Group Cognitive Behavioural Therapy With Adult Mental Health Patients to Decrease Symptoms of Anxiety

By

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Dedication

This entire thesis is dedicated to my incredible family – my Mom, Lori; my stepdad, Geoff; and my sister, Chelsea. I could not have gotten through these four years without your love and support.

There are many more names I could list because I am fortunate enough to have such a caring and supportive, extended family. So, to everyone I didn’t mention, you know who you are, and I know that you support me.

Thank you for encouraging me to continue, because this journey has been well worth it.
Abstract

Prolonged distress and feelings of uneasiness can lead to mental illnesses that impact daily functioning. Cognitive-behavioural therapy (CBT) has been used for reducing symptoms of anxiety and can improve overall quality of life (Hofmann, Wu & Boettcher, 2014). It is based on teaching people to recognize and modify maladaptive thought patterns to alleviate feelings of distress. The objective of this present study was to create a CBT and mindfulness-based group therapy to help adults with mental health symptoms, specifically anxiety, increase their coping strategies, increase psychological flexibility, increase mindfulness, increase awareness and understanding of anxiety, and consequently, decrease their symptoms of mental distress. The group participants were four women and two men, and the inclusion criterion for participation was for individuals to be current clients at the agency. There were no specific diagnoses inclusion criteria for the group, as the purpose was educate individuals about anxiety and provide coping skills to further manage symptoms. The group consisted of 10 weekly sessions over a 10-week period and sessions were each two hours long. Participants completed two questionnaires at pre-treatment, post-treatment, and follow-up. The questionnaires were the Depression Anxiety Stress Scale (DASS-21) to measure mental health symptoms, and the Five Facet Mindfulness Questionnaire (FFMQ) to measure mindfulness. The results of the study indicated that the participants made statistically significant gains regarding anxiety symptomology, but not in regards to depression or stress. The participants in the group increased the use of coping strategies, decreased some mental health symptomology, and increased the use of mindfulness as a group – but increased mindfulness was not significant in the findings. This demonstrates that CBT paired with elements of mindfulness can be effective in reducing anxiety, however, further research should be conducted to determine the efficacy of this approach.
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Stress is defined as a state of mental or emotional strain from adverse or demanding circumstances. Many factors can elicit stress, such as social interactions, particular environments, thoughts, or physiological reactions. The stress response is different for everyone and is caused by factors such as personality traits, psychosocial support, and affect (E.g. depression, anxiety, anger, etc.). When the stress response is constantly initiated, physiological changes such as increased blood pressure and heart rate can create physical threats to the body over time (Boone & Anthony, 2003), possibly contributing to chronic stress or disease. Poorly managed stress leads to poor adjustment with life stressors and contributes to poor physical and psychological health (Shearer, Hunt, Chowdhury, & Nicol, 2015).

Many individuals will experience some form of distress in their lifetime. Prolonged distress and feelings of uneasiness can lead to mental illnesses that impact daily functioning. Mental illnesses are characterized by changes in thinking, mood, or behaviour associated with significant distress and impaired functioning. Individuals dealing with a mental illness can experience challenges in their daily lives that include interference with quality of life, ability to perform daily tasks and/or functioning, and social relationships. Individuals facing these challenges can experience eating and sleeping problems, relationship issues, social isolation, suicidal ideation, and low motivation. Many individuals are suffering with some form of mental illness, and knowing this, there is an increasing need for mental health services to address individual needs, support, and therapy to help manage their mental health. Such therapies are designed to address mental health symptoms, mindfulness techniques, and coping strategies to increase awareness and psychological well-being.

Cognitive-behavioural therapy (CBT) has been used for reducing symptoms of anxiety and can improve overall quality of life (Hofmann, Wu & Boettcher, 2014). It is based on teaching people to recognize and modify maladaptive thought patterns to alleviate feelings of distress. This is accomplished by using various elements such as relaxation methods, mindfulness techniques, and psychoeducation.

The cognitive model of social anxiety disorder emphasizes the role of self-focused attention on threat-related social cues in increasing anxiety and frequency of self-critical cognitions and impairing performance in social situations (Koszycki, Benger, Shlik, Bradwejn, 2007). According to Koszycki, Benger, Shlik, and Bradwejn, (2007), mindfulness training can help diminish preoccupation with negative appraisal that fuels anxiety by helping patients learn to distance themselves from self-critical cognitions and intentionally deploy their focus and awareness to the external social situation. Mindfulness practices can also help diminish distressing physiological symptoms of social anxiety, such as increased heart rate, blushing, trembling and sweating, which allows patients to manage anxiety-provoking social situations more effectively (Koszycki, Benger, Shlik, & Bradwejn, 2007).

Stigmatization of mental health still exists in today’s society, and because of this a lower than ideal number of individuals with mental health conditions will reach out for support. Certain aspects of CBT, mindfulness specifically, can be taught in non-psychiatric settings by health-care professionals and educators from a broad range of disciplines, and this may be an appealing option for individuals who are reluctant, or experiencing some barriers to accessing mental health services (Koszycki, Benger, Shlik, & Bradwejn, 2007).
In a study conducted by Perich, Manicavasagar, Mitchell, and Ball, (2013), mindfulness-based cognitive therapy (MBCT) was used with 34 participants, diagnosed with bipolar disorder (BpD) during an 8-week MCBT program. Participants attended eight weekly psychoeducation and relapse prevention information sessions for BpD. The individuals were additionally given audiotape sets that included guided mindfulness meditation, body scan meditation, and sitting meditation. Meditation tracking sheets were provided to determine the number of times participants engaged in meditation practices between sessions. The results indicated that participants who meditated at least three times a week outside of the program displayed significantly lower depression scores at the 12-month follow-up (Perich, Manicavasagar, Mitchell, & Ball, 2013).

Psychoeducation is an element of CBT commonly used in treatments of various mental health diagnoses. The purpose of psychoeducation is to allow patients to become familiar with symptoms relating to a specific disorder and to gather a better understanding of causes, prognosis, and treatment options. Using education elements in the pairing with relaxation methods and other coping strategies, strengthen the treatment efficacy and increases individuals’ chances of success and rehabilitation (Perich, Manicavasagar, Mitchell, & Ball, 2013).

CBT focused therapies that can be delivered in a group setting increases the accessibility of effective treatments for individuals with anxiety (Espejo, Castriotta, Bessonov, Kawamura, Werdowatz, & Ayers, 2015). As more individuals reach out to services and support for mental health, the need for services continues to increase. Group treatments allow for a larger number of patients to receive effective treatment with fewer providers (Espejo et al., 2015). Transdiagnostic group treatments allow patients with different anxiety disorders to be treated in the same group, which leads to decreased wait times (Espejo et al., 2015).

The objective of this study was to create a CBT and mindfulness-based group therapy to help adults with mental health symptoms, specifically anxiety, increase their coping strategies, increase psychological flexibility, increase mindfulness, increase awareness and understanding of anxiety, and consequently, decrease symptoms.

The current thesis includes an overview and evaluation of current literature and research on CBT including peer-reviewed articles pertaining to CBT and mindfulness-based therapy. The literature review will also address mental health, symptomology, psychological flexibility, and the connection to CBT with various mental health diagnoses.
Cognitive Behavioural Therapy (CBT)

Mindfulness.

Mindfulness is defined as paying attention in a particular way, on purpose, non-judgmentally, to the present moment (Kabat-Zinn, 2001). According to Kabat-Zinn, (2001), this kind of attention nurtures greater awareness, clarity, and acceptance of present-moment reality. A diminished awareness of the present moment creates other problems and over time, if they are not attended to, can leave us feeling stuck. (Kabat-Zinn, 2001). Mindfulness-based stress reduction (MBSR) provides effective tools to enable psychologically and physiologically adaptive responses to stress, as well as improvements in health-related quality of life (Gallegos, Lytle, Moynihan, & Talbot, 2015). The goal of mindfulness is to help individuals develop attitudes of acceptance, kindness, compassion, openness, practice, and curiosity, which may contribute to decreased stress reactivity. According to Gallegos, Lytle, Moynihan, and Talbot, (2015), mindfulness-based practices could be useful to individuals who have experienced interpersonal trauma and may continue to experience physiological stress reactivity, dysregulated affect, and maladaptive cognitions.

Behavioural interventions designed to modify the response to high stress could mitigate changes in emotion regulation among individuals (Gallegos, Lytle, Moynihan, & Talbot, 2015). According to Shearer, Hunt, Chowdhury, and Nicol (2015), high levels of mindfulness have been linked to many positive traits, including openness to experience, emotional intelligence, self-esteem, optimism, positive affect, life satisfaction, self-compassion, vitality, self-actualization, autonomy, and competence. Low levels of mindfulness have been linked to rumination, neuroticism, depression, anxiety, severity of psychological symptoms, difficulties in emotion regulation, avoidance, self-consciousness, social anxiety, and negative affect (Shearer, Hunt, Chowdhury, & Nicol, 2015). The study conducted by Gallegos, Lytle, Moynihan, and Talbot (2015) found that participation in MBSR is associated with significant decreases in stress, depression, anxiety, posttraumatic stress symptoms, and emotion dysregulation. In this study 50 women participated in an 8-week group based curriculum than involved weekly 120-minute sessions of MBSR. This emphasizes the development of mindfulness practices: sitting meditation, walking meditation, mindful movement, and a body scan (Gallegos, Lytle, Moynihan, and Talbot, 2015). These practices are designed to foster a calm, nonjudgmental awareness of one’s sensations and feelings (Gallegos, Lytle, Moynihan, and Talbot, 2015). The Five-Facet Mindfulness Questionnaire was used as a self-report measure to assess mindfulness of participants throughout the intervention. Results indicated that results were significantly higher in each of the five mindfulness categories at time 2, 3 and 4, in comparison to baseline.

A study conducted by Shapiro, Astin, Bishop, and Cordova, (2005), found that individuals who participated in the MBSR intervention reported decreased perceived stress and greater self-compassion when compared with the control group that did not receive the MBSR intervention. This suggests that mindfulness-based practices may be effective in improving present moment thinking, and decreasing avoidance by encouraging patients to approach rather than avoid distressing thoughts and feelings.

A study conducted by Shearer, Hunt, Chowdhury, and Nicol (2015), showed that mindfulness training produces long-term effects on physiological measures of emotion regulation, specifically heart rate variability. Heart rate variability (HRV) is the degree of fluctuation in the length of intervals between heartbeats; this has been linked to both
cardiovascular and mental health (Shearer, Hunt, Chowdhury, & Nicol, 2015). HRV reflects the body’s ability to respond to environmental challenges and to self-regulate (Shearer, Hunt, Chowdhury, & Nicol, 2015). Individuals that are able to bring their heart rate back down, after an immediate response to a perceived threat, typically have greater HRV (Shearer, Hunt, Chowdhury, & Nicol, 2015). This indicates good stress management skills can reflect positive effects of mindfulness-based training on the body.

**Psychoeducation.**

The purpose of psychoeducation is to allow patients to become familiar with symptoms relating to a specific disorder and to gather a better understanding of causes, prognosis, and treatment options. A study to determine the effects of psychoeducation on individuals with bipolar disorder (BpD), was conducted by Javadpour, Hedayati, Dehbozorgi, and Azizi, (2013), during the remission phase of 86 patients with BpD after being discharged from the hospital. The patients attended eight sessions that involved 50-minutes each week in a shortened psychoeducation course. The purpose of psychoeducation is to allow patients to become familiar with symptoms of mania and hypomania, understanding signs of depression and other psychological episodes, awareness of causes and prognosis, and education about the types and function of medication (Javadpour, Hedayati, Dehbozorgi, & Azizi, 2013). Individuals in the control group received psychoeducation along with pharmacotherapy, whereas the intervention group only received psychoeducation. The control group displayed significantly higher positive effects of psychoeducation on depression and mania scores after 18 months, compared to the intervention group (Javadpour, Hedayati, Dehbozorgi, & Azizi, 2013). This suggests that psychoeducation, along with adherence to medication and/or other pertinent services, could increase the impact of education on individuals’ wellness and decrease symptoms associated with a mental health diagnosis.

**CBT in Various Treatments**

**Depression.**

Major depression (MD) is one of the most common psychiatric disorders in the general population, as well as one of the main causes of morbidity in the world (Chiesa, Castagner, Andrisano, Serretti, Mandelli, Porcello, & Giommi, 2015). Mindfulness-based cognitive therapy (MBCT) uses the structure and practices of mindfulness-based stress reduction (MBSR) and elements of cognitive behavioral therapy (CBT), including psychoeducation about the cognitive model of MD (Chiesa et al., 2015). MBCT teaches patients to become more aware of their incoming thoughts, feelings, and bodily sensations, and to relate to them with an accepting and nonjudgmental attitude (Chiesa et al., 2015). The study conducted by Chiesa et al., (2015), aimed at investigating the short-term (8 weeks) and long-term (26 weeks) effects of MBCT compared to effects of psychoeducation alone. Results indicated a significantly larger improvement on depressive symptoms, as measured on the Hamilton Rating Scale for Depression (HAM-D), was observed in the MBCT group compared with the psychoeducation group both in the short-term and long-term period (Chiesa et al., 2015). The results also indicated a significant improvement of the quality of life and mindfulness levels of individuals in the MBCT group (Chiesa et al., 2015). This suggests that commitment to such interventions could lead to faster clinical improvements and improved overall well-being.

**Posttraumatic Stress Disorder.**

In a study conducted by Dorrepaal, Thomaes, Smit, van Balkom, van Dyck, Veltman, and Draijer, (2010), thirty-six female outpatients, with a history of childhood abuse, participated in a 20-week study to determine the effectiveness of using a stabilizing group treatment protocol to
implement a CBT and psychoeducation intervention. Sexual abuse was defined as repeated, forced sexual content with a perpetrator in an intimate relationship (Dorrepaal et al., 2010). The group focused on decreasing symptoms of posttraumatic stress disorder (PTSD). Psychoeducation aimed at attaining a sense of cognitive mastery by explain symptoms as adaptations to necessary emotional survival in a context of child abuse (Dorrepaal, et al., 2010). The group format aimed at inducing hope and reframing patients’ symptoms as normal response to trauma, thereby reducing shame, guilt, and isolation (Dorrepaal et al., 2010). The results indicated statistically significant improvements in PTSD symptoms at the end of the 20-week program (Dorrepaal, et al., 2010), and this supports the efficacy of using a structured stabilizing group intervention for individuals with intense symptoms relating to a specific disorder. Enabling individuals with an understanding of symptoms, relating to an individual’s disorder, can be empowering and possibly reduce symptoms when the symptoms are seen as normal and the individual’s situation is validated. This enables individuals to restructure their thoughts that are enabling symptoms, in order to begin the process of healing and recovery.

**Insomnia.**

Mindfulness meditation encourages a shifting of one’s relationship to cognitions rather than challenging and changing the content of one’s thoughts (Ong, Shapiro, & Manber, 2008). According to Ong, Shapiro, and Manber, (2008), stated that mindfulness meditation might be associated with reductions in arousal among people with insomnia. In a study conducted by Ong, Shapiro, and Manber, (2008), thirty adults who met diagnostic criteria for Psychophysiological Insomnia, participated in a 6-week, multi-component group intervention using mindfulness meditation, sleep restriction, stimulus control, sleep education, and sleep hygiene. According to Ong, Shapiro, and Manber, (2008), the overall patterns of change with treatment demonstrated statistically and clinically significant improvements in several nighttime symptoms of insomnia as well as statistically significant reductions in pre-sleep arousal, sleep effort, and dysfunctional sleep related cognitions. CBT can be helpful to challenge and change maladaptive thinking patterns in individuals, however, CBT with the addition of meditiation can further the effectiveness of a program achieving marked improvement for a number of psychological diagnoses.

**Anxiety.**

Generalized anxiety disorder (GAD) is a highly prevalent, chronic, costly, and disabling mental disorder (Cuijpers, Sijbrandij, Koole, Huibers, Berking, & Andersson, 2014). It is characterized by excessive and persistent worry and anxiety about everyday internal and external events, in combination with various psychological and somatic complaints, such as restlessness, fatigue, problems with concentrating, irritability, and sleep problems (American Psychological Association, 2000). Typically, clinicians and patients consider psychological treatments to be preferable to drug treatment with GAD (Cuijpers, et al., 2014). Behavioural therapies, specifically cognitive behavioural therapy (CBT), have been used to treat anxiety with specific techniques, such as cognitive restructuring, exposure, problem-solving, and applied relaxation (Cuijpers, 2014).

**CBT in Group Treatment**

**Mindfulness-based interventions.**

Group mindfulness-based interventions (MI) encourage participants to become more aware of their bodily sensations, emotions, and thoughts in a non-judgemental and accepting manner through incorporating a variety of mindfulness exercises into daily life (Byrne, Bond, & London, 2013). MI has been demonstrated to be an effective treatment for anxiety and
depression among general clinical populations (Byrne, Bond, & London, 2013). According to Byrne, Bond, and London (2013), the uses of MI have shown marked improvements in attentional control, task switching, and cognitive inhibition, which further reduced anxiety and depression. All MI techniques share the goal of teaching participants to become more aware of their thoughts, feelings, and sensations and to change their relationship to them (Byrne, Bond, & London, 2013).

In the study conducted by Byrne, Bond, and London (2013), MI was used as an intervention among university students. From preintervention to the 6-month follow-up, participants in the MI group maintained a significant decrease in anxiety compared to that of the interpersonal group that was not provided with skills to relate to maladaptive thought patterns. The MI group also experienced a significant increase in mindfulness skills during this period. Participants were provided with a set of skills to change unhelpful thinking patterns, and MI encourages individuals to disengage from their train of ruminative thinking and come into the present moment (Byrne, Bond, & London, 2013). Participants were encouraged to approach all stimuli in a nonjudgmental and accepting manner such that when cognitions, emotions, or sensations arise, they are not evaluated as pleasant or unpleasant but simply observed as they are (Byrne, Bond, and London, 2013). The results suggest that MI could be helpful in reducing academic problems, such as poor study skills, inefficient use of time, poor concentration, and test anxiety (Byrne, Bond, & London, 2013).

The reduction in emotional distress likely was the contributing factor to an increased academic performance. In times of stress, the individual practicing mindfulness will be more likely to step back from thoughts and feelings, instead of engaging in ruminative thinking patterns that can escalate anxiety and depression.

Relaxation training.
Cognitive behavioural therapy is a common treatment method for an array of psychological disorders, including generalized anxiety disorder (GAD). In a recent study by Lee and Orsillo, (2014), 53 participants with elevated GAD symptoms exposed to mindfulness and relaxation, had more efficient emotional Stroop test performance relative to those in a thought wandering condition. This study was conducted to examine cognitive inflexibility in participants with GAD using pre-intervention stimuli conditions (mindfulness, relaxation, and thought wandering), followed by a monitoring task called the Stroop test (Lee & Orsillo, 2014). The individuals that participated in mindfulness techniques and relaxation prior to taking the Stroop test demonstrated a significantly higher level of cognitive flexibility than the individuals that were free to ‘thought wander’—ruminate with any thought that came to mind (Lee & Orsillo, 2014). The results suggest that a relaxation manipulation requiring attentional focus on a stimulus (E.g. music) may result in measurable impact on cognitive flexibility (Lee & Orsillo, 2014). Based on the effectiveness of mindfulness practices for impacting one’s cognitive flexibility, this technique could translate into structured group settings when working with individuals with mental health issues.

Summary
The literature on CBT and mental health disorders is diverse. The literature is convincing and encouraging, suggesting CBT to be an effective for individuals in both an individual and group setting. CBT combined with other treatments, such as mindfulness-based therapy and psychoeducation, resulted in significant improvements in the clients’ symptoms and other measurement scores. CBT paired with elements of education and mindfulness has shown to be a
feasible and therapeutic intervention for individuals with various mental health diagnoses and challenges.

Relationship Between Literature Review and Current Study

The research has shown that when an individual increases the use of coping strategies, specifically mindfulness techniques, meditation, cognitive flexibility, symptom and diagnoses awareness, mental health symptoms can be decreased. The current study’s aim is to increase coping strategies and cognitive flexibility with the use of mindfulness practices, relaxation, and psychoeducation, in an attempt to decrease symptoms of anxiety in adults with mental health disorders. The literature is supportive of CBT based on increasing an individual’s understanding of anxiety and symptoms with education, coping while using mindfulness, and relaxation with meditation. Based on this statement, it is hypothesized that clients with mental health symptoms relating to anxiety could increase psychological flexibility and healthy coping strategies in a mindfulness-based CBT intervention.
Chapter III – Method

Participants.

Participants and recruitment procedure.

Prior to beginning, the study protocol was approved by the Research Ethics Board (REB) of St. Lawrence College on October 5, 2015 (see Appendix A). Mental health rehabilitation workers referred seven men and three women to the CBT and mindfulness group at Addictions and Mental Health Services – Hastings Prince Edward (AMHS – HPE). Individuals could also self-refer if there was an abundance of interest in the group and speak to their counselor about registration. A flyer was created outlining a brief synopsis of what CBT and mindfulness is, the group session schedule, and information on how to register. The ten individuals met the inclusion criteria (see below) and were offered a place in the group. There were only ten vacancies in the group, so individuals were required to register by October 8, 2015, and all agreed to participate. All participants met the diagnostic criteria for a mental health disorder; all participants had different diagnoses. Due to numerous attendance inconsistencies, only two females and four males completed the program and their scores/information were used for the purpose of this project.

Inclusion/exclusion criteria.

Inclusion criteria included that the individual had to be a current client at the agency, experiencing challenges with mental health (may or may not have current diagnosis), over the age of 16, be willing to maintain regular attendance to the group, and participate voluntarily. Exclusion criteria included active suicidality and/or psychosis, or a learning disability that would hinder learning the material.

Participant characteristics.

Participant 1.

Participant 1 was a male group member that did not have a current primary diagnosis, but did suffer from symptoms of anxiety. Participant 1 has received CBT-based therapy in the past with self-help groups offered through AMHS. He was also receiving counselling services from AMHS during the time of the CBT group. He was 27 years old and had completed some college.

Participant 2.

Participant 2 was a female group member diagnosed with depression. Participant 2 has received CBT-based therapy in the past with self-help groups offered through AMHS, specifically for managing depression. She was also receiving counselling services from AMHS during the time of the CBT group. She was 67 years old and had a degree in psychology.

Participant 3.

Participant 3 was a male group member with a primary diagnosis of an anxiety disorder, and a secondary diagnosis of depression. Participant 3 has received CBT-based therapy in the past with self-help groups offered through AMHS, specifically for anger management, depression, and self-esteem. He was also receiving counselling services from AMHS during the time of the CBT group. He was 50 years old and has completed some college.

Participant 4.

Participant 4 was a male group member with a primary diagnosis of an anxiety disorder, and a secondary diagnosis of depression. Participant 4 has received CBT-based therapy in the past with self-help groups offered through AMHS, specifically for anger management and self-esteem. He was also receiving counselling services from AMHS during the time of the CBT group. He was 44 years old and has completed high school.
Participant 5.
Participant 5 was a male group member diagnosed with bipolar disorder (BpD). Participant 5 has received CBT-based therapy in the past with self-help groups offered through AMHS, specifically improving self-esteem. He was also receiving counseling services from AMHS during the time of the CBT group. AMHS. He was 27 years old and had completed some university.

Participant 6.
Participant 6 was a female group member with a primary diagnosis of an anxiety disorder, and a secondary diagnosis of depression and borderline personality disorder (BPD). Participant 6 has received counseling services in the past with AMHS, specifically the transitional enhancement program that determines the best and most appropriate services for the client based on current needs. She was 45 years old and had completed some college.

All participant characteristics can be seen in Table 1.

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<td>Anxiety Disorder</td>
<td>BpD</td>
<td>Anxiety Disorder</td>
</tr>
</tbody>
</table>

(Note. M=male, F=female, H=high school, C=college, U=university, *=some completion.)

Participants’ criteria for group.
The participants that had an interest in attending the CBT-based anxiety/mindfulness group discussed the idea with their counselor prior to registration. The individuals were required to be associated with the agency in some way in order to access additional supports outside of the group sessions. This was recommended for optimal understanding and comprehension of the material covered. There was no specific diagnoses inclusion criteria for the group, as the purpose was educate individuals about anxiety and provide coping skills to further manage symptoms.

Informed consent procedure.
Informed consent (Appendix B) was obtained from all participants prior to beginning the first group session. The facilitator handed the consent form to the participants, and then the participants were encouraged to re-read the document and ask for clarification if necessary. The participants then signed and dated the document, and the copies were kept in the participants’ file at AMHS in a secure locked cabinet. If requested, participants could view or receive an additional copy of the document. The document contained contact information for the facilitator(s)/agency supervisor, the college supervisor overlooking the group, and the Research Ethics Board (REB). The CBT flyer also contained the contact information for the facilitator(s)/agency supervisor in case further inquiries were needed.

Design
Design.
A one-group pre- and post-test design was utilized for this study. Comparisons of scores on assessment measures pre-treatment were compared to post-treatment scores and again at a 1-
week follow-up for one group of individuals. Ongoing data collection of group attendance, weekly anxiety ratings, and weekly mindfulness engagement were conducted. The data was analyzed using various tests on SPSS Statistics.

**Independent variable.**

The independent variable is the CBT-based group therapy. The CBT group therapy was a modified version of Saulsman, Nathan, Lim, Correia, Anderson, and Campbell’s 2015 “What Me Worry?!” Coping With Anxiety manual created at the Centre for Clinical Interventions (CCI) in Australia. This anxiety manual was used with permission from the CCI. The CCI website includes a disclaimer which states that the public can access these resources by printing a hard copy or downloading them electronically. Saulsman et al. created the manual using concepts and strategies from evidence-based psychological practice, primarily Metacognitive Therapy (MCT), which is an extension of CBT. MCT is based on the theory that repetitive negative thinking, such as chronic worry in generalized anxiety, is a result of problematic metacognitions (i.e. beliefs about thinking) and behaviours (Saulsman et al., 2015). The purpose of the manual is to provide information about anxiety and generalized anxiety disorder (GAD) and how to alleviate symptoms and/or feelings of anxiety. The manual aims to: describe symptoms of GAD, what causes anxiety, what triggers and maintains worrying, how to change and challenge beliefs about worrying (i.e. worrying is uncontrollable, dangerous, helpful, useful, etc.), teach problem solving strategies, and incorporate attention training exercises (i.e. task-focusing, meditation) into daily routine. Permission for use and modifications to the manual was received through management at AMHS, as the agency has an ongoing agreement with the Centre for Clinical Interventions to use their online material. Modifications were required due to the diversity of the group (i.e. age and cognitive functioning) and the use of a flip chart, modified handouts, and team building exercises enabled effective delivery of material.

 Participants were required to attend all group sessions. A maximum of two out of the ten sessions could be missed, as absences without reason put participants at risk of being removed from the group and this decreased the chances of success in the program.

The researcher and co-facilitator was a Behavioural Psychology student in her fourth year of an undergraduate program. The sessions were conducted in collaboration and under supervision of a mental health counselor who had conducted previous successful self-help groups in the past.

**Dependent variables.**

The dependent variables are the scores retrieved from the assessment measures. The pre- and post-assessment scores and the follow-up were examined. The scores post-treatment are an indication on whether or not the independent variable manipulation made a difference in the participants’ lives when compared to the pre-treatment scores. The follow-up scores are indicative of maintenance of the acquired skills and coping strategies. The scores are an indication of the participants’ mindfulness and symptomology.

**Depression Anxiety Stress Scale (DASS-21).**

The DASS-21 (Appendix C) is a questionnaire that was constructed as a set of scales to further define, understand, and measure pervasive and clinically significant emotional states usually described as depression, anxiety, and stress (Psychology Foundation of Australia, 2014). The DASS is a questionnaire that has 42 items rated using a likert-type scale. The scaling options include: 0 – did not apply to me at all, 1 – applied to me some of the time, 2 – applied to me a good part of the time, and 3 – applied to me most of the time. The depression scale assesses dysphoria, hopelessness, lack of interest, anhedonia, and inertia; the anxiety scale assesses
autonomic arousal, situational anxiety, and subjective experience of anxious affect; the stress scale assesses difficulty relaxing, nervous arousal, irritable/over-reactive, and impatience (Psychology Foundation of Australia, 2014). According to the Psychology Foundation of Australia (2014), the scales of the DASS have been shown to have high internal consistency and yield meaningful discriminations in a variety of settings on the three dimensions of depression, anxiety, and stress. The DASS is based on a dimensional rather than categorical conception of psychological disorder (Psychology Foundation of Australia, 2014).

**Five-Facet Mindfulness Questionnaire (FFMQ)**

The FFMQ (Appendix D) is a questionnaire that was constructed to measure individuals’ mindfulness. The questionnaire has 39 items with five mindfulness sub scales that include: non-reactivity to inner experience, observing/noticing, acting with awareness, describing, and non-judging of experience. In a study conducted by Veehof, Klooster, Taal, Westerhof, and Bohlmeijer, (2011), psychometric properties of the FFMQ were examined in a clinical population with fibromyalgia. After 38 patients filled out the FFMQ twice, a confirmatory factor analysis was conducted to test the five-factor structure. Researchers stated that internal consistency of the five facets was satisfactory and test-retest reliability was good to excellent (Veehof et al., 2011). According to Veehof et al., (2011), construct validity was excellent shown by correlations between mindfulness facets and theoretically related and unrelated (physical health) constructs.

**Setting and apparatus.**

The CBT group therapy took place in a designated room in the Belleville and Quinte West Community Health Centre (BQWCHC) in Trenton. A flipchart with chart was used during the sessions. Handouts were provided to the participants during most sessions that included homework handouts or an exercise relating to the current module. Mindfulness quotes were given to all of the participants at the first session. The participants could take this home and refer to them when needed.

**Procedures**

Workers at the agency encouraged clients that they believed could benefit from anxiety education and mindfulness, to register for the CBT group. A list of names of clients either suggested by their counselor or clients who referred themselves, was created. There were no formal interviews conducted as an entry into the group. Inclusion criterion was broad, as the purpose of the group was to educate and assist individuals willing to commit to the group.

Written consent forms were given to each participant; the researcher allowed the participants to ask questions or for clarification if needed. The participants signed and dated the forms before beginning the group therapy.

The pre-assessment questionnaires were given to each participant to fill out at the beginning of session 2. Assistance was given to individuals who did not understand an item on the questionnaire.

Participants were expected to attend at least eight out of the ten sessions of CBT, unless due to an illness or extenuating circumstance. If a participant missed a session, the participant was reminded to read over the material missed and do the homework for that given module. Participants were informed that homework was assigned at every session, and that they were encouraged to complete the homework to obtain maximum benefit from the program.

The focus of session 1 was introducing what anxiety is, how anxiety impacts individuals, and understanding different types of anxiety. The group began by introducing the two facilitators and an overview of the group’s purpose, along with participant commonalities (i.e. anxiety). The
group members participated in a team building activity to increase comfort within the group atmosphere. To begin the module, participants were asked to write down what their experiences are related to generalized anxiety and what areas of their lives tend to create worry. Answers were discussed with the group. After, a psychoeducation piece was conducted with the use of a chart paper and oral presentation by the facilitators. The learning consisted of validating common experiences, outlining different types, and exploring the difference between healthy and unhealthy anxiety.

The focus of session 2 was on process of what triggers worrying and what maintains it. The session consisted of various exercises including: listing the “what if” questions you ask yourself, what triggers worrying for you, what positive beliefs you hold about worrying (i.e. advantages of repetitive thinking), and what negative beliefs you hold about worrying (i.e. disadvantages of worrying). The participants were asked to fill out these brief exercises and share their answers with the group. This highlighted commonalities among group participants.

Session 3 discussed the negative beliefs about worrying; specifically the belief that worrying is uncontrollable. Participants were asked to rate (0-100%) how much they believe their worrying is uncontrollable, before challenging this belief. Evidence for and against the belief, “worrying is uncontrollable” was looked at, as a group, using an example. Participants were given five minutes to complete the negative belief evidence exercise. After the exercise, participants were encouraged to share their responses. Postponement strategies, such as leaving worrying to a designated “thinking time” and how to effectively contain worrying, were discussed. Homework was assigned, which consisted of conducting a postponement experiment to determine if this strategy is useful for coping with worry.

Mindfulness techniques were the focus of session 4. Relaxation and attention-training strategies were presented with the use of a flip chart and various exercises. The session began with explaining the importance of exercising one’s attention and being able to actively pay attention to the present task at hand. Meditation and the steps to proper breathing were also discussed. Homework was assigned, which consisted of participants filling out an attention-training diary to track meditation and task-focusing exercises they engage in throughout the week. The session ended with a guided meditation exercise using a relaxation music track. A task-focusing exercise was also conducted using a Hershey’s kiss and instructions were to notice key details about the item (e.g. sight, taste, feel, smell) prior to consuming it.

Session 5 focused on the negative beliefs about worrying, specifically that worrying is dangerous. This module was similar to the material in session 3, but emphasis was on a different negative belief associated with worrying. Evidence for and evidence against the belief that worrying is dangerous/harmful was discussed using an example. After this, members were asked to complete the negative belief evidence exercise using their worksheet. Additional information discussed included: how to look for factual evidence when researching your health concerns/worry.

The same outline from session 5 was used in session 6. Instead of negative beliefs about worrying, this session discussed challenging positive beliefs about worrying, specifically that worrying is helpful. The evidence for and evidence against exercise used in the previous session was also used in session 6. An additional worksheet was provided to determine if one’s beliefs were unrealistic and if so, how this is likely an unhelpful coping strategy. Homework was assigned, which involved experimenting with one’s beliefs about worrying and filling out a worksheet to track daily occurrences relating to worry.

Session 7 discussed worrying vs. problem-solving strategies. Participants were asked to
distinguish their current worries between which were solvable or unsolvable. As a group, the 6-steps to problem-solve were outlined on chart paper with the use of examples. Homework was assigned, which involved each group member to carry out the decided plan to eliminate or decrease worry, during problem solving.

Session 8 discussed the connection between thoughts and feelings and how it can impact behaviour and physical sensations. The main component of this session was to address the usefulness of helpful thinking strategies and when to use them. Postponement strategies (from session 3) were suggested as additional aids to effectively carry out helpful thinking. Helpful, more balanced thoughts to replace worries were presented with examples. A helpful thinking diary exercise was outlined. This exercise was later assigned as homework.

Session 9 presented the topic of accepting uncertainty and challenging the intolerance for uncertainty. An exercise to challenge intolerance of uncertainty was read over with the group and the facilitator asked for feedback during each section of the worksheet. This enhanced group interaction during the session. A second exercise was completed to notice one’s thoughts when needing certainty in life and how to balance those thoughts with acceptance. The session ended with a mindfulness exercise that involved guided meditation.

Session 10 outlined a summary of strategies used in all previous sessions. Strategies for maintaining any gains from this group were also discussed. A worksheet called “healthy me” was utilized to create a summary of what is important to individuals and what can be done to maintain their new healthy coping strategies (E.g. goals, exercise, self-care, relaxation, social activities, helpful thoughts, etc.).

A follow-up assessment was done during session 10, as post treatment assessments were unable to be conducted after the group had concluded. The facilitator handed out the DASS 21 questionnaires as follow-up procedures. The FFMQ questionnaires were not able to be part of the follow-up as the final session was time-limited and multiple questionnaires tend to be overwhelming for participants to complete in one session.

Table 2. CBT-Based Processes Examined in the Group

<table>
<thead>
<tr>
<th>Sessions</th>
<th>CBT-Based Process Examined</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overview of Anxiety and Causes</td>
</tr>
<tr>
<td>2</td>
<td>Overview of Worrying and Its Triggers</td>
</tr>
<tr>
<td>3</td>
<td>Negative Beliefs About Worrying: Worrying is Uncontrollable</td>
</tr>
<tr>
<td>4</td>
<td>Attention Training Exercises: Task-Focusing and Meditation</td>
</tr>
<tr>
<td>5</td>
<td>Negative Beliefs About Worrying: Worrying is Dangerous</td>
</tr>
<tr>
<td>6</td>
<td>Positive Beliefs About Worrying: Worrying is Helpful</td>
</tr>
<tr>
<td>7</td>
<td>Problem Solving</td>
</tr>
<tr>
<td>8</td>
<td>Helpful Thinking</td>
</tr>
<tr>
<td>9</td>
<td>Accepting Uncertainty</td>
</tr>
<tr>
<td>10</td>
<td>Summary: Self-Management</td>
</tr>
</tbody>
</table>

Facilitator manual.

A facilitator manual (Appendix E) with all the session outlines, descriptions, list of exercises and handouts were provided. The manual is organized by sessions and has the information for future facilitators to conduct the group (see Table 3 for the facilitator manual for the CBT group).
Table 3. *Facilitator Manual for the CBT Group Therapy*

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Letter to future facilitators</td>
</tr>
<tr>
<td>2</td>
<td>Introduction</td>
</tr>
<tr>
<td>3</td>
<td>Materials need for implementation</td>
</tr>
<tr>
<td>4</td>
<td>Sessions 1-10 (outline, mindfulness exercises, handouts, homework)</td>
</tr>
<tr>
<td>5</td>
<td>References</td>
</tr>
</tbody>
</table>
Chapter IV: Results

The hypothesis of the study was that participants of the CBT group would decrease symptoms of anxiety, and increase mindfulness and coping strategies. The assessment measures measured these areas of focus.

Descriptive Statistics for the Group

DASS-21

The mean score of the depression category of the DASS-21 revealed neither an increase nor decrease from pre-to-post assessments, but the standard deviation increased by 2.46 from pre-to-post assessments. The mean score of the depression category of the DASS-21 indicated a decrease by 3.34 from post-assessment to follow-up, and the standard deviation decreased by 3.73 from post-assessment to follow-up. The depression category remained in the severe range at pre-, post-, and follow-up assessments.

The mean score of the anxiety category of the DASS-21 revealed a decrease from pre-to-post assessments by 4, and the standard deviation decreased by 0.66. The mean score of the anxiety category of the DASS-21 indicated a decrease by 4.34 from post-assessment to follow-up, and the standard deviation decreased by 0.15 from post-assessment to follow-up. The anxiety category was in the extremely severe range at pre-assessment, and in the severe range at post-assessment and follow-up.

The mean score of the stress category of the DASS-21 revealed a decrease from pre-to-post-assessment by 3, and the standard deviation increased by 8.5 from pre-to-post assessments. The mean score of the stress category of the DASS-21 indicated a decrease by 4.06 from post-assessment to follow-up, and the standard deviation decreased by 7.2 from post-assessment to follow-up. The stress category was in the severe range at pre-assessment, and in the moderate range at post-assessment and follow-up.

FFMQ

A decrease of 0.02 occurred for the mean total FFMQ score from pre-to-post assessments and a decrease of 0.05 occurred for the standard deviation. A decrease of 0.02 occurred for the mean score of the observe category on the FFMQ, with a decrease in standard deviation by 0.12. A decrease of 0.15 occurred for the mean score of the describe category on the FFMQ, with a decrease in standard deviation by 0.2. A decrease of 0.15 occurred for the mean score of the acting with awareness category on the FFMQ, with a decrease in standard deviation by 0.21. The category nonjudging on the FFMQ had a mean increase in score by 0.22, and an increase in standard deviation by 0.21. Lastly, an increase of 0.03 occurred for the mean score of the nonreacting category on the FFMQ, with a decrease in standard deviation by 0.18.

Weekly Anxiety Rating Scale

A decrease of 1.1 in the mean anxiety rating occurred from pre-to-post session in session 3. A decrease of 3.33 in the mean anxiety rating occurred from pre-to-post session in session 4. From pre-to-post session there was a decrease of 1.5 in the mean anxiety rating in session 5. A decrease of 0.8 in the mean anxiety rating occurred from pre-to-post session in session 6. A decrease of 0.16 in the mean anxiety rating occurred from pre-to-post session in session 7. A decrease of 1.6 in the mean anxiety rating occurred from pre-to-post session in session 8. From pre-to-post session there was a decrease of 0.5 in the mean anxiety rating in session 9. Lastly, a decrease of 0.5 in the mean anxiety rating occurred from pre-to-post session in session 10 (see Table 4 for the Mean Assessment Scores of the DASS-21, FFMQ, and Weekly Anxiety Ratings).
Table 4.  
*The Mean Assessment Scores of the DASS-21, FFMQ, and Weekly Anxiety Rating.*

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Pre-Test (n=6)</th>
<th>Post-Test (n=6)</th>
<th>Follow-Up-Test (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>DASS (Depression)</td>
<td>25.67</td>
<td>9.5</td>
<td>25.67</td>
</tr>
<tr>
<td>DASS (Anxiety)</td>
<td>23.67</td>
<td>10.07</td>
<td>19.67</td>
</tr>
<tr>
<td>DASS (Stress)</td>
<td>27.33</td>
<td>5.32</td>
<td>24.33</td>
</tr>
<tr>
<td>FFMQ (Total)</td>
<td>2.67</td>
<td>0.38</td>
<td>2.65</td>
</tr>
<tr>
<td>FFMQ (Observe)</td>
<td>2.94</td>
<td>0.45</td>
<td>2.92</td>
</tr>
<tr>
<td>FFMQ (Describe)</td>
<td>2.37</td>
<td>0.76</td>
<td>2.22</td>
</tr>
<tr>
<td>FFMQ (Act/Aware)</td>
<td>3.12</td>
<td>0.54</td>
<td>2.97</td>
</tr>
<tr>
<td>FFMQ (Nonjudging)</td>
<td>2.47</td>
<td>0.53</td>
<td>2.69</td>
</tr>
<tr>
<td>FFMQ (Nonreacting)</td>
<td>2.42</td>
<td>0.57</td>
<td>2.45</td>
</tr>
</tbody>
</table>

| Anxiety Rating Wk. 3 | 5.6 | 4.5 |
| Anxiety Rating Wk. 4 | 5.66 | 2.33 |
| Anxiety Rating Wk. 5 | 6 | 4.5 |
| Anxiety Rating Wk. 6 | 5.4 | 4.6 |
| Anxiety Rating Wk. 7 | 4.16 | 4 |
| Anxiety Rating Wk. 8 | 5.6 | 4 |
| Anxiety Rating Wk. 9 | 3.5 | 3 |
| Anxiety Rating Wk. 10 | 4.5 | 4 |

Note: n=5 for FFMQ Mean Assessment Scores.
**Statistical Analysis Results**

A Friedman test was used to analyze the statistics of the DASS-21 and a Repeated Measures ANOVA was used to analyze the statistics of the FFMQ. These tests were chosen because the sample size was small (n=6) and a t-test would not efficiently display the statistics. Therefore, the Friedman Test and Repeated Measures ANOVA appeared to be the best criteria to assess the measures. The significance level of .05 was used during the two-tailed tests of all three measures.

**DASS-21**

There were no pre-to-post differences in total results of the DASS-21. These results do not indicate a significant reduction in depression and stress as a group mean. However, scores on the anxiety subscale were significantly lower at post assessment. Separately, the mean scores of anxiety resulted in a statistically significant decrease. (Asymp Sig.=0.041).

**FFMQ**

The results of the FFMQ questionnaire did not reveal a statistically significant effect from pre-to-post assessment ($p=0.860$, $n^2=0.009$). The results of the FFMQ observe subscale did not reveal a statistically significant effect from pre-to-post assessment ($p=0.865$, $n^2=0.008$). The results of the FFMQ describe subscale did not reveal a statistically significant effect from pre-to-post assessment ($p=0.287$, $n^2=0.274$). The results of the FFMQ acting with awareness subscale did not reveal a statistically significant effect from pre-to-post assessment ($p=0.356$, $n^2=0.214$). The results of the FFMQ nonjudging subscale did not reveal a statistically significant effect from pre-to-post assessment ($p=0.486$, $n^2=0.128$). The results of the FFMQ nonreacting subscale did not reveal a statistically significant effect from pre-to-post assessment ($p=0.799$, $n^2=0.018$).
Follow-up Results

All of the 6 participants attended the follow-up session 2 weeks after the post-assessment. Again, a Friedman test and Repeated Measures ANOVA were conducted to compare the differences between post and follow-up scores on the DASS-21 and the FFMQ.

DASS-21

The follow-up results for the DASS-21 assessment revealed a further decrease in mean scores from post-assessment. The depression category decreased from post-assessment (25.67) to follow-up (22.33), remaining in the severe range. The anxiety category decreased from post-assessment (19.67) to follow-up (15.33), remaining in the severe range. The stress category decreased from post-assessment (24.33) to follow-up (19.67), remaining in the severe range.

FFMQ

Follow-up was not conducted for the FFMQ, as scores in each of the 5 categories did not display an increase from pre-assessment to post-assessment.

Intervention Results for Each Participant

Participant 1

Participant 1’s DASS-21 results indicated that his depression and stress increased from pre-treatment to post-treatment, but remained the same level for anxiety. Participant 1 increased in the depression category from post-treatment to follow-up, but decreased in the stress category from post-treatment to follow-up. Participant 1 neither increased or decreased his reported levels of anxiety at pre-assessment, post-assessment, and follow-up (see Figure 2 for the DASS-21 graph; see Appendix F for the Participant Assessment Table). Participant 1 was the extremely severe range at follow-up for the depression and anxiety categories, but was in the moderate range for the stress category of the DASS-21.

![Graph](image)

**Figure 2.** The pre, post, and follow-up DASS-21 assessment scores for Participant 1.

Participant 1’s FFMQ scores indicated that his mindfulness decreased from pre-to-post assessment in all categories except for the category nonreacting, which demonstrated an increase in mindfulness (see Figure 3 for the FFMQ graph; see Appendix F for the Participant Assessment Table).
GROUP CBT TO DECREASE ANXIETY

Figure 3. The pre and post FFMQ assessment scores for Participant 1.

Participant 1’s self-reported anxiety scores decreased from pre-session rating to post-session rating each week, with the exception of week 8 where his anxiety level increased post-session (see figure 4 for the Weekly Anxiety Rating graph).

Figure 4. The weekly pre-session and post-session anxiety rating scores for Participant 1.

Participant 1 attended 8 out of the 10 CBT sessions and completed 6 out of the 8 anxiety self-rating assessments (see Appendix G for the Participant Attendance Table).

Participant 2

Participant 2’s DASS-21 results indicated that his depression, anxiety, and stress increased from pre-treatment to post-treatment. However, Participant 2 decreased in the depression, anxiety, and stress categories from post-treatment to follow-up (see figure 5 for the DASS-21 graph; see Appendix F for the Participant Assessment Table). Participant 2 was in the moderate range at follow-up for all three categories of the DASS-21.
Figure 5. The pre, post, and follow-up DASS-21 assessment for scores for Participant 2.

Participant 2’s FFMQ scores indicated that his mindfulness increased from pre-to-post assessment in all categories except for the category describing, which demonstrated a decrease in mindfulness (see Figure 6 for the FFMQ graph; see Appendix F for the Participant Assessment Table).

Figure 6. The pre and post FFMQ assessment scores for Participant 2.

Participant 2’s self-reported anxiety scores decreased from pre-session rating to post-session rating each week, with the exception of week 7 and week 10 where her anxiety neither increased nor decreased (see Figure 7 for the Weekly Anxiety Rating graph).
Participant 2 attended 9 out of the 10 CBT sessions and completed all 8 of the anxiety self-rating assessments (see Appendix G for the Participant Attendance Table).

**Participant 3**

Participant 3’s DASS-21 results indicated that his depression and stress increased from pre-treatment to post-treatment, but his anxiety decreased from pre-treatment to post-treatment. Participant 3 decreased in all three categories from post-treatment to follow-up (see Figure 8 for the DASS-21 graph; see Appendix F for the Participant Assessment Table). At follow-up, Participant 3 was in the extremely severe range for the depression category, moderate range for anxiety, and normal range for stress of the DASS-21.

**Figure 8.** The pre, post, and follow-up DASS-21 assessment for scores for Participant 3.

Participant 3’s FFMQ scores indicated that his mindfulness increased from pre-treatment to post-treatment in the categories observing and nonreacting, and decreased in the categories acting with awareness (act/aware) and nonjudging (see Figure 9 for the FFMQ graph; see Appendix F for the Participant Assessment Table).
Figure 9. The pre and post FFMQ assessment scores for Participant 3.

Participant 3’s self-reported anxiety scores decreased from pre-session rating to post-session rating each week, with the exception of week 3 and 9 where his anxiety rating increased post-session (see Figure 10 for the Weekly Anxiety Rating graph). A score was not collected during week 4, as the participant was absent.

Figure 10. The weekly pre-session and post-session anxiety rating scores for Participant 3.

Participant 3 attended 9 out of the 10 CBT sessions and completed 7 out of the 8 anxiety self-rating assessments (see Appendix G for the Participant Attendance Table).

Participant 4

Participant 4’s DASS-21 results indicated that his depression, anxiety, and stress decreased from pre-treatment to post-treatment. His level of anxiety displayed decreased levels from post-treatment to follow-up, however, levels of depression and stress increased from post-treatment to follow-up (see Figure 11 for the DASS-21 graph; see Appendix F for the Participant Assessment Table). At follow-up, Participant 4 was in the mild range for the depression category, and in the moderate range for anxiety and stress categories of the DASS-21.
Figure 11. The pre, post, and follow-up DASS-21 assessment for scores for Participant 4.

Participant 4’s FFMQ scores indicated that his mindfulness increased from pre-treatment to post-treatment in the categories describing and nonjudging, and decreased in the categories observing, acting with awareness (act/aware), and nonreacting (see Figure 12 for the FFMQ graph; see Appendix F for the Participant Assessment Table).

Figure 12. The pre and post FFMQ assessment scores for Participant 4.

Participant 4’s self-reported anxiety scores decreased from pre-session rating to post-session rating during week 5 and 9, increased from pre-session to post-session week 3 and 7, and neither increased nor decreased during week 6, 8, and 10 (see Figure 13 for the Weekly Anxiety Rating graph).

A score was not collected during week 4, as the participant was absent.
Participant 4 attended 9 out of the 10 CBT sessions and completed 7 out of the 8 anxiety self-rating assessments (see Appendix G for the Participant Attendance Table).

**Participant 5**

Participant 5’s DASS-21 results indicated that his depression, anxiety, and stress decreased from pre-treatment to post-treatment. His level of anxiety displayed decreased levels from post-treatment to follow-up, however, levels of depression and stress increased from post-treatment to follow-up (see Figure 14 for the DASS-21 graph; see Appendix F for the Participant Assessment Table). At follow-up, Participant 5 was in the severe range for the depression category, and in the normal range for anxiety and stress categories of the DASS-21.

**Figure 13.** The weekly pre-session and post-session anxiety rating scores for Participant 4.

**Figure 14.** The pre, post, and follow-up DASS-21 assessment scores for Participant 5.

Participant 5’s FFMQ scores indicated that his mindfulness increased from pre-treatment to post-treatment in the categories acting with awareness (act/aware) and nonjudging, decreased in the categories observing and nonreacting, and remained the same level in the category describing (see Figure 15 for the FFMQ graph; see Appendix F for the Participant Assessment Table).
Figure 15. The pre and post FFMQ assessment scores for Participant 5.

Participant 5’s self-reported anxiety scores decreased from pre-session rating to post-session rating during week 3, 4, 5, and 8, and neither increased nor decreased during week 7, 9, and 10 (see Figure 16 for the Weekly Anxiety Rating graph). A score was not collected during week 6, as the participant was absent.

Figure 16. The weekly pre-session and post-session anxiety rating scores for Participant 5.

Participant 5 attended 9 out of the 10 CBT sessions and completed 7 out of the 8 anxiety self-rating assessments (see Appendix G for the Participant Attendance Table).

Participant 6

Participant 6’s DASS-21 results indicated that her depression, anxiety, and stress decreased from pre-treatment to post-treatment. Her level of stress displayed continuing decrease from post-treatment to follow-up, however, levels of depression and anxiety increased from post-treatment to follow-up (see Figure 17 for the DASS-21 graph; see Appendix F for the Participant Assessment Table). At follow-up, Participant 6 was in the severe range for the depression and stress categories, and in the extremely severe range for the anxiety category of the DASS-21.
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Figure 17. The pre, post, and follow up DASS-21 assessment scores for Participant 6.
FFMQ pre-, post-, and follow-up measures were unable to be obtained for participant 6.

Participant 6’s self-reported anxiety scores decreased from pre-session rating to post-session rating during week 3, 6, 7, and 10, and neither increased nor decreased during week 9 (see Figure 18 for the Weekly Anxiety Rating graph). A score was not collected during week 3, 5, and 8, as the participant was absent.

Figure 18. The weekly pre-session and post-session anxiety rating scores for Participant 6.

Participant 6 attended 7 out of the 10 CBT sessions and completed 5 out of the 8 anxiety self-rating assessments (see Appendix G for the Participant Attendance Table).
Chapter V: Conclusion and Discussion

The group mean of anxiety at post-assessment showed a statistically significant change indicating that as a group the participants decreased anxiety by increasing awareness, mindfulness, and coping strategies. It was hypothesized that the participants of the CBT group would increase the use of coping strategies, increase mindfulness, increase awareness and understanding of anxiety, and decrease symptoms of depression, anxiety, and stress. These were measured using three self-report measures – the DASS-21 and FFMQ.

The hypothesis was not supported as a group in all areas of assessment from pre-to-post assessment. However, the group mean of depression and stress did not display a statistically significant change from pre-to post assessments of the DASS-21. The results at follow-up were mixed as some participants showed a reversed effect from post-assessments to follow-up, while others continued to gain by increasing mindfulness and coping strategies, and further decreasing symptomology. For the FFMQ, participants’ levels of mindfulness did not increase or decrease from pre-to-post assessment.

Interpretation of Findings

According to the literature, CBT appears to be a suitable and effective treatment for individuals with anxiety experiencing symptomology. CBT has been used for reducing symptoms of anxiety and can improve overall quality of life (Hofmann, Wu & Boettcher, 2014). It is based on teaching people to recognize and modify maladaptive thought patterns to alleviate feelings of distress. This is accomplished by using various elements such as relaxation methods, mindfulness techniques, and psychoeducation. The results in this study show significant gains from pre-to-post assessment on the DASS-21 questionnaire in the anxiety category, but show insignificant gains regarding depression and stress. The results were also significant in the anxiety category from post-assessment to follow-up, but not significant for depression and stress.

The assessments used at pre, post, and follow-up examined any changes experienced by the participants during the study. The FFMQ did not reveal statistically significant increases in mindfulness throughout the intervention. The participants reported engaging in more mindful activities outside of the weekly sessions, but based on the data, this was not significant. The DASS-21 assessment had statistically significant results in one subcategory as a group mean from pre-to-post assessment indicating a reduction in anxiety, but no significant reduction in stress or depression. The DASS-21 depression category at pre-assessment was in the severe range and remained in the severe range throughout treatment for the six participants. The DASS-21 anxiety category at pre-assessment was in the extremely severe range, decreasing to the severe range at post-assessment and remained in the severe category at follow-up. The DASS-21 stress category began in the severe range at pre-assessment, decreasing to a moderate range at post-assessment and follow-up. These results reveal that reductions were made in regards to the participants’ symptomology.

Interpretation of Results and Relevance to Literature Review

The results of this study revealed similarities across approaches and results in comparison to the literature review. Byrne, Bond, and London (2013), stated that group mindfulness-based interventions encourage participants to become more aware of their bodily sensations, emotions, and thoughts in a non-judgmental and accepting manner – which was demonstrated through significant reductions in depression and anxiety. This study revealed similar results. The results of the current study indicated that participants who reported decreased levels of anxiety had also reported using more coping techniques outside of group sessions. According to the DASS-21,
more participants had decreases in anxiety compared to that of depression and stress symptomology. Participants reported to have been engaging in more mindfulness activities outside of group sessions, however, the FFMQ scores for all participants did not indicate significant gains in mindfulness throughout the 10-week intervention.

The study conducted by Gallegos, Lytle, Moynihan, and Talbot (2015) found that participation in MBSR is associated with significant decreases in stress, depression, anxiety, posttraumatic stress symptoms, and emotion dysregulation. This study had similar results – most significantly regarding the decrease in anxiety. A limitation to the study was that of only an eight-week study – similar to the current study. The Five-Facet Mindfulness Questionnaire was used as a self-report measure to assess mindfulness of participants throughout the intervention. Results indicated that results were significantly higher in each of the five mindfulness categories at time 2, 3 and 4, in comparison to baseline. The results of the study by Gallegos, Lytle, Moynihan, and Talbot (2015) were not similar to this current study in regards to the FFMQ scores increasing from pre-intervention to post-intervention.

The literature review and the current study revealed similar results, specifically with the use of mindfulness techniques to decrease anxiety. The literature review suggests a correlation between CBT and mindfulness techniques with decreased symptomology and increased psychological coping.

Strengths
The present study had a number of strengths that contributed to its success. This 10-week group offered was the first of its kind in the Trenton area. Self-help and skill-building groups had been conducted before in the area, but not specifically targeted at anxiety. Another strength was that the group was conducted at a community facility, which provided both accessibility and privacy. Another strength was that most of the participants were punctual and attended sessions regularly. Also, the participants had access to mental health services outside of the sessions as each individual was connected with a counsellor. This allowed for any additional learning and understanding of the material, as well as ongoing individual support. The participants completed satisfaction surveys post group, which indicated that they enjoyed the sessions and learned a lot of new, useful information, and would further recommend this group to friends and family. Lastly, another strength of this study was the use of assessments pre- and post-intervention to examine participants’ progress.

Limitations
The study did not have limitations worth noting. Firstly, the assessments used were all self-report measures. The data were dependent on what participants interpreted and believed their ratings should be. Secondly, the follow-up session was only two weeks following post-assessment, which does not leave much time in between assessments for participants display further gains from treatment.

Multilevel Challenges
Many challenges can arise when running a group intervention. Participants can lack motivation and attendance, and the effects of their mental health on their daily lives may not be understood. Participants could have a learning disability and completing self-report questionnaires could pose as difficulty or an inaccurate representation of symptoms or success. In this study, there are four levels of challenges: client, program agency, societal.

Client Level.
During this study, homework completion was difficult for participants to complete due to personal issues. This hindered the learning process and potential gains for certain participants as
following sessions can use homework as a reference. Participant 5 consistently did not complete homework due to his current diagnosis of bipolar disorder, which interfered with his ability to complete the homework.

**Program Level.**

The delivery of the material is difficult in a group setting, because when every individual has a unique and different way of learning and understanding material. This made it difficult to move onto a new topic, as some participants were requiring material to be repeated in multiple ways to optimal understanding. This can be time consuming and hinder the process of the group for the remaining individuals. The delivery of the material was altered and repeated at times in order to meet the needs of all the participants in the group.

**Agency Level.**

The location of the room in which the sessions took place was not in an ideal area. The board room that was available was at the community health centre and this centre is very busy throughout the day. This made privacy difficult during group and staff members at the health centre would walk in the room during a session and choice to ignore the ‘session in progress’ sign. This continued throughout treatment and participants began to feel uneasy about sharing and this did not contribute to a safe, secure environment.

**Societal Level.**

Many individuals that suffer from mental health challenges do not want others to know of their diagnoses, if any. The stigma of mental health still exists today and can hinder an individual’s growth. People do not want to be identified as having a mental health problems and many people are hesitant to treatment because of this.

**Conclusion**

The study had many successes from pre-to-post assessment and further to follow-up, including significant reductions in anxiety. Participants shared that they enjoyed the group and felt they benefitted from the material covered in treatment and the data suggests that the participants made changes in their lives throughout treatment. Support was in place for these individuals in order to make changes in their lives, and continuing support should be in place in order to further aid in their success.

The group satisfied the agency and it is likely to be continued in the future. The agency has the materials in order to conduct the group again in the future, if decided. More research should be conducted to further evaluate the effectiveness of this treatment option.
References


Appendix A:
REB Letter of Approval

Research Ethics Board Members
Allison Tucker (Chair)
Jill Jerina
Lavanya Verma
Marie-Lise Belanger
Christian Keresztes
James Morris-Popock
Maia Othman
Jody Bouke-Marleau

October 5, 2015
Jessica Elvins
340 Glennelm Rd
Roblin, ON, KOK 2W0

SLC REB Reference Number: 2015-REC-10
Project Title: Group Cognitive Behavioural Therapy With Adult Mental Health Patients to Decrease Anxiety

Dear Jessica:

I am writing to advise you that the Research Ethics Committee — Psychology (REC-P), a subcommittee of the Research Ethics Board (fREB) of St. Lawrence College, has granted Approval to the above-named research study. Your research may now begin.

You have one year to complete the project from the time of approval. Should you require more time to complete your project, you will be required to submit a request for ongoing ethics approval for your project. This must be submitted prior to REB approval expiry.

Please review St. Lawrence College's Policy on Research Integrity, which is attached for your convenience. You are obligated to keep your files up to date and inform the REB of any changes to your study. Any changes to the approved protocol or consent materials must be reviewed and approved through the amendment process prior to its implementation. Both a Request for Amendment of an Approved Project form and a revised application must be submitted to the research office for review by the REB.

Any adverse or unanticipated events during the course of your research must be reported to the REB as soon as possible. The REB reserves the right to review your file at any time to ensure that research is being conducted in accordance with all SLC policies.

Once your project is complete, you are required to complete a Project Termination form (included with REC-P approval documents). This form must be submitted as a final report about your research to the REB.

Best wishes for the successful completion of your project.

Best Regards,
Allison Tucker
Chair, Research Ethics Board

cc. Cam McEachern, Director, Research
Christian Keresztes, faculty supervisor
Appendix B: Informed Consent

**Project title:** Cognitive Behavioural Education With Adult Mental Health Clients to Decrease Symptoms of Anxiety

**Principal Investigator:** Jessica Elvins  
**Name of Agency Supervisor:** Michelle Alton  
**Name of Supervisor:** Christian Keresztes  
**Name of Institution:** St. Lawrence College  
**Name of Institution/Agency:** Addictions and Mental Health Services

**Invitation**
You are being invited to take part in a research study. I am a student in my 4th year of the Behavioural Psychology program at St. Lawrence College. I am currently on placement at Addictions and Mental Health Services. As a part of this placement, I am completing a research project. I would like to ask you for your help to complete this project. The information and data collected will only be used for the purpose of this research project. The information in this form will help you understand my project. Please read the information carefully and ask all the questions you might have before you decide if you want to take part. Your choice of whether or not you take part in the research study has no effect on the services that you will receive at Addictions and Mental Health Services.

**Why is this research being done?**
This project uses cognitive behavioural education to help with both understanding and coping with levels of anxiety. It will involve relaxation methods, mindfulness techniques, and grounding tools to further access healthy coping strategies. Relaxation consists of controlled relaxation of various muscles in the body and controlled deep breathing from experiencing stress. Mindfulness techniques involve paying attention on purpose, in the current moment. This allows the mind to focus on the activity or object presented without focusing on intruding thoughts. Anxiety education consists of techniques to understand why anxiety exists, patterns of thought and stress, and what methods can be used to cope with feelings of distress associated with anxiety. We believe this program will be helpful by providing individuals with tools and education to manage their anxiety levels.

**What will you need to do if you take part?**
If you choose to take part in the study you will take part in 10 sessions. The sessions will be held on Thursdays in the boardroom at the Community Health Centre (CHC) in Trenton, and last about 2 hours. A supervising mental health counsellor and myself will run the session through Mental Health Services. At the first session, before you start the program, you will be asked to fill out two surveys that will take about 10-15 minutes to complete. The surveys will be questions about anxiety and you will be asked to rate your answer to the questions. This survey will give the supervisor and myself an understanding of where your anxiety level is before the sessions begin. This will be done again during the final session and at one week after the end of the group. During the sessions you will be encouraged to complete relaxation activities, such as deep breathing; engage in mindfulness techniques, such as focusing on the environment around
you using your five senses; and to understand more about your anxiety, with the use of thought records, that are tools for anxiety relief. The activities are meant to be calming, but if you feel the activity makes you uncomfortable, you do not have to partake in it.

**What are the potential benefits of taking part?**
The potential benefits of participating in this study include learning about anxiety and why it occurs, your thought processes, how to effectively use relaxation techniques outside of sessions, and having less intense feelings of anxiety. Also, a group atmosphere helps develop a support network with others who are dealing with similar stressors.

**What are the potential disadvantages or risks of taking part?**
The potential disadvantages of participating in this project may trigger emotion and/or increased levels of anxiety due to the questions that may be asked during the sessions. Certain questions, statements, or worksheets that involve deeper thought, could bring on feelings of emotion or discomfort. If this situation arises, a counsellor will be present for support.

**What happens if I change my mind about participating?**
Everybody is different and if you do have any strong feelings during the program or questionnaires, you may talk to me, or talk to the lead counsellor, Michelle Alton. If your reactions are strong or you feel upset and wish to not continue with the program, you are able to discontinue the research/group at any time.

**Will my information you collect from me in this project be kept private?**
Any information that identifies you will be kept private. The consent forms and completed questionnaires will be kept in a password-protected file on a secure, password-protected computer, and in a secure filing cabinet. The consent and questionnaires will be kept for 10 years at Mental Health Services, after which they will be destroyed. This will be done with the use of a paper shredder. Your name or other identifiers will not be used in any reports, publications, or presentations resulting from this study. We will make every attempt to keep any information that identifies you strictly confidential unless required by law. The purpose of gathering your information is for learning only and personal information will not be shared.

**Do you have to take part?**
Taking part is voluntary. It is up to you to decide whether or not to take part in this research project. 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 experiencing any penalty, or negative effects. In doing so, you are able to continue participating in the group after withdrawing your information from being used in the study. Participating in the research does not affect the benefits of attending the group. If you decide to stop attending the group, please speak to my supervisor, Michelle Alton, or myself. If you choose not to take part in the group sessions, you can still continue to use the services at the mental health facility and/or other service care providers. If you choose to withdraw from the group sessions, you can ask that your data not be used in the report if you wish.
Contact for further information
The Research Ethics Board at St. Lawrence College has reviewed this project. This project will be developed under the supervision of Christian Keresztes, my supervisor from St. Lawrence College and Michelle Alton, my agency supervisor at Mental Health Services. I appreciate your cooperation and if you have any additional questions or concerns, feel free to ask me, jelvins06@sl.on.ca. You can also contact my college supervisor, ckeres@kingston.net or you may contact the St. Lawrence College Ethics Board at reb@sl.on.ca

Consent
If you agree to take part in this research project, please fill out 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. An extra copy of your consent will be retained at the agency and in a secure location at St. Lawrence College.

By signing this form, I agree that:

✓ The study has been explained to me.
✓ All of my questions were answered.
✓ Possible harm and possible benefits (if any) of this study have been explained to me.
✓ I understand that I do not have to participate and I can 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 private.
✓ I understand that no information that would identify me will be used or printed without asking me first.
✓ I understand that I will receive a signed copy of this consent form.
✓ I understand that the 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.

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Signature of Participant</th>
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<tr>
<th>Student Printed Name</th>
<th>Signature of Student</th>
<th>Date</th>
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Appendix C:
Depression Anxiety Stress Scale (DASS) Assessment

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<tr>
<th>DASS21</th>
<th>Name:</th>
<th>Date:</th>
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Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

*The rating scale is as follows:*

0  Did not apply to me at all
1  Applied to me to some degree, or some of the time
2  Applied to me to a considerable degree, or a good part of the time
3  Applied to me very much, or most of the time

<table>
<thead>
<tr>
<th>Statement</th>
<th>0</th>
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<tbody>
<tr>
<td>1  I found it hard to wind down</td>
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<td>2  I was aware of dryness of my mouth</td>
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<td>3  I couldn't seem to experience any positive feeling at all</td>
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<td>4  I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)</td>
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<td>5  I found it difficult to work up the initiative to do things</td>
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<td>6  I tended to over-react to situations</td>
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<td>7  I experienced trembling (eg, in the hands)</td>
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<td>8  I felt that I was using a lot of nervous energy</td>
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<td>9  I was worried about situations in which I might panic and make a fool of myself</td>
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<td>10  I felt that I had nothing to look forward to</td>
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<td>11  I found myself getting agitated</td>
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<td>12  I found it difficult to relax</td>
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<td>13  I felt down-hearted and blue</td>
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<tr>
<td>14  I was intolerant of anything that kept me from getting on with what I was doing</td>
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<td>15  I felt I was close to panic</td>
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<td>16  I was unable to become enthusiastic about anything</td>
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<td>17  I felt I wasn't worth much as a person</td>
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<td>18  I felt that I was rather touchy</td>
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<td>19  I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)</td>
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<td>20  I felt scared without any good reason</td>
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<td>21  I felt that life was meaningless</td>
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### Appendix D:
Five-Facet Mindfulness Questionnaire (FFMQ) Assessment

<table>
<thead>
<tr>
<th>FFQM 1</th>
<th>When I'm walking, I deliberately notice the sensations of my body moving. (OBS)</th>
<th>Never or very rarely true</th>
<th>Rarely true</th>
<th>Sometimes true</th>
<th>Often true</th>
<th>Very often or always true</th>
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</thead>
<tbody>
<tr>
<td>FFQM 2</td>
<td>I'm good at finding words to describe my feelings. (D)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 3</td>
<td>I criticize myself for having irrational or inappropriate emotions. (NJ-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 4</td>
<td>I perceive my feelings and emotions without having to react to them. (NR)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 5</td>
<td>When I do things, my mind wanders off and I'm easily distracted. (AA-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 6</td>
<td>When I take a shower or bath, I stay alert to the sensations of water on my body. (OBS)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 7</td>
<td>I can easily put my beliefs, opinions, and expectations into words. (D)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 8</td>
<td>I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted. (AA-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<td>FFQM 9</td>
<td>I watch my feelings without getting lost in them. (NR)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 10</td>
<td>I tell myself I shouldn't be feeling the way I'm feeling. (NJ-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 11</td>
<td>I notice how foods and drinks affect my thoughts, bodily sensations, and emotions. (OBS)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 12</td>
<td>It's hard for me to find the words to describe what I'm thinking. (D-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 13</td>
<td>I am easily distracted. (AA-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 14</td>
<td>I believe some of my thoughts are abnormal or bad and I shouldn't think that way. (NJ-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<td>FFQM 15</td>
<td>I pay attention to sensations, such as the wind in my hair or sun on my face. (OBS)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 16</td>
<td>I have trouble thinking of the right words to express how I feel about things. (D-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<tr>
<td>FFQM 17</td>
<td>I make judgments about whether my thoughts are good or bad. (NJ-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<td>FFQM 18</td>
<td>I find it difficult to stay focused on what's happening in the present. (AA-R)</td>
<td>Never or very rarely true</td>
<td>Rarely true</td>
<td>Sometimes true</td>
<td>Often true</td>
<td>Very often or always true</td>
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<td>FFQM 19</td>
<td>When I have distressing thoughts or images, I &quot;step back&quot; and am aware of the thought or image without getting taken over by it. (NR)</td>
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<td>FFQM 20</td>
<td>I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing. (OBS)</td>
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<td>FFQM 21</td>
<td>In difficult situations, I can pause without immediately reacting. (NR)</td>
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<td>FFQM 22</td>
<td>When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words. (D-R)</td>
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<td>FFQM 23</td>
<td>It seems I am &quot;running on automatic&quot; without much awareness of what I'm doing. (AA-R)</td>
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<tr>
<td>FFQM 24</td>
<td>When I have distressing thoughts or images, I feel calm soon after. (NR)</td>
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<tr>
<td>FFQM 25</td>
<td>I tell myself that I shouldn't be thinking the way I'm thinking. (NJ-R)</td>
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<tr>
<td>FFQM 26</td>
<td>I notice the smells and aromas of things. (OBS)</td>
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<tr>
<td>FFQM 27</td>
<td>Even when I'm feeling terribly upset, I can find a way to put it into words. (D)</td>
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<tr>
<td>FFQM 28</td>
<td>I rush through activities without being really attentive to them. (AA-R)</td>
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<tr>
<td>FFQM 29</td>
<td>When I have distressing thoughts or images, I am able just to notice them without reacting. (NR)</td>
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<tr>
<td>FFQM 30</td>
<td>I think some of my emotions are bad or inappropriate and I shouldn't feel them. (NJ-R)</td>
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<tr>
<td>FFQM 31</td>
<td>I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow. (OBS)</td>
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<tr>
<td>FFQM 32</td>
<td>My natural tendency is to put my experiences into words. (D)</td>
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<tr>
<td>FFQM 33</td>
<td>When I have distressing thoughts or images, I just notice them and let them go. (NR)</td>
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<tr>
<td>FFQM 34</td>
<td>I do jobs or tasks automatically without being aware of what I'm doing. (AA-R)</td>
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<tr>
<td>FFQM 35</td>
<td>When I have distressing thoughts or images, I judge myself as good or bad depending what the thought or image is about. (NJ-R)</td>
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<tr>
<td>FFQM 36</td>
<td>I pay attention to how my emotions affect my thoughts and behavior. OBS</td>
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### GROUP CBT TO DECREASE ANXIETY

<table>
<thead>
<tr>
<th>FFQM 37</th>
<th>I can usually describe how I feel at the moment in considerable detail. (D)</th>
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<tbody>
<tr>
<td>FFQM 38</td>
<td>I find myself doing things without paying attention. (AA-R)</td>
</tr>
<tr>
<td>FFQM 39</td>
<td>I disapprove of myself when I have irrational ideas. (NJ-R)</td>
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</table>

<table>
<thead>
<tr>
<th>Never or very rarely true</th>
<th>Rarely true</th>
<th>Sometimes true</th>
<th>Often true</th>
<th>Very often or always true</th>
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**Scoring:**
(Note: R = reverse-scored item)

<table>
<thead>
<tr>
<th>Subscale Directions</th>
<th>Your Score TOTAL</th>
<th>Your score item Avg.</th>
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<tbody>
<tr>
<td>Observing: Sum items</td>
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<tr>
<td>1 + 6 + 11 + 15 + 20 + 26 + 31 + 36</td>
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<tr>
<td>Describing: Sum items</td>
<td></td>
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<tr>
<td>2 + 7 + 12R + 16R + 22R + 27 + 32 + 37</td>
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<tr>
<td>Acting with Awareness: Sum items</td>
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<td>5R + 8R + 13R + 18R + 23R + 28R + 34R + 38R</td>
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<tr>
<td>Nonjudging of inner experience: Sum items 3R + 10R + 14R + 17R + 25R + 30R + 35R + 39R</td>
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<tr>
<td>Nonreactivity to inner experience: Sum items 4 + 9 + 19 + 21 + 24 + 29 + 33</td>
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<tr>
<td>TOTAL FFMQ (add subscale scores)</td>
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**NOTE:** Some researchers divide the total in each category by the number of items in that category to get an average category score. The Total FFMQ can be divided by 39 to get an average item score.

Appendix E: 
Facilitator Manual

Generalized Anxiety and Mindfulness: 
CBT-Based Group Counselling Manual

Used by: Jessica Elvins and Michelle Alton

Created by: Lisa Saulsman, Paula Nathan, Louella Lim, Helen Correia, Rebecca Anderson, and Bruce Campbell (2015)

The procedures in this manual are for staff or clients.
Letter to Future Facilitators

Dear Facilitator(s):

This group was created to educate individuals about generalized anxiety and provide the necessary tools to cope with ongoing worry. The sessions were designed to assist individuals experiencing anxiety, but the material would likely work with any diagnoses. It is the symptomology and behaviours that determine the useful of the coping strategies. When individuals are experiencing overwhelming emotions such as low mood, negative self-talk, stress, no motivation, and worry, CBT-based approaches can assist individuals to increase their coping strategies.

The Research Ethics Board approved the study and session design. Exercises and material was added or changed on a weekly basis in order to meet the needs of the participants and instil the most stimulation. Material can be altered in the future to meet the needs of the participants, however, the main components of the modules should be addressed in order to increase understanding and success. Regular homework is also important to include as reading and practicing exercises between sessions makes material easier to understand and useful in future coping.

Additional resources could be useful for the group implementation and are encouraged to be used in order to better meet the diverse needs of clients. Please feel free to contact me with questions or concerns at jelvins06@sl.on.ca

Regards,

Jessica Elvins, BAA Behavioural Psychology
Introduction

Individuals dealing with mental health concerns experience various challenges that can impact and impair daily functioning and further impact quality of life. Mental illnesses are characterized by changes in thinking, mood, or behaviour associated with significant distress and impaired functioning. Individuals dealing with a mental illness can experience interference with quality of life, inability to perform daily tasks and/or functioning, and strained social relationships. Individuals facing these challenges can experience eating and sleeping problems, relationship issues, social isolation, suicidal ideation, and low motivation. Many individuals are suffering with some form of mental illness, and knowing this, there is an increasing need for mental health services to address individual needs, support, and therapy to help manage their mental health. Such therapies are designed to address mental health symptoms and coping strategies to increase awareness and psychological well-being.

Support and skill building is offered to individuals experiencing mental illness or challenges, to assist with symptom management and coping. CBT is a traditional method of therapy that entails challenging negative automatic thoughts and working to restructure such pervasive thoughts. Cognitive-behavioural therapy (CBT) has been used for reducing symptoms of anxiety and can improve overall quality of life (Hofmann, Wu & Boettcher, 2014). It is based on teaching people to recognize and modify maladaptive thought patterns to alleviate feelings of distress. CBT-based therapy group has the potential to aid adults with mental health symptoms, specifically to decrease anxiety. These processes can assist individuals to achieve their desired goals and improve their quality of life.

Materials Needed for Implementation

Sessions 1-10:

- Flipchart and markers
- Pens and paper for participants to use
- Extra copies (3-5) of worksheets for each session (originals included in modules 1-10)

Exceptions:

Session 4:
- Flipchart and markers
- Pens and paper for participants to use
- Relaxation music (YouTube)
- Hershey Kisses chocolates and/or regular mints (mindfulness exercise)

Session 10:
- Flipchart and markers
- Pens and paper for participants to use
- Celebratory food (chocolate bites, popcorn, etc.) and drinks (coffee).
- Certificates of therapy/course completion (optional)
- Mindfulness “toolbox” (inspirational quotes, healthy “mood” foods handout, local resources for mental health, extra worksheets)
Session 1

Module 1: Overview of Generalized Anxiety

1. Introductions:

   Facilitators and clients. Go around the table and ask each person to share why they chose to join this group, what they want to get out of the group, and something special about them. Discuss commonalities among group members, if possible, to encourage sharing and build comfort among the group.

2. Understanding Anxiety/Generalized Anxiety

   Explain to group what anxiety is, what it entails (symptoms), and how it effects people. Different types of anxiety are to be discussed, such as fear compared to generalized anxiety, and noting what characteristics are contributed to generalized anxiety. Fear describes intense anxiety to an immediate situation and generalized anxiety builds up more gradually than a fear and is often long-lasting. Normal anxiety can become a problem when it is: excessive, feels uncontrollable, intrusive, persistent, and causes significant distress (Saulsman, et al., 2015).

3. What Causes Generalized Anxiety?

   Explain how biological factors (genetics, heredity) can increase the likelihood of developing generalized anxiety and can create higher vulnerability to such mental health issues in susceptible individuals. Explain how psychological factors (lifestyle, stressors, coping styles, life events, etc.) can contribute to the development of generalized anxiety, and when it is believed that life is uncontrollable and a dangerous place, worrying about future events can become a way to cope with the uncertainty of life. Achieving a sense of certainty in this manner can create a false sense of certainty due to the unpredictability of life and future outcomes.
Session 2

Module 2: Overview of Worrying

1. Understanding Worrying

Explain how worrying is a central feature of generalized anxiety and how it is commonly thought of as problem-solving. Worrying entails mentally discussing an event with ourselves, repeatedly, in attempt to predict what could happen and what to do if such a thing does occur (Saulsman et al., 2015). Worrying is mentioned as a repetitive negative thinking style that has a circular quality to it when the same thoughts are repeated and increase feelings of anxiety.

   a. Participant exercise: What are some “what if” thoughts you ask yourself currently (internal/external things to worry about)? E.g. “What if I can’t get to my appointment on time?”, “What if I fail my exam?”, What if I get anxious during my interview?”

   b. Participant exercise: After the initial “what if” thought, list some thoughts that follow (this demonstrates a worry chain).

*Take up the answers with the group if participants are willing to share their answers. This can generate a discussion and highlight group commonalities.*

2. What Triggers Worrying?

Worrying can be triggered by both internal and external events (E.g. viewing image on T.V., being put in a stressful situation and having to perform a task, thinking about forgetting to lock the front door).
GROUP CBT TO DECREASE ANXIETY

a. Participant exercise: What are some external images or situations, or “what if” thoughts that have triggered worrying for you?

Take up the answers with the group if participants are willing to share their answers. This can generate a discussion and highlight group commonalities.

3. What Maintains Worrying?

Explain what factors typically maintain worrying: 1) unhelpful beliefs about worrying (believing worrying helps solve problems and prevents bad things from happening), 2) unhelpful attention (focused on future rather than on the task at hand; negative thoughts receive attention), and 3) unhelpful strategies (suppressing worries, reason with worrisome thoughts, substance use, reassurance from others, etc.).

a. Participant exercise: What are some negative beliefs that you hold about worrying?

(Disadvantages of worrying, worrying is uncontrollable)

b. Participant exercise: What ways (mentally or behaviourally) do you try to stop your worries?

Take up the answers with the group if participants are willing to share their answers. This can generate a discussion and highlight group commonalities.

4. Vicious Cycle of Worry

Summarize beliefs about worrying, creating unhelpful attention, feeling uncontrollable, and unhelpful strategies.

This summary is referred to as: “The Worry Flower” which displays the vicious cycle of worry. This exercise can be retrieved from:

Session 3

Module 3: Negative Beliefs About Worrying: “Worrying is Uncontrollable”

1. Changing Your Belief

   a. Participant exercise: How much do you believe your worrying is uncontrollable? (Rate 0-100%).

2. Challenging Your Belief

   a. Participant exercise: Evidence for and against the belief: “my worrying is uncontrollable” (E.g. evidence for: worrying is uncontrollable because once I start I think about something all day; evidence against: worrying can be stopped when I distract myself with other activities).

   Take up the answers with the group if participants are willing to share their answers. This can generate a discussion and highlight group commonalities.

3. Experimenting With Your Belief

   a. Participant exercise: Postponement experiment – worksheet assigned as homework. Used to practice putting worry on hold and coming back to the intrusive thought at a later time. This exercise can be retrieved from:

Session 4

Module 4: Attention Training

1. Exercising Your Attention

Introduce importance present-moment thinking and how worrisome thoughts can create future-oriented thinking. Redirecting attention can allow your mind and body to focus on and enjoy the task at hand.

2. Task Focusing

   a. Participant exercise: Write down everyday routine tasks you could use to exercise your attention (E.g. doing the dishes, gardening, brushing teeth, walking, etc.). Choose one task and notice the following: touch, sight, hearing, smell, taste. Record on a sheet of paper what you experienced relevant to the 5 senses listed. This task is assigned as homework. This exercise can be retrieved from:


3. Meditation

   a. Participant exercise – Attention training diary. This worksheet is used to record when attention training is completed and the duration of the activity (E.g. meditation for 20 minutes or task focusing during dishes for 10 minutes). This task is assigned as homework. This exercise can be retrieved from:


b. Participant exercise: Group mindful meditation. Use a relaxation track of your preference from YouTube (3-5 minutes in length) and use Beach Visualization Relaxation script. This can be retrieved from: Inner Health Studio. (2015). Retrieved from: http://www.innerhealthstudio.com/visualization-relaxation.html

Session 5

Module 5: Negative Beliefs About Worrying: “Worrying is Dangerous”

1. Changing Your Belief
   a. Participant exercise: How much do you believe worrying is dangerous? (Rate 0-100%)

2. Challenging Your Belief
   a. Participant exercise: Evidence for and against the belief: “my worrying is dangerous” (E.g. evidence for: worrying is dangerous or harmful to me because when I worry a lot I get a cold, so worrying must be bad for my health; evidence against: when it comes to my health, making positive changes to my diet, exercise and lifestyle might be more important to focus my energy on).

   *Take up the answers with the group if participants are willing to share their answers. This can generate a discussion and highlight group commonalities.*

   This exercise can be retrieved from:

3. Factual Evidence
   Explain that spending excessive amounts of time researching one’s worries about health or other concerns can be unhelpful as it preoccupies one’s thoughts with more worry. The
information that could be gathered may not always be reputable or accurate. Reading mixed results can be confusing and potentially dangerous when making decisions about one’s health when the information is not reliable or factual.

Session 6

Module 6: Positive Beliefs About Worrying

1. Changing Your Beliefs

   a. Participant exercise: How much do you believe worrying is helpful? (Rate 0-100%)

2. Challenging Your Beliefs

   a. Participant exercise: Evidence for and against the belief: “my worrying is helpful”
      (E.g. evidence for: worrying is helpful because it prepares me so that if bad things happen I can cope better; evidence against: it isn’t the worrying that helps me, but problem solving and taking action).

   Take up the answers with the group if participants are willing to share their answers. This can generate a discussion and highlight group commonalities.

   This exercise can be retrieved from:


   b. Participant exercise: Worries vs. facts exercise: pick a situation that worried you and write down details about what you thought would happen and compare it to what actually happened.

   Take up the answers with the group if participants are willing to share their answers. This can generate a discussion and highlight group commonalities.
This exercise can be retrieved from:


3. **Experimenting With Your Beliefs**

   a. Participant exercise: Worry experiment: Increase the amount of worry one day and alternate to not worrying about anything the next day. This alternates for seven days to note the advantages and disadvantages of worrying excessively and not worrying at all.

   *This exercise can be completed as homework as it requires more time to complete.*

This exercise can be retrieved from:


**Session 7**

**Module 7: Problem-Solving**

1. **Worrying vs. Problem Solving**

   Explain that worrying is a negative thought process that causes individuals to become anxious. Mention that this causes one’s thoughts to dwell on fear. Problem solving is a constructive thought process and effectively deals with a problem.

2. **Preparing for Problem Solving**

   Mention how to set up problem solving by: leaving it to ‘thinking time’, dealing with one problem at a time, and using paper.
a. Participant exercise: Solvable worries vs. unsolvable worries. List some worries believed to be unsolvable and solvable. This activity compares and lists things one may worry about that are current problems to be solved, compared to those that cannot be solved. E.g. solvable worry – I have too many tasks to finish at work and home by the end of the week; unsolvable worry – there could be a terrorist attack.

_Take up the answers with the group if participants are willing to share their answers. This can generate a discussion and highlight group commonalities._

This exercise can be retrieved from:

3. How to Solve Problems

List and explain each of the steps of how to effectively solve a problem: identify/define the problem, generate possible solutions/options, evaluate alternatives, decide on a plan, implement the plan, and evaluate the outcome.

a. Participant exercise: Problem solving: choose a current worry or past problem that could be solved using the template. Using the 6 steps to solve a problem, fill out each section in relationship to the problem you chose to work through.

_This exercise can be completed as homework as it requires more time to complete._

This exercise can be retrieved from:
Session 8

Module 8: Helpful Thinking

1. The Thinking-Feeling Connection

   Explain the idea that one’s thoughts can impact and alter one’s emotions, behaviour, and physical sensations. For instance, when thinking negatively for a long period of time, emotions like anxiety may result, and unpleasant physical sensations may be experienced and avoidance of certain things could occur because of this.

2. When to Use Helpful Thinking

   Address that helping thinking is useful when a worry emerges, but postponement as a strategy is the best way of responding to the worry in the moment. Use helpful thinking at a later time. Most people tend to not do their “best thinking” in the moment when a worry pops up and emotions are high.

3. Helpful Thinking Diary

   Introduce the helpful thinking diary as a guide to developing more helpful ways of thinking.

   a. Participant exercise: Helpful thinking diary. Write down what you are worrying about and list some of the associated worrisome thoughts. Now, ask yourself: what am I predicting? How much do I believe it will happen (0-100%)? What emotions am I feeling? What is the worst that could happen? What is the best that could happen?

   *This exercise can be completed as homework as it requires more time to complete.*

   This exercise can be retrieved from:
1. **Intolerance of Uncertainty**

   Explain that the attitude of being unable to tolerate uncertainty causes uncertainty, unpredictability, and doubt, to be viewed as awful and unbearable experiences that must be avoided.

   a. Participant exercise: Challenging intolerance of uncertainty. This exercise is used to examine your intolerance of uncertainty and question your need for certainty.  

   *Take up the answers with the group if participants are willing to share their answers. This can generate a discussion and highlight group commonalities.*

   This exercise can be retrieved from:


2. **Accepting Uncertainty**

   Explain the first step to accepting uncertainty is to recognize when the need for certainty occurs. This further involves making the active choice to not respond, and to instead let go and accept uncertainty by refocusing attention to the present moment rather than future focused.
a. Participant exercise: Accepting uncertainty. This exercise is a guide towards accepting uncertainty and asks you questions such as: what do you notice yourself doing when you need certainty? What can you tell yourself to help you not respond to your need for certainty?

*This exercise can be completed as homework as it requires more time to complete.*

This exercise can be retrieved from:


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**Session 10**

**Module 10: Self-Management**

1. **Summary of Strategies**

   Revisit each of the strategies covered in previous sessions: positive and negative beliefs about worrying, postponement strategies, attention training, problem solving, helpful thinking, accepting uncertainty, task focusing, and meditation.

2. **Worry Flow Chart**

   Briefly go over the flow chart that represents how an individual can now respond to their negative ‘what if’ thoughts using the new strategies learned.

3. **Maintaining Gains**

   Address the importance of maintaining gains and progress after completing each of the sessions. It is challenging to alter old habits, but practice, encouragement, and maintenance will help to extend these skills and ultimately reach one’s goals.

   a. Participant exercise: Self-management plan. Use this template to fill out things that are important to you under the headings of your choice. This exercise is meant to make you more
aware of what helps you feel well and healthy, both physically and psychologically. E.g. under
the heading self-care: “I will grocery shop every week and follow a healthy well balanced diet”
### Appendix F:
Participant Assessment Table

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<th>Participant</th>
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(Note. M=male, F=female, Part. = participant; Anx.=anxiety, Dep.=depression, Obs.=observe, Desc.=describe, A/A=act/aware, Nonj.=nonjudging, Nonr.=nonreacting; blank spaces in the table indicate data not obtained).
## Appendix G:
### Participant Attendance Table

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