The Use of Cognitive Behavioural Therapy to Decrease Symptoms of Anxiety in Male Offenders Incarcerated in a Federal Institution

by

Karin Robinson

A thesis submitted to the School of Community Services in partial fulfillment of the requirements for the degree of Bachelor of Applied Arts in Behavioural Psychology

St. Lawrence College
Kingston, Ontario
Canada
March, 2009
DEDICATION

I would like to dedicate this thesis to everyone who has supported me through this long process. First of all I would like to thank my mother for all of her support. If it were not for her, I definitely would not have made it through this. I would also like to thank my friends who have been there with me through the course of this program A.C., D. P., and A.C. We made it!
ABSTRACT

Stress and anxiety are a normal part of life; however, with the addition of major life events, these physical states can become chronic. When one is detained in a federal correctional facility, major life changes involve quality of sleep, amount and quality of social interactions, and diet to name a few. Mental health issues are becoming a growing concern in federal correctional facilities. The goal of this study was to examine the effects of cognitive behavioural techniques on symptoms of anxiety in inmates currently incarcerated in a federal correctional institution. It was hypothesized that the utilization of dysfunctional thought records, deep breathing, progressive muscle relaxation, and thought stopping would decrease anxiety symptom frequency and severity in male offenders incarcerated in a federal correctional facility. There were two male participants in the study. Therapy consisted of seven individual sessions. Visual analysis of the results of assessment measures of frequency of symptoms of anxiety indicated that both participants had decreased scores; however, statistical analysis showed that the results were not statistically significant $t(1) = 5.00, p>.05$. Visual inspection of the results of severity assessment measures indicated an increase in scores for one participant and a decrease for the other participant. In conclusion, the hypothesis that the utilization of dysfunctional thought records, deep breathing, progressive muscle relaxation, and thought stopping would decrease anxiety symptom frequency and severity in male offenders incarcerated in a federal correctional facility was not confirmed.
ACKNOWLEDGEMENTS

I would like to thank everyone involved in helping me through the process of completing this thesis. First I would like to thank the St. Lawrence College Research Ethics Board for reviewing, and approving my proposal to write this thesis. Second, I would like to acknowledge my peers for their support and feedback. Third, the help and feedback I received from my college supervisor, other professors in the Behavioural Psychology degree program, and the second reader was excellent and such an important role in this process. Last, without my agency supervisor and Correctional Service Canada, for providing me with a placement, as well as the individuals who participated in this study, this thesis would not exist.
TABLE OF CONTENTS

DEDICATION ........................................................................................................... ii
ABSTRACT ............................................................................................................... ii
ACKNOWLEDGEMENTS ....................................................................................... iv
TABLE OF CONTENTS ............................................................................................ v
LIST OF TABLES ....................................................................................................... vii

CHAPTER

I. INTRODUCTION ...................................................................................................... 1

Overview of Thesis Document .............................................................................. 1

II. LITERATURE REVIEW .......................................................................................... 3

Correctional Services Canada and Inmate Mental Health ........................................... 3
Generalized Anxiety ................................................................................................. 3
Treatment of Generalized Anxiety ........................................................................... 4
Specific Cognitive Behavioural Therapy (CBT) Techniques ........................................... 6
  Progressive Relaxation ............................................................................................. 6
  Deep Breathing Exercises ....................................................................................... 7
  Thought Stopping .................................................................................................... 7
  Dysfunctional Thought Records ............................................................................ 8
Treatment of Inmates Suffering from Mental Health Problems .................................... 8
Summary .................................................................................................................. 9
How the Literature Relates to This Study ................................................................... 9

III. METHOD ............................................................................................................... 10

Participants .............................................................................................................. 10
Informed Consent Procedures ................................................................................. 10
Design/Procedure .................................................................................................... 11
Target Behaviours ................................................................................................... 11
  Participant 01 ......................................................................................................... 11
  Participant 02 ......................................................................................................... 11
Assessment and Data Collection Measures ............................................................... 12
Setting/Materials ...................................................................................................... 12
Session Plan .............................................................................................................. 12

IV. RESULTS .............................................................................................................. 14

Mind Over Mood Anxiety Inventory ......................................................................... 14
  Participant 1 .......................................................................................................... 14
  Participant 2 .......................................................................................................... 14
Symptoms Checklist ................................................................................................ 15
  Participant 1 .......................................................................................................... 15
  Participant 2 .......................................................................................................... 15
V. DISCUSSION .................................................................................................................. 16

General Discussion ........................................................................................................... 16
Program Changes .............................................................................................................. 16
Strengths and Limitations ................................................................................................. 17
Recommendations for Future Research .......................................................................... 17
Multilevel Challenges ....................................................................................................... 17
  Client Level ................................................................................................................... 18
  Program Level ............................................................................................................... 18
  Organization Level ....................................................................................................... 18
  Societal Level ................................................................................................................ 18
Contribution to the Behavioural Psychology Field .......................................................... 18

REFERENCES .................................................................................................................... 19

APPENDICES

Appendix A: Institution Psychology Department Consent to Treatment Form (28-09-2008) 22
Appendix B: Institution Psychology Department Limits to Confidentiality Form (28-09-
2008) ................................................................................................................................ 23
Appendix C: Behavioural Psychology Consent Form (07-10-2008) .................................. 24
Appendix D: Sample Mind over Mood Anxiety Inventory .............................................. 26
Appendix E: Sample Symptoms Checklist ....................................................................... 27
Appendix F: Table of Statistical Analysis of Mind over Mood Anxiety Inventory for
Participant 1 and 2 ........................................................................................................... 29
Appendix G: Graphs: Percentage of Pre and Post-Test Scores on the Symptoms Checklist
for Participant 1 and 2 ...................................................................................................... 30
LIST OF TABLES

Table 1. Mind over Mood Anxiety Inventory: Percentage of Frequency and Total Score of Symptoms of Anxiety at Pre, Mid, and Post Treatment..........................................................14

Table 2. Symptoms Checklist: Percentage of Scores of Level of Distress Caused by Symptoms of Anxiety at Pre and Post Treatment.................................................................15
Chapter I: Introduction

Stress and anxiety are a normal part of life. Some stress is good stress, related to positive changes in life, and some stress is harmful (Davis, Eshelman, & McKay, 1995). Major and minor events of life can make people vulnerable to anxiety; which in turn can increase the risk of depression and physical illness such as diabetes, cardiovascular disease, and asthma. Holmes (1981) developed a Schedule of Recent Experience which outlines major and minor life events that can increase an individual’s vulnerability to anxiety. Major changes in sleeping habits, eating habits, personal habits, type or amount of recreation, social activities, number of family get-togethers, sexual difficulties, residence, and living conditions are examples of events included in the scale. Being detained and violations of the law are also on the scale. All of the above mentioned events are examples of the result of being convicted and detained in prison for a federal sentence (two years or more). In the past ten years the percentage of male offenders experiencing mental health problems has increased by seventy-one percent (Corrections Services Canada, 2007).

Currently, the focus of Correctional Service Canada is providing safety for the public by administering recidivism risk assessments, and providing suitable programs to reduce this risk before integrating offenders back into the community. The Correctional Mental Health team provide medication as well as brief counselling to aid in the reduction of symptoms of mental illness with the use of Cognitive Behavioural Therapy (CBT) techniques; however there is currently a lack of research on the effectiveness of brief CBT in the treatment of anxiety symptoms in male offenders incarcerated in a federal correctional institution.

CBT techniques for the treatment of anxiety often include dysfunctional thought records, gathering of evidence to support or refute automatic thoughts, deep muscle relaxation and breathing exercises. Dysfunctional thought records are utilized as tools for an individual to recognize and be aware of their perceptions and core schemas, as well as to be aware of how they affect reactions to stressful situations (Davis et al., 1995). Deep muscle relaxation and deep breathing are used as coping strategies for anxiety as they aid in reducing muscle tension. They also activate the parasympathetic nervous system which in turn reduces the body’s natural fight or flight response to a stressful or anxiety provoking situation. Thought Stopping is an effective way to overcome worry, obsessive thoughts and ruminations (Davis et al., 1995). It is an assertive response that can be followed by positive, reassuring statements as substitutions for negative ruminations. Therefore, it is hypothesized that the utilization of dysfunctional thought records, deep breathing, deep muscle relaxation, and thought stopping techniques will decrease anxiety symptom frequency and severity in male offenders incarcerated in a federal correctional institution.

Overview of Thesis Document

The following chapter will cover a review of literature covering correctional services Canada and inmate mental health, an overview of generalized anxiety as pertaining to the framework of cognitive and behavioural theories, anxiety in inmates, empirical research on treatment of generalized anxiety disorder as well as research on specific treatment techniques.
utilized in the methodology of this particular thesis (progressive muscle relaxation, deep breathing, thought stopping, and dysfunctional thought records).

The methodology will provide an overview of the participants in the study, informed consent procedures used, the research design and target behaviours, assessment measures used, settings and materials, and an overview of the session plan.

The results section will cover analysis of assessment measures and statistical analysis with the use of tables and a graph for visual analysis.

Finally, the discussion will outline program changes made during the course of this study; strengths and limitations of this particular study; multilevel challenges on the client, program, organization, and societal levels; the contribution this study made to the field of behavioural psychology; and recommendations for future research.
Chapter II: Literature Review

Correctional Services Canada and Inmate Mental Health

In the past ten years, there has been an increase of seventy-one percent in the number of male inmates, within Correctional Services Canada (CSC), suffering from mental health problems (Corrections Services Canada, 2007). Mental health problems often cause significant adjustment issues. These inmates can either become disruptive and a threat to other inmates or can fall prey to other inmates threatening their own safety and well being (Chartier & Oliver, 2007). When offenders are released, if their mental health needs have not been met, either in the institution or in the community, their chances of breaching their release conditions or re-offending increase significantly.

Research has also been done on the psychological effects of crowding in prisons (Bartol & Bartol, 2008). It was concluded that increasing numbers of individuals in the units resulted in an increase in negative psychological and physical reactions. Psychological reactions included tension, anxiety, and depression. Physical reactions included headaches, high blood pressure and cardiovascular problems. The study also noted that individuals with higher socio-economic status and education had more difficulty with adjustment to prison and a decreased tolerance to crowding than individuals with lower socio-economic status and less education.

Similarly, research done on the psychological effects of the isolation of inmates concluded that although some individuals did not mind isolation for short periods of time, many individuals began to feel significant amounts of stress and anxiety. In The Inmate Suicide Awareness and Prevention Workshop manual (2001), written by National Headquarters Mental Health Services, crowding and isolation were mentioned as stressors frequently experienced by incarcerated inmates. Other environmental stressors noted were the authoritarian environment, no apparent control over future, isolation from friends, family and community, physical conditions of an institution, and fears of violence.

It is clear that the prison environment is full of stressors that can cause or increase pre-existing mental illness and lead to poor adjustment to the prison environment. Therefore, providing timely, effective services to inmates is of importance.

Generalized Anxiety

Any or all the above mentioned variables can all lead to symptoms of generalized anxiety in incarcerated inmates. “Generalized Anxiety Disorder (GAD) is characterized as chronic, excessive, uncontrollable worry about a number of events or activities” (Barlow, 2004 p 297). GAD has a lifetime prevalence of approximately five percent (Öst & Breitholz, 2000). It is also the most prevalent of anxiety disorders. GAD affects up to five percent of the population and is most commonly seen in women (Canadian Mental Health Association, 2008).

The cognitive theory of anxiety follows two fundamental premises; (1) individuals who suffer from anxiety possess a particularly negative outlook of their situation and (2) these
perceptions can be altered by identifying, evaluating, and modifying dysfunctional thinking and the underlying beliefs that generate such patterns of thinking (Reilly, Sokol, & Buttler, 1999). A commonly used tool to accomplish change in perception is the Dysfunctional Thought Record.

The behavioural theory explains chronic worry as an avoidant technique and thus becomes reinforced behaviour (Write, Basco, & Thase, 2006). Research has found that in the short-term, worry decreases physiological arousal (Canadian Mental Health Association, 2008). Therefore alternative techniques to decrease arousal (breathing exercises and progressive muscle relaxation) can be implemented and reinforced to take the place of worrying (Davis et al., 1995). The reinforced behaviour of worrying can also be prevented by use of a response prevention procedure and an alternative response can then be reinforced with the use of techniques such as Thought Stopping.

The cognitive behavioural theory states that anxiety is maintained by both cognitive and behavioural components. Thus treatment consists of a combination of cognitive and behavioural techniques.

The Inmate Suicide Awareness and Prevention Workshop Manual (2001), written by National Headquarters Mental Health Services outlined stressful events commonly experienced by inmates. These include holidays, significant dates or anniversaries, legal issues, denial of appeal/ parole/ transfer, sentencing changes and complications, loss or termination of a relationship, relationship breakup or death, upsetting visit from family or lack of visits/ phone calls from family, tensions in the institution/ on the unit, other inmate suicides in the institution, and drug debts/ pressure from other inmates. Laishes (1997) conducted an analysis of Correctional Services of Canada annual retrospective studies, suicide investigation reports, psychological reviews completed as part of routine suicide investigation, and various institutional reports over a four year period. Results indicated that 96% of suicides might be a result of some of the stressful events mentioned above in the Inmate Suicide Awareness and Prevention Workshop Manual (2001). It was also noted that 17% of suicides were related to mental health problem; however, the exact mental health problems were not specified.

As suggested by Chartier and Oliver (2007), the consequences of mental health issues such as anxiety can be quite severe. Symptoms can be intensified by crowding or isolation and they could lead to more serious consequences such as threats to safety.

The two most commonly used approaches for treating anxiety disorders are anti-anxiety or anti-depressant medication and CBT (Canadian Mental Health Association, 2008).

**Treatment of Generalized Anxiety**

Although there is a lack of research into the treatment of anxiety in male inmates incarcerated within Correctional Services Canada, there is extensive research indicating the effectiveness of CBT for the treatment of generalized anxiety in the community.
Gosselin, Dugas, Ladouceur, Morin, and Baillageon (2006) identified benzodiazepines as one of the most prescribed treatments for generalized anxiety disorder (GAD). They also stated that although these medications are highly effective, there are many negative side-effects and dependence is common. The researchers evaluated the effectiveness of CBT combined with medication tapering for sixty-one patients suffering from GAD who had been using benzodiazepines for more than twelve months. The purpose of the study was to determine if participants in the CBT group would successfully be able to discontinue medication compared to a non-specific psychological treatment (NST) control group. CBT consisted of psychoeducation on worries and the process in which they are maintained, cognitive restructuring, problem solving training, cognitive exposure to worries, situation exposure and relapse prevention combined with slow tapering of medication simultaneously. NST consisted of exploration of life experiences to facilitate self-awareness and understanding of anxiety combined with same rate of tapering of medication as CBT group. Results indicated that 75% of the participants in the CBT group completely ceased use of benzodiazepines compared to 37% in the control group. Also, the number of participants who no longer met the criteria for GAD was higher in the CBT group compared to the control group.

The framework for the study by Gosselin et al. (2006) was derived from Borkovec and Costello (1993), where researchers compared Nondirective (ND), applied relaxation (AR) and cognitive behavioural therapies (CBT) with sixty-six participants suffering from generalized anxiety disorder. ND consisted of the exploration of life experiences in a quiet relaxed atmosphere with the main goal being to increase knowledge about self and anxiety. AR consisted of teaching participants to recognise and self-monitor the sequence in which their anxious reactions would occur (anxious reactions including thoughts, images, somatic reactions, affect and avoidance). They were taught to use relaxation techniques to use in early stages of anxious reactions to disrupt the spiral process in which the anxiety would occur. Treatment also consisted of having participants focus on present experiences and not on past events or future possibilities. CBT consisted of AR as well as desensitization combined with positive self-statements. The cognitive aspect of the therapy consisted of underlying belief identification, logical analysis, developing alternative thoughts and beliefs, behavioural testing of beliefs and decatastrophization. CBT and AR groups were more effective in terms of maintenance of produced gains in treatment. Endstate functioning was found to be slightly higher in CBT than AR.

Dugas et al. (2003) examined the effectiveness of group CBT in the treatment of 52 participants diagnosed with GAD. The purpose of the study was to determine if group CBT was as effective as individual CBT as a way to enhance cost-benefit ratio. Individual CBT has been demonstrated as an effective treatment of GAD; however, it is less cost-effective than group CBT. Participants were divided into small groups of four to six and placed in a CBT group and compared to a wait-list control group. CBT consisted of presentation of treatment rationale, awareness training, reevaluation of positive beliefs about worry, problem solving training, and cognitive exposure. Results indicated that group CBT was effective in reducing symptoms of GAD compared to the control group.
In a similar study, Linden, Zubraegel, Baer, Franke, and Schlattmann (2005) examined the efficacy of CBT compared to a contact control group for the treatment of generalized anxiety disorder. Thirty-six patients were placed in the contact control group and 36 were placed in the CBT group. The contact control group were later offered CBT and measured and compared to the CBT group. Results indicated that CBT did demonstrate efficacy and results were highly statistically significant in the CBT group and the control group once they had received treatment. Results were also compared to results of studies on antidepressant drugs where it was found that CBT yielded comparable or better results than studies of antidepressant medication.

Butler, Fennell, Robson, and Gelder (1991) found similar results when they conducted a controlled trial with fifty-seven subjects diagnosed with generalized anxiety disorder. Participants were randomly assigned to a CBT group, behaviour therapy (BT) group and a control group to test if CBT demonstrated increased results compared to BT group and a control group. BT consisted of education on anxiety and relaxation techniques. CBT consisted of relaxation techniques and identifying and modifying dysfunctional thoughts through the use of thought records and evidence gathering of core beliefs. Results indicated that CBT was superior to both the BT group and the control group in measures of anxiety, depression, and cognition. This study and results were further replicated in studies conducted in England and Holland.

Although research has demonstrated that both individual and group CBT are effective, there appears to be a lack of research comparing the two methods. Future research would be of great benefit to determine if one way of delivering therapy (individual versus group therapy) would be more advantageous than another.

Specific Cognitive Behavioural Therapy (CBT) Techniques

This thesis is focusing on four specific techniques included in CBT. Research has been conducted to show the effectiveness of each of these techniques. Although each of these techniques have been proven effective, their combination, as shown above is hypothesized to results in even greater gains.

Progressive Relaxation. Progressive muscle relaxation (PMR) reduces tension and is incompatible with anxiety (Davis et al., 1995). Relaxation is a technique where patients are taught to tense and relax particular muscle groups, one at a time, and to distinguish between the sensation of tension and relaxation (Phares & Trull, 1997). Lamb and Strand (1980) measured the effects of brief relaxation for the treatment of dental anxiety. Results indicated that the use of brief PMR was an effective tool for the reduction of anxiety during dental appointments.

Rausch, Gramling, and Auerbach (2006) compared the effects of meditation and PMR to control groups in the treatment of anxiety in 387 undergraduate students. The students divided into a meditation group, PMR group or control group. Results indicated that after exposure to a visual stressor, participants in the meditation and PMR groups had higher levels of anxiety and recovered more quickly than controls and demonstrated greater decrease in cognitive, somatic and general state anxiety; however, the PMR group had the greatest decline in somatic anxiety.
It is interesting to note that although cognitions involved in the symptoms of anxiety in the participants were not touched on in the treatment conditions in this study, they still decreased.

Siev and Chambless (2008) conducted a meta-analysis comparing the efficacy of relaxation therapy (RT) and cognitive therapy (CT) in the treatment of generalized anxiety disorder (GAD) and panic disorder (without agoraphobia). Results indicated that RT and CT were equally as effective in the treatment of GAD and relaxation therapy was more efficacious than CT in the treatment of panic disorder.

The following study is an expanded version of the previous as it incorporates treatment of cognitions. The results were still similar to the Rausch et al. study, as it demonstrated that relaxation therapy was as effective as cognitive therapy. These results could potentially lead one to believe that the cognitive component to CBT may not be necessary.

Borkovec et al. (1987) extended on previous research when they conducted a study aimed at researching the effectiveness of cognitive therapy combined with PMR for the treatment of GAD. PMR was used as a base condition. Thirty participants were given twelve sessions of PMR. During ten of those sessions, sixteen of those participants were also given cognitive therapy and fourteen received nondirective therapy (ND). Nondirective therapy consisted of the same framework mentioned above in the study by Borkovec and Costello (1993). Results indicated that cognitive therapy combined with PMR demonstrated greater improvements in symptoms of GAD than the ND group.

Borkovec et al. (1987) extended on previous research as their study demonstrates that although the cognitive component of CBT in the treatment of GAD may not be necessary, it is still helpful when combined with behavioural techniques as it leads to greater improvements in symptoms than relaxation therapy alone.

**Deep Breathing Exercises.** There are two types of breathing; thoracic breathing (chest breathing) and diaphragmatic breathing (Davis et al., 1995). Thoracic breathing results in decreased amounts of oxygen reaching the lungs which in turn increases heart rate and muscle tension. Conrad et al. (2007) compared the effects of instructions to direct attention to breathing to instructions to breathe more slowly and shallowly to fifteen participants with daily tension, thirteen participants with panic disorder and fifteen controls. Results indicated that instructions to direct attention to breathing significantly lowered heart rate and decreased tidal volume instability in the participants compared to other instructions.

**Thought Stopping.** is an effective way to overcome worry, obsessive thoughts and rumination (Davis et al., 1995). Three explanations for this success are: (1) The command used serves as punishment and the behavioural is likely to become extinguished. (2) The command used acts as a distracter. (3) It is an assertive response that can be followed by positive, reassuring statements as substitutions for negative ruminations. Freeston, Ladouceur, Provencher and Blais (1995) interviewed fifty-three subjects to determine strategies most commonly used and their effectiveness for intrusive thoughts. Thought stopping was found to be one of seven
most commonly used techniques. All seven strategies used were found to be equally effective and efficacy was not associated with any particular thought characteristic.

Albert and Hayward (2002) described a case study of the use of thought stopping, emotional processing, and training in study skills in the treatment of intrusive ruminations of university student studying mathematics. Techniques were delivered in sequence of thought stopping, study skills and core belief work. Results indicated that ruminations had completely ceased after thought stopping technique was implemented and remained at zero levels at follow-up.

Another case study on the effectiveness of thought stopping was conducted by Johnson, Shenoy and Gilmore (1983) on a 30 year-old Vietnam veteran suffering from hallucinations and obsessive ruminations. Results indicated that thought stopping significantly reduced hallucinations and obsessive ruminations.

Dysfunctional Thought Records. Although behavioural techniques such as deep breathing and progressive muscle relaxation have been demonstrated to be effective, automatic thoughts and underlying assumptions guide behaviour and expectations, and the combination of both behavioural and cognitive techniques is valuable (Padesky & Greenberger, 1995). Incorporating a cognitive behavioural perspective draws emphasis on the role of thinking in the etiology and maintenance of target issues (Phares & Trull, 1997). Cognitive behavioural techniques emphasise the importance of modifying and changing patterns of thinking that contribute to a patient’s problems.

Treatment of Inmates Suffering from Mental Health Problems

Ax et al. (2007) identified psychopharmacology and correctional telehealth as treatments used in correctional facilities in the United States in an article on assessments and treatment of inmates with mental health problems. Although they did not specify the types of psychotropic medications administered in correctional facilities, they stated that approximately 10% of inmates in America’s state prisons were taking medication for mental health problems. Telehealth was described as “a data transmission system used by health care professionals to deliver health care services over a distance” (Robert et al. 2007, p 900). These systems are “real time” and connect the inmate with agencies that can provide the required services. This article did not clearly define specific mental illnesses and also lacked information on the specific treatments utilized in the treatment of these illnesses.

Adams and Fernando (2008) differed slightly from the previously mentioned article in their identification of common treatment methods used in correctional facilities in the United States. They identified using the environment as therapy, segregation, medication, and suggested that there should be more involvement of correctional officers in the delivery of mental health care. The authors stated that prison environments vary across prisons and cell blocks thus it can be beneficial to help inmates find a prison or area of a prison that they can better function in. Segregation, either short-term or long-term, was also suggested as an option for inmates as it protects staff and other inmates from aggressive behavior and it protects the inmate from
victimization. The authors did note, however, that segregation can also have the opposite effect as it can increase the risk of suicide. The authors stated that 73% of state prisons in the United States distributed psychotropic medications to incarcerated inmates. The authors also suggested that counseling, consultation, behavioural programs, and medication should be provided by correctional staff as well as mental health staff. The reason for this suggestion was said to be the fact that correctional staff are the ones who spend the most time around the inmates. They did also mention that this could be a difficult goal to achieve as the safety and security of everyone in the prison is their primary duty and also of paramount importance.

There was a lack of research on the treatment of anxiety and mental health problems in Canadian correctional facilities. There may be a difference between treatment provided in prisons in the United States and correctional facilities in Canada.

Summary

With an increase in inmates entering Correctional Services Canada institutions with mental illness, research into effective treatment techniques is important. Lengthy incarceration increases the amount of stress in an individual’s life. There are many events, environmental stimuli and social crowding or isolation, among other things, that can cause considerable distress for inmates. One particular form of distress frequently experienced in inmates is general anxiety.

Cognitive Behavioural Therapy techniques have continuously been demonstrated to significantly decrease symptoms of anxiety. Although the efficacy of progressive muscle relaxation has been demonstrated, studies reveal that the addition of cognitive techniques yields greater results. There is also evidence to suggest that CBT is just as effective, and in some instances, more effective in the treatment of generalized anxiety disorder (GAD) than antidepressant medication. In particular, techniques such as PMR, deep breathing, thought stopping and dysfunctional thought records have been demonstrated as effective tools used to decrease symptoms of general anxiety.

How the Literature Relates to This Study

In the literature, CBT has been demonstrated to be effective for the treatment of GAD in the general population. Although there is a lack of research on the use of CBT for the treatment of GAD in the inmate population, there appears to be an increased need for treatment and research into this population. Therefore, in this study dysfunctional thought records, deep breathing, deep muscle relaxation, and thought stopping techniques will be used to decrease anxiety in symptom frequency and severity in male offenders incarcerated in a federal correctional institution.
Chapter III: Method

Participants

Participants consisted of two male inmates incarcerated in a Federal Correctional Institution. There were six individuals referred to treatment by the Psychologist at the institution. Two were not interested in formal therapy and two were transferred to another institution before the second session. Two participants remained in the entire study. *Participant 01* was a 33 year-old with no psychiatric or medical diagnoses and was taking Lorazepam for symptoms of anxiety prior to and during the study. He had been in the institution for approximately two months prior to the study; however, he had been incarcerated for approximately one year. During the time of the study, he was on a waiting list to be transferred to another institution. The transfer was expected to take place within two months post treatment. *Participant 02* was 29 years of age who also had no psychiatric or medical diagnoses and was also taking Lorazepam for symptoms of anxiety (During the first session he was taking Sertraline and had switched by the second session). He had been in the institution for approximately a month prior to the study. He had been incarcerated for almost ten years. He was expected to be released into the community approximately two months after the study ended. Although neither of them had any diagnosis, they had self-identified distress caused by symptoms of stress and anxiety. They were both referred by the Psychologist at the institution after having requested Psychology services for stress-management/ anxiety treatment. Both participants were able to speak and read English fluently.

Informed Consent Procedures

Participants were required to sign consent forms prior to the study and treatment commencing. Informed consent consisted of two Institution Department of Psychology forms and one *Behavioural Psychology* form. The two Institution forms consisted of a *Consent to Treatment* form which outlined possible risks and benefits to participating in treatment as well as risks of not participating in treatment (See appendix A). The second form was a *Limits to Confidentiality and Consent* form. This form outlined that information reported during an interview would be placed in their files and they did not have the right to withhold the distribution of this information. Anyone with a “need to know” would have access to these files. The form also outlined limits to confidentiality which included concern that they poses a risk to harm themselves or someone else, that they threaten security of an institution, provides specific information about unreported criminal activity (past or present), and specific information about a child who has been abused or is at risk of being abused (See appendix B). The *Behavioural Psychology* consent form contained all of the same information with the addition of more specific information regarding the nature of the treatment provided, information on the counsellor, information pertaining to the fact that the treatment was part of an applied thesis project and a request to place the finished thesis paper in the library, present it at a conference and permission to publish it in a peer reviewed journal (See appendix C).
The institution forms were presented to the participants at the beginning of the first meeting, which did not consist of treatment. The participants were over the age of 18 and able to read, write and speak English fluently. The counsellor summarized the main information contained in the forms, and handed the forms to them to read over and sign. The Behavioural Psychology consent form was reviewed verbally with the participants at the beginning of the first treatment session, prior to beginning treatment, and presented to them to read over and sign. Informed consent forms were presented to each participant, and signed by each, individually. This study was approved by the St. Lawrence College Research Ethics board prior to the commencement of therapy.

**Design/Procedure**

The study consisted of a quasi-experimental design with no control or comparison group. Both participants received treatment. Two pen and paper, self-report measures were administered to each participant. The Mind over Mood Anxiety inventory was administered at the beginning of the first session, fourth session, and the end of the seventh session to assess the frequency of symptoms. The Symptoms Checklist was administered at the beginning of the first session and at the end of the seventh session to assess for the level of distress caused by symptoms of anxiety. There was no score analysis attached to each assessment measure, so the measures were analyzed in terms of comparison of the percentage of total scores in each category of each measure from mid and post treatment to the pre-treatment assessment, administered at the beginning of the first session. A t-test was also used to compare paired sample means of pre and post test total scores to test for statistical analysis of the Mind over Mood Anxiety Inventory. Cognitive Behavioural Therapy consisted of seven sessions, approximately once a week for seven weeks. Each session was one hour long.

**Target Behaviours**

Target behaviours were identified in collaboration with each participant during the first treatment session.

**Participant 01**: Reported that when he thought about his family (and how they were coping financially without him) as well as obtaining day parole he would become anxious.

Anxiety: Defined by the participant as obsessions, unwanted thoughts, backaches, insomnia, sleeping difficulties, physical weakness, feeling nervous, muscle tension, restlessness, shortness of breath, avoidance of anxiety provoking situations, and feeling unable to cope.

**Participant 02**: Reported that when he thought about obtaining employment, supporting himself financially and effectively following conditions of his parole upon his release, he experienced symptoms of anxiety.

Anxiety: Defined by the participant as fears, unwanted thoughts, obsessions, body aches, restlessness, and shortness of breath.
Assessment and Data Collection Measures

Assessment procedures consisted of two measures. The Mind over Mood Anxiety Inventory (Greenberger & Padesky, 1995) was administered at the beginning of the first, fourth, and sixth session; and at the end of the seventh session to measure frequency of symptoms of anxiety. This measure consisted of 24 questions presenting different symptoms which were presented in a rating scale where the participant was asked to circle “not at all”, “sometimes”, “frequently”, or “most of the time” (See appendix D). The Symptoms Checklist (Davis et al., 1995) was administered at the beginning of the first session and at the end of the seventh session to measure the level of distress caused by symptoms of anxiety. This checklist consisted of 29 questions (there were more that were not used) which consisted of symptoms and that the client was asked to put a rating beside from one-ten (one being low level of distress and ten being high) (See appendix E). Both questionnaires were self-report, pen and paper measures that were self-administered by the participants individually.

Setting/Materials

Treatment sessions took place approximately once a week in an interview room in the segregation unit of the institution. Interview rooms consisted of a desk, chairs and a computer. Materials consisted of paper copies of assessment tools and a pen for the participants to self-administer the questionnaires. Thought records consisted of printed forms which were worked on during the sessions and always remained with the researcher. Handouts consisting of information and instructions for thought stopping and progressive muscle relaxation were given to the participants to practice the techniques on their own in their cells.

Session Plan

The session plan was as follows:

Session 1:
- Review consent form with participant and obtain his written consent
- Administer Mind over Mood Anxiety Inventory (Greenberger & Padesky, 1995)
- Administer Symptoms Checklist (Davis et al., 1995)
- Identifying trigger and hypothesis of anxiety symptoms

Session 2:
- Information gathering regarding trigger of anxiety
- Education on anxiety

Session 3:
- Goal and objective setting for treatment

Session 4:
- Administer Mind over Mood Anxiety Inventory (Greenberger & Padesky, 1995)
- Introduction of thought records

12
• Introduction and education on deep breathing
• Introduction and education on deep muscle relaxation
• Participant given handout and instructions on relaxation technique to work on independently as homework

Session 5:
• Discuss homework assignment
• Continuation of thought records
• Introduction and education on thought stopping
• Participant given handout and instructions on thought stopping to work on independently as homework

Session 6:
• Administer Mind over Mood Anxiety Inventory (Greenberger & Padesky, 1995)
• Discuss homework assignment
• Continuation of thought records
• Identifying core beliefs exercise
• Given homework to gather evidence of core belief

Session 7:
• Discuss evidence gathered for core belief
• Produce alternate core belief
• Gather evidence for new core belief
• Discuss progress in therapy
• Discuss follow-up session (determine if necessary)
• Administer Mind over Mood Anxiety Inventory (Greenberger & Padesky, 1995)
• Administer Symptoms Checklist (Davis et al., 1995)
• Review results
Chapter IV: Results

Mind Over Mood Anxiety Inventory

Participant 1: The total score at pre-treatment was 51. There was an overall decrease of 35% to the total score of 33 at post-treatment (See table 1). The Percentage of scores of “not at all” increased at mid-treatment and then decreased again post-treatment (13%-46%-21%). The Percentage of scores of “sometimes” increased gradually from baseline to treatment (13%-33%). The Percentage of scores of “frequently” remained stable from baseline to mid-treatment and then increased slightly after treatment (25%-33%). The Percentage of scores of “most of the time” decreased considerably from baseline to treatment (50%-13%).

Participant 2: The total score for this measure at pre-treatment was 29. There was a decrease of 41% from the total score of 17 at post-treatment. (See table 1). The percentage scores of symptoms occurring “not at all” and “sometimes increased by from baseline to treatment (13% to 33%, 58% to 29% respectively). There was a decrease in the percentage of scores indicating symptoms occurring frequently (25% to 4%); however there was a considerable increase from baseline at mid-treatment (25%-50%). Symptoms occurring most of the time decreased (4% to 0%); however those scores were low at baseline as well.

Table 1.
Mind Over Mood Anxiety Inventory: Percentage of Frequency and Total Score of Symptoms of Anxiety at Pre, Mid, and Post Treatment

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Participant 1</th>
<th></th>
<th></th>
<th>Participant 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Mid</td>
<td>Post</td>
<td>Pre</td>
<td>Mid</td>
<td>Post</td>
</tr>
<tr>
<td>Not at all</td>
<td>13%</td>
<td>46%</td>
<td>21%</td>
<td>13%</td>
<td>21%</td>
<td>33%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>13%</td>
<td>21%</td>
<td>33%</td>
<td>58%</td>
<td>29%</td>
<td>63%</td>
</tr>
<tr>
<td>Frequently</td>
<td>25%</td>
<td>25%</td>
<td>33%</td>
<td>25%</td>
<td>50%</td>
<td>4%</td>
</tr>
<tr>
<td>Most of the Time</td>
<td>50%</td>
<td>21%</td>
<td>13%</td>
<td>4%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Total Raw Score</td>
<td>51</td>
<td>32</td>
<td>33</td>
<td>29</td>
<td>31</td>
<td>17</td>
</tr>
</tbody>
</table>

Pre-treatment measures indicates that the participants averaged a combined mean score of M=40 (SD=11). After CBT treatment the participants’ combined mean averaged dropped to a mean of M=25 (SD=8). Statistical analysis indicates that the total raw score of both participants combined, on this measure, did not significantly decrease after the use of CBT, t(1) = 5.00, p > .05 (See table in appendix G).
**Symptoms Checklist**

**Participant 1:** Scores in the slight range of discomfort decreased (62%-31%) (See table 2 and figure 1 and appendix H). Scores in the moderate range of discomfort increased (17%-38%). Scores in the extreme range of discomfort increased (21%-31%).

**Participant 2:** Scores in the range of slight discomfort increased (45% to 59%), in the moderate range decreased (55% to 41%), and in the extreme range remained stable at zero; indicating that scores decreased from a moderate to slight range of discomfort (See table 2 and appendix I).

Table 2.
**Symptoms Checklist: Percentage of Scores of Level of Distress Caused by Symptoms of Anxiety at Pre and Post Treatment**

<table>
<thead>
<tr>
<th>Level of Discomfort</th>
<th>Participant 1</th>
<th></th>
<th>Participant 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Slight Discomfort</td>
<td>62%</td>
<td>31%</td>
<td>45%</td>
<td>59%</td>
</tr>
<tr>
<td>Moderate Discomfort</td>
<td>17%</td>
<td>38%</td>
<td>55%</td>
<td>41%</td>
</tr>
<tr>
<td>Extreme Discomfort</td>
<td>21%</td>
<td>31%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Chapter V: Discussion

General Discussion

Statistical analysis t-test results indicated that the results of the Mind over Mood Anxiety Inventory were not significant \( t(1) = 5.00, p > .05 \). This indicated that the frequency of symptoms did not decrease significantly. Visual analysis did indicate that the total score after treatment did decreased from the pre-treatment score for both participants on the Mind over Mood Anxiety Inventory. For participant 1 there was an increase in the total score of “not at all” (13%-21%), “sometimes”, and “frequently” (13%-33% and 25%-33%). Scores of “most of the time” decreased (50%-13%); suggesting that they moved from “most of the time” to “frequently”, “sometimes”, and “not at all”. For participant 2 scores of “not at all” and “sometimes” increased (13%-33% and 58%-63%). Scores of “frequently” and “most of the time” decreased (25%-4% and 4%-0%); suggesting that scores from “most of the time” and “frequently” moved to “sometimes” and “not at all”. This would suggest that the severity of anxiety symptoms did decrease for both participants.

On the Symptoms Checklist, the scores for participant 2 indicated a decrease in the level of distress caused by symptoms of anxiety; however, scores for participant 1 indicated the opposite effect. For participant 1 the scores in the range of slight discomfort on the symptoms checklist increased after treatment compared to scores at pre-treatment (62%-31%). Scores in the range of moderate discomfort and extreme discomfort increased (17%-38% and 21%-31%); suggesting that scores moved from slight discomfort to moderate and extreme discomfort. However, for participant 2, scores shifted from moderate discomfort to slight discomfort; where extreme discomfort remained the same. Therefore, after analysis of the results of this study, the hypothesis that the utilization of thought records, progressive muscle relaxation, deep breathing, and thought stopping will decrease anxiety symptom frequency and severity in male offenders incarcerated in a federal correctional facility could not be confirmed.

Some reasons that may explain for the inconclusive results are that (1) standardized measures were not used, (2) had there been more participants, statistical analysis might have demonstrated significant results, and it cannot be ruled out that (3) CBT may not be the best treatment options for inmates who are incarcerated in a federal correctional facility suffering from symptoms of anxiety. A treatment option that does not focus on eliminating symptoms of anxiety may be a more practical approach for this population as anxiety is a natural response in a tough environment such as a correctional facility.

Program Changes

There were a few minor changes to the intervention procedure. The number of times the Mind over Mood Anxiety Inventory was administered was dropped from four to three due to a change in the amount of treatment sessions. Due to time constrictions, the amount of sessions was changed to seven, one-hour sessions instead of eight, one-hour sessions.
Strengths and Limitations

Strengths of the program were that it covered and addressed cognitive appraisal of anxiety provoking situations, as well as coping strategies to relieve symptoms of anxiety. Dysfunctional thought records were important and effective in teaching both participants to recognise their thoughts and feelings towards anxiety provoking situations and to appraise the logistics of thoughts and perceptions of the situations. Teaching them to focus on diaphragmatic breathing and to practice deep muscle relaxation functioned as a means to decrease their heart rate and loosen tight muscles in order to relieve symptoms. Muscle tension was reported as a frequent symptom in both participants that caused a moderate degree of distress. These coping strategies also worked as a means to teach them that they had the ability to control their symptoms.

The main limitation to the program was time constraints. All eight sessions were not completed as the author was only in the institution for a short amount of time and there were limited time-slots available in the interview rooms. Another limitation was that improvements were measured by self-report and not necessarily 100 percent accurate. These results may also have been different had a standardized measure, such as the Beck Anxiety Inventory, been used. A standardized measure would have given a meaning for scores; where the measures used in this study did not. Also, there were only two participants in this study. Results of statistical analysis demonstrated that this study was not statistically significant. These results may have been different had there been more participants.

Recommendations for Future Research

One area of research into CBT that may be interesting to look into would be an analysis of the effects of various treatment techniques on different topographies of anxiety symptoms (e.g. frequency, level of distress, duration of symptoms etc.). Tailoring specific techniques to specific topographies that are most distressing for clients might prove beneficial in terms of the length of treatment, as well as being more cost efficient.

It was mentioned earlier that a treatment not focused on eliminating anxiety symptoms may be more effective for this particular population as anxiety may be a natural bodily reaction to the tough environment these men are in. One empirically supported treatment for anxiety that there is not a lot of research on in the field of corrections is Acceptance and Commitment Therapy (ACT). This treatment may be more effective as it does not seek to eliminate anxiety symptoms, it seeks to help individuals embrace internal experiences and build new repertoires of constructive behaviours that are oriented towards their life’s value goals (Luoma, Hayes, & Walser, 2007).

Multilevel Challenges
Service implementation in corrections comes with many challenges as it is an unpredictable environment where the safety and security of inmates, staff and the community are of paramount importance. These challenges occur at the client, program, organization and societal level.

**Client Level:** Individuals in the correctional environment often have ulterior motivation to seek psychological services or their interest is situational. This often translates into a lack of interest and active participation in counselling and a waste of valuable time for the few staff working in the psychology department. Therefore it is important to empower the inmate to make treatment goals for himself and to be flexible in session plans and specific treatment techniques used. When the inmate feels that the treatment is tailored in a way that will work for him, he will be more likely to actively participate.

**Program Level:** With such few staff in the department much of staff time is used for risk assessments and crisis work. There are many individuals that could benefit from formal long-term treatment, but cannot receive it due to time and resource constraints as risk assessments are important for institutional security and community safety. Crisis work is integral for the safety of the inmates.

**Organization Level:** As safety and security are a priority, lockdowns are inevitable. This means that clients cannot be met with and can potentially become a barrier in the way of service delivery. In protective custody this is not an issue; however to see inmates in that unit you need to pre-book an interview room. This can be a challenge as there are only two rooms and time-slots fill up quickly.

**Societal Level:** Mental health issues are common among inmates. Services in the community are often too expensive for these individuals. If they do not receive the treatment in the community, it can lead to more problems that result in incarceration. If they do not receive treatment while incarcerated, once they are back in the community the cycle continues.

**Contribution to the Behavioural Psychology Field**

Although CBT techniques such as PMR and thought records have been used in the correctional setting for the treatment of symptoms of anxiety, there is currently a lack of research to indicate that it is effective with this population. The aim of this study was to be a first step in researching the effectiveness of the application of CBT with inmates incarcerated in a federal correctional facility in the treatment of their symptoms of anxiety. Although there were only two participants in this study, and statistical analysis did not demonstrate significant results, self-report measures did indicate decreases in both frequency and level of distress caused by symptoms of anxiety. Therefore, this study could be viewed as adding to the first step of research into the treatment of anxiety and other mental health issues in inmates incarcerated in correctional facilities.
References


Appendix A: Institution Psychology Department Consent to Treatment Form (28-09-2008)

PSYCHOLOGY DEPARTMENT CONSENT TO TREATMENT

A Psychologist or Psychology staff member has proposed that I participate in a number of individual counselling sessions. I understand the following things about the sessions.

I may refuse to participate or withdraw from the treatment at any time.

Possible benefits of participating are I may get some advice on how to manage stress, deal with psychological problems I may have, and how to avoid further criminal activity.

A risk of participating is that the confidentiality of any information I give has limits. Information that doesn't have to do with risk will only be written on a note in my Psychology file, which most CSC staff cannot access. But it can be accessed in an emergency, and it cannot be withheld from court proceedings.

The proper authorities will be informed and actions taken if:

I am at risk of harming myself or someone else.
I give information suggesting the security of the institution is in danger.
I indicate that a child is in danger or is being abused.
I give information that would lead to the solving of unsolved crimes, past or present.

If I refuse to participate, I cannot be punished. However, a risk of refusing is that if I have untreated mental health or stress related problems, they may become worse. If treatment has been recommended to help me reduce my chances of reoffending, my P.O. and the National Parole Board my view this refusal in a negative way.

There is no guarantee that the proposed treatment will be successful in helping me deal with my problems or lower my risk to reoffend. Alternatives would be speaking to a religious adviser, friends and family, or support groups such as AA.

I also understand that after a number of sessions of counselling, a report must be written that describes the counselling sessions and how they may have changed my risk to reoffend or to function in lower security. This report will be placed on a computerized information system and can be read by my parole officer and other staff who need to know the information.

I have read the above or had it read to me, and I consent / do not consent to Psychological treatment.

Name & FPS# __________________________ Date __________________________
Signature __________________________

Version CBI Treatment Consent August 2008
Appendix B: Institution Psychology Department Limits to Confidentiality Form (28-09-2008)

PSYCHOLOGY DEPARTMENT LIMITS TO CONFIDENTIALITY AND CONSENT

The provision of psychological services may include:
1) a review of Correctional Services of Canada files.
2) a personal interview or interviews.
3) consultation with others on the case management team if necessary

A written report, which may include anything that you report or is found in your files, will be placed on your Psychology file and entered on the computer database. This report can be accessed by Correctional Services of Canada staff, the National Parole Board, and others with the legal authority to do so.

It is your right to refuse an interview. However, once you are interviewed, you do not retain the right to withhold distribution of this information.

In any contact with Psychology staff there are significant limits to confidentiality. These are:
1) if there is a concern that you pose a risk to harm yourself or someone else,
2) if there is a concern that you threaten the security of an institution,
3) if you provide specific information about unreported criminal activity, past or present,
4) if you provide specific information about a child who has been abused or is at risk of being abused.

In these situations, the staff member is required to report this information to the appropriate authorities, including those outside the institution where authorized or required by law.

I have read the above, or had it read to me and I consent to participate in a personal interview(s), which will result in a report(s). I consent to the Psychology staff member consulting with other individuals or organizations about my case as necessary.

Name: _______________________________ FPS: _______________________________

Signature: ___________________________ Date: _____________________________

Witness: _____________________________ Date: _____________________________

Version: DN - Crisis/Counselling 2003-06-17
Appendix C: Behavioural Psychology Consent Form (07-10-2008)

Dear ____________________,

I am a student in the Bachelor’s Degree in Behavioural Psychology program at St. Lawrence College. This four-year degree program is based on a behavioural framework, which has been demonstrated to be effective in developing positive skills with a wide range of individuals. Currently, I am completing an Applied Thesis that involves an intervention that I will summarize in a written report.

My intervention, Cognitive Behavioural Therapy, will consist of eight one hour individual sessions, which will include two anxiety scales. You will be expected to fill out one on the first, third, fifth and last session and the other one on the first and last session to monitor improvements. Treatment will consist of education on anxiety and physiological reactions to anxiety and stress. It will also focus on exploration of triggers, thoughts and reactions to stressful situations. Progressive relaxation and breathing exercises will be taught to aid you in coping with your symptoms of anxiety. This client-focused intervention will be developed in collaboration with you.

The benefits of participating in this project are the possibility of reduced anxiety symptoms, a deeper understanding and knowledge of anxiety and new mechanisms for coping with symptoms. The risks of participating in this project are the possibility that therapy may delve into very personal territory that may be discomforting and treatment is not guaranteed to work.

This project has been approved by Peter Marquis in Collins Bay Institution Psychology Department and by the Research Ethics Board at St. Lawrence College. The intervention will be developed under the supervision of Marie-Line Jobin, my supervisor from St. Lawrence College and in collaboration with Peter Marquis of the Collins Bay Institution Psychology Department.

I would like your permission to implement the therapy described above. All information collected will be kept strictly confidential. The information will be coded and stored in a locked cabinet. Upon request, we will gladly share a copy of a brief report of the intervention. Participation in this project is voluntary and you may withdraw at anytime without incurring undue biases to current or future treatment.

If you agree to participate in the therapy, please complete the form at the bottom of this letter and return it to me as soon as possible. A copy of this signed document will be given to you for your own records. I sincerely appreciate your cooperation. If you would like to receive more information about the project or have additional questions or concerns, please contact my College Supervisor, Marie-Line Jobin, Professor, 613-544-5400 ext. 1112.

Sincerely,

Karin Robinson, St. Lawrence College Student
I, ______________________, understand and consent to the following.

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

____ I consent to participate in the intervention conducted by Karin Robinson.

____ 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.

Client Signature: __________________ Date:__________________________

Printed Name: ____________________________

Witness Signature: __________________ Date:__________________________

Printed Name: ____________________________

SLC Student Signature: __________________ Date:__________________________

Printed Name: ____________________________
WORKSHEET 11.1 Mind Over Mood Anxiety Inventory

In order to use this inventory multiple times, do not write on this page. Indicate on the answer sheet on the following page the numbered answer that best describes how much you have experienced each symptom over the last week.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Not at all</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Feeling nervous</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Frequent worrying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Trembling, twitching, feeling shaky</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Muscle tension, muscle aches, muscle soreness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Restlessness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Easily tired</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Shortness of breath</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Rapid heartbeat</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Sweating not due to the heat</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Dry mouth</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. Dizziness or light-headedness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. Nausea, diarrhea, or stomach problems</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. Frequent urination</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. Flushes (hot flashes) or chills</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. Trouble swallowing or &quot;lump in throat&quot;</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. Feeling keyed up or on edge</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. Quick to startle</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. Difficulty concentrating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. Trouble falling or staying asleep</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. Irritability</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21. Avoiding places where I might be anxious</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22. Frequent thoughts of danger</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23. Seeing myself as unable to cope</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24. Frequent thoughts that something terrible will happen</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Score** (of total circled numbers) [ ]

### Appendix E: Sample Symptoms Checklist

**Instructions.** Rate your stress-related symptoms below for the degree of discomfort that they cause you, using this ten-point scale:

<table>
<thead>
<tr>
<th>Slight discomfort</th>
<th>Moderate discomfort</th>
<th>Extreme discomfort</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Degree of discomfort (1-10) now</th>
<th>Degree of discomfort (1-10) after mastering relaxation and stress reduction techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety in specific situations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deadlines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviews</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety in personal relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General anxiety (regardless of the situation or the people involved)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powerlessness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor self-esteem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irritability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resentment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phobias</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fears</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obsessions, unwanted thoughts</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Fields prior to depression were not used.
### How You React to Stress

#### Table: Symptom and Degree of Discomfort

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Degree of discomfort (1-10) now</th>
<th>Degree of discomfort (1-10) after mastering relaxation and stress reduction techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscular tension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High blood pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headaches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neckaches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backaches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigestion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irritable bowel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ulcers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic constipation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic diarrhea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle spasms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tremors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insomnia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeping difficulties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obesity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical weakness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job stress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Important.** Physical symptoms may have purely physiological causes. You should have a medical doctor eliminate the possibility of such physical problems before you proceed on the assumption that your symptoms are completely stress related.
Appendix F: Table of Statistical Analysis of Mind over Mood Anxiety Inventory for Participant 1 and 2

Table 3.

<table>
<thead>
<tr>
<th>Phases</th>
<th>Mean</th>
<th>Median</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>40%</td>
<td>19%</td>
<td>11</td>
</tr>
<tr>
<td>Treatment</td>
<td>25%</td>
<td>27%</td>
<td>8</td>
</tr>
</tbody>
</table>
Appendix G: Graphs: Percentage of Pre and Post-Test Scores on the Symptoms Checklist for Participant 1 and 2

Figure 1. Percentage of Pre and Post-Test Scores on the Symptoms Checklist for Participant 1

Figure 2. Percentage of Pre and Post-Test Scores on the Symptoms Checklist for Participant