The Use of Cognitive Behavioural Therapy for Psychosis for a 21-year-old male with Paranoid Schizophrenia

by

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DEDICATION

I would like to dedicate this thesis first and foremost to my family. I am so thankful for their love and ongoing encouragement from back home over the past four years. I would not have gotten to this point without their support. I would also like to dedicate this thesis to my boyfriend Matt, for being patient and supportive through this busy process. Lastly, I’d like to dedicate this thesis to my friend and fellow classmate, Jasmine McBride, for her warm assertiveness and ongoing companionship over the past four years.
ABSTRACT

The present study evaluated the effectiveness of cognitive-behavioural therapy for psychosis (CBTp) with a 21-year-old male diagnosed with Paranoid Schizophrenia, Social Phobia, and Panic Disorder. The CBTp sessions targeted fixed delusions and associated anxiety. The interventions utilized behavioural and cognitive strategies such as verbal techniques and behavioural activation. The current study used a single-case study format and a pre-test post-test recording method with weekly behavioural reports as data collection. Percentage of non-overlapping data (PND) was calculated and visual analysis was performed to interpret intervention results.

The findings suggest CBTp to be moderately effective in targeting delusions and associated anxiety. The most significant decreases were found in preoccupation with delusions. No changes were seen in conviction of delusions, and an increase was shown in associated anxiety. However, it is hypothesized that implementing behavioural experiments and a more in-depth psychoeducation component within the context of a longer treatment program would facilitate more significant improvements. The present study adds to the building literature in the behavioural psychology field of implementing behavioural approaches with complex and chronic mental illness.
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Chapter I: Introduction

Schizophrenia is a chronic illness that significantly impairs the functioning and overall quality of life for individuals diagnosed with the disorder (Perivoliotis, Grant, & Beck, 2009). The diagnosis of schizophrenia is often accompanied by delusions and/or hallucinations. Experiencing delusions and/or hallucinations typically provokes high levels of anxiety in individuals (Naeem, Kingdon, & Turkington, 2006). With this knowledge, anxiety is often the initial target when working with individuals with schizophrenia. Cognitive-behaviour therapy (CBT) has become the ‘gold standard’ for treating anxiety and related disorders (Zaider & Heimberg, 2003). More recently, CBT has expanded to treatment of more chronic, complex and psychotic disorders such as schizophrenia (Wright, Basco, & Thase, 2006). This type of CBT is referred to as cognitive-behavioural therapy for psychosis (CBTp) (Kuller & Bjorgvinsson, 2010). CBTp uses traditional behavioural methods, but focuses on four main categories based on the most frequent and complex symptoms of psychosis: hallucinations, delusions, negative symptoms, and formal thought disorder. Individuals diagnosed with schizophrenia typically experience most, if not all, of the symptoms targeted by CBTp. CBTp is a relatively new promising treatment option for individuals diagnosed with Schizophrenia, and more research is needed to provide efficacy and instruction to practitioners in the field.

The present study evaluates the effectiveness of CBTp for an adult male diagnosed with Paranoid Schizophrenia, Social Phobia, and Panic Disorder. It is hypothesized that CBTp sessions will result in a decrease in anxiety and a decrease in conviction and preoccupation with delusions. This study will add to the building research supporting CBTp.

Main Chapters

In the thesis presented below, a thorough literature review is provided outlining the process, efficacy, and rationale for the use of CBTp. Following the literature review the method of implementation is discussed in detail. The results will then be presented followed by a discussion and interpretation of the findings and their implications for the field of behavioural psychology.
Chapter II: Literature Review

This chapter will offer an extensive review of research supporting the treatment presented in this study. The examination of the current literature will begin by looking at the link between schizophrenia and anxiety. Following will be evidence reviewing the efficacy of traditional CBT. Empirical evidence will then be presented for the rationale and efficacy of CBTp, and research will be presented outlining suggested structure. Lastly the relationship between the current literature and the present study will be explained.

Schizophrenia and Anxiety

It is important to recognize when working with individuals diagnosed with schizophrenia, that anxiety is commonly an existing factor. Naeem, Kingdon, & Turkington (2006) state that anxiety symptoms present in schizophrenia should be treated with high priority. The authors were curious about whether targeting anxiety in CBT with individuals with schizophrenia would have a desirable outcome. Naeem, Kingdon, & Turkingston (2006) note that anxiety is positively correlated with positive symptoms of schizophrenia and particularly coherent delusions. The authors found that participants who scored lower on the Beck Anxiety Inventory (BAI) experienced less positive and negative symptoms of schizophrenia. They suggest when using CBT for individuals with schizophrenia and high levels of anxiety, to target anxiety first and use relaxation exercises as initial intervention to encourage more positive treatment outcomes. However, they caution that it is hard to determine whether the CBT is responsible for lower anxiety in people with schizophrenia or if a decrease in psychotic symptoms is responsible for the lower levels of anxiety. Naeem, Kingsdon, & Turkingston (2006) suggest that further studies should attempt to discriminate between the two possibilities.

Lysaker & Salyers (2007) express the same concern regarding anxiety co-morbidity in schizophrenia. Similar to the previous study, the current authors researched the question of whether anxiety exacerbates positive symptoms of schizophrenia. The results of the study indicate that levels of anxiety are positively correlated with increased levels of hallucinations and delusions. Participants experiencing moderate levels of anxiety had less insight than those participants experiencing severe levels of anxiety. Lysaker & Salyers (2007) conclude that anxiety symptoms are a risk factor for higher levels of positive and negative symptoms in schizophrenia. The authors suggest that interventions focusing on anxiety symptoms may be fundamental in providing treatment for individuals with schizophrenia and high levels of anxiety. Lysaker & Salyers (2007) note that the majority of their participants were men in their 40’s. It cannot be concluded therefore, that the findings will be consistent with females or other age groups.

Research literature recognizes the relationship between anxiety and schizophrenia. Higher levels of anxiety are positively correlated with higher levels of positive and negative symptoms of schizophrenia. Therefore, anxiety should be the initial target of treatment to eliminate anxiety as a contributing factor and to encourage a more positive treatment outcome. Traditional CBT’s are empirically supported for the treatment of anxiety.

Cognitive Behavioural Therapy

Cognitive-behavioural therapies (CBT) are becoming increasingly popular in clinical practice. Specifically, CBT has become the “gold standard” for practitioners when working with individuals experiencing moderate to severe anxiety and individuals diagnosed with Generalized Anxiety Disorder (GAD) (Zaider & Heimberg, 2003). Zaider & Heimberg (2003) state that
recent meta-analyses demonstrate consistent findings that CBTs create significant changes in individuals with anxiety disorders. While researching and comparing non-pharmacologic treatments for social anxiety disorder, the authors found that individuals who experience less pervasive anxiety than those with GAD, are more likely to exhibit clinically significant changes and experience full reduction of symptoms.

Stewart & Chambless (2009) provide a more recent meta-analysis about effectiveness studies of CBT for adult anxiety disorders in clinical practice. The authors found that CBT in clinically representative studies improved significantly and substantially from pre-treatment to post-treatment. Further, CBT produces significantly larger treatment effect sizes than treatment as usual groups.

Donegan & Dugas (2012) reported similar findings when they compared the effectiveness of CBT and applied relaxation on decreasing symptoms in individuals diagnosed with GAD. Both groups produced significant results in the reduction of symptoms. The participants reported feeling anxious 5 to 6 hours a day prior to treatment, and only 3 hours a day post treatment. However, CBT generated a greater change in somatic symptoms. Donegan & Dugas (2012) explain that worry was a strong predictor for change in somatic anxiety. This suggests that the cognitive restructuring aspect of CBT may be essential to produce significant changes in anxiety. The authors caution that no baseline was collected prior to treatment, so concrete conclusions cannot be drawn from the results of the study. Further, all participants were diagnosed with GAD. Research will need to be done to determine if CBT will produce the same results compared to applied relaxation with other populations.

Clearly, the effectiveness of CBT in the treatment of anxiety is well documented. However, once anxiety levels have been successfully targeted and decreased, positive and negative symptoms of schizophrenia still exist. They may exist at a lesser level, but experiencing these symptoms of schizophrenia can seriously impair an individual’s life. Treatment for schizophrenia and other psychotic disorders require specific behavioural techniques tailored to the complex symptoms they are experiencing. Cognitive behavioural therapy for psychosis (CBTp) elaborates on traditional CBT to target symptoms experienced by individuals diagnosed with a complex disorder such as schizophrenia.

Cognitive Behavioural Therapy for Psychosis (CBTp) Structure

CBTp works from the stress vulnerability model, targeting cognitive distortions that are seen to contribute to psychotic experiences (Hatzipetrou & Po Oei, 2010). Similar to traditional CBT, developing a strong therapeutic alliance is key to promoting positive treatment outcome (Morrison, 2007). Although there should be a fixed number of sessions, the therapist should be flexible in terms of length and setting of each session. The agenda for each session, interventions, and goals should be collaboratively set with input from the client. Further, it is important for the therapist to use the client’s language throughout treatment and avoid clinical language to promote a collaborative relationship. Case formulation and assessment will be ongoing throughout session but should begin in session one. More often than not, individuals experiencing psychosis will not be able to provide a reliable history (Kuller & Bjorgvinsson, 2010). Therefore, case formulation in CBTp will often be developed through file reviews and information gathered over time across sessions. Target behaviours and interventions will be modified as new information arises. Targets for CBTp are categorized into four clusters based on frequent symptoms: delusions, hallucinations, negative symptoms, and formal thought disorder.
**Delusions.** When targeting delusions, Kuller & Bjorgvinsson (2010) note that the goal is not to convince the individual that his or her beliefs are not real, but to normalize the beliefs and reduce preoccupation with and conviction of the beliefs rather than eliminate. In CBTp, no matter how fixed the thought may be, the clinician assumes any false belief can be altered through behavioural and cognitive techniques. Delusions are seen on a continuum from functional to dysfunctional. Delusions should only be a priority target if they are closer to the dysfunctional end of the continuum. When delusions are appropriate to target, Kuller & Bjorgvinsson (2010) suggest assessing when the delusions started and the effect of the delusions on level of functioning. Morrison (2007) explains that it is also important to consider earlier experiences that may have contributed to the delusions. Prior to choosing an appropriate intervention, Kuller & Bjorgvinsson (2010) caution to work within the individual’s “comfort zone”; any gains in pushing the client will be overshadowed by the disruption to the therapeutic relationship. Morrison (2007) outlines three techniques for targeting delusions: Verbal, behavioural, and schema change methods.

Verbal techniques include examining the evidence, alternative explanations, and normalization (Morrison, 2007). Kuller & Bjorgvinsson (2010) reiterate the importance of normalization in CBTp. Normalization reduces stigma and promotes a more positive therapeutic relationship and more positive treatment outcomes (Key, Craske, & Reno, 2003). Verbal techniques such as those suggested by Morrison (2007), are used in CBTp to install doubt rather than directly challenge the delusions (Kuller & Bjorgvinsson, 2010). When it is appropriate to challenge, behavioural techniques such as behavioural experiments and hypothesis testing can be used (Morrison, 2007). Behavioural techniques can also be applied to assist with the distress associated with delusions (Perivoliotis, Grant, & Beck, 2009). Perivoliotis, Grant, & Beck (2007), suggest utilizing distraction methods to encourage empowerment in individuals with schizophrenia. The third technique suggested by Morrison (2007) is schema change methods. Morrison (2007) explains that sometimes psychotic experiences or beliefs can be conceptualized as a schema. When this is the case, schema change methods can be implemented such as examining historical evidence, surveying, and imagery. In sum, the process of targeting delusions will be tailored differently to each individual. However, the general process begins with installing doubt, targeting preoccupation, and ends with challenging the delusions and decreasing conviction (Kuller & Bjorgvinsson, 2010; Morrison, 2007).

**Hallucinations.** The process for targeting hallucinations is similar. The process begins with psychoeducation and normalization of the hallucinations (Kuller & Bjorgvinsson, 2010). The therapist explains that hallucinations can be a result of associated stress or genetic vulnerability. In CBTp, an ABC formulation is used to conceptualize the process and maintaining consequences of the hallucinations. The voices are seen as the antecedent (“A”), the beliefs about the voices are labelled as “B”, and the behavioural and emotional reactions to the voices are the maintaining consequences (“C”). The beliefs around the voices are usually the main source of stress for the individual. Kuller & Bjorgvinsson (2010) suggest using thought records to discover alternative explanations. Once cognitive restructuring about beliefs begins, associated emotions and behaviours begin to decrease. Behavioural techniques can be used to target behavioural and emotional distress such as distraction and self-soothing methods.

**Negative Symptoms.** Negative symptoms are the third symptom cluster targeted by CBTp (Kuller & Bjorgvinsson, 2010). Negative symptoms in schizophrenia include flat affect,
reduction in conversation, initiative, and engagement in previously pleasurable activities. As with the other two clusters, normalization of negative symptoms is important. The clinician should explain that negative symptoms are a result of increased stress and lack of motivation is normal as stress rises. Traditional CBT techniques are applied to explore associated thoughts and behaviours. Once dysfunctional thoughts and associated behaviours are identified, traditional CBT techniques are implemented. However, negative symptoms can sometimes be the result of positive symptomology. For example if an individual believes the Mafia is out to get him, he or she may avoid going out in public. When this is the case, positive symptomology is targeted first. As preoccupation with and conviction of delusions and/or hallucinations decreases, awareness of negative symptoms increases and can be targeted. Targeting the opposite side of the link between positive and negative symptoms also works. Perivoliotis, Grant & Beck (2009) explain that indirectly targeting negative symptoms can reduce positive symptomology of schizophrenia.

Formal Thought Disorder. In CBTp, positive and negative formal thought disorder is assumed to be the result of increased stress (Kuller & Bjorgvinsson, 2010). If this is a primary problem for the individual, treatment begins with psychoeducation. The clinician should explain the relationship between increased stress, anxiety and communication problems. Interventions include stress and relaxation techniques, and communication skills training.

Cognitive Behavioural Therapy for Psychosis (CBTp) Research

In recent years, there has been renewed interest in treatment of psychosis through CBT (Sivec & Montensano, 2012). As a result, the development of CBTp has occurred across settings internationally (Kuller & Bjorgvinsson, 2010). However, because the development of CBTp has occurred across a variety of settings, the implementation procedures are diverse. Kuller & Bjorgvinsson (2010) reported some consistent components of CBTp which were outlined in the section above. The authors explain that clinical case studies will provide examples of implementation, advance the growing research behind CBTp, and hopefully encourage consistency across settings. The following are examples of case studies that support the effectiveness of CBTp.

Kuller & Bjorgvinsson (2010) implemented CBTp for a 33-year-old man diagnosed with paranoid schizophrenia. The individual presented with anxiety and fixed paranoid delusions. The authors first created a case formulation and collaboratively developed a list of target behaviours from that. Through sessions 1 to 2 the authors focused on rapport building, psychoeducation, and retrieving an accurate history. Sessions 3 to 30 opened by collaborative agenda setting and homework review. Throughout sessions, treatment targeted the four symptom clusters in CBTp. When targeting delusions, the authors started with normalization and psychoeducation. The authors validated his paranoia rather than directly confronting the delusions. As sessions moved on, the authors explored his beliefs around the delusions and identified a core belief, “I don’t matter.” Through guided discovery and installing doubt, the individual’s preoccupation with and conviction of his delusions decreased from 98 out of 100 to 5 out of 100. Isolation associated with his delusions was then targeted through behavioural experiments and exposure. The second symptom focus in CBTp, hallucinations, was targeted. The individual’s hallucinations were directly related to his paranoid delusions. Through guided discovery and installing doubt, frequency of hallucinations decreased. As the positive symptomology decreased, the individual became more aware of his negative symptoms. He had a reduced activity level and presented with a flat affect. Homework was essential in making changes to negative symptoms. Each week
the authors and the individual collaboratively picked one problem to focus on. The fourth target in CBTp, formal thought disorder, was not applicable to this individual. The most significant results from the case study were the reduction in preoccupation with and conviction of delusions. The authors attribute the dramatic changes to the non-judgemental guided discovery of the individual’s delusions. There was also a significant decrease in hallucinations. Treatment produced an increase in the individual’s engagement with his family and activities of daily living.

Hatzipetrou & Po Oei (2010) present a clinical case study with a 53-year-old man diagnosed with paranoid schizophrenia. The individual presented with hallucinations, delusions, and disorganized speech. Through a collaborative case formulation, the authors discovered positive symptomology was causing heightened emotional distress and reactive behaviours such as avoidance and threats of aggression. Sessions 1 and 2 focused on gathering baseline data and developing an accurate case formulation. During session 3, the therapist introduced breathing exercises and behavioural strategies such as activity scheduling. Activity scheduling was selected as the participant had explained in case formulation that he could deal with the positive symptomology better when he was engaged in scheduled activities throughout the day. Session 4 mirrored the previous, expanding on relaxation techniques and behavioural strategies. Starting in sessions 5 through 8, the therapist introduced phase two of the intervention. The goals were to create an adaptive coping plan, increase competence, and decrease associated distress.

Phase two started with the development of behavioural and cognitive strategies to target the hallucination and delusion symptom clusters of CBTp. The cognitive strategies included belief modification, attention switching, and self-statements. Behavioural strategies included increased activity and reality testing. Sessions 9 and 10 identified high-risk situations. Strategies practiced in-session were modified to fit specific high-risk situations and cue cards were given to aid in implementation. Session 11 included relapse prevention, review of intervention, and post-treatment assessments were completed. Caregivers for the participant were educated in the program to encourage consistency and continuity post treatment. Treatment resulted in a moderate decrease of associated anxiety, depression, and stress. The participant had no significant changes to frequency, duration, or intensity of positive symptomology. However, he reported that he was much more confident in managing and coping with his symptoms. The authors attributed the lack of change in positive symptomology to the individual’s intellectual and learning impairments. The individual’s lack of availability also contributed to the minimal effects on positive symptoms. CBTp sessions were brief and only occurred once every two weeks, which made it difficult for the individual to effectively understand and practice the complex techniques. The authors believe that developing adaptive coping strategies is an important component of CBTp, and would have had more significant effects with longer and more frequent sessions.

Although clinical case studies have their benefits of subjective data, encouraging consistency and providing examples of implementation for practitioners, larger sample or group studies will further the reliability and validity research. The following is a randomized clinical practice trial highlighting the effectiveness of CBTp.

Lincoln et al. (2012) investigated the effectiveness of CBTp for reducing overall symptomology for individuals diagnosed with psychotic disorders by comparing the participants
to a waitlist group. The CBTp intervention started with normalization and psychoeducation of psychotic symptoms. Triggers and consequences of positive symptoms were targeted by metacognitive, cognitive, and behavioural strategies. Examining the evidence and finding alternative explanations were central cognitive strategies when targeting positive symptoms. Antecedents and consequences were targeted for the treatment of negative symptoms. The authors understood that goals and interventions of CBTp should be tailored to specific individual needs. Therefore, there was no fixed order or number of sessions. The waitlist group received brief, standard psychiatric care about twice over the four months. The waitlist participants received the CBTp treatment after the study was completed. Results showed CBTp to have significant affect on total PANSS score. CBTp showed significant effects on positive symptomology, including preoccupation with and conviction of the positive symptoms. Significant effects of CBTp also included depression and functioning level. At one-year follow up most of the changes were maintained by participants. Further, the vast majority of participants reported to be favourable of CBTp as an intervention. One limitation of the study was the minimal impact CBTp had on negative symptomology. The authors attribute this to the individualized sessions, as most participants did not have the awareness to recognize negative symptoms, they did not describe them as a target for therapy. Overall the authors describe CBTp as an excellent adjunct to medication that is well received by clients.

**Relationship between Literature Review and the Current Study**

Individuals with schizophrenia and psychotic disorders often experience high levels of associated anxiety (Naeem, Kingdon, & Turkington, 2006). The literature reviewed clearly shows that CBT is an effective treatment of anxiety (Zaider & Heimberg, 2003). However, implementing CBT for individuals experiencing psychosis is more complex. CBTp utilizes traditional cognitive and behavioural strategies, but in a unique way, targeting four frequent symptom categories: delusions, hallucinations, negative symptoms, and formal thought disorder (Kuller & Bjorgvinsson, 2010). Clinical case studies are useful in collecting subjective data and encouraging consistency of implementation across practitioners (Kuller & Bjorgvinsson, 2010).

The intent of the present study is to evaluate the effectiveness of CBTp for a 21-year-old man with paranoid schizophrenia. It is hypothesized the sessions will result in a decrease in anxiety and a decrease in preoccupation with and conviction of delusions. As pointed out by Morrison (2007), CBTp is effective and has been proven to reduce frequency of psychotic experiences and associated anxiety and distress. Further, the cognitive and behavioural strategies involved can increase the individual’s overall quality of life. The present study will use the research literature previously reviewed to structure the planned therapy sessions. This study also utilizes a case study design that can add to the clinical findings of the past research.

Word count (Lit Review only): 3,157
Chapter III: Method

Participant
Bradley Joe was a 21-year-old man diagnosed with paranoid schizophrenia, social phobia, and panic disorder. Bradley was referred to general mental health services from a psychiatric facility within a correctional facility. He was incarcerated for nine months and is currently serving three years’ probation and residing with his mother.

Schizophrenic symptoms were reported to begin when Bradley began puberty. In approximately grade 7, Bradley cut off all ties with his friends and started to isolate himself in his bedroom. His first admission to a hospital was in 2006 due to psychosis accompanied by anxiety. During a two-week observation period, Bradley revealed academic stressors and being bullied in school for being overweight, sensitive, and shy. In 2007, he was admitted for a second time due to auditory hallucinations involving a messenger and God. Additionally, he started experiencing delusional thinking including telepathy and telekinesis. In late 2008 and early 2009, Bradley started hearing voices again and began to develop suicidal ideations which led to another hospital admission. In October 2009, Bradley attempted theft at gunpoint at a drugstore with a fake gun and was charged with armed robbery. In August 2011, he was incarcerated for nine months and is currently serving three years’ probation while living with his mother. Due to environmental stressors previously discussed, Bradley dropped out of high school in grade 10. He had a brief one-month employment history at a drugstore but has not sought out employment since. He is receiving income through the Ontario Disability Support Program (ODSP). Bradley’s delusions are preventing him from going out in public or participating in independent activities. At home, Bradley remains paranoid that gangsters are after him and occasionally checks out the windows looking for these people. His paternal aunt was reportedly institutionalized for schizophrenia. Bradley has additional community support from his probation officer. He is currently prescribed Clozapine, Palperidone, and Zoloft.

Design
This study was a single-case study. The independent variable was the CBTp sessions conducted by the student researcher. All sessions occurred at the general mental health services office. The dependent variables of the study were the participant’s delusions and anxiety level. For the purpose of the study, measurement of delusions was divided into two components: preoccupation and conviction.

Preoccupation was defined as the amount of time thinking about the gangsters, talking about the gangsters, or checking for the presence of the gangsters.

Conviction was defined as how certain the participant is in his belief that the delusions are true.

Anxiety was defined by the raw score on the Beck Anxiety Inventory (BAI).

The target behaviours were chosen for the present study due to the interference they were having on the participant’s life. The high anxiety levels and intense delusions were isolating the participant and causing a decrease in activity level and mood. Decreasing preoccupation with and conviction of delusions would decrease his anxiety levels, allowing him to engage in more social and physical activities needed for a healthy and balanced lifestyle. Preoccupation and conviction
were chosen to target delusions as suggested by Chadwick et al. (1996) (as cited in Kuller & Bjorgvinsson, 2010). Based on the research format, the data will be graphed using an AB design. Percentage of non-overlapping data (PND) will be calculated and visual analysis will be performed to determine efficacy of the treatment. Pre- and post-treatment measures will also be graphed and visually analyzed to assist in determining efficacy.

Data Collection and Measures

Review of case file (10/09/2012): A thorough review of the participant’s case file was completed to obtain relevant information for the study. Previous psychological assessments, client notes, and hospital records were reviewed to aid in forming an accurate history. Staff involved in the participant’s treatment were informally approached to gain further information on the client’s history, current mental health issues, current problematic behaviours, and treatment and medication adherence. The information collected from the file review assisted in treatment development.

Semi-structured behavioural interview (11/09/2012): This interview was conducted by the student researcher. Nine questions were recorded assessing interests, coping strategies, triggers, and maintaining consequences.

Behavioural ratings (11/09/2012): At the beginning of every session, Bradley reported his preoccupation with his delusions over the past week and his conviction of his delusions over the past week. The rating was on a scale of 0 to 100 percent. The ratings were graphed after each session to monitor changes throughout treatment.

Exposure Hierarchy Rating Sheet (11/09/2012): The exposure hierarchy rating sheet was administered by the student researcher. The sheet was developed by the student tailored specifically to Bradley’s circumstances and listed 23 situations. Bradley rated the difficulty and likelihood of avoidance of each situation on a Likert scale of 0 to 10; 0 being the least likely to be avoided and least difficult and 10 being the most likely to be avoided and most difficult.

Beck Anxiety Inventory (BAI) (25/09/2012): The BAI (1993) was administered by the student researcher. The BAI lists 21 common symptoms of anxiety that are rated on a scale from 0 to 3 (with 3 being severe). Research supports the use of the BAI for assessing anxiety in adults across a variety of mental health issues.

CBT Case Formulation (25/09/2012): The CBT case formulation sheet was filled out by the student researcher. The case formulation is an assessment tool used to identify patterns of how activating situations stimulate automatic thoughts, emotions, and behaviours.

Goals and Objectives

The program procedures and following goals and objectives were developed based on the functional assessment and baseline results, which will be presented in the results section of this report. Goals and objectives were established for each target behaviour.

Goal #1

Preoccupation with delusions (Decelerate): Bradley’s preoccupation with his delusions will decrease from an average of 85% of the time to an average of 60% of the time.
Objectives

Week 3: 80%
Week 6: 70%
Week 9: 60%

Goal #2

Conviction of delusions (Decelerate): Bradley’s conviction of his delusions will decrease from an average of 100% to an average of 90%.

Objectives

Week 3: 100%
Week 6: 100%
Week 9: 90%

Goal #3

Anxiety (Decelerate): Bradley’s anxiety level will decrease from moderate to mild by post-treatment.

Program Procedures and Materials

This study was approved by the St. Lawrence College Research Ethics Board. An informed consent was presented and signed by the participant (Appendix A). The informed consent outlined the purpose, risks, and benefits of the study. The consent outlined what participation in the study involved, that participation was voluntary and that he may stop participation at any time with no penalty. The participant was informed that any data collected would be kept safe on a locked computer and only visible to the student and staff already involved with his treatment. The participant signed that he understood the data may be used for professional activities with all identifying information removed.

Verbal techniques. Verbal techniques included examining the evidence, alternative explanations, and normalization. Examining the evidence involved collaboratively brainstorming thoughts that were supporting the delusions and evidence against the delusions. Alternative explanations involved collaboratively thinking of other explanations for triggers and sightings Bradley misinterprets as "the gangsters." Normalization was used to reassure Bradley that if these events were in fact occurring, heightened levels of anxiety would be a normal reaction for anyone. Psychoeducation was also provided to demonstrate the link between his diagnosis and the behaviours he is engaging in and the thoughts he is experiencing.

Building coping strategies. Building coping strategies assisted in decreasing associated anxiety and preoccupation with delusions. Development started by discovering effective coping strategies Bradley was already using. He identified self-talk, self-soothing, and distraction methods. The treatment moved forward by building on what Bradley found effective. Handouts were given on self-talk, self-soothing, and distraction that provided examples. Bradley’s homework was to try at least one different technique each week and write down how effective it was for him. Each time Bradley discovered a technique he found effective, it was added to his coping list.
**Behavioural Activation.** Behavioural activation targeted negative symptoms and preoccupation with delusions. A sheet was given out listing over 100 different events. Bradley’s homework was to engage in at least one different pleasant event each week. If Bradley thought of a pleasant event not on the list, he could add it to the list.

**Behavioural experiments.** Behavioural experiments started once a sufficiently broad and effective coping list was developed. Situations were chosen for the experiments from the exposure hierarchy rating sheet Bradley filled out pre-treatment. A different situation was chosen each time the previous was accomplished to his standard, starting from the least difficult to the most. Bradley was to put himself in the situation and implement his coping strategies to work through the associated anxiety.

**Program Implementation**

Sessions were held at the office once a week for one hour each. Each session started by reviewing preoccupation with and conviction of his delusions over the previous week and any homework assigned. The following is a brief overview of program implementation. A more detailed description of each session can be found in Appendix B.

Sessions 1 to 3 focused on building rapport, psychoeducation, and developing adaptive coping strategies. Sessions 4 to 7 continued with developing coping strategies, and increasing pleasant events; verbal techniques were introduced. Session 8 included a review of the intervention, thoughts about termination, generalization; relapse prevention was introduced. In session 9, Bradley completed post-treatment measures and a review of relapse prevention and generalization took place.

The behavioural experiments component was not implemented during these sessions. Bradley’s delusions were still very fixed and his coping plan was still being developed. The program will be adapted by staff and the experiments will be implemented based on the client’s readiness.
Chapter IV: Results

Data Analysis of Baseline Results

Table 1 and the information provided below represents the behavioural rating results obtained during baseline.

1. **Preoccupation with delusions**: Baseline data indicated that, on average, Bradley was preoccupied with his delusions 85% of the time. Although only three days of baseline data was collected, all data points were above 80% indicating that the majority of Bradley’s time was spent preoccupied with his delusions. The amount of time spent preoccupied with his delusions in combination with his high level of conviction and associated anxiety provided rationale to begin treatment. The data are presented below in Table 1 and displayed in a graph in Appendix C.

2. **Conviction of delusions**: Baseline data indicated that, on average, Bradley’s level of conviction was 100%. Although only three days of baseline data was collected, the high and stable conviction ratings combined with similar subjective data and associated anxiety provided rationale to begin treatment. The data are presented below in Table 1 and displayed in a graph in Appendix C.

<table>
<thead>
<tr>
<th>Table 1: Baseline Summary of Behavioural Ratings in Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
</tr>
<tr>
<td>11-10-2012</td>
</tr>
<tr>
<td>Conviction</td>
</tr>
<tr>
<td>Preoccupation</td>
</tr>
</tbody>
</table>

Appendices D-E and the information provided below represent the results from baseline measures.

3. **Exposure hierarchy rating sheet (11/09/2012)**: Data were collected about the level of difficulty and likelihood of avoidance for particular situations. Any situations that involved social interaction or going to public places rated seven or higher on both difficulty and avoidance (Appendix D). Being in a crowd, making friends, being with strangers, having someone over and going to social gatherings all scored the highest on both difficulty and avoidance (Appendix D).

4. **Beck Anxiety Inventory (BAI) (25/09/2012)**: Data was collected regarding the severity of symptoms Bradley experiences on a daily basis. Fear of the worst happening, heart pounding and racing, feeling terrified or afraid, fear of dying, and feeling scared were rated the most severe symptoms Bradley experiences (Appendix E). Being unable to relax, feeling nervous, and fear of losing control were rated moderate symptoms by Bradley (Appendix E). Trembling hands and shakiness were rated mild (Appendix E). The grand total on the BAI was 22.5, indicating that Bradley experiences moderate anxiety on a daily basis (Appendix E).
Functional Assessment Results

Review of case file (10/09/2012): The review of Bradley’s case file provided important and relevant information for the development of the program. For example, the age of onset and timescale of symptoms was important for obtaining an idea of severity and level of insight into his diagnosis and delusions. The detailed hospital notes were helpful for identifying patterns in behaviour and thought. Client notes by staff provided his history with the agency, including medication information and past treatments.

Semi-Structured Behavioural Interview (11/09/2012): It was apparent in the interview that Bradley did not like being presented with choice or open-ended questions. He became observably anxious when answering questions or contributing ideas. In question four, his feelings around the gangsters were questioned (Appendix F). He explained that it didn’t really matter, because he can’t control what they say or do. His response showed little to no insight into his delusions, which remained constant throughout the session. In question six, his feelings about going to the grocery store together were examined (Appendix F). He became visibly panicked at the thought of this activity, and only agreed to this as a goal once we talked about taking very small steps towards that point.

CBT Case Formulation (25/09/2012): The CBT case formulation (Appendix G) explored the automatic thoughts, emotions, and behaviours associated with situations Bradley identified as high risk in the exposure hierarchy rating sheet. There was a clear pattern that Bradley strongly believes the gangsters can read his mind and are out to get him. These automatic thoughts cause Bradley to feel extremely anxious and afraid. Due to the anxious feelings, Bradley avoids social situations and public places to avoid confrontation with the gangsters.

Interpretation of Functional Assessment and Baseline Analysis Results

Bradley showed no insight into his delusions which are causing him to feel high levels of fear and anxiety. The functional assessment suggests that Bradley experiences moderate levels of anxiety on a daily basis, and heightened anxiety when he is experiencing delusions. Bradley’s conviction of his delusions is 100% and he is preoccupied with his delusions the majority of the time (see Table 1). Particularly, Bradley’s anxiety is higher around social situations and public places. Currently, Bradley copes with his associated anxiety by avoiding these situations; However, Bradley is open to learning more adaptive coping strategies to lower preoccupation and the physiological symptoms of his anxiety.

Intervention Results

Table 2 and the information below represent the intervention results and compare target behaviours from baseline.

1. Preoccupation with delusions: At the beginning of each session, Bradley reported his level of preoccupation with his delusions over the past week. Intervention data indicated that, on average, Bradley was preoccupied with his delusions 69% of the time. His level of preoccupation decreased 19% from his average of 85% during baseline. Percentage of non-overlapping data (PND) was calculated to further determine effectiveness. PND was approximately 78%, indicating the intervention was effective according to Scruggs and Mastropieri (1998). These data are displayed in Figure 1 and in a graph in Appendix C.
2. **Conviction of delusions:** At the beginning of each session, Bradley reported his level of conviction of his delusions over the past week. Intervention data indicated that Bradley’s conviction of his delusions was maintained at 100% during intervention. There was no change in his level of conviction from baseline to intervention. These data are displayed in Figure 1 and in a graph in Appendix C.

3. **Beck Anxiety Inventory (BAI):** The BAI was administered pre- and post-intervention to determine the severity of Bradley’s anxiety occurring on a daily basis. His raw score during baseline was 22.5, suggesting Bradley experienced moderate anxiety on a daily basis. Post-intervention Bradley’s raw score was 36, suggesting he experiences severe anxiety on a daily basis (Appendix H). These findings suggest that Bradley’s anxiety increased 60% from baseline to treatment (Appendix I). These data are displayed in Figure 2 and Appendix H and I.

4. **Exposure Hierarchy Rating Sheet:** Baseline data indicates that, during the period of time the behaviour was recorded, any situations that involved social interaction or going to public places rated 7 or higher on both difficulty and avoidance. Being in a crowd, making friends, being with strangers, having someone over and going to social gatherings all scored the highest on both difficulty and avoidance. The sheet was completed again post-treatment to determine any changes in likelihood of avoidance or level of difficulty for certain situations (Appendix J). Post-intervention, decreases in difficulty were seen in riding the city bus, making friends, talking about feelings, and saying no (Appendix K). These data are displayed in Figure 3 and Appendix K. Decreases in likelihood of avoidance were seen in walking down the street, riding the city bus, making friends, talking about feelings, having someone over to your place, meeting new people, going into stores, and saying no (Appendix L). These data are displayed in Figure 4 and Appendix L. Difficulty levels and likelihood of avoidance ratings stayed the same or increased in the situations not mentioned.

**Table 2: Intervention Summary of Behavioural Ratings**

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th></th>
<th>Intervention</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preoccupation</td>
<td>Conviction</td>
<td>Preoccupation</td>
<td>Conviction</td>
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<tr>
<td>Mean</td>
<td>85</td>
<td>100</td>
<td>69</td>
<td>100</td>
</tr>
<tr>
<td>Median</td>
<td>85</td>
<td>100</td>
<td>70</td>
<td>100</td>
</tr>
</tbody>
</table>
Figure 1: Graph of Behavioural Ratings

Preoccupation with and Conviction of Delusions

- Conviction
- Preoccupation

Baseline
Intervention

Percentage

Session

0
10
20
30
40
50
60
70
80
90
100
1 2 3 4 5 6 7 8 9 10 11 12

Baseline
Intervention
Figure 2: Graph of Beck Anxiety Inventory (BAI) Scores

Beck Anxiety Inventory Pre- and Post- Intervention

Symptom

Level of Severity on a Likert Scale

Pre-test
Post-test
Figure 3: Graph of Difficulty Results

Level of Difficulty Pre and Post-Intervention

Situation

Walking down the street
Being with family
Being with strangers
Being with younger people
Being with older people
Being alone
Making friends
Talking about your feelings
Identifying your thoughts
Going to a social gathering
Meeting new people
Talking to a stranger
Speaking in public
Going into a store
Making a request
Saying no

Level of Difficulty on a Likert Scale

Pre-test
Post-test
Goals and Objectives

Results from the intervention indicated that Bradley met his second objective of 70% during week 6 for preoccupation with his delusions, however did not meet the final objective of 60% during week 9. Bradley met his second objective during week 6 maintaining a 100% conviction level, but did not meet his final goal of 90% during week 9. Further, Bradley did not meet his final goal for anxiety level.

Goal #1 and Objectives. Preoccupation with delusions: The first and second objectives for Bradley’s level of preoccupation were successfully met during weeks three through six. During week three, Bradley reported a preoccupation level of 50% exceeding his objective of 80%. During week six, he reported a preoccupation level of 60% exceeding his week-six objective of 70%. Conversely, Bradley reported a preoccupation level of 80% on week 12 unsuccessfully meeting his goal of 60%. Therefore, although Bradley met his initial objectives of treatment, he did not attain his final treatment goal.

Goal #2 and Objectives. Conviction of delusions: Bradley was expected to report a 100% level of conviction during week three and six of treatment and he successfully met these initial objectives. However, Bradley did not meet his last objective to report a 90% conviction level, reporting a 100% conviction level during week 12. Bradley’s level of conviction of his
delusions remained the same throughout treatment, consequently not meeting his final treatment goal.

**Goal #3 and Objectives.** Anxiety Level: Bradley’s anxiety level was determined by his raw score on the Beck Anxiety Inventory (BAI). Bradley’s treatment goal was to decrease his anxiety level from moderate to mild, as per the BAI, following the intervention. Instead, Bradley’s raw score increased from a moderate level of anxiety, a raw score of 22.5, to a severe level of anxiety, a raw score of 36. As a result, Bradley did not meet his final treatment goal.
Chapter V: Discussion

Summary of Results

The current study evaluated the effectiveness of cognitive behavioural therapy for psychosis (CBTp) for an adult male with paranoid schizophrenia. The results demonstrated CBTp to be moderately successful in targeting his delusions and anxiety. Overall, Bradley did not meet his final goals for treatment. However, the program was effective in decreasing his preoccupation with the delusions, demonstrating a 19% decrease. Although the decrease seems minimal, the results are clinically significant given the limited number of sessions completed in comparison to a typical CBTp intervention. For example, in the literature reviewed for this thesis, the shortest intervention consisted of 30 weekly CBTp sessions which is more than three times the number used in this study. Other notable decreases are found in Bradley’s post-intervention exposure hierarchy rating sheet. It is worth mentioning that there were more decreases in likelihood of avoidance than difficulty of situations. This suggests that, although Bradley may still find situations very difficult, he is more comfortable implementing his coping plan and is therefore less likely to avoid difficult situations. For example, Bradley’s difficulty level was higher than his avoidance level prior to treatment in the following situations: walking down the street, meeting new people, and going into stores. Post-intervention Bradley still rated these situations as difficult, but reported that he was less likely to avoid them.

Increases were seen in many post-intervention measurements including anxiety and some ratings on the exposure hierarchy rating sheet. These increases could be attributed to a number of circumstances. Firstly, the pre-intervention measures were completed during the first meeting and a strong therapeutic rapport was built from pre- to post-intervention. The increases found in these measurements could have been due to an increase in comfort in answering questions and communicating openly within sessions. Secondly, new cognitive distortions were identified during treatment and cognitive restructuring was taking place during CBTp sessions. These types of exercises can cause an increase in anxiety while in sessions.

Overall, the results did not support the hypothesis of the current study. However, this case study still contributes to the building research of the effectiveness of implementing cognitive behavioural therapy for psychosis. It is theorized that if there was opportunity to implement the behavioural experiments, a longer timescale, and if the program consisted of a more extensive psychoeducation component, more significant improvements would have been achieved. Moreover, although statistical significance could not be determined, it can be concluded that the study holds clinical significance. Clinical significance is determined by positive changes made to the client’s everyday life post-intervention, determined by the consumer, clinician or researcher’s standards (Pintea, 2010). Other professionals working with Bradley were pleased with the results and noted Bradley was visibly more comfortable within sessions. Further, the slight decrease seen in Bradley’s preoccupation level allowed him more time to engage in enjoyable and functional activities. These qualitative observations support the social validity of the intervention.

Strengths

A notable strength of the current study is its use of a single-subject research design. The single subject format allows room for the intervention to hold more individualization and creativity than a multiple-subject research design. Further, the detailed description of the participant and method allows clinicians in the field to have a good understanding of how to
customize the intervention to meet the participant’s needs, and which participants would be best suited for CBTp. The case study format also makes the study easily replicable for practitioners interested in implementing CBTp. The student’s supervisor was involved in two sessions to facilitate stronger generalization and mediator training. Lastly, visual analysis of the results provides a quick and easy interpretation of behaviour in each phase and the overall effectiveness of the program.

**Limitations**

Time to complete the current study was restricted which resulted in the following limitations. Firstly, the intervention was implemented before stability could be reached in the baseline phase. Thus, it cannot be determined that the results were directly caused by the intervention. Secondly, the behavioural experiment component could not be completed during intervention. This is considered a limitation of the study, as Kuller & Björgvinsson (2010) explain that behavioural experiments are important in targeting psychosocial issues, such as not being able to dine in public places, which may have led to more significant decreases in anxiety as well as preoccupation with and conviction of delusions. Lastly, the intervention included only 9 weekly one-hour sessions, which is considerably fewer than typical CBTp programs. For example, Kuller & Björgvinsson (2010) had over three times that number, completing 30 one-hour sessions. It is hypothesized that if there were more sessions included in the intervention there would have been more significant decreases in all areas targeted.

A further limitation of the study was the subjective format of the data collected. Behavioural ratings relied on the participant’s self-report. Subjective data is a limitation as the data collected cannot be considered factual. Also, subjects can try to make a good impression on the therapist by ‘faking good’, which undermines the validity of the results. Although a strength of the study, the single-subject design has limitations as well. As the study focuses on one single case, it demonstrates low external validity, limiting its implications with other populations and clinical presentations. Furthermore, using a case study format limited the available statistical analysis options as most require large data sets and more target behaviours. Therefore, the student utilized visual analysis to interpret effectiveness and calculated PND.

**Program Changes**

As previously mentioned, the behavioural experiment component could not be implemented as planned. The student and supervisor were of the opinion that it would not be in the client’s best interest to implement behavioural experiments near the end of the intervention as the student was leaving. It was decided that the supervisor would implement this component afterwards, based on the client’s readiness.

When developing the program, it was intended that homework would be distributed and completed every week to facilitate generalization outside of sessions. However, Bradley only completed homework once during the course of treatment. Bradley attributed incomplete homework to memory problems. Instead, the student and Bradley collaboratively completed homework within sessions.

**Meaning of the Results in Context to the Current Literature**

Lack of insight is one barrier to implementing CBT that is often noted in the literature. This study supported the hypothesis put forth by Perivoliotis et al. (2009) that increasing psychosocial events in CBTp can help indirectly target preoccupation with delusions for
individuals with no insight into their illness or delusions. As discovered throughout the course of the intervention, Bradley displayed no insight into his delusions. However, the time he spent preoccupied with his delusions decreased as the student encouraged Bradley to engage in more pleasurable activities during the week and adding these activities to his coping list. Further, Hatzipetrou & Po Oei (2010) hypothesized that enhancing coping skills would result in a decrease of positive symptoms of schizophrenia and associated anxiety. Although the current study did not see a reduction in anxiety, the study replicated findings suggesting an improved ability to deal with positive symptoms of schizophrenia such as delusions.

Although Perivoliotis et al. (2009) explains targets of CBTp vary across practitioners and treatments, Kuller & Björgvinsson (2010) state there are some consistent interventions across treatments. These interventions include collaboratively setting intervention goals, guided discovery, and building adaptive coping strategies. This study utilized all three basic components of CBTp, and the results suggest that these interventions are successful in decreasing preoccupation with delusions. While there were no significant decreases in conviction or anxiety, it is hypothesized that if there were room for more extensive guided discovery techniques (such as the behavioural experiment component), significant decreases in conviction and associated anxiety would have resulted.

Kuller & Björgvinsson (2010) relay the importance of literature needed to support CBTp in outpatient settings. As evidence builds for CBTp in hospital settings, there is an important need for research in the implementation of CBTp in community settings as inpatients move back to the community or for individuals not requiring inpatient stays. This study adds to the minimal research in implementing CBTp in community settings, demonstrating that it is applicable. Further, it is expected that if community CBTp sessions involve a course of treatment equal to that provided in hospitals, they will yield similar results.

**Multilevel Challenges to Service Implementation**

**Client level.** Implementing cognitive and behavioural techniques is particularly difficult when the client has limited insight into his or her illness, as most techniques require the individual to discuss associated thoughts, feelings and behaviours. For example, it is difficult to complete a thought record with a client who does not believe any correlations exist between his thoughts and diagnosis. To overcome this barrier in the present study, the student indirectly targeted associated symptoms through installing doubt and targeting psychosocial aspects of the client’s life.

**Program level.** Many challenges arise when attempting to implement a program within a multidisciplinary team. It is likely the program will be specific to one discipline. For example, the current study is focused on behaviour therapy. In order for programs to be successful, they need to be delivered consistently across all professions. However, an occupational therapist or nurse may not have the knowledge or experience to implement a program consistent with that delivered by the behaviour therapist. This can confuse the client and will most likely affect the program outcome.

**Organization level.** Within the agency, conflicts of interest can be a major obstacle. For example, the community agency may not only be providing therapeutic services, but clients may also be living in one of their residences. This creates conflicts of interest between service providers, as well as between professionals and clients. For example, if the behaviour therapist
develops a program with a client and the residential worker does not believe it is appropriate, this creates a serious challenge for service implementation. With clients, the agency acts as a service provider as well as a landlord. This can create a major obstacle in forming and maintaining a therapeutic alliance, an important concept in facilitating a successful treatment.

Societal level. When dealing with adults living in the community with an acute or chronic mental illness, stigma becomes a huge societal challenge. Although society has advanced in reducing stigma about mental illness over the years, there still remains part of the population that is uninformed. Individuals who are uninformed may believe individuals with mental illness are lazy or dangerous. This reinforces clients’ negative views of themselves and reinforces avoidance of public and social activities.

Implications for the Behavioural Psychology Field

Behavioural psychology is a growing field within health and mental health services. As the field grows, behavioural approaches are continuously being applied to different areas within the mental health field. However, empirical support is still needed for the use of behavioural approaches with more complex mental health problems such as schizophrenia. The current study adds to this growing and important literature. The study provides evidence for the use of behavioural concepts such as behavioural activation and verbal techniques with adults with chronic and complex mental health issues.

Assessment and implementation of best practices are essential in behavioural psychology in terms of behaviour modification. This study utilized appropriate assessment procedures to collaboratively distinguish treatment goals, development of an appropriate program based on best practices, and implemented weekly behaviour ratings in combination with empirically supported pre- and post-tests to determine program effectiveness. Consequently, the present study presents an example of the expectations of professionals in the behavioural psychology field.

Recommendations for Future Research

As insight proved to be a barrier to treatment implementation, it is recommended that future implementations of CBTp incorporate a more in-depth psychoeducation component in hopes to create better insight. Aho-Mustonen et al. (2011) conducted a study comparing brief group psychoeducation to treatment as usual with male offenders diagnosed with schizophrenia. Results demonstrated greater knowledge about and insight into illness in men receiving psychoeducation compared to those receiving treatment as usual. Further, it is recommended that future researchers ensure there is a behavioural experiment component, as it is theorized that this will enhance the effectiveness of any CBTp intervention.

As previously mentioned, it is recommended that future programs plan for at least 30 sessions rather than the 9 that were implemented in the present study. This study suggests that brief courses of CBTp sessions may not be as successful as more lengthy programs.

It may be beneficial for future researchers to determine the potential participant’s level of insight prior to implementing CBTp. If low insight is the case, researchers should review best practices as this study suggests CBTp may be better fit for individuals with a higher level of insight. That being said, involving a more in-depth psychoeducation component may improve the outcome, regardless of initial level of insight. Finally, using more participants in future studies
will increase options for statistical analyses, which will enhance both the reliability and validity of the findings.

Word Count: 8, 809
References


Appendix A: Participant Consent Form

Project title: The Use of Cognitive Behavioural Therapy for Psychosis for a 21-year-old male with Paranoid Schizophrenia
Principal Investigator: Madison McIntosh
Name of supervisor: Erin McCormick
Name of Institution: St. Lawrence College
Name of agency: Frontenac Community Mental Health

100 Portsmouth Ave.
Kingston, Ontario K7L 5A6

Dear _________,

Invitation

My name is Madison McIntosh and I am currently a student in the 4-year Bachelor’s Degree program for Behavioural Psychology at St. Lawrence College. This degree program is based on a behavioural framework, which has been proven to establish positive behavioural changes in a variety of individuals. I am currently working on an Applied Thesis which involves implementing a treatment which will be explained in more detail below.

Why is this study being done?

This study is being done to help you reach goals we have collaboratively set out together. I believe that participating in this study will help you develop coping skills, decrease your anxiety, and increase your overall quality of life. The treatment is called Cognitive Behavioural Therapy (CBT). The focus is on working with your thoughts and behaviours to promote a healthier, more productive and increased quality of life.

What will you need to do to take part?

If you choose to take part in this treatment you will have eight individual one hour sessions with me. It is expected to begin October 23rd, 2012 and end December 5th, 2012. The sessions will be held every Tuesday morning at 9:30 AM. During the sessions I will be teaching you different relaxation techniques to decrease your anxiety. I will be giving you worksheets so you can practice the skills I teach you at home. We will also be looking at thoughts that may be increasing your anxiety and working to change those thoughts. Hopefully, these skills will help you control your anxiety when you participate in activities you identified as difficult. I will be administering you questionnaires at the beginning and end of our sessions to assess the changes that have resulted from the treatment.

What are the potential benefits of taking part?

The benefits of participating include the potential to build coping strategies and experience a decrease in your anxiety. Further, you may notice a decrease in avoidance and difficulty of certain situations, and an improvement in your overall quality of life.

What are the potential risks for taking part?

The risks for this study are minimal but may include discomfort in tolerating difficult and uncomfortable thoughts, sensations, emotions, and events. You should also be aware that there is a chance this treatment may not be successful, and changes may not occur immediately.
What happens if something goes wrong?

If you feel that this study is affecting you in any negative way, you may talk to me, or any of the other Frontenac Community Mental Health ACT staff members.

Will my information you collect from me in this project be kept private?

Data collected during the treatment will be kept in a locked folder on a locked computer. The file will only be available to me, and the Frontenac Community Mental Health ACT team staff members that are currently already working with you. The data will be kept for seven years, as per the regulation of the college. If you wish to see these files at any point in time, I will gladly arrange this for you.

Do you have to take part?

Taking part is voluntary. It is up to you to decide if you would like to participate or not. If you decide you would like to take part, I will have you sign this consent form. After signing the form to participate, remember that you are allowed to drop out of the study at any point in time without giving any reason, and without incurring any penalty, or negative effects.

Contact for further information

This research study has been approved by the Research Ethics Board at St. Lawrence College. This project will be developed under the supervision of Erin McCormick, my college supervisor at St. Lawrence College. If you have any further questions or concerns, feel free to contact me at MMcIntosh14@student.sl.on.ca. You can also contact my College Supervisor at (613) 539-4839 or you may also contact the Research Ethics Board at reb@sl.on.ca.

Consent

If you agree to participate in this treatment plan, please complete the consent form attached and return it to me as soon as possible. A copy will be made for you to keep in your personal records. I genuinely thank you for your co-operation and involvement in this treatment plan.

Sincerely,

Madison McIntosh, St. Lawrence College Student

St. Lawrence College

100 Portsmouth Ave.

Kingston, Ontario K7L 5A6
I, ______________________, understand and consent to the following.

**NOTE:** all identifying information will be removed from any reports to protect confidentiality

- _____ I agree to participate in the intervention conducted by Madison McIntosh.
- _____ I understand that I will receive a signed copy of this consent form.
- _____ I agree that all of my questions were answered.
- _____ I understand and consent that Madison McIntosh will have access to my agency file.
- _____ I consent for the data collected as part of this intervention to be put in a report in the college library.
- _____ I consent for the data collected as part of this intervention to be presented at a conference.
- _____ I consent for the data collected as part of this intervention to be published in a peer reviewed journal or professional publication.

Participant Signature: __________________ Date: ________________________

Printed Name: __________________

SLC Student Signature: __________________ Date: ________________________

Printed Name: __________________
### Appendix B: Session Outline

Number of sessions: 9

Length of session: 1 hour, once a week

Participants: 1

Measures:

- Weekly behavioural ratings for preoccupation with and conviction of delusions
- Exposure hierarchy rating sheet pre- and post-treatment
- Beck Anxiety Inventory (BAI) pre- and post-treatment

<table>
<thead>
<tr>
<th>Outline of Session</th>
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| **Pre-session**    | • Informed consent  
| (11-09-2012 – 25-09-2012) | • File Review  
|                    | • BAI pre-test  
|                    | • Exposure hierarchy rating sheet (pre-treatment)  
|                    | • Case formulation  
|                    | • Semi-structured interview  
|                    | • Baseline collection (preoccupation and conviction)  
|                    | • Rapport building  
| **Session 1**      | 1. Behavioural rating over the past week (preoccupation and conviction)  
| (02-10-2012)       | 2. Psychoeducation  
|                    | • Schizophrenia and associated anxiety  
|                    | • Schizophrenia and delusional thinking  
|                    | • Delusions and anxiety  
|                    | 3. Building Rapport  
|                    | • Normalization (“If, in fact, gangsters are after you, heightened anxiety and behavioural changes are expected”; “With the anxiety symptoms you’re experiencing on a daily basis, it’s no wonder you’re engaging in those behaviours”)  
|                    | 4. Developing adaptive coping strategies  
|                    | • Discovering what he is already doing that works for him  
|                    | • Identify maladaptive coping strategies  
|                    | • Identify triggers  
| **Session 2**      | 1. Behavioural rating over the past week (preoccupation and conviction)  
| (09-10-2012)       | 2. Psychoeducation  
|                    | • Triggers  
|                    | • Maladaptive coping strategies  
|                    | 3. Developing adaptive coping strategies  
|                    | • Distribution of sheets outlining examples of coping |
4. **Homework**  
   - Pick at least one coping method to try over the next week

| Session 3 | 1. Behavioural rating over the past week (preoccupation and conviction)  
| (16-10-2012) | 2. Homework Review  
| | 3. Psychoeducation  
| |   - Adaptive coping mechanisms  
| | 4. Developing adaptive coping strategies  
| |   - Add successful coping method from homework to his coping list  
| |   - Reviewing sheets  
| | 5. Homework  
| |   - Pick at least one different coping method to try over the next week |

| Session 4 | 1. Behavioural rating over the past week (preoccupation and conviction)  
| (23-10-2012) | 2. Homework Review  
| | 3. Psychoeducation  
| |   - Increasing pleasant events  
| | 4. Behavioural Activation  
| |   - Distribution of Adult Pleasant Events list  
| | 5. Verbal techniques  
| |   - Examining the evidence: Bradley was asked to provide evidence for and against his delusional beliefs. Evidence against was added to his coping list under self-talk  
| | 6. Developing adaptive coping strategies  
| |   - Add successful coping method from homework to his coping list  
| |   - Review sheets  
| | 7. Homework  
| |   - Pick at least one different coping method to try over the next week  
| |   - Pick at least one pleasant event to try over the next week |

| Session 5 | 1. Behavioural rating over the past week (preoccupation and conviction)  
| (06-11-2012) | 2. Homework review (Homework was not assigned this week as Bradley did not bring his sheets back and was not |
interested in having them for the week coming. To preserve therapeutic relationship, homework will be delayed until next session)

3. Identified new cognitive distortion: Preoccupation with ‘gangsters’ has decreased and a new distortion has surfaced. Practicing Islam - has to pray five times a day at certain times- if he misses a prayer he is “afraid of what might happen” and “feels stupid”- can’t independently identify thoughts or feelings attached to this and “feels stupid” that he can’t explain it. Bradley says this is an increasingly bigger problem and is now taking up the majority of his time. Was becoming observably frustrated and embarrassed so the topic was not pursued any further to preserve therapeutic relationship

4. Reviewed coping plan

<table>
<thead>
<tr>
<th>Session 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>(13-11-2012)</td>
</tr>
<tr>
<td>1. Behavioural rating over the past week (preoccupation and conviction)</td>
</tr>
<tr>
<td>2. Verbal techniques</td>
</tr>
<tr>
<td>• Alternative explanations: This technique began by reviewing his reasons for believing the delusions to be true. Bradley could not identify why the gangsters were after him and said that identifying answers around his delusions were too difficult to answer. When asked what thoughts are maintaining his belief that the gangsters are real and out to get him, he responded by “I don’t know, it’s too hard to answer”. The only proof that Bradley could identify was the “fleet of cars outside his house”. An alternative explanation was that he has a stop light outside his house and this could possibly explain the lineup of cars in front of his house. Bradley disagreed with this. He started to become observably frustrated, so the topic wasn’t further pursued to preserve therapeutic relationship.</td>
</tr>
<tr>
<td>3. Normalization</td>
</tr>
</tbody>
</table>
| • When discussing Bradley’s fixed delusions it was important to normalize his responses. For example, “If, in fact, gangsters are out to kill you and the world is going to end, fear is an expected response. However, managing your thoughts around the gangsters may help to alleviate some of that anxiety” OR “It is an expected reaction to see a reduction in activity when you’re having these intrusive thoughts on a daily basis. However, increasing activity and trying to ‘act opposite’ may actually help reduce
these thoughts and elevate your mood”. Bradley responds really well to normalization and this technique is believed to be key in building rapport.

4. Review Coping Plan
5. Homework
   - Pick at least one new coping mechanism to try over the next week
   - Pick at least one different pleasant event to try over the next week

<table>
<thead>
<tr>
<th>Session 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>(20-11-2012)</td>
</tr>
<tr>
<td>1. Behavioural rating over the past week (preoccupation and conviction)</td>
</tr>
<tr>
<td>2. Verbal techniques</td>
</tr>
<tr>
<td>- Thought record: A thought record was filled out with Bradley to identify automatic thoughts and feelings associated with the gangsters. Proof for and proof against was reviewed to challenge some of the thoughts associated with the gangsters. A copy of the thought record can be found in Appendix G. Bradley did not see that this proved anything about the gangsters and was not open to the chance that they might not be completely real. Bradley saw any evidence against his thoughts as plans the gangsters made to make him look stupid so no one would believe him.</td>
</tr>
<tr>
<td>3. Psychoeducation</td>
</tr>
<tr>
<td>- Schizophrenia and delusions: Bradley’s response to the thought record showed no insight. A brief overview of Schizophrenia and delusions was covered by the Behaviour Therapist. However, Bradley did not see any correlations between his diagnosis and was becoming observably anxious as we continued talking about the reality of the gangsters. To preserve the therapeutic relationship we did not continue on the topic.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>(27-11-2012)</td>
</tr>
<tr>
<td>1. Behavioural rating over the past week (preoccupation and conviction)</td>
</tr>
<tr>
<td>2. Developing adaptive coping strategies</td>
</tr>
<tr>
<td>- Collaboratively reviewed examples of distracting techniques and added any he may find helpful to his coping plan</td>
</tr>
<tr>
<td>- Collaboratively discussed activities he used to enjoy and added these to his pleasant events as part of his coping plan</td>
</tr>
<tr>
<td>3. Review of coping plan</td>
</tr>
<tr>
<td>- Bradley received a final copy of his coping plan. A</td>
</tr>
</tbody>
</table>
A copy of the coping plan can be found in Appendix H. The coping plan listed triggers (activities to avoid) on the left side and coping strategies on the right.

4. Relapse prevention
   - The student reviewed with Bradley the best way to utilize his coping plan between sessions. He was encouraged to keep a copy on him and keep a copy somewhere visible in the house. He was reminded to avoid the activities we have collaboratively determined as triggers.

5. Thoughts about termination
   - It was explained to Bradley that next session would be the last with the student. He was explained that the Behaviour Therapist on the team would take over where we left off. We discussed Bradley’s thoughts and feelings around this issue.

<table>
<thead>
<tr>
<th>Session 9</th>
<th>04-12-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Behavioural rating over the past week (preoccupation and conviction)</td>
<td></td>
</tr>
<tr>
<td>2. Exposure Hierarchy Rating Sheet Post-test</td>
<td></td>
</tr>
<tr>
<td>3. Beck Anxiety Inventory (BAI) Post-test</td>
<td></td>
</tr>
<tr>
<td>4. Generalization</td>
<td></td>
</tr>
</tbody>
</table>

   - We discussed goals he would like to work towards for further sessions. His number one goal is to move out and live independently. He has recently been experiencing an increase in anxiety when he is alone, and is thinking about postponing the move in for another year. When asked what he hopes to accomplish within this year to make him more comfortable living independently, he could not answer. We collaboratively decided working on ways to improve his comfort with living independently would be the primary focus for sessions following.

   - He was explained again that the Behaviour Therapist would take over the program and continue building his coping plans and working towards increasing his comfort with difficult situations. He was also explained the Behaviour Therapist will be beginning with a more in depth component of psychoeducation in hopes of improving his insight around his diagnosis.

5. Review of coping plan
Appendix C: Preoccupation with and Conviction of Delusions

![Graph showing preoccupation with and conviction of delusions over sessions]

- **Baseline**
- **Intervention**

- **Preoccupation**
- **Conviction**

The graph illustrates the change in preoccupation and conviction of delusions over the session periods, indicating a significant reduction during the intervention phase compared to the baseline period.
Appendix D: Baseline Exposure Hierarchy Rating Sheet (11-10-2012)

Date: _September 11, 2012_ 

Following is a list of situations. Please read each situation and rate how difficult it is for you, and how often you avoid the situation.

<table>
<thead>
<tr>
<th>Difficulty (out of 10)</th>
<th>Avoidance (out of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking down the street</td>
<td>7</td>
</tr>
<tr>
<td>Being with your family</td>
<td>0</td>
</tr>
<tr>
<td>Being with friends</td>
<td>7</td>
</tr>
<tr>
<td>Being with strangers</td>
<td>9</td>
</tr>
<tr>
<td>Riding the city bus</td>
<td>5</td>
</tr>
<tr>
<td>Being with younger people</td>
<td>0</td>
</tr>
<tr>
<td>Being with older people</td>
<td>0</td>
</tr>
<tr>
<td>Being in a crowd</td>
<td>10</td>
</tr>
<tr>
<td>Being alone</td>
<td>2</td>
</tr>
<tr>
<td>Making friends</td>
<td>10</td>
</tr>
<tr>
<td>Talking about your feelings</td>
<td>8</td>
</tr>
<tr>
<td>Identifying your feelings</td>
<td>?</td>
</tr>
<tr>
<td>Having someone over to your place</td>
<td>9</td>
</tr>
<tr>
<td>Starting conversations</td>
<td>9</td>
</tr>
<tr>
<td>Going to social gatherings</td>
<td>9</td>
</tr>
<tr>
<td>Meeting new people</td>
<td>8</td>
</tr>
<tr>
<td>Asking for help</td>
<td>3</td>
</tr>
<tr>
<td>Answering questions</td>
<td>4</td>
</tr>
<tr>
<td>Spending time with men</td>
<td></td>
</tr>
<tr>
<td>Spending time with women</td>
<td></td>
</tr>
<tr>
<td>Going into stores</td>
<td>8</td>
</tr>
<tr>
<td>Making a mistake</td>
<td></td>
</tr>
<tr>
<td>Saying “No”</td>
<td>2</td>
</tr>
</tbody>
</table>

*Red has severe ratings (9+)

Yellow has moderate-severe ratings (8-9)
Appendix E: Baseline Beck Anxiety Inventory (BAI) (25-10-2012)

Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Not At All</th>
<th>Mildly but it didn’t bother me much</th>
<th>Moderately—it wasn’t pleasant at times</th>
<th>Severely—it bothered me a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbness or tingling</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Feeling hot</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Wobbliness in legs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Unable to relax</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Fear of worst happening</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Dizzy or lightheaded</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Heart pounding/racing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Terrified or afraid</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Nervous</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Feeling of choking</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Hands trembling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Shaky/unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Fear of losing control</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Difficulty in breathing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Fear of dying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Scared</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Indigestion</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Faint/lightheaded</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Face flushed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Hot/cold sweats</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Column Sum

Scoring: Sum each column. Then sum the column totals to achieve a grand score. Write that score here 22.5.

Interpretation

A grand sum between 0 – 21 indicates very low anxiety. That is usually a good thing. However, it is possible that you might be unrealistic in either your assessment which would be denial or that you have learned to “mask” the symptoms commonly associated with anxiety. Too little “anxiety” could indicate that you are detached from yourself, others, or your environment.

A grand sum between 22 – 35 indicates moderate anxiety. Your body is trying to tell you something. Look for patterns as to when and why you experience the symptoms described above. For example, if it occurs prior to public speaking and your job requires a lot of presentations you may want to find ways to calm yourself before speaking or let others do some of the presentations. You may have some conflict issues that need to be resolved. Clearly, it is not “panic” time but you want to find ways to manage the stress you feel.

A grand sum that exceeds 36 is a potential cause for concern. Again, look for patterns or times when you tend to feel the symptoms you have circled. Persistent and high anxiety is not a sign of personal weakness or failure. It is, however, something that needs to be proactively treated or there could be significant impacts to you mentally and physically. You may want to consult a counselor if the feelings persist.
Appendix F: Semi-Structured Behavioural Interview (11-10-2012)

1. What are some things you enjoy doing? For fun, to calm down etc.
   Playing video games (racing), watching TV or movies, going on the computer. That’s pretty much it.

2. Do you use these activities to distract yourself when you’re feeling down?
   Not really

3. Is there anything you notice that typically occurs before or after you feel down?
   No, I don’t remember.

4. How do you feel about working on controlling your thoughts about the gangsters?
   Well, it’s kinda hard because I can’t control them.

5. Are the ‘gangsters’ preventing you from doing anything?
   Yeah, I don’t like going shopping or going out to public places. The worst spots are Walmart, Metro, No Frills, and Food Basics.

6. How do you feel about working on eventually going there together?
   No, it won’t work. People have tried this with me before. I get too panicked.

7. What if we work on the anxious feelings you experience around that? Are you open to learning some mindfulness or relaxation techniques?
   Yeah.

8. Okay, and then maybe eventually we can work up to going to the grocery store together and using relaxation to help you deal with the anxiety you experience. We’ll work in very small steps and only do what you feel comfortable with.
   Okay, very small steps.

9. Is there anything you would like to work on?
   No.
Appendix G: CBTp Case Formulation (25-10-2012)

**CBT Case Formulation**

**Name:** Bradley Joe

**Diagnoses/ Symptoms:** Paranoid Schizophrenia, social phobia, and panic disorder. Primary symptoms include delusions, auditory hallucinations, anxiety, and panic attacks.

**Formative Influences:**

**Situational Issues:** On three years’ probation; living with mother

**Biological, Genetic, and Medical Factors:** His paternal aunt was institutionalized for Schizophrenia;

**Strengths/ Assets:** Independently keeps himself busy throughout the day; computer games, TV; support from mother

**Treatment Goals:** 1) Reduce anxiety from moderate to mild;

<table>
<thead>
<tr>
<th>Event 1</th>
<th>Event 2</th>
<th>Event 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being in a crowd</td>
<td>Shopping</td>
<td>Having Someone Over</td>
</tr>
<tr>
<td><strong>Automatic Thoughts</strong></td>
<td><strong>Automatic Thoughts</strong></td>
<td><strong>Automatic Thoughts</strong></td>
</tr>
<tr>
<td>“The gangsters can hear what I’m thinking”</td>
<td>“The gangsters will find me and punish me”</td>
<td>“People won’t respect my things”</td>
</tr>
<tr>
<td>“They’re going to punish me”</td>
<td>“They’re out to get me”</td>
<td>“People will tell me what to do”</td>
</tr>
<tr>
<td><strong>Emotions</strong></td>
<td><strong>Emotions</strong></td>
<td><strong>Emotions</strong></td>
</tr>
<tr>
<td>Anxious</td>
<td>Anxious</td>
<td>Anxious</td>
</tr>
<tr>
<td>-racing heart</td>
<td>Afraid</td>
<td></td>
</tr>
<tr>
<td>-feeling like I’m going to die</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afraid</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Behaviours</strong></td>
<td><strong>Behaviours</strong></td>
<td><strong>Behaviours</strong></td>
</tr>
<tr>
<td>Avoiding social situations and public places to avoid confrontation with them</td>
<td>Avoid shopping malls (specifically Wal-Mart, Metro &amp; Loblaws)</td>
<td>Refuse to allow people to come to the house</td>
</tr>
</tbody>
</table>
## Appendix H: Beck Anxiety Inventory (BAI) Post-Test (04-12-2012)

### Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Not At All</th>
<th>Mildly but it didn’t bother me much</th>
<th>Moderately - it wasn’t pleasant at times</th>
<th>Severely – it bothered me a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbness or tingling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling hot</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Wobbliness in legs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Unable to relax</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of worst happening</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Dizzy or lightheaded</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Heart pounding/racing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Terrified or afraid</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nervous</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling of choking</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hands trembling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Shaky / unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of losing control</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty in breathing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of dying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Scared</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Indigestion</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Paint / lightheaded</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Face flushed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hot/cold sweats</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Column Sum**

**Scoring** - Sum each column. Then sum the column totals to achieve a grand score. Write that score here: 36.

### Interpretation

A grand sum between 0 – 21 indicates very low anxiety. That is usually a good thing. However, it is possible that you might be unrealistic in either your assessment which would be denial or that you have learned to "mask" the symptoms commonly associated with anxiety. Too little "anxiety" could indicate that you are detached from yourself, others, or your environment.

A grand sum between 22 – 35 indicates moderate anxiety. Your body is trying to tell you something. Look for patterns as to when and why you experience the symptoms described above. For example, if it occurs prior to public speaking and your job requires a lot of presentations you may want to find ways to calm yourself before speaking or let others do some of the presentations. You may have some conflict issues that need to be resolved. Clearly, it is not "panic" time but you want to find ways to manage the stress you feel.

A grand sum that **exceeds 36** is a potential cause for concern. Again, look for patterns or times when you tend to feel the symptoms you have circled. Persistent and high anxiety is not a sign of personal weakness or failure. It is, however, something that needs to be proactively treated or there could be significant impacts to you mentally and physically. You may want to consult a counselor if the feelings persist.
Appendix J: Exposure Hierarchy Rating Sheet Post-Test (04-12-2012)

Date: December 4, 2012

Following is a list of situations. Please read each situation and rate how difficult it is for you, and how often you avoid the situation.

<table>
<thead>
<tr>
<th>Difficulty (out of 10)</th>
<th>Avoidance (out of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Walking down the street</td>
<td>8</td>
</tr>
<tr>
<td>2. Being with your family</td>
<td>6</td>
</tr>
<tr>
<td>3. Being with friends</td>
<td>9</td>
</tr>
<tr>
<td>4. Being with strangers</td>
<td>10</td>
</tr>
<tr>
<td>5. Riding the city bus</td>
<td>3</td>
</tr>
<tr>
<td>6. Being with younger people</td>
<td>9</td>
</tr>
<tr>
<td>7. Being with older people</td>
<td>9</td>
</tr>
<tr>
<td>8. Being in a crowd</td>
<td>10</td>
</tr>
<tr>
<td>9. Being alone</td>
<td>7</td>
</tr>
<tr>
<td>10. Making friends</td>
<td>8</td>
</tr>
<tr>
<td>11. Talking about your feelings</td>
<td>7</td>
</tr>
<tr>
<td>12. Identifying your feelings</td>
<td>9</td>
</tr>
<tr>
<td>13. Having someone over to your place</td>
<td>9</td>
</tr>
<tr>
<td>14. Starting conversations</td>
<td>10</td>
</tr>
<tr>
<td>15. Going to social gatherings</td>
<td>10</td>
</tr>
<tr>
<td>16. Meeting new people</td>
<td>9</td>
</tr>
<tr>
<td>17. Asking for help</td>
<td>4</td>
</tr>
<tr>
<td>18. Answering questions</td>
<td>7</td>
</tr>
<tr>
<td>19. Spending time with men</td>
<td>7</td>
</tr>
<tr>
<td>20. Spending time with women</td>
<td>7</td>
</tr>
<tr>
<td>21. Going into stores</td>
<td>8</td>
</tr>
<tr>
<td>22. Making a mistake</td>
<td>2</td>
</tr>
<tr>
<td>23. Saying “No”</td>
<td>1</td>
</tr>
</tbody>
</table>

*Red has severer ratings (9+)*

*Yellow has moderate-severe ratings (8-9)*
Appendix K: Level of Difficulty Post-Intervention

Level of Difficulty Pre and Post-Intervention

Level of Difficulty on a Likert Scale

Situation
Appendix L: Likelihood of Avoidance Post-Intervention

Likelihood of Avoidance Pre and Post-Intervention

Situation

Likelihood of Avoidance on a Likert Scale

- Pre-test
- Post-test