not having the ability to use some psychotherapy programs and practices), I am interested on whether the TTT program can be considered an effective program through the results of the post GAIN-SS assessment.

What will you need to do if you take part?

If you choose to participate in this study, you will be asked to partake in four sessions of the TTT substance use intervention program. This program is for individuals who are mandated, have demonstrated a history of involvement in substances (past or present), and/or experienced consequences from the use of substances.

The sessions will be held on Wednesday afternoons (1:30 – 3:30 p.m.) in a training room at the Kingston Addiction and Mental Health Services building on 552 Princess Street. Each session will last approximately two hours with one 10-minute break. The sessions will be facilitated by Amanda Shand (addiction counsellor and my agency supervisor) and myself. Throughout the sessions, group members will: gain psychoeducation on addiction and different types of substances; be asked to complete worksheets/exercises on self-confidence; experience opportunities to think about—or explore—their relationship with their choice of substance(s) by watching videos and contributing to group discussions; and lastly will be asked to “test-out” the materials learned from group in-between sessions. During the first session, you will be asked to complete a GAIN-SS assessment which will consist of using a 5-point frequency scale (i.e. 4 = Past month; 0 = Never). This assessment will be asked to be taken again during the final session (session 4).

What are the potential direct benefits of taking part?

The potential direct benefits that you may gain from participating in this study may include gaining the general knowledge of addiction—more specifically on the symptoms/characteristics of substance use disorder—and being able to help determine if the program is effective by seeing if you feel/experience a positive behaviour change due to the results of the TTT program. However, I would also like to mention that by contributing to my
research study you are helping me with completing my thesis where I will be able to receive my degree, which you may gain a feeling of appreciation.

**What are the potential benefits of this research study for others?**

The potential benefits of this research study to others may include improving the characteristics and components of the TTT program, as well as helping future clients receive effective treatment/practices so they can also experience a positive change to their behaviour and overall life.

**What are the disadvantages or risks of taking part?**

If you choose to take part in this study, there are no-to-very minimal risk that could occur. However, since this research study is within a group setting, there will be times where individuals will be expected to participate in group discussions and share firsthand experiences. Therefore, there is a one potential minimal risk for a breach of confidentiality to occur from other group members. Nonetheless, during each group session group members will be reminded that what is mentioned during group sessions, remains at group sessions, and will also be reminded that third parties (i.e. probation officers, etc.) will not have access to your information throughout the study.

**What happens if something goes wrong?**

If yourself, or other group members, come to group under the influence or in a heavy withdrawal, Amanda or I will secretly ask you (or that group member) to leave for the remaining of the session. Yourself (or that group member) will be invited to come back to next week’s sessions if the individual/yourself sustain abstinence 24-hours prior to the group session.

As mentioned above, group members will be reminded to protect the confidentiality of others outside of the group. If you feel or believe at any point that a group member has breach confidentiality, please notify myself or Amanda and we will communicate with you in person to deal with the matter, as well as review the group rules during the next session.

Lastly, if any other problem/issue arises throughout the program, again please notify myself or Amanda and we will communicate with you in person to help resolve the problem/issue.
Will information you collect from me in this project be kept private?

Throughout the study, my college supervisor Stacey Dowling B.A M.A, my agency supervisor and co-facilitator Amanda Shand, and myself will do everything we can to keep any information that identifies you strictly confidential; unless it is required by law.

While administering the pre and post self-reported GAIN-SS assessment, you and the other group members will be separated (at least 2 feet apart) in the training room and will be asked to complete the assessments during that session with Amanda and myself. I would like to stress the matter that your name will only be shown within the EMHware that the agency staff members will only have access too. Therefore, your name will not be used in my thesis report but instead an alpha-numerical code name will be used.

Amanda (my agency supervisor and co-facilitator), the agency staff members, Stacey Dowling (my college supervisor) and myself will have access to the assessments/data. The data will electronically be stored in the AMHS-KFLA EMHware for a minimum of 10 years, which will be password protected. The hard copy of the consent forms will be stored in a locked filing cabinet at the Behavioural Psychology program coordinator’s office at St. Lawrence College for 10 years. After the 10 years, all files associated with the study will be shredded. The GAIN-SS assessments will be stored in a locked filing cabinet at the AMHS-KFLA Kingston building for the duration of the study. Once the study has been terminated/completed, the participants’ GAIN-SS assessments will be destroyed by shredding the hard copy documents.

Lastly, the results from the research are part of my thesis and will be made available at the St. Lawrence College library. There is also a possibility that my thesis could be published in professional journals or presented at professional conferences, but any such presentations will be of general findings and will never breach an individual’s confidentiality.

Do you take part?

Deciding on whether or not you would like to take part in this research project is up to you. Taking part is voluntary. If you do decide to take part, you will be asked to sign this consent form. If you do decide to take part in this research project, you are still free to stop at any time, without giving any reason, and without repercussions from gaining services from the agency. If you decide to stop, please speak to my co-facilitator/agency supervisor, Amanda Shand, my college supervisor, Stacey Dowling, and/or myself. If you choose not to take part in this study,
you can still continue to complete the TTT group therapy program and use other services at AMHS Kingston site. If you choose to withdraw from the study, you can ask for your data not to be used if you wish.

**Contact for Further Information**

This research project had received ethical clearance from the Research Ethics Committee for Behavioural Psychology (REC-P) under the authority of the St. Lawrence College Research Ethics Board (SLC-REB). The project was developed under the supervision of Amanda Shand, my agency supervisor and co-facilitator, and by Stacey Dowling B.A M.A, my college supervisor from St. Lawrence College.

I appreciate your cooperation and if you have any additional questions, feel free to ask me, Megan Edwards (medwards23@student.sl.on.ca). You can also contact my College Supervisor, Stacey Dowling B.A M.A (sdowling@sl.on.ca). If you have any concerns about the way this research is being conducted or about your rights as a participant, you may contact the St. Lawrence College Research Ethics Board (SLC-REB) Chair at reb@sl.on.ca.
Consent

If you agree to take part in this research project, please complete the following form and return it to me as soon as possible. A copy of this signed document will be given to you for your own records. The original will be retained at the agency.

By signing this form, I agree that:

☐ The study has been explained to me.
☐ All my questions were answered.
☐ Possible harm and discomforts and possible benefits (if any) of this study have been explained to me.
☐ I understand that I have the right not to participate and the right to stop at any time.
☐ I am free now, and in the future, to ask any questions I have about the study.
☐ I have been told that my personal information will be kept confidential.
☐ I understand that no information that would identify me will be released or printed without asking my permission first.
☐ I understand that I will receive a signed copy of this consent form.
☐ I understand that data from this study will be presented at the St. Lawrence College Behavioural Psychology Poster Gala and may be reported at other conferences or published in a scientific journal. No identifying information will be included in these reports.

I hereby consent to take part.

__________________________
Participate Name

__________________________
Signature of Participant

__________
Date

______________________________
Student Printed Name

__________________________
Signature of Student

__________
Date

St. Lawrence College
Appendix F

Participant Information Form

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date:</th>
<th>Aboriginal status:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOB:</td>
<td></td>
<td>Phone: Home -</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cell -</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Work -</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relationship status:</th>
<th>Employment status:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married/Partnered/Common Law</td>
<td>(Self) Employed full-time</td>
</tr>
<tr>
<td>Single</td>
<td>Employed part-time</td>
</tr>
<tr>
<td>Widow(er)</td>
<td>Unemployed (looking for work)</td>
</tr>
<tr>
<td>Separated</td>
<td>Student/retraining</td>
</tr>
<tr>
<td>Divorced</td>
<td>Not in labour force (e.g. homemaker)</td>
</tr>
<tr>
<td></td>
<td>Retired</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education:</th>
<th>Income source:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No formal schooling</td>
<td>Employment</td>
</tr>
<tr>
<td>Some Primary</td>
<td>E.I.</td>
</tr>
<tr>
<td>Primary completed</td>
<td>Ontario works</td>
</tr>
<tr>
<td>Some High school</td>
<td>ODSP (Ont. Disability)</td>
</tr>
<tr>
<td>High school completed</td>
<td>Disability Insurance</td>
</tr>
<tr>
<td>Some College/tech</td>
<td>Retirement Income</td>
</tr>
<tr>
<td>College/tech/nurse completed</td>
<td>Family Support</td>
</tr>
<tr>
<td>Some University</td>
<td>None</td>
</tr>
<tr>
<td>University completed</td>
<td>Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reason for attending:</th>
<th>Treatment mandated/required by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol/drugs</td>
<td>None</td>
</tr>
<tr>
<td>Gambling</td>
<td>choice between treatment or jail</td>
</tr>
<tr>
<td>Alcohol/drugs/gambling</td>
<td>condition of probation or parole</td>
</tr>
<tr>
<td>Family member – alcohol/drugs</td>
<td>child welfare authority</td>
</tr>
<tr>
<td>Family member – gambling</td>
<td>condition of employment</td>
</tr>
<tr>
<td>family member – alcohol/drugs/gambling</td>
<td>condition of school</td>
</tr>
<tr>
<td></td>
<td>condition of family</td>
</tr>
<tr>
<td></td>
<td>other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mobility impairment</th>
<th>Visual impairment</th>
<th>Hearing impairment</th>
<th>Pregnant</th>
<th>Prescribed methadone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Injection Drug Use:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never injected</td>
</tr>
<tr>
<td>Injected prior to 1 yr. ago</td>
</tr>
<tr>
<td>Injected in the last 12 months</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have you received counselling/treatment for a mental health, emotional, behavioral or psychological problem from a community mental health program or professional?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within the last 12 months – Yes No Currently – Yes No Within Lifetime – Yes No</td>
</tr>
</tbody>
</table>

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Retrieved from the AMHS-KFLA
Have you been diagnosed with a mental health problem by a qualified Mental Health Professional?
Within the last 12 months – Yes  No  Within Lifetime – Yes  No

Prescribed medication for a mental health problem?
Within the last 12 months – Yes  No  Currently – Yes  No  Within Lifetime – Yes  No

Have you been hospitalized for an addiction or mental health problem?
Within the last 12 months – Yes  No  Within Lifetime – Yes  No

<table>
<thead>
<tr>
<th>SUBSTANCES USED IN THE PAST 12 MONTHS: (Check all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Alcohol  ☐ Benzodiazepines</td>
</tr>
<tr>
<td>☐ Crack  ☐ Heroin/Opioid</td>
</tr>
<tr>
<td>☐ Methamphetamines (crystal meth)  ☐ Over the Counter Codeine preparations</td>
</tr>
<tr>
<td>☐ Cannabis  ☐ Glue/other inhalants</td>
</tr>
<tr>
<td>☐ Hallucinogens  ☐ Tobacco</td>
</tr>
</tbody>
</table>

PROBLEM SUBSTANCES and FREQUENCY of use in the past 30 days.
  a. No use
  b. 1-3 times a month
  c. 1-2 times per week
  d. 3-6 times per week
  e. Daily
  f. Binge use

<table>
<thead>
<tr>
<th>Substance</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix G

Thinking Things Through Participation Consent and Contract 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 AMHS-KFLA staff, except for limits to confidentiality discussed in group.

3. Respectful communication is necessary at all times while at AMHS-KFLA. 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 AMHS-KFLA 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 AMHS-KFLA.

I agree that AMHS-KFLA can disclose my attendance and participation in the Thinking Things Through program to __________________________.

Signature __________________________ Date __________________________.
Appendix H

Worksheet 1: Effects on the Family and Others

<table>
<thead>
<tr>
<th>Tired</th>
<th>Loss of Family</th>
<th>Unfaithful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withdraw</td>
<td>Distrust</td>
<td>Guilt</td>
</tr>
<tr>
<td>Money problems</td>
<td>Anger/frustration</td>
<td>Aggression</td>
</tr>
<tr>
<td>Illnesses</td>
<td>Cover up with lies</td>
<td>Trouble with law</td>
</tr>
<tr>
<td>Shame</td>
<td>Neglect &quot;duties&quot;</td>
<td>Loss of self respect</td>
</tr>
<tr>
<td>Use drugs/alcohol</td>
<td>Lack of confidence</td>
<td>Abuse</td>
</tr>
<tr>
<td>Depressed</td>
<td>Afraid</td>
<td>Job problems</td>
</tr>
<tr>
<td>Feel neglected</td>
<td>Hurting</td>
<td>Feel rejected</td>
</tr>
<tr>
<td>Overly responsible</td>
<td>Neglect self</td>
<td>Blame self</td>
</tr>
</tbody>
</table>

Based upon your own experience list the above effects for:

<table>
<thead>
<tr>
<th>Yourself</th>
<th>Partner</th>
<th>Children</th>
<th>Other</th>
</tr>
</thead>
</table>

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Appendix I

Worksheet 2: Deciding What is Important in Life

DECIDING WHAT IS IMPORTANT IN LIFE

The things that I care about, and value the most right now are:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

Agency Granted Access for Purpose of This Thesis
Retrieved from the AMHS-KFLA
Appendix J

Table Representing Participant’s Pre-Test and Post-Test Data

<table>
<thead>
<tr>
<th>Participant Number</th>
<th>Pre-Test Scores</th>
<th>Post-Test Scores</th>
<th>Difference</th>
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</thead>
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<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>0</td>
<td>-4</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>2</td>
<td>0</td>
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<tr>
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