Decreasing Anxiety and Increasing Well-Being
in a Client with Schizophrenia and Generalized Anxiety Disorder

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DEDICATION

This thesis is dedicated to my mother Ann E. Charles, RPN; her passion and commitment to the mental health profession have been a true inspiration, and I hope that the same passion and commitment guide me through my education and future career.

~L. Shaddai Charles
ABSTRACT

Objectives. The objective of this study was to evaluate if a brief Cognitive Behavioural Therapy (CBT) intervention could lower anxiety symptoms and increase self-esteem and self-efficacy in a client with schizophrenia and generalized anxiety disorder.

Design and Methods. An AB design was used to examine the effectiveness of a brief CBT program with the aim of decreasing anxiety and increasing self-esteem and self-efficacy. Self-report measures were administered pre-intervention, during intervention, and post-intervention, including the Beck Anxiety Inventory (BDI), the Rosenberg Self-Esteem Scale (RSES), and the Generalized Self-Efficacy Scale (GSES). The intervention consisted of 10 CBT sessions over the course of five weeks. To address anxiety symptoms cognitive restructuring and relaxation techniques were used such as positive affirmations (self-talk), thought records, examining schemas and maladaptive thinking, as well as breathing and progressive muscle relaxation exercises. To increase self-esteem positive self-talk exercises were used and the client was encouraged to repeat positive affirmations daily. To raise the participant’s self-efficacy, behavioural activation was employed and goals and objectives were set to motivate the client to continue working with the residential team and his worker after the intervention.

Results. During the five week intervention the client reported decreased frequency of anxiety symptoms and increased self-esteem and perceived self-efficacy, supporting the effectiveness of the CBT intervention. The residential team and primary worker reported a slight positive difference in client behaviour, however continued CBT may be necessary throughout the participant’s rehabilitation, therefore the primary worker will continue to use CBT with the client and track the client’s progress.

Conclusions. The brief CBT intervention appears to have been successful in decreasing anxiety and increasing self-esteem and efficacy for the client by post-intervention. It is hoped that with the support of the case manager, primary worker, and family, these changes can be maintained in the longer term.
ACKNOWLEDGEMENTS

First, thank you to my client for participating in this applied thesis; this project would not have been possible without you. To my placement supervisor, Mandy Locke, and the staff of Frontenac Community Mental Health Services, thank you for your ongoing support throughout this thesis; it has been a privilege to have worked with all of you. Lastly, thank you to my college supervisor Dr. Yolanda Fernandez, for encouraging me to learn and grow, and put my best foot forward while pursuing this career; your knowledge and experience have been a great contribution to this thesis, and I could not have done it without you.

Thank you everyone and best wishes for the future!

~L. Shaddai Charles
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INTRODUCTION

Overview

Schizophrenia is a complex mental illness that has fascinated researchers for many years. The severity and complexity of symptoms of schizophrenia can vary greatly from one client to the next and often causes issues such as social, cognitive, and behavioural dysfunction (Chen et al., 2009). Commonly known issues include positive symptoms such as auditory and visual hallucinations, delusions, disorganized speech, and behavioural problems, while negative symptoms include flat affect, anhedonia (lack of pleasure in activities and things), poverty of speech, lack of motivation, and avoidance of social contact. Perhaps less well known though are the emotional difficulties clients with schizophrenia face on a day-to-day basis, such as anxiety or depression, which sometimes cause clients to avoid experiences that are important to their development and overall quality of life (Chen et al., 2009). Empirical evidence suggests that pharmacological treatment alone is insufficient for treating the severity of physiological and psychological symptoms, increasing cognitive and behavioural functioning, and improving client’s quality of life (Fung & Tsang, 2008).

According to Lysaker, Roe, Ringer, & Gilmore (2012), anxiety and self-confidence are intertwined, and self-stigma can be a major barrier to emotional well-being and rehabilitation, often preventing clients from seeking socialization or adhering to psychosocial treatment. There are numerous studies that support the efficacy of using cognitive behavioural therapy (CBT) to manage symptoms of schizophrenia and emotional disturbances such as depression and anxiety, as well as increase self-confidence and self-efficacy through empowerment and cognitive therapy (Barrowclough et al., 2006; Brown et al., 2008; Gumley et al., 2006; Lincoln et al., 2012; Lysaker et al., 2012). The purpose of this study will be to evaluate the effectiveness of using a brief CBT intervention to decrease anxiety symptoms, and increase emotional well-being, specifically self-confidence and self-efficacy, in a client with schizophrenia and generalized anxiety disorder (GAD).

Hypothesis

The existing literature suggests that even a brief CBT intervention can be beneficial to clients with schizophrenia and have lasting positive effects on self-confidence and self-efficacy, as well as reducing anxiety (Brabban, Tai, & Turkington, 2009; Brown, 2008). Based on this supporting research literature it is hypothesised that a CBT based intervention will effectively increase self-confidence and self-efficacy while reducing anxiety symptoms in an individual with schizophrenia. It is hoped that in the longer term this intervention will empower the individual and give the client enough confidence to be more autonomous and live independently in the community.

Rationale

Though cognitive behaviour therapy (CBT) has been used to treat anxiety or depression successfully in a variety of contexts and populations, researchers have only begun to examine the therapeutic benefits of CBT for clients with schizophrenia over the last decade or so. Empirical studies now show that CBT can effectively increase resistance to anxiety, depression, self-stigma, psychotic symptoms, and relapse, and can increase self-confidence, self-efficacy, and promote emotional well-being in clients with schizophrenia (Chen et al., 2009; Brabban, Tai, & Turkington, 2009; Brown et al., 2008; Dodd & Wellman, 2000; Gumley et al., 2006;
This thesis will explore the background of schizophrenia and generalized anxiety disorder, the effects of pharmacological and cognitive behavioural therapy treatment, and how these treatments affect anxiety symptoms, self-esteem, and client self-efficacy. A critique of the current empirical literature has also been provided, as well as the rationale for using cognitive behavioural therapy. The methodology section outlines personal details of the participant, the procedures used, as well as rationale for use of an AB design. Results of this study will be reported and interpreted in the discussion section, along with program changes and multilevel challenges throughout the course of writing this thesis.
LITERATURE REVIEW

Background of Schizophrenia

“Schizophrenia is a psychotic disorder characterized by major disturbances in thought, emotion, and behaviour: disordered thinking in which ideas are not logically related, faulty perception and attention, flat or inappropriate affect, and bizarre disturbances in motor activity” (Davidson, Blankstein, Flett, & Neale, 2008, p. 325). According to the Diagnostic and Statistical Manual (DSM-IV-TR) diagnostic criteria include the presence of an active phase (client experiences hallucinations, delusions, negative symptoms, disorganized speech, etc.) for at least one month, and at least six months of a prodromal or residual phase in which the client is socially withdrawn, experiences impaired functioning, flat or inappropriate affect, illogical thinking patterns or abnormal perceptual experiences, etc. (Davidson et al., 2008).

The prevalence of schizophrenia is generally accepted as approximately 1% of the general population according to the Government of Canada (2006), and the onset typically occurs earlier for men (around age 25) than women, however there have been cases of childhood schizophrenia as well (Davidson et al., 2008). According to Schmitt, Hason, Gruber, & Falkai (2011) both genetic and environmental factors contribute to the development of schizophrenia.

Meta-analysis of various studies shows that there is functional disconnectivity between different areas of the brain in people who have schizophrenia; ultimately this is a major factor in dysfunctional perception or cognition which are key symptoms of schizophrenia (Davidson et al., 2008). Perceptual dysfunctions may include symptoms such as visual hallucinations or auditory hallucinations which can be very distressing to the person with schizophrenia because it is virtually impossible for them to distinguish these perceptions from reality (Davidson et al.) Cognitive functioning such as memory, attention, and executive functioning may also be compromised in some people with schizophrenia depending on the severity of the illness, and can have a significant impact on their level of functioning creating some difficulties around performing daily tasks of everyday living (Klingberg et al., 2009). According to Klingberg et al., the negative symptoms of schizophrenia are long-lasting and may occur for as long as ten years with as many as 50% of people with schizophrenia reporting negative symptoms up to a year after their last episode. These symptoms are challenging to manage and heavily influence psychosocial outcomes and one’s ability to be an autonomous and independent member of society (Klingberg et al.).

According to Davidson et al. (2008), negative symptoms of schizophrenia refer to behavioural deficits such as avolition (apathy, or lack of energy to perform everyday activities), alogia (poverty of speech), anhedonia (inability to feel pleasure in activities or things), flat affect (flat outward expression of emotion such as facial expression or tone of voice), asociality (poor social skills, lack of friends, avoidance of social activities, etc.), catatonia (frequent motor abnormalities such as twitching, arm flailing, and mania), or inappropriate affect (emotional responses that are out of context). Positive symptoms include hallucinations, delusions, and disorganized speech (Davidson et al.). For people with schizophrenia there can be a complex myriad of cognitive, emotional, and behavioural issues that greatly affect their day to day living and can take years before finding the right combination of treatment strategies in order to reduce the effects of these challenges.
Schizophrenia and Anxiety

Studies show that as many as 60% of clients with schizophrenia or two-thirds of this demographic suffer from anxiety related issues, which is of serious concern (Chen et al., 2009). While anxiety disorders are more commonly comorbid with depression, a meta-analysis by Achim et al. (2011) shows that prevalence rates of anxiety disorders for people with schizophrenia are more common than previously thought; obsessive compulsive disorder (OCD) (7.0%-17.1%), social phobia (8.1%-21.8%), panic disorder (4.3%-15.4%), post-traumatic stress disorder (PTSD) (4.0%-20.8%), and generalized anxiety disorder (GAD) (2.9%-18.8%). While heredity is an important factor, life experiences such as physical and/or emotional trauma or personal life stressors can heavily influence the severity of anxiety disorders (Karsnitz et al., 2011).

Generalized anxiety disorder (GAD) is a very common health issue that is considered a significant disability, especially for those in primary or community health care settings (Wong et al., 2011). The DSM-IV-TR describes GAD as an excessive and uncontrollable worry that occurs on most days for six months or more and affects daily functioning; this can manifest in ways such as fatigue, restlessness, muscle tension, etc. (Donegan & Dugas, 2012). According to Karnitz et al. (2011) GAD is associated with more frequent emergency room visits, increased prescriptions, increased sick time from work, and more psychological therapy; the annual cost of GAD in approximately $42 billion in the United States alone. Many people experience anxiety related issues due to situations such as work performance or social situations, and for people with schizophrenia symptoms such as paranoia or delusions, these symptoms can aggravate already existing anxiety symptoms and cause someone with schizophrenia to be especially fearful or anxious (Lysaker et al., 2012). GAD can affect various aspects of a person’s life such as social development, work, and can sometimes limit their autonomy as far as tasks of everyday living because they may be afraid of something happening, such as having a panic attack in public (Karsnitz et al.). The Beck Anxiety Inventory (BAI) by Beck & Steer (1993) is often used as a measure of anxiety because it is reliable and effectively assists in identifying the severity of anxiety.

According to Karsnitz et al. (2011) mental health disorders can be complex and require a collaborative team approach between a mental health professional and the primary care giver in order to ensure successful treatment. If left untreated there is a moderate re-occurrence rate because GAD is chronic. Because GAD can stem from both biological and environmental factors, both pharmacological treatment and cognitive behavioural therapy (CBT) may be necessary to maximize the effectiveness of treatment (Karnitz et al.). Though pharmacological treatment may be important, Karsnitz et al. note that CBT (relaxation training, exposure therapy, identifying triggers, etc.) in combination with pharmacological treatment is the most beneficial for relieving GAD symptoms. An empirical study by Salzer et al. (2011) evaluated the effectiveness of a brief CBT intervention versus short-term psychodynamic psychotherapy (STPP) after a 12-month follow up for patients with GAD. For the CBT treatment a standardized published treatment manual was used, utilizing techniques such as progressive muscle relaxation, deep breathing, cognitive restructuring, etc. A treatment manual derived from Luborsky’s supportive-expressive therapy was used during STPP treatment specifically to target GAD symptoms. The Hamilton Anxiety Rating Scale (HARS) was used as the primary outcome measure during this 12-month follow-up. Self-report measures included the Beck Anxiety
Inventory (BAI), the Beck Depression Inventory (BDI), the State-Trait Anxiety Inventory (STAI), the Penn State Worry Questionnaire (PSWQ), the anxiety scale of the Hospital Anxiety and Depression Scale (HADS), as well as the Inventory of Interpersonal Problems (IIP). Results of this study indicated that there was no significant difference in primary outcome measures, however CBT was found to be superior in the PSWQ and STAI measures. According to Salzer et al. this was due to the large between-group effect sizes. This demonstrated that worry is a significant component of GAD that must be addressed in order to minimize symptoms, and CBT techniques such as cognitive restructuring, progressive muscle relaxation, etc. can be effective techniques for addressing worry in clients with GAD.

**Schizophrenia and Self-Esteem**

Many people diagnosed with schizophrenia feel alienated or disconnected from society because of the stigma surrounding mental illness; some people believe that people with schizophrenia are incompetent or dangerous because of their mental illness and avoid social engagement (Watson, Corrigan, Larson, & Sells, 2007). Most of these stereotypes originate from media and do not reflect the behaviour of actual people with schizophrenia; it is a shame that so many people accept these beliefs because the effects of these stereotypes may prevent people with schizophrenia from gaining employment, housing, treatment, and other services that are vital to daily living (Lysaker et al., 2012). Unfortunately many people who do not understand schizophrenia share these beliefs and may treat people with schizophrenia accordingly, possibly causing people with schizophrenia to feel alienated or rejected by society, which can contribute to self-stigmatization and lower their self-confidence (Watson et al.). Because of this self-stigma many clients also struggle with fear, depression, and negative thoughts, potentially causing anxiety and creating a barrier to their recovery and integration into the community (Watson et al.). If therapeutic intervention is the appropriate length of time, cognitive behavioural therapy can effectively raise self-esteem by learning how to use positive self-talk, as well as examine negative automatic thoughts and how to change schemas (Brown et al., 2008; Donegan & Dugas, 2012; Lincoln et al., 2012; Seter, Giovannetti, Kessler, & Worth, 2011; Wong et al., 2011). An empirical study by Gumley et al. (2006) demonstrated that CBT can reduce negative feelings of loss due to psychosis, as well as increase self-esteem in clients with schizophrenia. A randomized control trial composed of 144 relapse-prone participants with schizophrenia compared participants receiving pharmacological therapy alone, and participants receiving pharmacological therapy with CBT. Participants completed the personal Beliefs about Illness Questionnaire (PBIQ) and the Rosenberg Self-Esteem Scale (RSES) during a three month, six month, and 12 month follow-up. Results showed that participants who received pharmacological therapy with CBT showed greater results on the PBIQ and the RSES, and demonstrated that there is a strong correlation between relapse of psychotic symptoms and self-esteem, particularly feelings of entrapment and self-blame. By increasing self-esteem in clients with schizophrenia they can become more resistant to self-stigma and gain more confidence to integrate into the community or perform tasks of everyday living.

**Schizophrenia and Self-Efficacy**

Self-efficacy refers to a person’s sense of personal control, and self-esteem and goal setting can be important attributes that contribute to a person’s sense of self-efficacy (Lysaker et al., 2012; Markowitz, Angell, & Greenberg, 2011). While some people are great at getting organized and planning and executing goals, for some people it can be very challenging. Some of
the core features of schizophrenia include motivational and executive functioning deficits, which can make decision making, planning, or carrying out tasks difficult (Barch & Dowd, 2010). While avolition (lack of motivation) may be the largest contributing factor of low self-efficacy, anhedonia (lack of pleasure in activities or things) undoubtedly plays a role as well; ultimately unless they find the activity pleasurable or rewarding they will not have the motivation to do it, hence why goal setting and activity planning can be difficult with clients who have schizophrenia (Barch & Dowd). Many people with schizophrenia may find it difficult to find the motivation to execute activities of daily living alone. As a result long-term goals and action planning are not of interest to many clients. Barch and Dowd outlined a hypothesis that “individuals with schizophrenia seem to have difficulties using internal representations of emotional experiences, previous rewards, or motivational goals to drive current and future behaviour that should allow them to obtain desired outcomes, a deficit that has major clinical significance in terms of functional capacity” (p.4). Therefore, some people with schizophrenia may lack the cognitive capacity to make the connections between actions and outcomes, making it difficult to teach them how to set and achieve objectives and goals. CBT techniques such as self-talk, cognitive reappraisal, setting goals, and graded exposure can help to promote self-efficacy by building self-esteem and motivation. The effectiveness of CBT increasing self-esteem and self-efficacy has been demonstrated through many studies, including those that involve issues such as eating disorders or GAD. According to Treanor et al. (2011) CBT is effective treatment for GAD and can increase self-esteem and self-efficacy. An empirical study by Treanor et al. combined elements of CBT, Acceptance and Commitment Therapy (ACT), Mindfulness-based Cognitive Therapy (MBCT), as well as Dialectical Behaviour Therapy (DBT) in order to reduce GAD symptoms in participants, including perceived self-efficacy. Measures for this study included the Affective Control Scale (ACS) to assess fear or distress of losing control, the Difficulties in Emotion Regulation Scale (DERS) to assess emotional regulation over various domains, the Intolerance of Uncertainty Scale-English Version (IUS) to assess ability to withstand uncertainty, the Anxiety Control Questionnaire-Revised (ACQ-R) to assess perceived control over emotional states, the Anxiety Disorder Interview Schedule for DSM-IV Lifetime Version to assess severity of GAD symptoms, and finally, the Penn State Worry Questionnaire (PSWQ) in order to assess trait levels of excessive worry. Although the focus of this treatment was Acceptance-based Behavioural Therapy (ABBT), it still utilized some important components of CBT treatment as well, including progressive muscle relaxation, diaphragmatic breathing, and goal setting. Results of this study indicated that ABBT is effective treatment for GAD symptoms and can increase client’s sense of self-efficacy; however, this study made it difficult to discern which component of treatment contributed most to the development of self-efficacy. CBT techniques can promote a sense of control by actively teaching clients to control their own thoughts and symptoms, but ACT and mindfulness-based therapies may also yield similar results by teaching clients that by giving up control and increasing acceptance, they gain control. Overall, this study did show that lowering anxiety symptoms can promote self-efficacy, especially for those with GAD. By using CBT techniques such as progressive muscle relaxation, deep breathing, cognitive restructuring, and goal setting, it is hoped that the client can reduce anxiety symptoms, and increase self-esteem and self-efficacy in order to increase autonomy.
Interventions

Pharmacological Therapy:

For people with chronic schizophrenia and persistent psychotic symptoms, pharmacological treatment is a crucial component of therapy, however, not all clients respond to drugs such as clozapine and as many as 30-50% may experience symptoms of illness even with medication (El-Badri & Mell sop, 2011). Although pharmacological treatment is usually useful there can be some issues in regards to antipsychotic polypharmacy (co-prescription of multiple medications for a client) such as high dose prescribing, drug dependence, conflict of drug interactions, and potentially fatal side effects (Barnes & Paton, 2011; Neilsen, Damkier, Lub lin, & Taylor, 2011).

Clozapine is usually incorporated into polypharmacological treatment for treatment resistant schizophrenia, and despite the number of side-effects it remains the most effective drug to this day (Neilsen, Damkier, Lublin, & Taylor, 2011). Because of clozapine’s side-effects and other potential side-effects from drug to drug interactions, clients must be carefully monitored by a psychiatrist in order to determine the lowest effective dose that is suitable, without creating too many side-effects (Neilsen, et al.). If clozapine treatment is effective there can be benefits such as reduced aggression, reduced suicidal ideation, as well as reduced psychotic symptoms (Neilsen, et al.). Although clozapine may be effective for some clients, it is noted that non-pharmacological treatments such as cognitive behavioural therapy (CBT), skills training (SST), and case-management may improve the quality of life for clients and assist in reducing psychotic symptoms (Neilsen, et al.).

Cognitive Behavioural Therapy (CBT):

Cognitive behavioural therapy (CBT) is a theoretical model that originates from behaviour modification theory and focuses on restructuring dysfunctional thoughts and emotions in order to develop cognitive and behavioural changes; this includes using techniques such as thought records to explore dysfunctional thoughts and schemas, positive affirmation exercises, and adapting techniques such as progressive muscle relaxation, breathing, activity scheduling, etc. (Hasson-Ohayon, 2012). Although CBT is not appropriate as a sole treatment for schizophrenia, in conjunction with proper pharmacological therapy it can be very beneficial and lower anxiety, as well as raise self-esteem and self-efficacy for clients receiving psychosocial rehabilitation (Chen et al., 2009; Fung & Tsang, 2008; Barrowclough et al., 2006). According to Hasson-Ohayon many CBT interventions are now focusing on broader outcomes such as the daily functioning of clients or overall quality of life, and not just minimizing the impact of psychotic symptoms.

For people with anxiety disorders or symptomology, CBT techniques such as progressive muscle relaxation (PMR) and deep breathing can also efficiently assist in managing anxiety symptoms and can be a useful coping strategy when faced with anxiety (Donegan & Dugas, 2012; Vancampfort et al., 2011). For those who are prone to panic attacks, these techniques can especially be a great preventative strategy. A study by Brown et al. (2008) has also shown that even a brief CBT intervention can have positive long-lasting effects on self-esteem by utilizing assertiveness training, as well as challenge negative self-image by using positive affirmations. By decreasing anxiety and increasing self-esteem there is also a chance of increased self-efficacy.
if clients believe they have the confidence and capability to make good decisions, set objectives, and achieve their goals; activity planning and goal setting can be very efficacious if followed through and monitored by a case manager or mental health professional who can provide ongoing support (Posadzki, Stockl, Musonda, & Tsouroufli, 2010; Seter, Giovannetti, Kessler, & Worth, 2011). However, Hasson-Ohayon (2012) does state that many people with schizophrenia have metacognitive deficits that create challenges creating accounts of themselves or others, as well as difficulties organizing their knowledge in order to problem-solve, therefore CBT concepts can be challenging.

Critique of Literature

Although there is sufficient literature on using CBT for schizophrenia symptoms and GAD symptoms, there is little empirical literature on the use of CBT for clients with comorbid schizophrenia and GAD. Both schizophrenia and GAD are serious challenges in and of themselves, so when these disorders are combined it presents a complex set of challenges for the individual. When using CBT to treat GAD in an individual with schizophrenia it would be useful to have more literature available on how schizophrenia and GAD affect one another (e.g. how anxiety symptoms may increase the severity of positive or negative schizophrenic symptoms, or vice versa). Although empirical studies suggest CBT is effective treatment for clients with schizophrenia or GAD, it is unknown how factors such as state of mental health, cognitive functioning, or certain medications may affect the effectiveness of CBT. Though pharmacological therapy and CBT combined are more effective than either treatment alone, CBT may not be optimal depending on drug-effects. As Hasson-Ohayon (2012) posited, there often exists metacognitive deficits in those with schizophrenia; when combined with certain drug side-effects such as lethargy, there may be further deficits in cognitive functioning. It would be interesting to know at which point antipsychotic medications help or hinder the cognitive functioning of clients with schizophrenia, although results would be varied from each client to the next depending on the medication, dosage, natural level of cognitive functioning, and the cognitive tasks being presented.

Rationale for Using Cognitive Behavioural Therapy for Schizophrenia

One of the core features of schizophrenia is difficulty in cognitive functioning, which can also affect emotional and behavioural functioning that is essential to everyday living (Seter, Giovannetti, Kessler, & Worth, 2011). If there is dysfunction in cognitive functioning it may be more likely for people with schizophrenia to have emotional and behavioural disturbances such as anxiety issues, lowered self-esteem, and in turn lowered self-efficacy.

The rationale for using CBT for this client with schizophrenia and GAD is that CBT has the potential to simultaneously make a difference in both schizophrenia and anxiety symptoms, in turn increasing the client’s self-esteem and self-efficacy. In the longer term it is hoped that decreased anxiety along with increased self-esteem and self-efficacy will aid the client to be more autonomous and prepare to transition from shared residential living to independent living.
METHODOLOGY

Participant

Mr. Jones is a 46-year-old Caucasian male who has a formal diagnosis of schizophrenia and generalized anxiety disorder. He has resided at a Community Mental Health Service residential treatment home for approximately 5 months now. Mr. Jones is aware of his diagnosis and agrees with it, and he is consistently compliant receiving and taking his medication up to three times daily. Mr. Jones reports that he received his diagnosis of schizophrenia around the age of 17 years old. He dropped out of high school in grade 10 and afterward lived an “average life” with his girlfriend and visited his two older brothers. However, based on conversations with Mr. Jones his former romantic partner was abusive and he believes unfaithful, and both of them would argue often because of jealousy and emotional difficulties. Though he no longer is in a romantic relationship he still visits with his two older brothers regularly and receives financial and emotional support from both of them. Mr. Jones speaks fondly of his relationship with his brothers and is grateful for the support he receives from them, but has disclosed that he has some concerns about living independently. He does not believe he can live on his own without relying on his brothers to help him make life decisions and manage his finances. He also expressed that he would live with a roommate if necessary, but would prefer to live with and have a relationship with a romantic partner. Mr. Jones currently lives in an 18-bed residential treatment home, shared by other residents that have an Axis I disorder and require high support. Though Mr. Jones regularly has an optimistic demeanour and is helpful around the residence, he is prone to displaying anxiety symptoms such as fatigue, emotional disturbance, hurried speech, sweating, and frequently complains that he has “bad nerves”. These symptoms persist even with consistent medication compliance. The anxiety he experiences presents as a threat to his emotional, cognitive, and physical well-being. Mr. Jones does not experience positive symptoms when he has taken his medication, however some negative symptoms still persist. Schizophrenia symptoms that may be unaffected by medication include blank staring, feeling ‘dazed,’ and disorganized thinking, however, this may be contributed to the effects of his medication.

Consent/Assent Procedures

A consent form was developed for the cognitive behavioural therapy intervention, and was approved by the college supervisor, agency supervisor, and the REC-P committee of St. Lawrence College. Mr. Jones was read the consent form and informed of all processes and procedures involving the intervention plan, where any data obtained from this study will be stored, and that he could withdraw from the study at any time without consequence. He was given the opportunity to ask any questions and have them answered to his satisfaction. Mr. Jones is considered competent to provide informed consent. He consented to participate in this study and signed the consent form October 10th, 2012 (Appendix A).

Materials

Materials for intervention included handouts, worksheets, activity charts, posters, and self-report questionnaires. Handouts were used to provide educational information, and worksheets were used to evaluate Mr. Jones’ understanding of activity concepts, and charts and posters were used to encourage self-affirmations and behavioural activation. Self-report
questionnaires were completed before, during, and after intervention to gauge his level of anxiety, self-esteem, and self-efficacy.

**Design**

This case study was an AB design (baseline, intervention, and post-intervention) that utilized CBT techniques to reduce anxiety and increase the self-confidence and self-efficacy of a client with schizophrenia and generalized anxiety disorder. Anxiety, self-confidence, and self-efficacy were assessed before, during, and after intervention. This study took place in a community agency dedicated to assisting those with schizophrenia, and, as noted above, involved a single male participant, age 46, who was diagnosed with schizophrenia, received medication regularly, and displayed anxiety symptoms, as well as deficits in self-confidence and self-efficacy. A case conceptualization based on client history (anxiety symptoms and issues surrounding activities of daily living), current presenting symptoms (anxiety, lack of self-confidence and self-efficacy), and client goals and attitude (clients wants to be more independent and live on their own) suggested that this client is a good candidate for CBT intervention, and a therapeutic working relationship could quickly be established and maintained.

**Setting**

This study took place in a residential treatment home dedicated to assisting clients with Axis I disorders/dual diagnosis. Due to the agency policy which states clients may not enter staff offices and staff/students may not be in the client’s room without other staff, activity sessions with the client were held upstairs at a table in a semi-private area next to the staff office. In order to protect the client’s privacy, minimize distractions, and create clear and focused communication, the area was only used when staff and other residents were absent from the area.

**Measures**

Self-report data on the dependant variables was collected using the Beck Anxiety Inventory (BAI), the Rosenberg Self-Esteem Scale (RSES) (Appendix B), and the Generalized Self-Efficacy Scale (GSES) (Appendix C). A copy of the BAI has not been included in the appendices due to copyright law.

The Beck Anxiety Inventory (BAI) (Beck & Steer 1993) is a 21 item self-report that uses a four-point Likert scale used to measure the level of anxiety. According to Dowd (2012) this is a very useful instrument that is widely used because it has few flaws and has high validity and reliability rates. A score of 0-21 indicates very low anxiety, 22-35 indicates moderate anxiety, a score above 36 indicates that there may be cause for concern. This assessment tool was used to determine the severity of Mr. Jones’ anxiety in order to titrate the level of cognitive behavioural therapy techniques that would be most useful to him.

The Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965) is a 10-item scale that uses a four-point Likert scale to assess a person’s feelings about themselves. According to Watson, Corrigan, Larson, and Sells (2007), the RSES is widely used because it has been shown to be reliable and valid, assisting with psychological research on self-esteem. This tool was selected to understand how Mr. Jones feels about himself.
The Generalized Self-Efficacy Scale (GSES) (Schwarzer & Jerusalem, 1995) is a ten item questionnaire that asks clients to rate how closely they identify with self-efficacy statements based on a four-point Likert scale. Posadzki, Stockl, Musonda, and Tsouroufli (2010) state that this is a reliable and valid tool for assessing client self-efficacy, and is an important tool for gaining insight into how a client perceives themselves and their role in their own mental health recovery. This assessment tool was selected to measure how Mr. Jones perceives his own self-efficacy.

**Procedures**

The participant was assessed before, during, and after the CBT intervention using the selected measures including the Beck Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970) to assess level of anxiety, the Rosenberg Self-Esteem Scale (Rosenberg, 1965) to assess feelings of self-worth and possible target areas for CBT intervention, as well as the Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) to assess his perceived ability to handle certain situations.

During this CBT intervention the participant was required to attend two sessions a week for approximately 30 minutes each. Each session used a different CBT technique to target anxiety symptoms, or increase the participant’s self-esteem and self-efficacy. Some of these activities included progressive muscle relaxation (PMR) (learning to relax each part of the body), thought records (identifying and stopping intrusive negative thoughts), activity planning (a form of distraction) and deep breathing exercises in order to reduce the participant’s anxiety symptoms. Cognitive restructuring activities such as using thought records (help identify triggers for negative/unproductive thought), identifying negative automatic thoughts (figuring out which thoughts are dysfunctional and which are realistic), cognitive rehearsal (positive self-talk, e.g. today will be a good day), and goal setting were used to try and increase self-confidence and self-efficacy. According to Chen et al. (2009) CBT techniques such as these are very useful in decreasing anxiety and promoting positive self-image, which in turn may increase self-efficacy.

**Schedule of Activities & Appendices**

<table>
<thead>
<tr>
<th>Activity Session</th>
<th>Focus</th>
<th>Appendix</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CBT Thought Record</td>
<td>Cognitive restructuring/ self-esteem</td>
<td>D</td>
</tr>
<tr>
<td>2. Schema Activation Formulation</td>
<td>Cognitive restructuring/ self-esteem</td>
<td>E</td>
</tr>
<tr>
<td>3. My Favourite Leisure</td>
<td>Behavioural activation</td>
<td>*</td>
</tr>
<tr>
<td>4. I Will Like Myself A-Z/ Positive Affirmations</td>
<td>Increasing self-esteem</td>
<td>*</td>
</tr>
<tr>
<td>5. Stress Worksheet</td>
<td>Lowering anxiety</td>
<td>*</td>
</tr>
<tr>
<td>6. Stress/Pleasure Hierarchy</td>
<td>Lowering anxiety</td>
<td>*</td>
</tr>
<tr>
<td>7. Calming Technique</td>
<td>Lowering anxiety</td>
<td>H</td>
</tr>
<tr>
<td>8. Progressive Muscle Relaxation</td>
<td>Lowering anxiety</td>
<td>I</td>
</tr>
<tr>
<td>9. Hopes For The Future Worksheet</td>
<td>Building self-efficacy</td>
<td>J</td>
</tr>
<tr>
<td>10. Setting Goals &amp; Objectives</td>
<td>Building self-efficacy</td>
<td>K</td>
</tr>
</tbody>
</table>

*Omitted from appendices due to copyright law*
RESULTS

Mr. Jones was assessed before, during, and after the CBT intervention using self-report data from questionnaires. Mr. Jones completed the Beck Anxiety Inventory (BAI) (Spielberger, Gorsuch, & Lushene, 1970) to assess his level of anxiety, the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965) to assess his feelings of self-worth, as well as the Generalized Self-Efficacy Scale (GSES) (Schwarzer & Jerusalem, 1995) to assess his perceived ability to handle certain situations.

Figure 1. Beck Anxiety Inventory (BAI) Graph

Table 2.
Beck Anxiety Inventory (BAI) Data

<table>
<thead>
<tr>
<th></th>
<th>Total Score</th>
<th>Mean (M)</th>
<th>Standard Deviation (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Intervention</td>
<td>37/63</td>
<td>M= 1.76</td>
<td>SD= 1.22</td>
</tr>
<tr>
<td>Intervention</td>
<td>20/63</td>
<td>M= 0.95</td>
<td>SD= 0.80</td>
</tr>
<tr>
<td>Post-Intervention</td>
<td>7/63</td>
<td>M= 0.33</td>
<td>SD= 0.48</td>
</tr>
</tbody>
</table>

Table 2. shows that during the pre-intervention phase Mr. Jones’ overall Beck Anxiety Inventory (BAI) score was 37, which indicated that he potentially had severe anxiety. The mean item rating was 1.76, with a standard deviation of 1.22. During the intervention phase his overall BAI score decreased to 19, exceeding intervention expectations and classifying him as low anxiety by BAI standards. During this time the mean item rating changed to 0.95 and standard deviation to 0.80, indicating there was less variability in scores. At post-intervention his BAI score was seven, indicating very low anxiety. The mean item rating was 0.33, and the standard deviation became 0.48. Variability may have decreased as a result of Mr. Jones’ anxiety levels...
decreasing and stabilizing, creating less variability in how he rated his anxiety symptoms. Visual analysis of Figure 1 indicates that initially Mr. Jones rated most of his anxiety symptoms in the severe-moderate range while by post-intervention his symptom ratings ranged from mild-absent. Mr. Jones’ BAI total score decreased from 37-7 from pre-intervention to post-intervention supporting a decrease in anxiety symptoms following the CBT intervention.

![Rosenberg Self-Esteem Scale (RSES) Graph](image)

**Figure 2. Rosenberg Self-Esteem Scale (RSES) Graph**

<table>
<thead>
<tr>
<th></th>
<th>Total Score</th>
<th>Mean (M)</th>
<th>Standard Deviation (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Intervention</td>
<td>17/30</td>
<td>M= 1.7</td>
<td>SD= 0.48</td>
</tr>
<tr>
<td>Intervention</td>
<td>21/30</td>
<td>M= 2.1</td>
<td>SD= 0.31</td>
</tr>
<tr>
<td>Post-Intervention</td>
<td>21/30</td>
<td>M= 2.1</td>
<td>SD= 0.31</td>
</tr>
</tbody>
</table>

Table 4. shows that during the pre-intervention phase Mr. Jones’ overall Rosenberg Self-Esteem Scale (RSES) score was 17, which indicated that his self-esteem was acceptable because the score did not fall below 16, however there was still room for improvement as he only scored 17 out of a possible 30 points. Table 4. also shows that the mean item rating was 1.7, with a standard deviation of 0.48. During the intervention phase his overall RSES score increased to 21, suggesting that Mr. Jones felt an increase in his self-esteem. During this time the mean item rating increased to 2.1 and the standard deviation decreased to 0.31 indicating less variability in his scores. This may indicate that Mr. Jones is feeling more certain of his self-esteem levels. A
post-intervention RSES assessment showed that his score remained stable at 21, and the mean and standard deviation remained the same as well, indicating that his increase in self-esteem was maintained. Visual analysis of Figure 2. suggests a stable slight increase in self-esteem.

Figure 3. Generalized Self-Efficacy Scale (GSES) Graph

Table 6. Generalized Self-Efficacy (GSES) Data

<table>
<thead>
<tr>
<th></th>
<th>Total Score</th>
<th>Mean (M)</th>
<th>Standard Deviation (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Intervention</td>
<td>13/40</td>
<td>M= 1.3</td>
<td>SD= 0.94</td>
</tr>
<tr>
<td>Intervention</td>
<td>27/40</td>
<td>M= 2.7</td>
<td>SD= 0.67</td>
</tr>
<tr>
<td>Post-Intervention</td>
<td>28/40</td>
<td>M= 2.8</td>
<td>SD= 0.42</td>
</tr>
</tbody>
</table>

Table 6. shows that during the pre-intervention phase Mr. Jones’ Generalized Self-Efficacy Scale (GSES) score was 13/40 possible points, indicating low self-efficacy. Table 6. also shows that during this phase the mean item rating was 1.3 and the standard deviation was 0.94 indicating variability in his scores. During the intervention his GSES score increased to 27, showing an increase in perceived self-efficacy as the mean item rating increased to 2.7 and the standard deviation lowered to 0.67 indicating less variability and higher confidence in choosing a score. Post-intervention his GSES score increased to 28 and the mean item rating increased to 2.8, with the standard deviation falling to 0.42. Visual analysis of Figure 3. suggests higher perceived self-efficacy post-intervention.
DISCUSSION

Summary of Results

According to the self-report data obtained from this intervention, the hypothesis that a brief CBT intervention could lower anxiety and increase self-esteem and self-efficacy in a client with schizophrenia and generalized anxiety disorder was supported. Current literature suggested that there was a correlation between self-esteem and anxiety in patients with schizophrenia and GAD, and that self-efficacy could be increased overall by increasing self-esteem and minimizing anxiety. Some CBT exercises in this intervention included the use of positive-affirmations and cognitive restructuring to increase self-esteem, as well as progressive muscle relaxation and breathing techniques to minimize anxiety symptoms and promote a sense of control and emotional regulation, as well as set goals and established future objectives to motivate the client to progress further in their treatment. Results indicated that increasing self-esteem and encouraging positive thinking did decrease anxiety, and increase self-efficacy by motivating the client and promoting steps toward positive change. This further supports the results of previous studies that CBT can be an effective treatment for these disorders, and furthermore, that CBT can be effective treatment for someone with both schizophrenia and GAD. By minimizing anxiety symptoms and increasing self-esteem and self-efficacy client well-being can be increased and hopefully improve overall quality of life in the longer term.

Program Changes

Originally the cognitive behavioural intervention was supposed to include 12 sessions, but due to time constraints it was reduced to 10 sessions. After a baseline assessment was conducted it was also decided that it was best to focus on coping strategies for Mr. Jones’ anxiety, therefore there were more coping strategies implemented and fewer self-esteem exercises. Due to the severity of Mr. Jones’ anxiety and the frequency of seeking directions, the Leisure Activities Chart was implemented immediately instead of later during the intervention in order to redirect his behaviour and provide him with alternate activities other than cleaning.

Strengths and Limitations

Strengths of the study include the use of various cognitive behavioural therapy techniques that have been shown to be effective in reducing anxiety symptoms in previous studies, such as behavioural activation, cognitive restructuring, and goal setting, etc. By using various simple CBT activities the client remained engaged and motivated throughout sessions, and demonstrated understanding of CBT concepts through the execution of interactive activities and exercises. A strong therapeutic relationship was also established between the examiner and participant, making it easier to redirect and challenge his dysfunctional thoughts without creating feelings of anger or frustration. Close collaboration with the residential team and primary worker also assisted in strengthening the effectiveness of this client intervention by offering the client support and encouragement both during and after intervention.

Although the data indicates this intervention had positive results for the client, there were some limitations to this study. This case study exclusively used self-report data to track the participant’s perceptions and emotions and determine their level of anxiety symptoms, their self-esteem, as well as their self-efficacy. Due to the subjective and personal nature of these
measured traits self-report data was necessary; however for measuring self-efficacy it could have been possible to track participant behaviour in conjunction with self-report data (e.g., tracking the completion of independent activities without staff prompting). Given the complexity and severity of this particular client’s anxiety symptoms and time restraints, only the client’s perceived self-efficacy was measured and actual self-efficacy was not observed and measured. Although the data suggests this CBT intervention did make a positive difference in anxiety symptoms and how the client perceived himself and control of his environment, it is unknown if there were any actual changes in behaviour as opposed to thoughts or emotions. Unfortunately due to time constraints longer term follow-up was not possible in order to examine if changes were maintained. It should also be noted that while CBT intervention did make a difference for this client, this study’s results are not necessarily generalizable to other clients with schizophrenia and GAD as results may differ from one individual to another.

Multilevel Challenges

Client Level- There were a few challenges with this particular client during the course of this study. Attention and motivation are often an issue for clients with schizophrenia, which was no exception for this client; redirection and breaks were intermittently needed to refocus attention and provide additional clarification during activities. Transference may have also occurred at some point during therapy, during which time it was explained to the client that professional boundaries must exist for a proper therapeutic relationship to exist.

Program Level- Although the client seemed to enjoy participating in the activities, it would have been nice to find a more creative way of presenting the material other than handouts and written activities. This particular client was very artistic as well, so perhaps those skills should have been incorporated more in the activities presented in order for the client to easier understand the material and remember it. I also would have liked to have done more behavioural activation, taking the client out into public and recording his behaviour, however, this was not possible due to time constraints and these recommendations were left with the primary worker and case manager.

Organizational Level- Unfortunately there were some minor issues with this particular residence. Because of agency policy and lack of space, there were not many areas in residence where the client could participate in program activities without sacrificing a degree of privacy. Thankfully we did manage to find a semi-private area under surveillance and the client did not mind the occasional resident interrupting, however it would have been preferred for the agency policy to allow the utilization of one of their private office spaces in order to promote a more comfortable atmosphere without interruptions.

Societal Level- Unfortunately there is a large stigma attached to mental illness, and some people are very misinformed about people with mental health issues. This stigma may cause some people to be mistrustful or disrespectful toward this population, and further segregates people with mental illness from society. There is concern that some of the techniques the client has learned during this study may not generalize to outside of residence and the client may still struggle to deal with anxiety in public.
Contribution to the Behavioural Psychology Field

This cognitive behavioural intervention utilized behavioural activation and cognitive restructuring in order to challenge negative thoughts and beliefs Mr. Jones had of himself, his abilities, and his future. By assisting this client in identifying their positive attributes, abilities, and discussing how to set and achieve future goals there was a noticeable decrease in anxiety symptoms and increases in self-esteem and self-efficacy according to self-report data throughout the intervention. This is consistent with the empirical research that suggests brief CBT can be an effective treatment for schizophrenia and generalized anxiety disorder, and may be helpful to those working with clients who have schizophrenia and GAD by further supporting the efficacy of CBT.

Recommendations for Future Research

Due to the challenging and pervasive nature of both schizophrenia and generalized anxiety disorder it may be necessary to utilize a longer period of CBT in order to enhance and maintain intervention results. If a CBT intervention was implemented over a longer time period, it is recommended that more time be focused on behavioural activation and graduated self-exposure in order to increase self-efficacy and confidence in an individual, (e.g., going out into the community on their own to do activities). In the future it would be nice to see more studies focus on how other psychological disorders such as GAD affect schizophrenia, and how CBT may be used to treat symptoms of both disorders together.
REFERENCES


Appendix A

Consent Form

Title: Cognitive Behavioural Therapy: Decreasing Anxiety and Increasing Emotional Well-Being in a Client with Schizophrenia

Student: L. Shaddai Charles

College Supervisor: Dr. Yolanda Fernandez

Invitation

Hello, my name is L. Shaddai Charles and I am a 4th year student in the Behavioural Psychology program at St. Lawrence College. I will be attending the Frontenac C. M. H. S. Residence on Union St. for my 4th year placement over the next 14 weeks and I am looking forward to working with you! As part of this placement I am required to complete an applied thesis, which is a special project I would like you to assist me with.

The following information form is intended to help you understand my project so you can decide whether or not you would like to participate. Please read the information below carefully and feel free to ask me any questions you might have before you decide whether or not to participate in my project.

What is the Purpose of the Study?

The purpose of this study is to evaluate if doing some activities to help you understand and manage your thoughts, feelings, and your behaviour will help you feel less anxious and better about yourself.

What Will You Need to Do if you Take Part?

If you decide to participate, you will be required to attend two sessions a week each Monday and Wednesday for approximately 30 minutes each time. During each session we will participate in a new activity that will allow you to explore different ways of thinking positively and gain self-confidence, as well as learn relaxation techniques to help you feel less anxious.
What are the potential benefits to me of taking part?

The benefit of these sessions may include learning about yourself and your unique abilities, feeling positive about yourself and the future, and help you feel less anxious. Self-confidence and anxiety management are important to mental and physical health, and by feeling good about yourself you could increase positive thoughts, reduce stress and anxiety, and increase your energy level.

What are the possible disadvantages and risks of taking part?

During these sessions you may feel shy or uncomfortable at times as these sessions explore personal thoughts and feelings, and may challenge how you think and feel about yourself.

What happens if something goes wrong?

If for whatever reason you begin to feel uncomfortable or wish to withdraw from participating, please let staff or myself know and we can guide you through relaxation techniques to calm you and talk you through some difficult emotions and help you make a good decision for yourself. Your mental and physical health are always the first priority, so please feel free to communicate your needs to me or a member of the residential team.

Will my taking part in this project be kept private?

No identifying information will be used in this study, so any information you provide during my study will be coded under a fictional name, this way your identity and privacy are protected. All data collected will be kept in a folder or on a password protected USB key which will be stored at the Lower Union residential office in a locked cabinet to protect any information, and will be destroyed when the study is complete, or if you withdraw. At the end of the study, a folder containing copies of the data, with no identifying information, will be stored at St. Lawrence College for seven years.

Do you have to take part?

It is your decision whether or not you would like to participate in my study. If you complete this consent form to participate and change your mind later, you can withdraw from my study at any time you wish. Deciding to withdraw from my study will not negatively affect you or any of the services you are currently receiving.
CONTACT FOR FURTHER INFORMATION.

This project has been approved by the Research Ethics Board at St. Lawrence College. The project will be developed under the supervision of Dr. Yolanda Fernandez, my supervisor at St. Lawrence College. I really appreciate your time and cooperation. If you have any additional questions or concerns, feel free to ask me in person, or contact me by email: [email_address] or you can contact my College Supervisor Dr. Yolanda Fernandez. You may also contact the Research Ethics Board at appliedresearch@sl.on.ca.

CONSENT

If you agree to participate in the project, please complete the following form and return it to me as soon as possible. A copy of this signed document will be given to you to keep. An additional copy of your consent will be kept in a your case file and retained at the Frontenac Community Mental Health Services at 107 Wellington St. Kingston Ontario, as well as the Research Ethics Board at St. Lawrence College.
CONSENT
If you agree to take part in this research project, please complete the following form and return it to me as soon as possible. A copy of this signed document will be given to you for your own records. An additional copy of your consent will be retained at Frontenac C.M.H.S and St. Lawrence College for seven years.

By signing this form, I agree that:

✓ The study has been explained to me.
✓ All my questions were answered.
✓ Possible harm and discomforts and possible benefits (if any) of this study have been explained to me.
✓ I understand that I have the right not to participate and the right to stop at any time.
✓ I am free now, and in the future, to ask any questions I have about the study.
✓ I have been told that my personal information will be kept confidential.
✓ I understand that no information that would identify me will be released or printed without asking me first.
✓ I understand that I will receive a signed copy of this consent form.

I hereby consent to take part.

[Signature]

Student Printed Name

Signature of Student

Date

10/10/12
Appendix B

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

The scale is a ten item Likert scale with items answered on a four point scale - from strongly agree to strongly disagree. The original sample for which the scale was developed consisted of 5,024 High School Juniors and Seniors from 10 randomly selected schools in New York State.

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

1. On the whole, I am satisfied with myself.  
2.* At times, I think I am no good at all.  
3. I feel that I have a number of good qualities.  
4. I am able to do things as well as most other people.  
5.* I feel I do not have much to be proud of.  
6.* I certainly feel useless at times.  
7. I feel that I'm a person of worth, at least on an equal plane with others.  
8.* I wish I could have more respect for myself.  
9.* All in all, I am inclined to feel that I am a failure.  
10. I take a positive attitude toward myself.

Scoring: SA=3, A=2, D=1, SD=0. Items with an asterisk are reverse scored, that is, SA=0, A=1, D=2, SD=3. Sum the scores for the 10 items. The higher the score, the higher the self-esteem.

The scale may be used without explicit permission. The author's family, however, would like to be kept informed of its use:

The Morris Rosenberg Foundation  
c/o Department of Sociology  
University of Maryland  
2112 Art/Soc Building  
College Park, MD 20742-1315

References

References with further characteristics of the scale:

### Appendix C

**Generalized Self-Efficacy Scale**

<table>
<thead>
<tr>
<th></th>
<th>1. I can always manage to solve difficult problem if I try hard enough</th>
<th>2. If someone opposes me, I can find the means and ways to get what I want</th>
<th>3. It is easy for me to stick to my aims and accomplish my goals</th>
<th>4. I am confident that I could deal efficiently with unexpected events</th>
<th>5. Thanks to my resourcefulness, I know how to handle unforeseen situations</th>
<th>6. I can solve most problems if I invest the necessary effort</th>
<th>7. I can remain calm when facing difficulties because I can rely on my coping abilities</th>
<th>8. When I am confronted with a problem, I can usually find several solutions</th>
<th>9. If I am in trouble, I can usually think of a solution</th>
<th>10. I can usually handle whatever comes my way.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not true at all</td>
<td>Hardly true</td>
<td>Moderately true</td>
<td>Exactly true</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I can always manage to solve difficult problem if I try hard enough

2. If someone opposes me, I can find the means and ways to get what I want

3. It is easy for me to stick to my aims and accomplish my goals

4. I am confident that I could deal efficiently with unexpected events

5. Thanks to my resourcefulness, I know how to handle unforeseen situations

6. I can solve most problems if I invest the necessary effort

7. I can remain calm when facing difficulties because I can rely on my coping abilities

8. When I am confronted with a problem, I can usually find several solutions

9. If I am in trouble, I can usually think of a solution

10. I can usually handle whatever comes my way.
### Appendix D

#### Health Anxiety Thought Record

<table>
<thead>
<tr>
<th>Situation Date &amp; Time</th>
<th>Trigger for health anxiety</th>
<th>Emotion (Rate intensity 0-100%)</th>
<th>Negative thought (Rate belief 0-100%)</th>
<th>How I responded</th>
<th>Rational response to negative thought</th>
<th>Outcome (Re-rate belief in negative thought)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you notice a symptom, have a thought, or hear about an illness?</td>
<td>How did you respond to the negative thought?</td>
<td>Ask yourself: Am I making a thinking error? Am I catastrophising? Am I focusing on the worst case?</td>
<td>How does the rational thought make you feel? Was there anything else you found helpful?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix E

Schema Activation Formulation

- Event
- Schema
- Emotions
- Thoughts
- Behaviours
- Bodily Sensations

PSYCHOLOGYTOOLS.org RxSki Black
Appendix F

ACTIVITIES I CAN DO THROUGH THE DAY:

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Appendix G

POSITIVE THINGS ABOUT ME!

ARTISTIC/ ACTIVE
BASHFUL
CARING
Diligent
Exciting
Funny
Grateful
Happy
Intelligent
Joyous

Kinetic
Loving
Magnificent
Neat/ Nifty
Optimistic
Pleasant
Quality Friend
Rambuxious
Smart/ Smiley
Trustworthy

Unique
Vigorous
Wise/ Wishful
X-Cellent
Young at Heart
Zealous
Appendix H

calming technique

Everyone knows that breathing is an essential part of life, but did you know that breathing plays an essential role in anxiety? This information sheet will briefly discuss the role of breathing in anxiety and guide you through a simple calming technique that uses breathing patterns to help you relax.

Breathing is a powerful determinant of physical state. When our breathing rate becomes elevated, a number of physiological changes begin to occur. Perhaps you’ve noticed this yourself when you’ve had a fright; you might suddenly gasp, feel a little breathless and a little light-headed, as well as feeling some tingling sensations around your body. Believe it or not, the way we breathe is a major factor in producing these and other sensations that are noticeable when we are anxious.

Anxious breathing

You might already know that we breathe in oxygen – which is used by the body – and we breathe out carbon dioxide. In order for the body to run efficiently, there needs to be a balance between oxygen and carbon dioxide, and this balance is maintained through how fast and how deeply we breathe. Of course, the body needs different amounts of oxygen depending on our level of activity. When we exercise, there is an increase in both oxygen and carbon dioxide; in relaxation there is a decrease in both oxygen and carbon dioxide. In both cases the balance is maintained.

When we are anxious though, this balance is disrupted. Essentially, we take in more oxygen than the body needs – in other words we overbreathe, or hyperventilate. When this imbalance is detected, the body responds with a number of chemical changes that produce symptoms such as dizziness, light-headedness, confusion, breathlessness, blurred vision, increase in heart rate to pump more blood around, numbness and tingling in the extremities, cold clammy hands and muscle stiffness.

The normal rate of breathing is 10-12 breaths per minute – what’s your breathing rate?

The Calming Technique

While overbreathing and hyperventilation are not specifically dangerous (it’s even used in medical testing!), continued overbreathing can leave you feeling exhausted or “on edge” so that you’re more likely to respond to stressful situations with intense anxiety and panic.

Gaining control over your breathing involves both slowing your rate of breathing and changing your breathing style. Use the calming technique by following these steps and you’ll be on your way to developing a better breathing habit.

1. Ensure that you are sitting on a comfortable chair or laying on a bed
2. Take a breath in for 4 seconds (through the nose if possible)
3. Hold the breath for 2 seconds
4. Release the breath taking 6 seconds (through the nose if possible), then pause slightly before breathing in again.
5. Practise, practise, practise!

Breathing tips

- When you first begin changing your breathing, it may be difficult to slow your breathing down to this rate. You may wish to try using a 3-in, 1-hold, 4-out breathing rate to start off with.
- When you are doing your breathing exercises, make sure that you are using a stomach breathing style rather than a chest breathing style. You can check this by placing one hand on your stomach and one hand on your chest. The hand on your stomach should rise when you breathe in.
- Try to practise at least once or twice a day at a time when you can relax, relatively free from distraction. This will help to develop a more relaxed breathing habit. The key to progress really is practise, so try to set aside some time each day.

By using the calming technique, you can slow your breathing down and reduce your general level anxiety. With enough practice, it can even help to reduce your anxiety when you are in an anxious situation.
Appendix I

Progressive Muscle Relaxation

One of the body's reactions to fear and anxiety is muscle tension. This can result in feeling "tense" or can lead to muscle aches and pains, as well as leaving some people feeling exhausted. Think about how you respond to anxiety. Do you "tense up" when you're feeling anxious? Muscle relaxation can be particularly helpful in cases where anxiety is especially associated with muscle tension. This information sheet will guide you through a common form of relaxation designed to reduce muscle tension.

Muscle tension

Muscle tension is commonly associated with stress, anxiety and fear as part of a process that helps our bodies prepare for potentially dangerous situations. Even though some of these situations may not actually be dangerous, our bodies respond in the same way. Sometimes we don't even notice how our muscles become tense, but perhaps you clench your teeth slightly or your jaw feels tight, or maybe your shoulders become muscle tension. Muscle tension can also be associated with backaches and tension headaches.

Progressive Muscle Relaxation

One method of reducing muscle tension that people have found helpful is through a technique called Progressive Muscle Relaxation (PMR). In progressive muscle relaxation exercises, you tense up particular muscles and then relax them, and then you practise this technique consistently.

Preparing for relaxation

When you are beginning to practice progressive muscle relaxation exercises keep in mind the following points:

- Physical injuries. If you have any injuries, or a history of physical problems that may cause muscle pain, always consult your doctor before you start.
- Select your surroundings. Minimise the distraction to your five senses. Such as turning off the TV and radio, and using soft lighting.
- Make yourself comfortable. Use a chair that comfortably seats your body, including your head. Wear loose clothing, and take off your shoes.
- Internal mechanics. Avoid practising after big, heavy meals, and do not practice after consuming any intoxicants, such as alcohol.

General procedure

1. Once you've set aside the time and place for relaxation, slow down your breathing and give yourself permission to relax.
2. When you are ready to begin, tense the muscle group described. Make sure you can feel the tension, but not so much that you feel a great deal of pain. Keep the muscle tensed for approximately 5 seconds.
3. Relax the muscles and keep it relaxed for approximately 10 seconds. It may be helpful to say something like "Relax" as you relax the muscle.
4. When you have finished the relaxation procedure, remain seated for a few moments allowing yourself to become alert.

Relaxation sequence

1. Right hand and forearm. Make a fist with your right hand.
2. Right upper arm. Bring your right forearm up to your shoulder to "make a muscle".
3. Left hand and forearm.
4. Left upper arm.
5. Forehead. Raise your eyebrows as high as they will go, as though you were surprised by something.
6. Eyes and cheeks. Squeeze your eyes tight shut.
7. Mouth and jaw. Open your mouth as wide as you can, as you might when you're yawning.
8. Neck.!!! Be careful as you tense these muscles. Face forward and then pull your head back slowly, as though you are looking up to the ceiling.
9. Shoulders. Tense the muscles in your shoulders as you bring your shoulders up towards your ears.
10. Shoulder blades/Back. Push your shoulder blades back, trying to almost touch them together, so that your chest is pushed forward.
11. Chest and stomach. Breathe in deeply, filling up your lungs and chest with air.
13. Right upper leg. Tighten your right thigh.
14. Right lower leg.!!! Do this slowly and carefully to avoid cramps. Pull your toes towards you to stretch the calf muscle.
16. Left upper leg. Repeat as for right upper leg.
17. Left lower leg. Repeat as for right lower leg.
18. Left foot. Repeat as for right foot.

Practice means progress. Only through practice can you become more aware of your muscles, how they respond with tension, and how you can relax them. Training your body to respond differently to stress is like any training – practising consistently is the key.
My Hopes and Dreams for the Future are:

Living

Relationships

Education/ Skills

Other
Appendix K

*Stepping Stones* [Setting Goals & Objectives]  
Name: ______________________

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People who will help me to improve are:

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I’ll know if my plan is working because:

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If my plan doesn’t work then:

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My reasons for wanting to improve are:

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Appendix M

*Table 3.* Rosenberg Self-Esteem Scale (RSES) Raw Scores

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*Table 5. Generalized Self-Efficacy Scale (GSES) Raw Scores*

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