

A Comparison of Two Ultra-Brief Treatments for
Generalized Anxiety Disorder Symptoms

Alexander M. Penney

Lakehead University, Thunder Bay, Ontario

A dissertation submitted in
partial fulfilment of the requirements of the
Doctor of Philosophy Degree (Psychological Science),
Department of Psychology

August 26, 2014

Supervisor: Dwight Mazmanian, Ph.D., C. Psych.

Supervisory Committee Member: John Gotwals, Ph.D.

Internal Examiner: Mirella Stroink, Ph.D.

External Examiner: Evelyn Behar, Ph.D.

ULTRA-BRIEF TREATMENTS FOR GAD

Abstract

Worrying is a common experience that many people engage in occasionally without issue. However, some individuals are chronic worriers, and some develop generalized anxiety disorder (GAD) due to excessive worry (American Psychiatric Association, 2013). People with GAD experience significant distress and physiological issues, leading to high health care service utilization (Bélanger et al., 2005). Two models of GAD, the Cognitive Avoidance Model (Sibrava & Borkovec, 2006) and the Metacognitive Model (Wells, 2009), have extensive basic and applied support. In addition, a small body of research has shown that an ultra-brief treatment can decrease GAD symptoms and worry severity (Borkovec et al., 1983; McGowan & Behar, 2013). Yet, this research has used short follow-ups, and the relationships between change in symptoms and cognitive factors have not been explored. The current study tested two ultra-brief treatments based on the two models of GAD. A total of 115 participants were assigned to receive one of the treatments, or to a control condition. Participants in the control condition were assigned to one of the treatments after four weeks. Treatments were completed in less than 20 minutes. Participants completed a diagnostic interview and self-report measures at baseline, four weeks, and four months post-treatment. Participants who received treatment had large decreases on measures of GAD symptoms, worry severity, and negative affect, as well as on measures of the proposed cognitive factors, with gains maintained at four month follow-up. While the treatments were superior to the control condition, no differences were found between treatments. Negative beliefs about worry and meta-worry were related to changes in GAD symptoms and worry severity, while cognitive avoidance was related to changes in worry severity. Overall, the results indicate that these ultra-brief treatments appear well suited for use in primary care, and the findings provide support for both the Metacognitive Model and Cognitive Avoidance Model.

Acknowledgements

First and foremost I wish to thank my fiancée, Leanne Grover, for always making me smile, inspiring me, pushing me on to be the best that I can be, and giving me more love and support than anyone could ask for. I also wish to thank my supervisor, Dr. Dwight Mazmanian, for supporting me throughout my dissertation and graduate school journey. Your guidance and feedback was always helpful, and you will always be a big part of who I become as a researcher and academic. Thank you also goes to my dissertation committee, Dr. John Gotwals, Dr. Mirella Stroink, and Dr. Evelyn Behar, for agreeing to devote your valuable time to reading and providing feedback on this project. I would also like to thank Dr. John Jamieson for his advice on this dissertation during the proposal stage. I would also like to extend my appreciation to my fellow graduate students at Lakehead University: thank you for all for the reassurances, motivation, and stress relief. Thank you as well to my friends and colleagues from far and wide who have all inspired me and given me much joy over the years. My immense appreciation to the graduate students who volunteered to serve as therapists in this study: Missy Teatero, Emily Fawcett, Nicholas Harris, Loretta Blanchette, Megan Short, and Gregory Tippin. Thank you for devoting so much time to assisting me. Thanks also go out to my research assistant, Stephanie Cottrell, for helping with data management and completing adherence checks. Special thanks belong to my parents for their constant love and support. Thank you for all that you have done for me. I would like to also gratefully acknowledge the Canadian Institutes of Health Research for honouring me with a Frederick Banting & Charles Best Canada Graduate Scholarships Doctoral Research Award and providing funding for this project.

Table of Contents

Abstract..... i

Acknowledgements..... ii

Table of Contents..... iii

List of Figures..... viii

List of Tables ix

List of Acronyms x

Introduction..... 1

 Worry, Chronic Worry, and Generalized Anxiety Disorder 1

 GAD and Worry in the Medical System 4

 Health-related worrying 4

 Increased use of health care services 6

 Increased costs to the health care system..... 8

 Recognition of GAD in primary care..... 9

 Treatment of GAD in primary care..... 12

 Empirically Supported Models and Therapies for GAD..... 15

 The Cognitive Avoidance Model..... 15

 Basic research 15

 Applied research..... 20

 The Metacognitive Model..... 23

 Basic research..... 23

 Applied research..... 31

 Research directly comparing the models 33

ULTRA-BRIEF TREATMENTS FOR GAD

Additional models of GAD	34
Intolerance of Uncertainty Model.....	34
Acceptance-Based Model.....	36
Emotional Dysregulation Model	37
Prevention Outcome Studies for GAD	39
Brief and Ultra-Brief Treatments	42
Ultra-brief treatments for GAD.....	44
The Present Study.....	47
Modifications of the treatments for the current study.....	47
Research questions and hypotheses	49
Hypotheses	50
Method	53
Participants	53
Measures.....	54
Demographic characteristics measure.....	54
GAD symptom measures	54
Structured diagnostic assessment of GAD criteria.....	54
Dimensional measure of GAD symptoms	55
Dimensional measure of worry severity.....	55
Comorbid symptom measures.....	56
Measure of health anxiety symptoms	56
Measure of positive and negative affect.....	56
Health care utilization and secondary indicators of mental health measures	57

ULTRA-BRIEF TREATMENTS FOR GAD

Primary care utilization and treatment seeking behaviours.....	57
Psychopharmacological medication use.....	57
Motivation for additional treatment.....	58
Expectancy that anxiety can be treated.....	58
Proposed cognitive factors measures.....	59
Cognitive avoidance.....	59
Meta-worry.....	59
Metacognitive beliefs.....	60
Negative evaluation sensitivity.....	60
Treatment characteristic measures.....	61
Treatment credibility, expectancies, and success.....	61
Treatment implementation.....	62
Problematic response styles.....	62
Positive impression management.....	63
Negative impression management.....	63
Random responding.....	63
Supplemental measures.....	64
Procedure.....	64
Study design.....	64
Treatments.....	68
Therapists.....	71
Treatment adherence.....	71
Compensation.....	71

ULTRA-BRIEF TREATMENTS FOR GAD

Statistical Analyses.....	72
Results.....	75
Data Screening.....	75
Participant Characteristics at Baseline	76
Therapist Effects and Treatment Adherence	76
Treatment Credibility, Expectancy, and Implementation.....	78
Comparison of Treatments to Waitlist	79
Completer analyses	79
Intent-to-treat analyses.....	83
Comparison of CAWS to MWS	87
Completer analyses	87
Baseline to four weeks post-treatment	87
Four weeks to four months post-treatment.....	93
Intent-to-treat analyses.....	97
Baseline to four weeks post-treatment	98
Four weeks to four months post-treatment.....	107
Comparison of Proposed Cognitive Factors.....	108
Changes in GAD symptoms	108
Changes in worry severity	108
Discussion.....	111
Theoretical Implications.....	112
Treatment Implications.....	118
Strengths and Weaknesses.....	125

ULTRA-BRIEF TREATMENTS FOR GAD

Future Directions.....	128
Conclusions.....	130
References.....	132
Appendix A: Recruitment Materials.....	167
Appendix B: Self-Report Questionnaires at Baseline.....	173
Appendix C: Cover Letter.....	211
Appendix D: List of Counselling Services Available in Thunder Bay.....	215
Appendix E: Consent Form	217
Appendix F: Contact Information Form	220
Appendix G: Brief Cover Letter for Follow-ups and Debriefing Form.....	222
Appendix H: The “Psychology Works” Fact Sheets: Generalized Anxiety Disorder	226
Appendix I: Self-Report Questionnaires at Four-Week Follow-up.....	228
Appendix J: Self-Report Questionnaires at Four-Month Post-Treatment	266
Appendix K: Treatment Scripts and Associated Handouts.....	304
Appendix L: Treatment Adherence Checklists.....	311

List of Figures

Figure 1. Progress of participants through the study69

Figure 2. Changes in generalized anxiety disorder symptoms when comparing the delayed treatment condition with treatment conditions85

Figure 3. Changes in worry severity when comparing the delayed treatment condition with treatment conditions.....86

Figure 4. Changes in negative affect when comparing the delayed treatment condition with treatment conditions.....88

Figure 5. Changes in generalized anxiety disorder symptoms due to treatment99

Figure 6. Changes in worry severity due to treatment100

Figure 7. Changes in negative metacognitions due to treatment102

Figure 8. Changes in meta-worry due to treatment.....104

Figure 9. Changes in cognitive avoidance due to treatment105

Figure 10. Changes in fear of negative evaluation due to treatment104

Figure A1. Newspaper advertisement.....169

Figure A2. Recruitment poster version 1170

Figure A3. Recruitment poster version 2.....171

Figure A4. Recruitment poster version 3172

List of Tables

Table 1. Characteristics of the Sample at Baseline.....	77
Table 2. Summary of Regression Analyses for Examining Variables Related to Change in GAD Symptoms	109
Table 3. Summary of Regression Analyses for Examining Variables Related to Change in Worry Severity	110

ULTRA-BRIEF TREATMENTS FOR GAD

List of Acronyms

ACES	Anxiety Change Expectancy Scale
ANOVA	Analyses of Variances
BFNE	Brief Fear of Negative Evaluation scale
CAD	Canadian Dollars
CAQ	Cognitive Avoidance Questionnaire
CAWS	Cognitive avoidance worry scheduling
CBT	Cognitive behavioural therapy
DSM	Diagnostic and Statistical Manual of Mental Disorders
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition
DT	Delayed treatment
GAD	Generalized anxiety disorder
INF	Infrequency scale
MANOVA	Multivariate Analyses of Variance
MCQ-30	Metacognitions Questionnaire-30
MINI	Mini International Neuropsychiatric Interview
MRTS	Motivation for Receiving Treatment Scale
MWQ	Meta-Worry Questionnaire
MWS	Metacognitive worry scheduling
NIM	Negative Impression Management scale
PANAS-NA	Positive and Negative Affect Schedule positive affect subscale
PANAS-PA	Positive and Negative Affect Schedule negative affect subscale
PIM	Positive Impression Management scale

ULTRA-BRIEF TREATMENTS FOR GAD

PMUS	Psychopharmacological Medication Use Scale
PSWQ	Penn State Worry Questionnaire
RCES	Revised Credibility/Expectancy Scale
RGHAS	Revised Getting Help for Anxiety Scale
RHCS	Revised Homework Compliance Scale
SHAI	Short Health Anxiety Inventory
USD	United States Dollars
WAQ	Worry and Anxiety Questionnaire

A Comparison of Two Ultra-Brief Treatments for
Generalized Anxiety Disorder Symptoms

Worry, Chronic Worry, and Generalized Anxiety Disorder

Worrying is a common experience for many people. Worry is a cognitive phenomenon of repetitive thought activity, which tends to be triggered in response to internal or external triggers, that focuses on hypothetical negative outcomes that could occur in the present or future (Gladstone & Parker, 2003). As originally uncovered by Borkovec and Inz (1990), and later replicated by other researchers (Freeston, Dugas, & Ladouceur, 1996; Hirsch, Hayes, Matthews, Perman, & Borkovec, 2011), worry is dominated by verbal (i.e., linguistic) thoughts, rather than mental images. While worry is generally considered to be a cognitive component of the experience of anxiety, worrying causes increases in state negative affect (i.e., global feeling of distress, depression, and anger), and decreases in state positive affect (i.e., global feeling of satisfaction, pleasure, and excitement), in addition to increasing state anxiety (Andrews & Borkovec, 1988; Penney & Mazmanian, 2010c; York, Borkovec, Vasey, & Stern, 1987). As well, when worrying becomes an individual's primary coping strategy, this leads to increases in trait symptoms of anxiety, depression, and distress (Oathes et al., 2008; Wells, 2009). Overall however, worry is more associated with anxiety than depression (Andrews & Borkovec, 1988; Zebb & Beck, 1998).

Yet for most people, the act of worrying is not harmful and can be used as a coping strategy to deal with potential threats. Eysenck (1992) argued that worry may function to detect possible threats and anticipate potential aversive outcomes. The verbal nature of worry, and the absence of physiological arousal when worrying (Llera & Newman, 2010; Lyonfields, Borkovec, & Thayer, 1995; Thayer, Friedman, & Borkovec, 1996), may also function to initiate problem-

solving behaviours without the induction of a fight-or-flight response. In fact, the beliefs that worry can serve as motivation, aid in problem solving, and protect from negative emotions are strongly held by high worriers (Holowka, Dugas, Francis, & Laugesen, 2000). While worrying is similar to problem solving, the frequent use of worrying does not tend to lead to productive solutions, because potential aversive outcomes are constantly revisited (Mathews, 1990), and high worriers tend to have a negative problem orientation (Ladouceur, Blais, Freeston, & Dugas, 1998; Ladouceur et al., 1999; Robichaud & Dugas, 2005).

Some individuals who experience high degrees of worry and distress develop generalized anxiety disorder (GAD). GAD is defined by excessive and difficult-to-control worry (American Psychiatric Association, 2013). In addition to experiencing excessive worry about multiple life domains, individuals with GAD experience significant life impairment or distress, and experience physiological symptoms, such as irritability, muscle tension, and sleep disturbance (a minimum of three of six possible physical symptoms is required to be diagnosed with GAD). Further, all symptoms must co-occur within the past six months, and must not be better explained by another mental disorder. GAD was first recognized as a mental disorder in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM; American Psychiatric Association, 1980), although the definition was substantially revised for the fourth edition of the DSM (DSM-IV; American Psychiatric Association, 1994).

While some individuals develop GAD, it is also important to note that individuals can have high levels of trait worrying without meeting criteria for a mental disorder. These “chronic worriers” experience very high trait worrying, believe their worrying is uncontrollable, and experience some of the symptoms of GAD (Ruscio, 2002). However, individuals with GAD tend to have higher levels of trait worry, believe more strongly that worry is uncontrollable, and

experience more impairment and physiological symptoms than chronic worriers (Ruscio, 2002). Expanding on this finding, Ruscio and Borkovec (2004) found that when they matched individuals with GAD to chronic worriers for level of trait worry, individuals with GAD experienced more frequent negative thoughts following a worry period, and believed more strongly that worry is uncontrollable and dangerous than chronic worriers and an unselected university sample. Individuals with GAD also believed more strongly that they have poor attentional skills and memory, and that worry itself can prevent negative outcomes (magical-thinking) than chronic worriers and the university sample (Ruscio & Borkovec, 2004). Chronic worriers were best differentiated from the unselected university sample by the belief that worry is uncontrollable and dangerous. A more recent study by Hirsch, Matthews, Lequertier, Perman, and Hayes (2013) supported the conclusion that more negative beliefs about worry differentiate GAD clients from chronic worriers.

In Canada, GAD has been previously found to have a lifetime prevalence of 11.5% and a 12-month prevalence of 2.1% (Fournier, Lesage, Toupin, & Cyr, 1997; Offord et al., 1996). However, these studies relied on criteria from the revised third edition of the DSM (American Psychiatric Association, 1987). In a more recent American epidemiological survey using updated criteria (Grant et al., 2005) the 12-month prevalence of GAD was unchanged at 2.1%, while the lifetime prevalence was 4.1%. The survey also found that GAD has a mean onset of 32.7 years old. In terms of social, emotional, and mental functioning, GAD was found to be as impairing as mood disorders and more impairing than other anxiety or personality disorders (Grant et al., 2005). GAD was also highly comorbid with mood disorders, other anxiety disorders, and substance abuse. The high comorbidity of GAD, especially with depression, has long been documented in both community and clinical samples (Kessler & Wittchen, 2002).

The following sections critically review the prevalence and impact of GAD in the health care system, the current models and psychotherapies for GAD, and previous GAD prevention research. This leads to the proposed study: a comparison of two ultra-brief¹ treatments for GAD symptoms and chronic worry.

GAD and Worry in the Medical System

Health-related worrying. Given the impairment and physical symptoms that accompany GAD, it would be natural to assume that individuals with GAD would regularly worry about their physical and mental health. However, research in this area is unclear. Early research found that people with GAD reported worrying more frequently about family, finances, and work than health (Sanderson & Barlow, 1990). Follow-up research also confirmed that people with GAD, and GAD analogue samples, were more likely to report worrying about family, interpersonal concerns, and work than their health, and were not more likely to report worrying about their health than non-anxious controls (Roemer, Molina, & Borkovec, 1997). However, Craske, Rapee, Jackel, and Barlow (1989) found that health worries were the most common type of worry among GAD clients, and that the clients worried about their health far more frequently than a non-anxious control group. Similarly, Glazier, Penney, Mazmanian, and Rudanycz (2011) found that a GAD analogue sample was more likely to report excessively worrying about their health than a non-anxious control group. As well, a recent study in Hong Kong has found that almost 80% of individuals with GAD reported worrying about their health (Lee, Ma, & Tsang, 2011).

Although the aforementioned studies measured health worries, the measures of health worries included lists of worry topics, obtained either through interviews or self-report, or a

¹The term “ultra-brief” is used to distinguish from “brief” treatments that include six to eight sessions, whereas the current study will use only one session. See the *Brief and Ultra-Brief Treatments* section for further explanation.

collection of worries that were captured by self-monitoring. These measures were not designed to specifically assess health-related worries. In the GAD literature, one measure that has been frequently used to measure health-related worries is the Anxious Thoughts Inventory (Wells, 1994). Research using the Anxious Thoughts Inventory has found that when controlling for worries about worry and trait anxiety, neither social worry or health worry predicted pathological worry (Wells & Carter, 1999). Extending on this finding, Wells and Carter (2001) found that individuals with GAD have more health worries than individuals with social phobia and non-anxious individuals, but no more health worries than individuals with panic disorder. Further, they found that individuals with GAD reported roughly equivalent frequencies of health and social worries. Overall, while health-related worrying may not be a unique characteristic of GAD, health worries do appear to be elevated in individuals with GAD.

While GAD researchers have examined the occurrence of health worries in GAD, other researchers have examined the occurrence of worrying in individuals with high health anxiety. Health anxiety is defined as experiencing anxiety about one's health and well-being despite a lack of evidence for physical health problems, or experiencing anxiety above what would be considered a normal amount of anxiety when there is evidence for health problems (Lucock & Morley, 1996). Abramowitz, Olatunji, and Deacon (2007) found that chronic worry was uniquely related to health anxiety when controlling for other forms of anxiety such as trait anxiety, social anxiety, and obsessive-compulsive symptoms. However, researchers have also found that individuals with GAD have equivalent levels of health anxiety as clients with specific or social phobias, and less health anxiety than clients with panic disorder (Abramowitz et al., 2007). Overall, this literature supports a connection between health-related worrying and GAD, although high health anxiety does not appear to occur in all individuals with GAD.

Increased use of health care services. Although the literature shows a modest relationship between health-related worrying and chronic worrying, it is reasonable to expect that health-related worrying would push individuals to seek out medical advice and treatment upon experiencing possible signs of poor health. When individuals search for health information online, those with high health anxiety are likely to decide to utilize health care services (Eastin & Guinseler, 2006). In addition, individuals with high health anxiety visit their general medical practitioners more frequently than individuals with low health anxiety (Conroy, Smyth, Siriwardena, & Fernandes, 1999). As well, while Jackson and colleagues (Jackson et al., 2006) found that health anxiety did not predict health care utilization or health related quality of life in secondary and tertiary clinics, a recent large scale study found that between 17% and 25% of clients attending different types of hospital-based clinics had excessive health anxiety (Tyrer et al., 2011). Lucock, White, Peake, and Morley (1998) also revealed that individuals with high health anxiety perceived reassurance from physicians as less certain for up to one month after the initial meeting than individuals with low health anxiety. Looking at a more specific patient group, women who did not feel reassured following a benign diagnosis regarding breast cancer were characterized by high trait anxiety and high health anxiety, among other factors (Meechan, Collins, Moss-Morris, & Petrie, 2005).

Given that a subset of individuals with GAD experience high health anxiety and excessive health-related worries, it is perhaps not surprising that individuals with GAD seek help from family physicians and other health care practitioners more than most people in the general population. A World Health Organization report found that GAD was prevalent on average in almost 8% of clients attending primary care clinics across multiple countries, and was the second most prevalent mental disorder in primary care (Goldberg & Lecrubier, 1995). As well, Katon et

al. (1990) reported that the lifetime prevalence of GAD was 40.3% in heavy users of general health care, which is substantially higher than the lifetime prevalence of GAD in the general population at 4.1% (Grant et al., 2005). However, when health care service utilization is examined over the past three months rather than past year, the results are equivocal. One recent study found that individuals with GAD, subthreshold GAD, and high worriers were no more likely to attend a clinic in the past 90 days than non-worriers (Kertz & Woodruff-Borden, 2011). However, a larger study involving 15 primary care clinics across the United States compared individuals with GAD to individuals with no disorder, and found that individuals with GAD had more physician visits over the past three months (Kroenke, Spitzer, Williams, Monahan, & Löwe, 2007).

Looking at Canadian research, a study of 235 first-time patients consulting at anxiety disorder clinics across Quebec found that 34% of the sample reported using medical or mental health services ten times or more during the previous year, although a diagnosis of GAD was not uniquely related to higher service utilization (McCusker, Boulenger, Boyer, Bellavance, & Miller, 1997). However, a study conducted by Bélanger, Ladouceur, and Morin (2005) involving four primary care clinics in Montreal found that 44% of the participants who met criteria for GAD reported five or more medical visits in the past year, while only 20% of non-GAD patients visited a general medical practitioner five times or more in the past year. Further, individuals with GAD were more likely to return with the same complaint multiple times in the past year than non-GAD patients.

Clients with GAD also appear to frequent specialized care. Logue et al. (1993) asked patients with panic disorder and patients with GAD to report their histories of medical evaluations for possible cardiac symptoms. Although it was predicted that panic disorder

patients would have had more cardiological evaluations, due to the similarities between a panic attack and a heart attack, approximately half of the patients in both groups had consulted a physician regarding cardiac symptoms. As well, GAD patients were as likely as panic disorder patients to have visited a cardiologist or to have visited an emergency room due to physical sensations. Individuals with GAD also appear more likely to have visited gastroenterologists in the past year than non-patients, individuals with panic disorder, and individuals with obsessive-compulsive disorder (Kennedy & Schwab, 1997). A study conducted in Montreal revealed that individuals with GAD visited family physicians and medical specialists at a higher rate than individuals with panic disorder, depression, or substance-related disorders (Fournier et al., 1997).

Increased costs to the health care system. By seeking services due to excessive worry, individuals with GAD increase the cost of delivering health care and increase wait times for individuals who need specialized care. Simon, Ormel, VonKorff, and Barlow (1995) examined the health care utilization and associated costs of a sample of primary care patients in Seattle, Washington. Overall, it was found that patients with a current anxiety or mood disorder had significantly higher health care costs (\$2,390 USD over the past six months) than individuals with sub-clinical anxiety or mood disorders (\$1,098 USD) and individuals with no mood or anxiety symptoms (\$1,397 USD). More recently, Greenberg et al. (1999) found that in the United States the economic burden of anxiety disorders is greater than \$60 billion USD annually, and the majority of this cost is due to non-psychiatric medical visits (i.e., family physicians, nurse practitioners, etc.). The cost of GAD specifically was related to the high utilization of family physicians and medical specialists (i.e., cardiologists, gynaecologists), as individuals with GAD rarely sought treatment from mental health care specialists.

Although using small samples, Koerner (2002) found that the annual direct cost per individual with GAD to the Canadian health care system was approximately \$600 CAD, which is considerably higher than the direct cost of less than \$200 CAD per individual with no mental disorder. Unfortunately, this is the only known study that has examined the cost of GAD in Canada. Recently, a comprehensive review (Konnopka, Leichsenring, Leibing, & König, 2009) of all anxiety disorder cost-of-illness studies concluded that the direct costs of GAD and panic disorder tend to be higher than social phobia and specific phobias, and all studies reviewed indicate an annual cost substantially greater than the \$600 CAD figure derived by Koerner (2002). Given the high cost of GAD to the health care system, in addition to the potential costs to society at large through reduced work productivity (i.e., decreased focus on work related tasks due to worry) and increases in wait times (through the frequent use of medical services), one may wonder if individuals with GAD are recognized and treated in primary care facilities.

Recognition of GAD in primary care. Primary-care practitioners often misdiagnose and consequently mistreat anxiety disorders because they are not adequately trained to recognize or treat them (Fifer et al., 1994; Ormel et al, 1990; Ormel, Koeter, van der Brink, & van der Willige, 1991). As well, given the high frequency of comorbid conditions experienced by individuals with GAD, the identification of GAD is made all the more difficult (Brawman-Mintzer & Lydiard, 1996).

Data from five primary care settings across Europe included in a World Health Organization report indicated that although 51% to 72% of clients with GAD who entered primary care were identified as “psychiatric cases”, less than half were identified as having an anxiety disorder (Weiller, Bisserbe, Maier, & Lecrubier, 1998). Only one third of GAD clients without comorbid disorders were identified as having an anxiety disorder (Weiller et al., 1998).

Similarly, a large primary care study conducted in Germany found that almost two thirds of patients with pure GAD (i.e., no comorbid conditions) and over half of patients with comorbid GAD were not diagnosed as having GAD by their physician (Wittchen et al., 2002). Further, the false positive rate was also incredibly high, with only one out of every six clients diagnosed with GAD by their physician meeting DSM-IV criteria on a self-report questionnaire. Additionally, researchers have found that when patients with anxiety or mood disorders characterized their presenting symptoms as a normal response to life circumstances, as would often be the case in high worry, the disorder was not detected in 85% of the patients (Kessler, Lloyd, Lewis, & Gray, 1999).

Further complicating the matter of making a diagnosis of GAD in primary care is the fact that although individuals with GAD frequently turn up in primary care settings, they are more likely to visit a health care practitioner due to a perceived physical pathology than due to concerns about their mental health. A classic finding by Bridges and Goldberg (1985) uncovered that among individuals with a mental disorder who sought treatment in primary care, 83% presented with primary complaints of physical pathology, while only 17% presented with primary complaints of psychological pathology. Further, of the 83% who presented with physical concerns, the mental disorder underlying their concerns was identified in only half of the cases. Converging findings from a national population study conducted by Statistics Canada in 2002 (Gravel & Beland, 2005) indicate that individuals with mood or anxiety disorders are three times more likely to have utilized services in the past year from general medical practitioners than from psychiatrists, psychologists, or social workers (Urbanoski, Rush, Wild, Bassani, & Castel, 2007). Further, when seeking services for mental health reasons, Canadians

as a whole are twice as likely to seek help from general medical practitioners as they are from specialized mental health practitioners (Vasiliadis, Lesage, Adair, & Boyer, 2005).

Regarding individuals with GAD more specifically, the previously mentioned primary care study conducted in Germany found that only 13% of patients with GAD reported anxiety as their primary complaint (Wittchen et al., 2002). Pain, sleep disturbance, and other somatic symptoms were far more likely to be the primary complaints. Wittchen and colleagues also found that less than one in every four individuals with GAD was receiving treatment for their worrying. However, in Canada, the numbers are slightly more encouraging, with the study conducted at primary care clinics in Montreal finding that almost half of the individuals with GAD reported consulting their family physician about anxiety in the past year (Bélanger et al., 2005). Similarly, in the United States, results of the large primary care study in the United States involving 15 primary care clinics (Kroenke et al., 2007) indicated that 60.3% of clients with GAD reported being treated with pharmacotherapy, and 27.4% reported being treated with counselling or psychotherapy. Although not reported for GAD specifically, the study did report that of those with an anxiety disorder, almost three quarters of clients who received some counselling also received pharmacotherapy. Therefore, while a notable proportion of individuals with GAD are being left untreated, the number being treated for GAD in primary care in North America appears far better than that in Germany.

Although it may be difficult for health care practitioners to identify individuals with GAD, and even more so, individuals with high chronic worry who may be on a path to developing GAD, it would appear that in North America many individuals with GAD are seeking treatment for anxiety and are being recognized. The question then becomes, are these clients being adequately treated in a timely manner?

Treatment of GAD in primary care. As indicated by the findings of Kroenke et al. (2007), pharmacotherapy is the go-to treatment of GAD in primary care. Across the 15 primary care clinics, twice as many clients with GAD were being treated with medication than were being treated with counselling or psychotherapy (Kroenke et al., 2007). Research also indicates that clients may have a preference for medication over counselling (Crits-Christoph et al., 2011). A recent large-scale study (Berger et al., 2011) indicated that when clients diagnosed with GAD initiate medication use, roughly half will be prescribed selective serotonin reuptake inhibitors, a third will be prescribed benzodiazepines, and less than 10% will be prescribed serotonin-norepinephrine re-uptake inhibitors, among other drugs. Interestingly, when comparing the health care costs of these clients in the year preceding the initiation of medication use with the year following post-medication initiation, the total costs increased by over \$3000 USD per client. Although costs are likely to improve over time, this study does indicate that at least in the short-term, pharmacological treatments do not decrease costs for the health care system.

While the study by Beger et al. (2011) indicates that benzodiazepines are being prescribed more readily for GAD than serotonin-norepinephrine re-uptake inhibitors in the United States, recent treatment algorithms and literature reviews recommend the use of selective serotonin reuptake inhibitors and serotonin-norepinephrine re-uptake inhibitors as the first-line psychopharmacological treatments for GAD (Davidson et al., 2010; Katzman, 2009; Koen & Stein, 2011). Although these medications tend to be effective both in the short-term and long-term, there are substantial problems documented with the use of these and other medications for GAD (Davidson, 2009; Katzman, 2009). There are issues with a lack of response in up to 40% of clients, a significant delay in the onset of symptom relief, and lack of full remission of symptoms despite high doses of medications. Further, discontinuation of the medications can

lead to a relapse of the disorder. Finally, even when the medications are providing significant symptom relief, they can still cause impairing side-effects including: agitation, insomnia, sexual dysfunction, weight gain, vomiting, headaches, and sweating. These and other concerns have led to a call for more psychotherapy, particularly cognitive behavioural therapy (CBT) in primary care, as an adjunct to, or replacement for, pharmacotherapy (Demertzis & Craske, 2006).

Although an understudied field, new research is emerging examining the effectiveness of CBT for anxiety disorders in primary care. A team of researchers across multiple institutions began their effectiveness research using a collaborative care model to treat panic disorder in primary care (Roy-Byrne et al., 2005), and later extended this treatment to social anxiety disorder, posttraumatic stress disorder, and GAD (Craske et al., 2011; Roy-Byrne et al., 2010). In this model, patients are primarily seen by their primary care physician, while master's level trained clinicians deliver CBT to the client. The clinicians utilize weekly group consultations with psychologists and psychiatrists, while also using a workbook and computer software, to guide computerized-CBT and a medication plan. Although this model increased short-term costs through the delivery of six sessions of CBT in addition to six follow-up phone calls, it was more effective in relieving symptoms of all disorders (except for posttraumatic stress disorder) and improving quality of life across multiple domains than usual care (Joesch et al., 2012; Roy-Byrne et al., 2005). The clinicians and patients also rated the program highly, found the use of computers to be beneficial, and most patients chose to complete a trial of CBT with or without pharmacotherapy (Craske et al., 2009; Craske et al., 2011).

Unfortunately, with the exception of the new research by Craske and colleagues discussed above, only two known studies have focused on treating GAD in primary care settings. In separate studies Power, Jerrom, Simpson, Mitchell, and Swanson (1989) and Power, Simpson,

Swanson, and Wallace (1990) utilized a clinical psychologist to administer medication and CBT for GAD in the primary care setting. The researchers found that CBT alone, with placebo, or with diazepam, was significantly superior to placebo alone, and trended towards being superior to diazepam alone at the end of active treatment and at a six- and twelve-month follow-up. Although these studies indicate therapy could be conducted in primary care, clinical psychologists are rarely employed at primary care locations (Norcross & Rogan, 2013), and therefore having clinical psychologists provide CBT in primary care locations is not a viable option in the current health care system.

While computerized CBT and collaborative care models may become a viable option, these options come with high costs to the health care system. As well, practitioners may be hesitant to refer clients to such services instead of more traditional specialist services. Currently, as specialized mental health care workers are seldom employed in primary care facilities (Norcross & Rogan, 2013), general medical practitioners routinely refer clients for outpatient mental health services. These outpatient services tend to have long waitlists, with a current Canadian average of at least four months (Barua, Rovere, & Skinner, 2011). Further, these services are primarily designed for clients with significant impairment and may be unnecessary for clients with sub-clinical conditions, such as chronic worriers. The development of CBT based treatments that could be implemented by practitioners in primary care settings, and treatments that do not require excessive practitioner time commitments, would be beneficial to the treatment of GAD in primary care. Therefore, new types of treatments need to be explored, including ultra-brief and prevention-based treatments that could be provided by a primary care practitioner. However, such treatments need to be developed from the current empirically supported models of GAD, and their associated ten to twelve week therapies for GAD.

Empirically Supported Models and Therapies for GAD

There are currently five well-articulated and researched theoretical models of GAD (for a review, see Behar, DiMarco, Hekler, Mohlman, & Staples, 2009), but the current study focuses on two of these models: the Cognitive Avoidance Model proposed by Borkovec and colleagues (Sibrava & Borkovec, 2006) and the Metacognitive Model proposed by Wells and colleagues (Wells, 2009). These models were chosen due to the extensive basic and applied research underlying each model, clear distinctions between the models, and their potential application as ultra-brief treatments. The theoretical components of each model, as well as the existing research for the therapies associated with each model, will be reviewed in turn.

The Cognitive Avoidance Model. Borkovec and colleagues began developing the Cognitive Avoidance Model, the first model of worry and GAD, in the early 1980s. The model has four key elements: 1) that worry is a means to attempt to avoid negative future outcomes and negative images, and to cope with negative outcomes that may occur; 2) that the act of worrying is reinforced by the rarity of catastrophic negative outcomes and the ability to better cope with negative outcomes than predicted; 3) that worry functions to avoid physiological arousal and emotional processing; and 4) interpersonal factors contribute to increased feelings of responsibility, distress, and worry (Sibrava & Borkovec, 2006).

Basic research. In one of their first published evaluations of worry, Borkovec, Robinson, Pruzinsky, and DePree (1983) provided a brief self-report questionnaire to a sample of university students and determined that the majority of worries tend to be future-oriented rather than present- or past-oriented. This future-oriented focus of worry has since become a key definitional component of worry (Gladstone & Parker, 2003). Additional early research into worry found that higher trait worrying is related to a monitoring/information-seeking, problem

solving coping style, and also an avoidant, affective regulation coping style (Davey, 1992; Davey, Hampton, Farrell, & Davidson, 1992). Davey (1992) suggested that worriers may be seeking out information so that they can avoid negative outcomes, and this concept has since become embedded in the literature.

Borkovec and colleagues have argued that the linguistic nature of worry (Borkovec & Inz, 1990; Freeston et al., 1996) allows worriers to avoid distressing images, which results in less immediate distress (Hirsch et al., 2011). This use of worry to avoid immediate distress, which is akin to someone with social anxiety avoiding large crowds, was termed cognitive avoidance. Further support for worry functioning as a cognitive avoidance technique which maintains GAD is that multiple studies have shown that exposure to worried-about scenarios (through written or imaginal scenarios) decrease GAD symptoms (Behar, Vescio, & Borkovec, 2005; Goldman, Dugas, Sexton, & Gervais, 2007). However, there is evidence that the use of worry as a cognitive avoidance technique may not be unique to GAD, as Ladouceur et al. (1999) found no differences between clients with GAD and clients with other anxiety disorders in terms of cognitive avoidance.

Although research has shown that worry can lead to lower situational distress, many studies have shown that chronic worriers believe worrying offers many other benefits. Research by Borkovec and Roemer (1995) found that individuals with GAD believe more strongly than non-anxious individuals that worrying helps them problem-solve, become motivated, be prepared if something bad occurs, and avoid or prevent negative outcomes. Individuals with GAD also report believing that worry helps them to distract themselves from more emotional topics, and make a negative outcome less likely to occur (i.e., the act of worrying decreases the likelihood of something bad happening). Holowka et al. (2000) found that chronic worriers hold these beliefs

more than moderate worriers and low worriers. These beliefs also correlate with worry severity even when controlling for depression and anxiety (Freeston et al., 1994), and these beliefs are held more strongly in clients diagnosed with GAD than moderate worriers (Ladouceur et al., 1998). Overall, individuals with GAD and chronic worriers generally believe that worrying helps them avoid or cope with problems. Further, Davey, Tallis, and Capuzzo (1996) found that holding positive beliefs about worry did not relate to using constructive coping strategies, and did relate to psychopathology and using problematic emotion-focused coping strategies. This research indicates that while people believe worrying helps to avoid negative outcomes or cope with such outcomes, worrying more does not appear to lead to actually preparing for or coping with negative outcomes.

However, positive beliefs about worry do not appear to be specific to GAD. Ladouceur et al. (1999) found no differences between clients with GAD and clients with another anxiety disorder in terms of positive beliefs about worry. In addition, positive beliefs about worry were not related to GAD symptoms when taking trait worry and metacognitive beliefs into account in a student population (Penney, Mazmanian, & Rudanycz, 2013). Therefore, while positive beliefs about worry appear to be present in individuals with GAD and chronic worriers, these beliefs do not appear to be specific to GAD.

Borkovec and colleagues (Sibrava & Borkovec, 2006), along with other researchers in the field (Dugas & Koerner, 2005; Wells, 2009), have argued that negative reinforcement leads to the formation of positive beliefs about worry. It is hypothesized that when an individual worries about a future negative event and the event does not occur or the individual copes with the event better than expected, the tendency to worry about potential future negative events is reinforced. The only reported observations of this effect come from a pair of studies reported by Borkovec,

Hazelett-Stevens, and Diaz (1999). Samples of GAD clients and non-anxious control participants recorded their worries, and whether the worried about event occurred, over the course of two weeks. On average, when the events did occur, they were not as bad as expected for both groups, even though the GAD group predicted outcomes to be more negative when they were worrying about the event occurring. In a second study, 17 clients undergoing treatment for GAD recorded if the outcome was worse than expected, and also recorded how well they coped when the outcome was negative. Aligning with the previous results, only 15% of the outcomes that occurred were worse than expected, but when the event did occur, the clients were able to cope better than expected in 79% of the cases. Although caution is required given the small samples, this research does indicate that weakening the association between worrying and future outcomes would lead to a decreased reliance on worrying in an attempt to mitigate potential future negative events.

The third component of the Cognitive Avoidance Model is that worry is used to avoid physiological arousal and emotional processing. Because this component of the model will not be specifically addressed in the present study, it will only be briefly reviewed here. This component was first proposed by Borkovec and Inz (1990) based on the findings that worrying did not lead to an increase in heart rate (Borkovec, Wilkinson, Folemsbee, & Lerman, 1983) and that worrying prior to experiencing a phobic image led to no increase in heart rate, while being relaxed or in a neutral state prior to the image led to significant increases (Borkovec & Hu, 1990). Additional research has supported the hypothesis that worry is associated with autonomic inflexibility and lack of emotional processing by examining vagal tone, heart rate variability, self-reported emotional changes, and cognitive intrusions (Llera & Newman, 2010; Lyonfields et al., 1995; Thayer et al., 1996; Wells & Papageorgiou, 1995). However, some contradictory

findings have been reported, primarily with studies measuring skin conductance (Andor, Gerlach, & Rist, 2008; Laguna, Ham, Hope, & Bell, 2004; Hofmann et al., 2005; Stapinski, Abbott, & Rapee, 2010). Overall, this component appears well supported, but it requires modification to account for the findings in the area of skin conductance.

The final component of the Cognitive Avoidance Model is also the newest component of the model. Sibrava and Borkovec (2006) contend that interpersonal factors, in particular those factors stemming from individuals' attachment styles, lead high worriers to become overly nurturing and intrusive in their interpersonal relationships. This style leads to interpersonal problems with friends, family, and romantic partners, which cause additional worry. Converging with this hypothesis, Glazier et al. (2011) found that a GAD analogue group was more likely to report excessively worrying about interpersonal relationships than a non-anxious control group. Further, Salzer et al. (2008) found that individuals with GAD tend to be friendly and submissive, which may lead to them being exploited or trying to take on the problems of others. Individuals with GAD also report more interpersonal problems than low worriers, and in particular they report being non-assertive, overly accommodating, self-sacrificing, and intrusive, although their friends do not report such problems (Eng & Heimberg, 2006). However, Mickelson, Kessler, and Shaver (1997) found that all mood and anxiety disorders, including GAD, were positively related to anxious and avoidant attachment styles, and negatively related to a secure attachment style. Therefore, although an association between insecure attachment styles and GAD does appear to exist, this may be a more general diathesis for psychopathology and not unique to GAD. Nevertheless, there is evidence that excessive interpersonal concern may be unique to chronic worry and GAD, as the fear of being negatively judged by others was found to be related

to worry severity even when negative affect, positive affect, and anxiety sensitivity were taken into account (Kotov, Watson, Robles, & Schmidt, 2007).

Overall, the literature supports the four fundamental components of the Cognitive Avoidance Model. It is important to note, however, that the model is a model of worry and not specifically a model of GAD. Although not explicitly stated, the Cognitive Avoidance Model assumes that chronic worry is equivalent to GAD and focuses on positive beliefs about worry and interpersonal factors that are assumed to increase worry frequency and duration. By increasing worry frequency and duration, chronic worry is assumed to create GAD. However, as discussed earlier, chronic worriers can be differentiated from individuals with GAD (Hirsch et al., 2013; Ruscio, 2002; Ruscio & Borkovec, 2004). While chronic worry is the core feature of GAD, chronic worry itself is not pathological and can be seen in other mood and anxiety disorders. As expected, given the focus on chronic worry, the CBT based on the Cognitive Avoidance Model focuses on limiting the amount of worry.

Applied research. The first step in developing a treatment for GAD by Borkovec and colleagues was based on conditioned place learning and the generalizability of anxiety (Mowrer, 1947). Based on this, and other self-control work at the time (Goldfried, 1971; Kanfer & Gaelic, 1986; Kanfer & Karoly, 1972), the hypothesis was that if the act of worrying could be restricted to specific locations and times, that the associations between worry and multiple places (e.g., while driving, at work, etc.) would be weakened. Therefore, in the initial development of a treatment for GAD, Borkovec et al. (1983) had undergraduate students who considered their worry to be problematic self-restrict their worry to one 30-minute period during the day for four weeks. If students began worrying outside of the 30-minute period, they were told to postpone the worry and focus on the present-moment experience. The students were able to reduce the

percentage of the day they felt tense, and significantly reduce the percentage of the day spent worrying compared to no-treatment controls.

Although this study did not measure GAD symptoms as currently defined, it did indicate that individuals could be instructed to gain control over their worry. Further, while Borkovec and colleagues would use this “worry scheduling” technique in their full treatment model for GAD, only three known studies have replicated and extended this study. The first, by Brosschot and van der Doef (2006), had 84 adolescents between 16 and 17 years old restrict their worrying to a 30-minute period for six days. In comparison to another group of 88 adolescents who did not receive any instructions, the “worry schedulers” significantly decreased the duration of their daily worrying, and had a significant decrease in the number of physiological issues they experienced. Similarly, McGowan and Behar (2013) recently compared the effectiveness of the worry scheduling technique to instructing participants to worry as intensely as they could whenever they started to worry throughout the day. Over the course of two weeks, although both groups of 23 undergraduate students experienced decreases in symptoms, the worry scheduling technique was significantly better in decreasing anxiety, trait worry, negative affect, and symptoms of insomnia, although neither condition was effective in decreasing symptoms of depression or increasing positive affect. Finally, another recent study found that engaging in worry scheduling for two weeks prior to entering into therapy resulted in greater reduction in anxiety and physiological symptoms at the end of therapy than having no intervention prior to therapy (Verkuil, Brosschot, Korrelboom, Reul-Verlaan, & Thayer, 2011).

In their first multiple session CBT outcome study, Borkovec et al. (1987) compared 12 sessions of progressive muscle relaxation plus cognitive therapy to 12 sessions of progressive muscle relaxation plus nondirective therapy in 30 clients with GAD. Overall, the progressive

muscle relaxation plus cognitive therapy treatment was superior to the progressive muscle relaxation plus nondirective therapy treatment. However, a follow-up study by Borkovec and Matthews (1988) comparing cognitive therapy, coping desensitization, and nondirective therapy, each combined with progressive muscle relaxation, found no differences between treatments. Yet, with only 10 clients per condition, the lack of effects may be due to low power. Indeed, Borkovec and Costello (1993) found that both progressive muscle relaxation and CBT (including progressive muscle relaxation, cognitive therapy, and coping desensitization) were superior to nondirective therapy at the end of therapy, and CBT had the highest percentage of clients experiencing clinically significant change (i.e., being within one standard deviation of norms on symptom measures) at a 12-month follow-up, in 55 GAD clients who completed treatment. A final component analysis study conducted by Borkovec, Newman, Pincus, and Lytle (2002) with 69 GAD clients revealed no differences between clients at post-treatment or two year follow-up after receiving progressive muscle relaxation plus coping desensitization, cognitive therapy, or a combination of these methods. Although most clients saw substantial improvement in anxiety and depression, clients who reported interpersonal problems at baseline or post-treatment reported more symptoms than clients without such problems. This led to the integration of an interpersonal treatment component.

Newman, Castonguay, Borkovec, Fisher, and Nordberg (2008) conducted an open trial of CBT with an interpersonal and emotional avoidance treatment component added to the end of each session. Although only 18 participants completed the treatment, almost all were significantly improved post-treatment, and gains were generally maintained for up to one year. While effect size comparisons to previous outcome studies indicated that the additional treatment component improved outcome, a much larger subsequent randomized clinical trial did not find

any benefits of the interpersonal treatment component in comparison to the addition of a supportive listening component (Newman et al., 2011). However, a separate set of researchers, who integrated the interpersonal treatment component into the CBT rather than including it as an add-on, did find the integrated CBT was more efficacious than CBT alone, albeit in a small sample (Rezvan, Baghban, Bahrami, & Abedi, 2008).

Overall, the CBT protocol based on the Cognitive Avoidance Model is efficacious in treating GAD, although it remains unclear which components provide the greatest benefits. The use of progressive muscle relaxation, worry scheduling, coping desensitization, and cognitive therapy all appear efficacious, while additional research is needed to examine treatment focusing on interpersonal difficulties and emotional avoidance.

The Metacognitive Model. The Metacognitive Model of GAD was created through the research of Wells and colleagues in the early 1990s (Wells, 1995), and progressed from work on a larger model of attention, performance, and mental disorders known as the self-regulatory executive function model (Wells & Matthews, 1994, 1996; Wells, 2000). Although the self-regulatory executive function model has been used to explain the development and maintenance of posttraumatic stress disorder, obsessive-compulsive disorder, and major depression, only the model's specific application to GAD is discussed here. The Metacognitive Model has three key elements: 1) that positive beliefs about worry initiate the use of worrying as a coping strategy; 2) that negative beliefs about worry and meta-worry lead to distress, and the development and maintenance of GAD; and 3) that behavioural and thought control strategies utilized to deal with the distress help maintain the disorder (Wells, 1997; 2009).

Basic research. As positive beliefs about worry have been previously discussed in the Cognitive Avoidance Model they will not be repeated here, except where relevant for

comparisons to the negative beliefs about worry. It is important to note, that in contrast to the arguments of Borkovec and colleagues, Wells (2009) argues that positive beliefs about worry exist in most people, and that positive beliefs about worry are not unique to GAD. Although earlier forms of the model had argued that positive beliefs about worry are considered to be especially influential in the development of GAD by increasing trait worry (Wells, 2004), later writings do not attribute such importance to positive beliefs about worry (Wells, 2009), and it has been argued that negative beliefs about worry may contribute to trait worry more than positive beliefs about worry (Penney et al., 2013).

Before continuing it is important to define key terms used in the Metacognitive Model (Wells, 2009) and to discuss the hypothesized relationships between the proposed types of worry and beliefs about worry. In the Metacognitive Model, positive beliefs about worry are hypothesized to lead to *Type 1* worry (i.e., worry about everyday things and events). This is the form of worry that is the focus of the Cognitive Avoidance Model. However, Wells (2009) also defines a second type of worry, *Type 2* worry, also called meta-worry, which can be defined as worrying about worry. This represents a major departure from the work of Borkovec and colleagues. While Borkovec and colleagues primarily focus on the impact of worry and how trait worry leads to GAD, Wells focuses on how individuals negatively interpret their worry and how this interpretation leads to GAD. The higher level meta-worry is brought on by negative beliefs about worry, particularly the beliefs that worry is uncontrollable and that worry is dangerous. Although these two negative beliefs about worry are conceptually distinct, they are considered so intertwined that they are measured together on a single scale on the Meta-Cognitions Questionnaire (Cartwright-Hatton & Wells, 1997) and the Metacognitions

Questionnaire-30 (MCQ-30; Wells & Cartwright-Hatton, 2004). In the Metacognitive Model, these negative beliefs about worry play the key role in the development of GAD.

It is also important to note that the Meta-Cognitions Questionnaire and MCQ-30 measure additional meta-beliefs, including positive beliefs about worry, and negative beliefs about cognitive self-consciousness (i.e., believing that one lacks awareness of one's thoughts and thought processes), cognitive confidence (i.e., believing that one does not have a good memory), and thoughts in general (i.e., beliefs about superstitions, punishment, and responsibility as measured on the Meta-Cognitions Questionnaire; believing that one must be in control of their thoughts at all times as measured on the MCQ-30). While these additional beliefs are not hypothesized to play key roles in GAD, Wells and colleagues commonly examine them in GAD research. The focus of the Metacognitive Model is squarely on the influence of negative beliefs about worry and meta-worry in GAD.

To develop the Meta-Cognitions Questionnaire, Cartwright-Hatton and Wells (1997) conducted studies with both clinical and non-clinical samples. The non-clinical study found that positive beliefs about worry, negative beliefs about worry, and cognitive confidence all predicted worry severity, independent of trait anxiety. The clinical study found that individuals with GAD reported significantly higher negative beliefs about worry than non-clinical individuals and individuals with other emotional disorders, but did not differ from individuals with obsessive-compulsive disorder. The GAD individuals also had higher scores on negative beliefs about cognitive confidence and thoughts in general than the non-clinical group, but did not differ from the other clinical groups on these measures. None of the groups differed in positive beliefs about worry. Additional research has also shown that of the five subscales on the MCQ-30, the negative beliefs about worry subscale has the strongest relationship with worry severity,

although the scale also has a moderate relationship with obsessional thoughts (Wells & Cartwright-Hatton, 2004).

Additional studies have found that beliefs about worry appear to be related to GAD and obsessive-compulsive disorder. Wells and Papageorgiou (1998) found that positive and negative beliefs about worry were both related to worry severity and obsessional thoughts and compulsions. However, there is evidence that the link between negative beliefs about worry and worry severity is independent of the relationship between negative beliefs about worry and obsessive-compulsive symptoms. Belloch, Morillo, and García-Soriano (2007) found that negative beliefs about worry were strongly related to worry severity even when taking into account depression and obsessive-compulsive symptoms, the other metacognitive beliefs measured by the Meta-Cognitions Questionnaire, and additional beliefs that were more related to obsessive intrusive thoughts. It has also been shown in both clinical and student samples that the negative beliefs about worry distinguish chronic worriers from individuals with GAD (Hirsch et al., 2013; Ruscio, 2002; Ruscio & Borkovec, 2004), and Nassif (1999; as cited in Wells, 2005) found that the negative beliefs about worry predicted the development of GAD within 12 to 15 weeks.

As negative beliefs about worry are strongly related to GAD, it is not surprising that the meta-worry generated by these negative beliefs has also been shown to relate to worry severity and GAD symptoms. In a study of 140 undergraduates, Wells and Carter (1999) found that although both *Type 1* and *Type 2* worries correlated with worry severity, only *Type 2* worries were related to worry severity when controlling for trait anxiety. In a similar clinical study, individuals with GAD had significantly greater negative beliefs about worry and *Type 2* worries than individuals with panic disorder, social phobia, and non-clinical individuals, although the

groups did not differ on positive beliefs about worry or *Type 1* worries (Wells & Carter, 2001). An additional study compared 11 individuals with GAD, 22 individuals with only somatic anxiety, and 112 individuals with no anxiety (Wells, 2005). Although two of the groups had very small samples, individuals with GAD had a greater frequency of *Type 2* worries than both groups and believed their *Type 2* worries more strongly than the non-anxious group, even when controlling for *Type 1* worries. Further, the relationship between the belief in the *Type 2* worry and GAD symptoms was mediated by the frequency of the *Type 2* worries, indicating that the frequency of meta-worries may have a more proximal impact on GAD symptoms than the underlying beliefs about meta-worry.

Although the available research largely supports the key role of negative beliefs about worry and meta-worry in GAD, other findings have challenged these hypotheses. Davis and Valentier (2000) argued against the key role of the negative beliefs about worry in GAD because they found that when controlling for trait worry, of the metacognitions measured on the Meta-Cognitions Questionnaire, only the negative beliefs about cognitive confidence predicted scores on the Beck Anxiety Inventory. However, it has been argued that the Beck Anxiety Inventory may be considered a measure of panic disorder symptoms (Cox, Cohen, Dorenfeld, & Swinson, 1996; Norton, Sexton, Walker, & Norton, 2005; Norton & Mehta, 2007; Sexton, Norton, Walker, & Norton, 2003), and therefore, this is not an adequate test of whether the negative beliefs about worry are related to the symptoms of GAD. Further, Davis and Valentier (2000) also found that the negative beliefs about worry contributed the most to correctly classifying individuals with GAD versus individuals who did not meet criteria for GAD.

However, de Bruin, Muris, and Rassin (2007) found that the frequency of meta-worry was related to both chronic worry and to obsessional thoughts. Further, Sica, Steketee, Ghisi,

Chiri, and Franceschini (2007) found that negative beliefs about worry at baseline, but not positive beliefs about worry, predicted chronic worry and obsessional thoughts four months later, even when controlling for chronic worry, obsessional thoughts, and the other metacognitive beliefs measured by the Meta-Cognitions Questionnaire at baseline. These results, in addition to the results of some studies already discussed (Cartwright-Hatton & Wells, 1997; Wells & Cartwright-Hatton, 2004; Wells & Papageorgiou, 1998), indicate that meta-worry and negative beliefs about worry may be prevalent and influential in obsessive-compulsive disorder, and not strictly unique to GAD. Further, these meta-beliefs and meta-worries may also play a role in depression, as the study by Wells and Carter (2001) also included a group of clients with major depression for comparison, and although statistical tests were not conducted, there were no substantial differences in the group means for measures of both *Type 2* worry and negative beliefs about worry between clients with GAD and clients with major depression.

As previously mentioned, although the negative metacognitive beliefs about cognitive confidence, cognitive self-consciousness, and thoughts in general are not hypothesized to play a role in GAD, some studies have suggested links between these meta-beliefs and GAD. Belloch et al. (2007) reported that both negative beliefs about worry and negative beliefs about cognitive self-consciousness were predictive of worry severity, even when other maladaptive beliefs and pathological symptoms were included as predictor variables. As well, Davis and Valentier (2000) found that in addition to being higher in negative beliefs about worry, individuals with GAD scored higher on negative beliefs about cognitive confidence, cognitive self-consciousness, and thoughts in general than individuals who did not meet criteria for GAD. As well, the negative belief that thoughts need to be controlled, along with the negative beliefs about worry, mediated the relationships between worry severity and GAD symptoms (Penney et al., 2013).

Individuals with GAD have also been found to endorse negative beliefs about thoughts in general more than individuals with panic disorder or social phobia, and more than non-clinical individuals, although this was not found when controlling for *Type 1* worry (Wells & Carter, 2001). However, many of the other studies reviewed have found that cognitive self-consciousness, the need to control thoughts, other negative beliefs about thoughts, and cognitive confidence are not related to GAD symptoms or chronic worry (Cartwright-Hatton & Wells, 1997; de Bruin et al., 2007; Sica et al., 2007), and therefore, these beliefs have not been incorporated into the Metacognitive Model of GAD.

While the Metacognitive Model largely focuses on beliefs and meta-worry, the model also discusses behavioural and thought control strategies that maintain GAD. Specifically, Wells (2009) states that common strategies used by individuals that maintain GAD include: reassurance seeking, avoidance, information seeking, distraction, substance abuse, thought suppression, refusing to disengage from a worry, and so on. Although individual clients with GAD may use some or all of these techniques at different times, the research has focused on a few strategies. Davey et al. (1996) found that negative beliefs about worry were strongly related to a lack of task-oriented coping and high emotion-focused coping. Wells and Davies (1994) found that measures of meta-worry, social worry, worry severity, and trait anxiety were associated with using self-punishment and worrying about more minor matters as coping strategies in a sample of 50 students. Meta-worry, worry severity, and trait anxiety were not related to the use of distraction, talking to peers, or re-appraisal coping strategies. Meta-worry and negative beliefs about worry are related to the use of thought suppression and cognitive avoidance strategies (de Bruin et al., 2007; Sexton & Dugas, 2009a).

Using a clinical sample, Wells and Carter (2009) found that both individuals with GAD and individuals with major depression used worrying about minor matters as a coping strategy more than non-clinical individuals, and individuals with GAD also used self-punishment more than the other groups. The non-clinical group also used talking to peers more than both clinical groups, and used reappraisals more than individuals with GAD. These findings correspond with the findings of Coles and Heimberg (2005) who found that individuals with GAD use self-punishment and worrying about more minor matters as coping strategies more than non-clinical individuals, and use distraction and talking to peers less than non-clinical individuals. When the groups were combined, worry severity positively correlated with self-punishment and worrying about other matters, and negatively correlated with distraction and talking to peers. However, Coles and Heimberg (2005) also found that depression symptoms had similar relationships to these coping strategies.

The lack of a specific and consistent relationship between worry severity and particular coping strategies is repeated throughout the literature. In a student sample worry severity was related to the use of self-punishment, but not the use of worrying about minor matters, while self-punishment was also related to depression and anxiety (Fehm & Hoyer, 2004). A second study of clients with panic disorder, social phobia, and obsessive-compulsive disorder found that worry severity was positively related to the use of self-punishment and the use of worrying about minor matters, and negatively related to the use of distraction (Fehm & Hoyer, 2004). However, the use of worry about minor matters was also related to anxiety, depression, and obsessions, while the use of punishment was also related to anxiety, depression, and obsessions, with the use of distraction being negatively related to depression and anxiety. A Spanish study (Luciano et al., 2006) also did not find unique relationships between worry severity and particular behavioural or

cognitive coping strategies in a sample of 471 undergraduates and non-student adults. They found that the tendency to use thought suppression, worry about other minor matters, and self-punishment were related to worry severity, depression symptoms, and obsessive-compulsive symptoms, which indicates that these strategies are not be unique to GAD. Further, additional research has shown that the use of distraction, talking to peers, self-punishment, re-appraisal, and worry to cope at baseline do not predict worry severity four months later (Sica et al., 2007).

Overall, the main components of the Metacognitive Model are supported. Because this model states that positive beliefs about worry increase worry, while also arguing that these beliefs are not unique to GAD, it accounts for a major critique of this component of the Cognitive Avoidance model. Further, numerous studies have linked negative beliefs about worry and meta-worry with GAD symptoms, although negative beliefs about worry also appear related to obsessive-compulsive and depression symptoms. Due to the literature regarding other metacognitive beliefs and GAD being equivocal, the Metacognitive Model does not include them. Finally, although research has shown that worry severity and GAD symptoms are linked to problematic coping strategies as hypothesized by the Metacognitive Model, these strategies appear to be involved in psychopathology in general and are likely not unique to GAD.

Applied research. With meta-worry and negative beliefs about worry forming the crux of the Metacognitive Model, decreasing meta-worry by challenging the negative beliefs about worry is central to the Metacognitive Model treatment protocol. Wells (1995) published the first treatment study using this model, although it was with only one patient. Although treatment lasted for only four sessions, the client had substantial reductions in meta-worries and health-related worries, both of which were elevated prior to treatment. Further, the frequency and

duration of worries, as well as overall anxiety, decreased substantially from baseline throughout treatment, and continued to be very low at three- and six-month follow-ups.

The first clinical trial to include multiple participants was published by Wells and King (2006). A sample of 10 clients with GAD completed between three and twelve sessions of therapy. The treatment led to significant and large decreases in trait anxiety, somatic anxiety, social worries, health-related worries, meta-worries, and depression symptoms. As well, treatment gains were maintained over six- and twelve-month follow-ups, with the recovery rates dipping only slightly from 87% of clients post-treatment to 75% of clients at a twelve-month follow-up. Although the authors speculate that the decrease in meta-worries led to changes in all other areas, this was not tested.

To extend on this initial research, Wells et al. (2010) compared the effectiveness of the Metacognitive Model treatment protocol with applied relaxation. However, the sample size was again low, with only 10 participants completing each treatment. Upon completion, the metacognitive treatment was superior to applied relaxation on measures of worry severity, somatic anxiety, trait anxiety, depression, and both positive and negative beliefs about worry. The metacognitive treatment also produced lasting change on all measures at six- and twelve-month follow-ups. As well, the metacognitive therapy led to significantly larger decreases in worry severity and negative beliefs about worry than the applied relaxation at a twelve-month follow-up. Finally, the metacognitive therapy led to a lasting recovery in eight of ten clients, while applied relaxation led to recovery in only two of ten clients. However, because this study did not investigate changes on measures of the proposed cognitive factors, it is unclear if changes to negative beliefs about worry and meta-worry led to changes in GAD symptoms.

A limitation with these treatment outcome studies is that unlike the studies conducted by Borkovec and colleagues, little research have been conducted to examine the specific components of the treatment protocol. It is unclear if components such as targeting positive beliefs about worry are necessary for effective outcomes. A study that addresses one additional treatment component, known as detached mindfulness, was conducted by Sugiura (2004). Although the study used a student population, it was found that being higher in detached mindfulness was negatively related to worry severity and related to having a positive problem orientation. Similar studies, especially studies conducted with clinical groups and examining the individual components of metacognitive therapy, are needed to examine which components of the therapy are most effective.

Research directly comparing the models. While the previously discussed models of GAD require additional research to investigate the specificity of their model to GAD, as well as the efficacy and effectiveness of their associated therapies, a major issue in this field is the lack of studies that compare and contrast the models. With the exception of the studies that have included both positive and negative beliefs about worry, only one other study appears to have contrasted these models.

The only study which appears to contrast the Cognitive Avoidance Model with another model was a comparison of CBT to brief metacognitive therapy in a general outpatient setting (Nordahl, 2009). Although this study did not explicitly reference the treatment protocol from the Cognitive Avoidance Model, the CBT treatment they describe appears to very similar to the treatments used in the Cognitive Avoidance Model outcome studies before the adoption of addressing interpersonal problems (Borkovec et al., 2002; Borkovec & Costello, 1993; Borkovec & Matthews, 1988).

Nordahl (2009) had 30 community outpatients with a range of diagnoses (primarily major depressive disorder and GAD, among other mood, anxiety, and personality disorders) complete either metacognitive therapy or standard CBT. The metacognitive therapy led to greater reductions in overall anxiety and meta-worry than standard CBT. As well, while both treatments decreased depression substantially, there was no significant difference between the treatments. Unfortunately, no follow-up data was collected. Nonetheless, this study provides initial evidence for the superiority of metacognitive therapy, and in turn, the Metacognitive Model, over standard CBT, and the Cognitive Avoidance Model.

Additional models of GAD. Outside of the Cognitive Avoidance Model and the Metacognitive Model, three other models of GAD have some empirical support. However, these models do not appear to be suitable for ultra-brief treatments. Each of these models, and the problems with applying these models to ultra-brief treatments, is briefly reviewed next.

Intolerance of Uncertainty Model. The Intolerance of Uncertainty Model arose from the work of Dugas and colleagues in the early 1990s (Dugas, Letarte, Rhéaume, Freeston, & Ladouceur, 1995; Freeston et al., 1994). As the name implies, intolerance of uncertainty is the primary focus of the Intolerance of Uncertainty Model, and it is assumed that intolerance of uncertainty underlies all components in the model (Dugas & Koerner, 2005). Intolerance of uncertainty is defined by believing that uncertainty impairs actions, reflects badly on the person, is not fair, and is distressing (Sexton & Dugas, 2009b). Multiple studies have found elevated intolerance of uncertainty in individuals with GAD and a unique relationship between intolerance of uncertainty and GAD (Buhr & Dugas, 2006; Dugas, Gosselin, & Ladouceur, 2001; Ladouceur et al., 1998; Norton et al., 2005; Sexton et al., 2003). However, more recent studies have shown that intolerance of uncertainty is also high in individuals with obsessive-compulsive

disorder symptoms, social anxiety symptoms, and depression symptoms (Boelen & Reijntjes, 2009; Carleton, Collimore, & Asmundson, 2010; Holaway, Heimberg, & Coles, 2006; Norton & Mehta, 2007). In addition, recent studies by Khawaja and McMahon (2011) and Khawaja, McMahon, and Strodl (2011) have found that meta-worry was more strongly related to GAD symptoms and worry severity than intolerance of uncertainty.

Negative problem orientation, another component of the Intolerance of Uncertainty Model, is defined as a pessimistic set of beliefs and attitudes towards everyday problems and one's ability to solve them. Although negative problem orientation does appear to have a unique relationship to GAD (Dugas et al., 1995, 2007; Dugas, Freeston, & Ladouceur, 1997; Ladouceur et al., 1998, 1999; Robichaud & Dugas, 2005), being able to explain this concept and target it in therapy requires multiple sessions (Dugas & Koerner, 2005). Therefore, it is unlike that primary care practitioners would be able to implement a technique to target this proposed cognitive factor in less than 20 minutes.

The remaining components of the Intolerance of Uncertainty Model include the premise that the linguistic nature of worry is used as a cognitive avoidance technique and that positive beliefs about worry help maintain the use of worry as a primary coping strategy. These components are shared with the Cognitive Avoidance Model. Therefore, by testing these components within the Cognitive Avoidance Model, the results will also apply to the Intolerance of Uncertainty Model to some extent.

It is important to note that the therapy derived from Intolerance of Uncertainty Model relies heavily on cognitive therapy and exposure to uncertainty (Dugas & Koerner, 2005; Dugas et al., 2010; Ladouceur et al., 2000). Although this treatment does significantly decrease symptoms over 12 sessions, the techniques used involve understanding and implementing very

sophisticated concepts and strategies. Therefore, it appears that the application of this model to an ultra-brief treatment would be extremely difficult within primary care. Further, a recent study by van der Heiden, Muris, and van der Molen (2012) compared the treatments based on the Intolerance of Uncertainty and Metacognitive models in the treatment of 126 GAD clients. The results of this study indicated that metacognitive therapy is superior for treating GAD and superior at targeting the proposed cognitive factors than the intolerance of uncertainty therapy. This indicates that the application of the Metacognitive Model to an ultra-brief format is warranted above the application of the Intolerance of Uncertainty Model.

Acceptance-Based Model. The Acceptance-Based Model of GAD was developed by Roemer and Orsillo (2002, 2005). This model focuses on the internal experiences of individuals with GAD. The model states that individuals with GAD negatively react to many different forms of internal experience, such as thoughts or feelings, and they experience these negative reactions as defining features of their character. Worry and behavioural restriction are used in an attempt to avoid any internal experiences.

Because this model of GAD is still being developed, only a few studies have directly examined the components of the model. Roemer, Salters, Raffa, and Orsillo (2005) found that experiential avoidance and negative reactions to emotions predicted GAD symptoms in a non-clinical sample of women, but did not find these relationships in a small clinical sample. A few follow-up studies also found that experiential avoidance, difficulties regulating emotions, and distress about emotions were related to GAD symptoms in clinical and non-clinical samples (Roemer et al., 2009; Lee, Orsillo, Roemer, & Allen, 2010). However, research has yet to examine whether these constructs are specific to GAD or emotional disorders in general, and

researchers have not shown that individuals with GAD negatively react to many different forms of internal experiences.

Along with the basic research, only a few treatment studies for this model have been conducted. In both an open-trial and comparison to a wait-list control, the treatment was found to be efficacious in decreasing symptoms of GAD and depression, most clients no longer met criteria for a GAD diagnosis, and treatment gains were maintained up to nine months post-treatment (Roemer & Orsillo, 2007; Roemer, Orsillo, & Salters-Pedneault, 2008). Treatment was also found to decrease experiential avoidance and fear of emotions, while also increasing mindfulness (Roemer et al., 2008; Roemer & Orsillo, 2007). However, the authors did not conduct analyses to determine if changes on measures of the proposed cognitive factors were related to treatment success. As well, like the intolerance of uncertainty treatment, the acceptance-based treatment appears to be very complex to describe to participants. Developing mindfulness and learning to accept one's emotions are deep topics that are likely to be difficult to teach to clients in one session. Therefore, given the lack of research into this model, and the apparent difficulty in condensing this treatment to an ultra-brief format, this model was not used in the current study.

Emotional Dysregulation Model. The Emotional Dysregulation Model was developed by Mennin and colleagues (Mennin, Turk, Heimberg, & Carmin, 2004; Turk, Heimberg, Luterek, Mennin, & Fresco, 2005). Like the Acceptance-Based Model, the Emotional Dysregulation Model focuses on internal experiences, particularly emotions. The model states that individuals with GAD experience more intense emotions, particularly negative emotions, than most people. Further, it is proposed that individuals with GAD have a poor understanding

of their emotions and believe their emotions to be threatening. Finally, the model states that individuals with GAD engage in dysfunctional emotion regulation strategies.

The research conducted based on this model has found that individuals with GAD experience negative emotions more strongly than individuals with depression, social anxiety, and healthy controls (Mennin, Heimberg, Turk, & Fresco, 2005; Salters-Pedneault, Roemer, Tull, Rucker, & Mennin, 2006; Turk et al., 2005). Individuals with GAD also have more difficulty labelling their emotional experiences than healthy controls, and attempt to control their emotions more than individuals with depression, social anxiety, and healthy controls (Mennin et al., 2005; Mennin, Holaway, Fresco, Moore, & Heimberg, 2007). However, individuals with GAD do not appear to fear intense emotions more than individuals with depression or social anxiety (Mennin et al., 2007; Turk et al., 2005), and some studies have not found that individuals with GAD have difficulty identifying their emotions (Decker, Turk, Hess, & Murray, 2008; Novick-Kline, Turk, Mennin, Hoyt, & Gallagher, 2005).

Although the basic research for the Emotional Dysregulation Model is beginning to accumulate, a peer-reviewed study of the treatment based on this model has not yet been published. Although Mennin (2004) detailed such a treatment, without a published paper on the efficacy of the treatment, it would be difficult to create an ultra-brief treatment, and such a treatment would not be empirically supported *a priori*. Therefore, due to the shortcomings of the literature developed from this model, the Emotional Dysregulation Model was not be used in the current study.

In sum, although other models have some empirical support, the Cognitive Avoidance Model and Metacognitive Model each have extensive empirical support and the therapies derived from these models have been researched in more detail than most other models. Further, the

Metacognitive Model appears to better predict GAD severity and treatment success than the Intolerance of Uncertainty model. These models can also be best applied to an ultra-brief format.

One domain in which the models of GAD have not been commonly employed, and that remains a developing area, is prevention studies targeting GAD. Although some prevention research has been conducted, the interventions have not been consistently guided by the primary theories and treatments of GAD. However, if prevention treatments have been successful, the results could be intertwined with the results from the models of GAD to guide the development of ultra-brief interventions. GAD prevention research, and its potential utilization in the health care system, is expanded on next.

Prevention Outcome Studies for GAD

The potential benefits of an effective prevention treatment for GAD that could be implemented in the health care system may be considerable. Health care and society costs could be dramatically reduced, and resources would be freed to treat other illnesses and disorders. However, only a small body of research regarding prevention studies for GAD exists. A thorough review of the anxiety disorder prevention literature by Feldner, Zvolensky, and Schmidt in 2004 found that no prevention studies that specifically targeted GAD had been conducted. However, their review found that the prevention programs that targeted general anxiety and those that targeted specific anxiety disorders, such as panic disorder, did appear to be beneficial.

Unfortunately, a recent meta-analysis of this literature (Zalta, 2011) found that overall, the effect size of these treatments were small, and this was true for both the interventions that targeted general anxiety and those that were disorder specific. Further, the effects of treatment

tended to dissipate within one year. Zalta (2011) identified only one study that specifically targeted GAD symptoms, which was a dissertation by Higgins (2006), and did not report on the effect size of prevention treatments for GAD. Another study included in the meta-analysis that targeted general anxiety and depression measured the impact of treatment on the development of GAD (Seligman, Schulman, DeRubeis, & Hollon, 1999). Therefore, it is important to consider it as a potential GAD prevention intervention. Further, Zalta (2011) did not include two other studies that may be considered GAD prevention studies (i.e., Higgins & Hecker, 2008; Shoenberger, 2008). These prevention studies are discussed in turn.

Seligman et al. (1999) aimed to treat undergraduates at risk for depression. They compared an eight-week two-hour workshop CBT program that targeted depression and anxiety to a no-treatment control. The workshop group, over a three year follow-up, had less self-reported anxiety and depression, and fewer participants had episodes of GAD than the control group. Higgins and Hecker (2008) also used a workshop style prevention program, but designed their workshops to target undergraduates who were moderate to high worriers. The reported results come from a pilot study conducted before Higgins' (2006) dissertation. This study included 72 participants who were randomly assigned to either receive two two-hour CBT workshops or to receive no treatment. Due to the low sample size, while only one participant who completed the workshops developed GAD over the course of 12 months, this was not statistically superior to the control condition, in which five participants developed GAD over 12 months.

Aiming to build on the results of the pilot study, Higgins (2006) recruited another 78 high worrying undergraduates, of which 38 received the two two-hour workshops, while 40 participants were no-treatment controls. From baseline to one-month follow-up the workshop

led to significant decreases in trait worry, GAD symptoms, physiological symptoms of anxiety, and depression symptoms, while control participants largely had no changes in any symptoms. At six-month and twelve-month follow-ups, while the workshop group appeared to have maintained gains on all measures, these scores were not significantly different from baseline or from the control participants, likely due a high drop out. As well, although not statistically different, at baseline three participants in both conditions met criteria for GAD, which decreased to one participant in the workshop condition, but increased to five participants in the control condition.

Shoenberger (2008) took a different approach by focusing solely on women, and by having participants complete either a self-help bibliotherapy or a no-treatment control. Again, this study targeted high worrying college students, with 30 participants completing the bibliotherapy, and 27 participants being controls. After four weeks the bibliotherapy group had significantly larger decreases in worry severity, trait anxiety, neuroticism, quality of life, use of thought control strategies, and negative beliefs about worry than the control group, although the effect sizes were small to medium. Further, there were no differences between the groups in terms of depressive symptoms, sleep disturbance, positive beliefs about worry, or the percentage of clients meeting criteria for GAD. However, the small sample in this study, as well as the lack of follow-up data, limits the generalizability of the findings.

Although it is clear that GAD prevention research is in an early stage of development, the reviewed literature does show promise that CBT based prevention treatments may be efficacious in decreasing GAD symptoms, worry severity, and the proposed cognitive factors. However, the methodologies used in these studies may not be optimal for primary care. For example, the use of workshops (Higgins, 2006; Higgins & Hecker, 2008; Shoenberger, 2008) may require

additional staff to coordinate and conduct the treatments, and extensive training for the clinicians. Similarly, providing all clients who experience chronic worry or GAD with a self-help book (Shoenberger, 2008) would be expensive and rests on the assumption that all clients can read well and can easily integrate multiple CBT skills from a manual into their daily lives. It is therefore interesting to examine ultra-brief treatments that could be implemented by primary care providers at the point of contact.

Brief and Ultra-Brief Treatments

Before examining the specific ultra-brief treatments that have been used in GAD research, it is important to establish the distinction between brief, ultra-brief, and standard treatments. Unfortunately, in the current literature, the term “brief” has been applied to describe any treatment that is less than 20 sessions. However, for the current study, it is proposed that treatments should be separated into three categories: 1) standard therapies (generally greater than nine therapy sessions), 2) brief therapies (generally between two and nine therapy sessions), and 3) ultra-brief therapies (one therapy session). Almost all of the treatment studies discussed within the Cognitive Avoidance and Metacognitive models of GAD utilized between 10 and 16 therapy sessions.

Brief and ultra-brief therapies have the strongest base in the field of addictions. Research has shown brief and ultra-brief therapies can be as effective as standard therapies in the treatment of alcohol abuse (Moyer, Finney, Swearingen, & Vergun, 2002; Vasilaki, Hosier, & Cox, 2006) and pathological gambling (Carlbring, Jonsson, Josephson, & Forsberg, 2010). Additional research has shown that brief therapies can also be effective in treating depression (Churchill et al., 2001; Daughters et al., 2008; MacPherson et al., 2010) and social anxiety (Herbert,

Rheingold, & Goldstein, 2002). As well, a review of the brief therapies for depression found them to be very cost-effective (Churchill et al., 2001).

To date, only a few brief CBT studies for GAD have been conducted. In the early development of metacognitive therapy, Wells reported successful treatment of GAD clients in less than 10 sessions (Wells, 1995; Wells & King, 2006). However, these studies included less than 12 clients in total, and some clients received between 10 and 12 treatment sessions. Kehle (2008) found that an eight-session CBT protocol based on Borkovec and Costello's (1993) study for GAD significantly reduced worry severity in clients with excessive worry. Unfortunately, only eight participants completed all eight sessions of therapy. Another brief CBT study, the therapy study conducted by Nordahl (2009), targeted clients with a range of diagnoses, of which GAD was present in 42% of clients. This study compared brief metacognitive therapy (average number of sessions for clients was seven) to standard CBT (average number of sessions for clients was 10) in a general outpatient setting. Similar to the recent treatment studies conducted by Borkovec and colleagues (Newman et al., 2008; 2011) and Wells and colleagues (Wells et al., 2010; Wells & King, 2006), Nordahl's brief treatment was found to have large effect sizes.

However, similar to the issues that accompany the methodologies used in the prevention research, brief treatments may not be feasible in primary care. Hiring more staff to conduct such treatments may create start-up costs that governments and organizations may not be willing to cover. Further, if brief treatment programs were created, waitlists to receive such services would be inevitable. Therefore, if ultra-brief treatments were able to significantly reduce symptoms, they could be implemented through general practitioners or allied service providers, which would eliminate many costs and possible waitlists. As well, if ultra-brief treatments were effective, symptoms may decrease while individuals are on a waitlist to enter standard treatment

and motivation for a standard treatment may increase. Finally, ultra-brief treatments could also be implemented with chronic worriers as a preventative treatment for GAD.

Ultra-brief treatments for GAD. Only a handful of studies have examined ultra-brief treatments for GAD. Using an experimental approach, Mclean and Broomfield (2007) had 62 chronic worriers either suppress a given worry during a week or simply note its occurrence. The researchers hypothesized that the suppression group would experience an increase in the frequency of worrying during the subsequent week and feel less able to control their thoughts compared to the awareness group. However, the results indicated that the suppression group had larger increases in the belief that worry was controllable, spent less time worrying, became better at suppressing the worry, and found the worry to be less distressing than the awareness group. Although they did not design the study as a treatment or prevention study, Mclean and Broomfield's (2007) results indicate that suppressing worry could be a useful way to challenge negative beliefs about worry and decreasing the frequency of worry in a short, single-session treatment.

Although Mclean and Broomfield (2007) did not appear to devise their study with the worry scheduling research in mind, the design and results are remarkably similar to the worry scheduling research. As was discussed in the *Cognitive Avoidance Model* section, the first GAD treatment study developed by Borkovec and colleagues had high worriers self-restrict their worry to one 30-minute period each day (Borkovec et al., 1983). It was found that this treatment helped participants reduce their daily tension and the percentage of the day they spent worrying. Brosschot and van der Doef (2006) found that this worry scheduling treatment was effective within six days in reducing daily worrying and the number of physiological issues experienced over the past three days in adolescents. As well, engaging in worry scheduling for two weeks

prior to entering into therapy has been found to result in a greater reduction in anxiety and physiological symptoms at the end of therapy than having no intervention prior to therapy (Verkuil et al., 2011).

These previous studies focused solely on statistical differences, and effect sizes were not reported. However, when McGowan and Behar (2013) found that the worry scheduling treatment was effective over two weeks in reducing anxiety, trait worry, negative affect, and symptoms of insomnia in undergraduates, they reported medium to large effect sizes from pre-treatment to post-treatment. Although research is needed to directly compare the efficacy of ultra-brief treatments to standard treatments, the effect sizes found by McGowan and Behar (2013) indicate that ultra-brief treatments can lead to considerable symptom changes.

Additional recent studies focusing on other forms of psychopathology also indicate that ultra-brief treatments may be as effective as brief and standard therapies. Gawrysiak, Nicholas, and Hopko (2009) found that a single session of behavioural activation was effective in decreasing depression symptoms and had a large effect size. Further, Petry, Weinstock, Ledgerwood, and Morasco (2008) found that 10 minutes of brief advice about problem gambling was a more effective treatment than one 50 minute session of motivational enhancement therapy, or one session of motivational enhancement therapy followed by three sessions of CBT. Given the scarcity of literature on ultra-brief therapies, it remains unclear how effective ultra-brief therapies are compared to brief or standard treatments, but these early studies indicate that ultra-brief therapies can lead to substantial decreases in symptoms.

Out of the available research, the worry scheduling appears to be the best option for a cost-effective treatment, and prevention of, GAD in primary care. This technique can be described to clients in primary care in less than 20 minutes and does not require extensive

training to be delivered. However, empirical questions remain about this technique. For example, while Borkovec (Borkovec et al., 1983; Sibrava & Borkovec, 2006) describes the use of this strategy as a way to decrease the association between worry triggers and the act of worrying, Wells (2009) describes the use of this strategy as a way to combat the belief that worry is uncontrollable and dangerous. Further, while Borkovec recommends that the clients should shift their attention to the present moment (i.e., distraction from worrying thoughts) when worrying occurs outside of the worry period, Wells recommends that clients should shift their attention to the meta-cognitive level (i.e., observing the thought process non-judgmentally) when worrying occurs outside of the worry period. Therefore, these different approaches need to be contrasted to determine if one strategy is more efficacious than the other.

A second empirical question regarding the worry scheduling technique is whether this technique has a lasting effect. As already reviewed, previous prevention studies have rarely found significant differences between treatment groups and control groups in long-term follow-ups. As well, the longest worry scheduling study to date had participants report symptoms for only four weeks (Borkovec et al., 1983). Longer follow-ups are needed to examine if participants maintain their gains from either treatment condition.

Finally, it is important to examine which of the proposed cognitive factors in GAD are related to changes in symptoms. Due to the Cognitive Avoidance Model and Metacognitive Model proposing unique cognitive factors, and because these cognitive factors have not been examined against one another in any previous study, the examination of the proposed cognitive factors will shed light on the relative strength of each model.

The Present Study

The goal of the present study was to compare the efficacy of two ultra-brief treatments for GAD to each other and to a delayed treatment (i.e., waitlist) control. Further, to examine if these treatments could be feasible in primary care, the treatments were delivered in less than 20 minutes. The two treatments were derived from the treatment manuals of the Cognitive Avoidance Model and the Metacognitive Model.

Modifications of the treatments for the current study. The treatments used in the present study were therapeutic techniques derived from the empirically supported treatment manuals developed from the Cognitive Avoidance Model (Sibrava & Borkovec, 2006) and Metacognitive Model (Wells, 2009). For the Cognitive Avoidance Model technique, the current study followed the worry scheduling treatment script used by McGowan and Behar (2013), with some modifications. First, to ensure the technique is as close to the original technique (Borkovec et al., 1983) as possible, the emphasis on focusing on the present moment by either focusing outside of the body or on physiological processes (e.g., one's breathing) when one begins to worry during the day was highlighted. McGowan and Behar (2013) did not discuss this in their script. Second, because McGowan and Behar (2013) reported that the technique did not increase positive affect, the technique was modified to include the use of positive self-reinforcements for engaging in the treatment. This was based on previous findings that individuals with GAD symptoms do not have normal self-reinforcement skills, and that the use of self-management techniques to stop worrying can lead to decreases in anxiety, decreases in negative affect, and increases in positive affect (Penney & Mazmanian, 2010a; 2010c).

For the Metacognitive Model technique, the treatment was very similar to the worry scheduling technique described above. One of the between-session homework assignments that

is often conducted very early in metacognitive therapy for GAD (i.e., session one, two, or three) described by Wells (2009) runs parallel to the worry scheduling technique. The homework assignment, termed the worry postponement experiment, requires participants to restrict their worry to one 10-minute period a day, similar to the worry scheduling technique. However, rather than explaining the purpose of this technique based on the associations between worry and different locations from a learning model approach, metacognitive therapy focuses on using this technique as an opportunity for the client to learn that he or she has control over how much he or she worries. In addition to a different rationale, when the client worries during the day, in the worry postponement experiment, the client is instructed to non-judgmentally observe the worries, rather than trying to focus outside of the body as done in the original worry scheduling technique. For the current study, to ensure the worry period is the same in both treatments, the worry period was extended to 30 minutes every day for the metacognitive treatment. As well, an emphasis on worrying as intensely as possible during the worry period, in order to learn that worries are not inherently dangerous and to ensure similarities between treatments, was also added. Overall, this treatment was used to target the negative beliefs about worry in GAD and to help the client think on a metacognitive level. Like the original worry scheduling, the worry postponement experiment is typically taught in a single session. An examination of the literature does not indicate that the worry postponement experiment has been previously examined independent of the full therapy, and this was a novel application of the technique.

To summarize, for the treatments used in this study, there were two primary points of divergence. First, the rationales behind the treatments (i.e., learning theory versus metacognitive theory) were significantly different. Second, the ways in which worries outside of the worry period are responded to (i.e., focusing outside of the body versus simply observing the thought

process) were also distinct between the therapies. Both treatments were termed “worry scheduling” for the participants.

Research questions and hypotheses.

The study design consisted of baseline measurements, followed by a randomization to the cognitive avoidance technique, metacognitive technique, or delayed treatment control. Approximately one-third of the participants were assigned to a four-week delayed treatment control condition before receiving treatment. This allowed for the treatments to be compared to the effect of receiving only an assessment, while simultaneously ensuring that all participants received treatment. Follow-ups were conducted at four weeks and four months post-treatment to provide assessment of long-term outcome.

As GAD has a one-year incidence rate of approximately 1.1% in the general population (Grant et al., 2009), and because the delayed treatment control only lasted for four weeks, comparing incidences of GAD between the treatments and the control condition was unlikely to lead to significant differences between groups. This was a problem for the aforementioned prevention research as well. As well, it was assumed that the majority of the sample would be sub-clinical at baseline, as recruitment would target members of the general community and university students. Therefore, while the number of individuals meeting criteria for GAD were reported for each group, it was *a priori* assumed that statistical differences would not exist between groups. Instead of focusing on the percentage of participants in each group meeting criteria for GAD, this study tested the efficacy of each condition by examining changes to dimensional measures of GAD symptoms, worry severity, health anxiety, negative affect, and positive affect. It also tested the efficacy of each treatment by examining changes in secondary indicators of mental health, including measures of motivation for further treatment,

psychopharmacology, and health care utilization. Decreases on all outcome measures (except for the measure of positive affect, which was expected to increase) during the first four weeks, and maintenance of gains at four months post-treatment, served as indicators of treatment success.

Hypotheses.

Based on the success of the previous worry scheduling research (Borkovec et al., 1983; Brosschot & van der Doef, 2006; McGowan & Behar, 2013; Verkuil et al., 2011), as well as the efficacy of metacognitive therapy (Wells et al., 2010; Wells & King, 2006), it was predicted that the treatment conditions would be superior to the delayed treatment (DT) condition in reducing GAD symptoms, worry severity, health anxiety, and negative affect.

- 1) The cognitive avoidance worry scheduling (CAWS) and metacognitive worry scheduling (MWS) would lead to larger decreases in GAD symptoms, worry severity, health anxiety, and negative affect than the DT condition after four weeks.

Since it was predicted that treatments would be efficacious in reducing symptoms of GAD, it was also predicted that the treatment conditions would lead to larger improvements on secondary indicators of mental health, including medication use and health care utilization, than the DT condition.

- 2) The CAWS and MWS would lead to larger decreases in medication use and health care utilization than the DT condition after four weeks.

Further based on the predicted efficacy of the treatments in reducing GAD symptoms, it was also predicted that the treatment conditions would lead to participants becoming more motivated for further treatment, such as a 12-week therapy program, and believing more strongly that their worry can be treated, than the DT condition.

- 3) The CAWS and MWS would lead to larger increases in motivation for more intensive therapy and in the expectancy that the worry can be treated than the DT condition after four weeks.

With previous research supporting the superiority of the metacognitive therapy over CBT (Nordahl, 2009) and intolerance of uncertainty therapy (van der Heiden et al., 2012) in treating GAD, it was predicted that the metacognitive technique would lead to larger decreases in GAD symptoms and worry severity than the cognitive avoidance technique at four-week and four-month post-treatment.

- 4) The MWS would lead to larger decreases in GAD symptoms and worry severity than the CAWS at four weeks and four months post-treatment.

Further based on the superiority of the metacognitive therapy over intolerance of uncertainty therapy in leading to decreases on measures of the proposed cognitive factors (van der Heiden et al., 2012), it was predicted that the metacognitive technique would lead to larger decreases on measures of the proposed cognitive factors in GAD than the cognitive avoidance technique at four-week and four-month post-treatment.

- 5) The MWS would lead to larger decreases in negative beliefs about worry, meta-worry, cognitive avoidance, positive beliefs about worry, and other metacognitive beliefs than the CAWS at four weeks and four months post-treatment.

Due to the modification to the cognitive avoidance technique, and the inclusion of a self-management component to increase positive affect, it was predicted that the cognitive avoidance technique would lead to larger increases in positive affect than the metacognitive technique at four-week and four-month post-treatment.

- 6) The CAWS would lead to larger increases in positive affect than the MWS at four weeks and four months post-treatment.

Finally, given the close associations between negative metacognitions (Belloch et al., 2007; Cartwright-Hatton & Wells, 1997; Davis & Valentier, 2000; de Bruin et al., 2007; Hirsch et al., 2013; Khawaja et al., 2011; Khawaja & McMahon, 2011; Penney et al., 2013; Ruscio, 2002; Ruscio & Borkovec, 2004; Sica et al., 2007; Wells & Papageorgiou, 1998) and meta-worry (Wells & Carter, 1999; Wells & Carter, 2001; Wells, 2005) with GAD, it was predicted that these variables would be significantly related to changes in GAD symptoms and worry severity from baseline to four-week and four-month follow-ups. However, because the literature has shown a lack of specificity between cognitive avoidance (Ladouceur et al., 1999), positive beliefs about worry (Cartwright-Hatton & Wells, 1997; Dugas, Gagnon, Ladouceur, & Freeston, 1998; Ladouceur et al., 1999; Penney et al., 2013; Wells & Papageorgiou, 1998), and other metacognitive beliefs with GAD (Cartwright-Hatton & Wells, 1997; de Bruin et al., 2007; Sica et al., 2007), and because only one study, which included few variables, found that negative evaluation sensitivity was associated with GAD (Kotov et al., 2007), it was predicted that these variables would not be related to changes in GAD symptoms and worry severity.

- 7) Changes in negative beliefs about worry and frequency of meta-worry, but not changes in cognitive avoidance, negative evaluation sensitivity, positive beliefs about worry, or other metacognitive beliefs, would be related to changes in GAD symptoms and worry severity from baseline to four weeks and baseline to four months post-treatment.

Method

Participants

Potential participants were recruited at Lakehead University and from the local Thunder Bay community. Potential participants were recruited through a variety of methods, including posters at Lakehead University, pamphlets being distributed by counsellors at the Lakehead University Student Health & Counselling Centre, presentation to students in Introductory Psychology, advertisements in local print and online media, posters in local medical clinics, and displays at local health and wellness expos (see Appendix A). The advertisements were aimed at recruiting individuals who would like to receive treatment to decrease their worrying and/or anxiety. The advertisements asked potential participants to email or call the researcher to receive instructions on how to complete the study. Potential participants who agreed to complete the study were also asked to give the contact information of the researcher to any individual they knew who would be interested in receiving a treatment for worry or anxiety. A total of 115 participants consented to participate in the study.

Given that there is evidence that successful CBT treatment of GAD leads to improvement in comorbid conditions such as social anxiety and depression, and that the occurrence of these conditions does not impede therapy success (Borkovec, Abel, & Newman, 1995; Newman, Przeworski, Fisher, & Borkovec, 2010), it was determined that few exclusionary criteria should be used. Therefore, the entry criteria included the ability to read, write, and understand spoken English, an interest in decreasing worry or anxiety, being older than 17 years of age, displaying no indicators of suicidal intent, and reporting no history of mania, hypomania, or psychotic experiences. In total, one participant was screened out of the study due to a combination of

suicidal thoughts and history of psychotic-like experiences. Additional information about the movement of participants through the study is included in the *Study design* section.

Measures

Demographic characteristics measure. A 13-item version of the Background Information Questionnaire, a self-report questionnaire, was used to classify participants' sex, age, ethnicity, marital status, employment status, student status, and level of education (see Appendix B). This measure was based on the Background Information Questionnaire used by Penney et al. (2013).

GAD symptom measures.

Structured diagnostic assessment of GAD criteria. The Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1997) was used to assess if participants meet DSM-IV diagnostic criteria for GAD. The MINI is a clinician-administered interview, which generally takes less than 20 minutes to complete, composed of 16 modules that assess a range of disorders and psychopathological experiences. For the current study, the focus was on the GAD diagnostic module, although the major depressive disorder, panic disorder, agoraphobia, social anxiety, obsessive-compulsive, and posttraumatic stress disorder diagnostic modules were also completed. The study also used the suicidality, manic/hypomania, and psychotic experiences modules as exclusionary measures². Overall, the MINI has good inter-rater reliability, test-retest reliability, sensitivity, specificity, convergent validity, and compares favourably to other validated clinical interviews and expert opinion (Lecrubier et al., 1997; Sheehan et al., 1997; 1998). The GAD diagnostic module has been found to have good sensitivity, specificity, inter-

² The MINI is not provided in the appendices because it is a protected psychiatric diagnostic interview that is not made available to the public at large.

rater reliability, and test-retest reliability, but low to moderate agreement with other structured diagnostic interviews (Lecrubier et al., 1997; Sheehan et al., 1997; 1998).

Dimensional measure of GAD symptoms. The English Worry and Anxiety Questionnaire (WAQ; Dugas et al., 2001b) was used to measure the symptoms of GAD, based on the DSM-IV criteria, on a continuum. The WAQ is an 11-item self-report questionnaire, with items scored on nine-point Likert-type scales (see Appendix B). Total scores can range from 0 to 80. Higher scores indicate more GAD symptoms and impairment. Items refer to symptoms over the past six months or provide no time frame. The original French version (Dugas et al., 2001a) has shown known-groups validity and good test-retest reliability (as cited in Dugas & Koerner, 2005). The English translation also has good internal consistency and convergent validity (Penney & Mazmanian, 2010b). In the present study the WAQ had a Cronbach's alpha of .85 at baseline, of .91 at four weeks post-treatment, and of .92 at four months post-treatment.

Dimensional measure of worry severity. The Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990) was used to measure worry severity. The PSWQ is a 16-item self-report questionnaire, with items scored on five-point Likert-type scales (see Appendix B). Total scores can range from 16 to 80. Higher scores indicate more chronic and pathological worry. The measure provides no time frame. For the current study, one item (*I've been a worrier all my life*) was removed at follow-ups, and retroactively removed at baseline due to the time frame used within the item. The PSWQ has been found to measure a single factor, have high internal consistency, and high test-retest reliability (Startup & Erickson, 2006). Stöber (1998) also found that substantial convergence between self-report and peer-report on the PSWQ. Further, scores on the PSWQ decrease with successful treatment of GAD (Startup &

Erickson, 2006). In the present study the PSWQ had a Cronbach's alpha of .89 at baseline, of .91 at four weeks post-treatment, and of .92 at four months post-treatment.

Comorbid symptom measures.

Measure of health anxiety symptoms. The Short Health Anxiety Inventory (SHAI; Salkovskis et al., 2002) was used to measure excessive concerns about one's health. The SHAI is an 18-item self-report questionnaire, with each item containing four statements that vary in degree from no health anxiety to high health anxiety (see Appendix B). Total scores can range from 0 to 54. Higher scores indicate more health anxiety. The measure refers to feelings over the past six months. The SHAI has been found to have a supported factor structure, high internal consistency, and strong convergent and discriminant validity (Abramowitz et al., 2007; Salkovskis et al., 2002). In the present study the SHAI had a Cronbach's alpha of .90 at baseline, of .89 at four weeks post-treatment, and of .90 at four months post-treatment.

Measure of positive and negative affect. The Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) was used to measure positive affect (PANAS-PA; i.e., global feeling of satisfaction, pleasure, excitement, etc.) and negative affect (PANAS-NA; i.e., global feeling of distress, depression, anxiety, etc.). The Positive and Negative Affect Schedule is a 20-item self-report list of feeling adjectives, with items scored on five-point Likert-type scales (see Appendix B). Scores on the two scales can range from 10 to 50. Higher scores indicate higher feelings of positive or negative affect. Participants were instructed to respond to how they felt during the past few weeks. The Positive and Negative Affect Schedule has been shown to have high internal consistencies, with low correlations between the scales, moderate test-retest reliabilities, two distinct factors, and high convergent and discriminant validity (Watson et al., 1988). In the present study the PANAS-PA had a Cronbach's alpha of .90 at baseline, of .89 at

four weeks post-treatment, and of .93 at four months post-treatment. The PANAS-NA had a Cronbach's alpha of .85 at baseline, of .89 at four weeks post-treatment, and of .92 at four months post-treatment.

Health care utilization and secondary indicators of mental health measures.

Primary care utilization and treatment seeking behaviours. A revised version of the Getting Help for Anxiety Scale (RGHAS; Dozois, Westra, Collins, Fung, & Garry, 2004) was used to measure use of primary care services, other professional services, and other individual and group methods to decrease anxiety in the past month (e.g., reading a book, attending a self-help group, exercising, attending a seminar, etc). The Getting Help for Anxiety Scale was revised to focus on the past month, reduce overlap amongst items, and remove items regarding medication use because medication use was measured using a separate measure. The RGHAS is an 11-item self-report checklist (see Appendix B). Total scores can range from 0 to 11. Higher scores indicate greater treatment seeking behaviours. If a participant checked an item, they were asked to report the number of times they engaged in that treatment seeking behaviour, although this is not included in the total score. The item "I have discussed how to solve or manage my anxiety with my family physician or other primary care provider (e.g., registered nurse, etc.)" was also examined independently to assess changes in primary care utilization. The original Getting Help for Anxiety Scale had convergent validity with a measure of stages of change (Dozois et al., 2004), but no other psychometric properties are known of the original scale. In the present study the RGHAS had a Cronbach's alpha of .74 at baseline, of .62 at four weeks post-treatment, and of .73 at four months post-treatment.

Psychopharmacological medication use. Following the measurement of psychopharmacological medication use as conducted by other researchers in the GAD literature

(Borkovec & Costello, 1993; Dugas et al., 2003; Dugas et al., 2010; Ladouceur et al., 2000; Newman et al., 2002; Wells et al., 2010) participants were asked if they are currently taking psychotropic medications. In addition, participants were also asked to rate on a seven-point Likert-type scale (where -3 = greatly decreased the frequency/dose/amount of medication use; 0 = no change in the frequency/dose/amount of medication use; +3 = greatly increased the frequency/dose/amount of medication use) any change in their psychotropic medication use compared to four weeks ago. However, at follow-ups, participants rated changes in their psychotropic medication use compared to the start of the study. Participants were also asked to report the names and dosages of any psychotropic medication that they are currently taking. This measure was called the Psychopharmacological Medication Use Scale (PMUS) (see Appendix B).

Motivation for additional treatment. A measure developed for this study, the Motivation for Receiving Treatment Scale (MRTS), was used to measure how likely a participant would be to engage in various 12-week treatments (i.e., individual psychotherapy, self-help manual, support group). The MRTS is a 5-item self-report questionnaire, with items scored on seven point Likert-type scales (where 1 = Not very likely, 4 = Not sure, and 7 = Very likely) (see Appendix B). Total scores can range from 5 to 35. Higher scores indicate more motivation for receiving additional treatment. The measure provides no time frame. In the present study the MRTS had a Cronbach's alpha of .80 at baseline, of .80 at four weeks post-treatment, and of .84 at four months post-treatment.

Expectancy that anxiety can be treated. The Anxiety Change Expectancy Scale (ACES; Dozois & Westra, 2005) was used to measure the belief that the anxiety can be treated. The ACES is a 20-item self-report questionnaire, with items scored on five-point Likert-type scales

(see Appendix B). Total scales can range from 5 to 100. Higher scores indicate more belief that the anxiety can be treated. The measure asks how participants feel right now. The ACES has been found to have high internal consistency, a single factor structure, good convergent validity, good divergent validity, and good predictive validity (Dozois & Westra, 2005; Westra & Dozois, 2006). In the present study the ACES had a Cronbach's alpha of .92 at baseline, of .91 at four weeks post-treatment, and of .93 at four months post-treatment.

Proposed cognitive factors measures.

Cognitive avoidance. The English Cognitive Avoidance Questionnaire (CAQ; Sexton & Dugas, 2008) was used to measure the use of strategies to avoid negative thoughts and images. The CAQ is a 25-item self-report questionnaire, with items scored on five-point Likert-type scales (see Appendix B). Total scores can range from 25 to 125. Higher scores indicate more cognitive avoidance. The measure provides no time frame. The original French version (Gosselin et al., 2002; as cited in Sexton & Dugas, 2008) has a supported factor structure, high internal consistency, test-retest reliabilities, treatment sensitivity, convergent validity, and discriminant validity. The English translation has retained these high psychometric properties (Sexton & Dugas, 2008). In the present study the CAQ had a Cronbach's alpha of .93 at baseline, of .94 at four weeks post-treatment, and of .95 at four months post-treatment.

Meta-worry. The frequency scale of the Meta-Worry Questionnaire (MWQ; Wells, 2005) was used to measure how frequently participants experience meta-worries. More specifically, the MWQ focuses on the perceived danger of meta-worry, without measuring the perceived uncontrollability of meta-worry. The MWQ is a 7-item self-report questionnaire, with items scored on four-point Likert-type scales (see Appendix B). Total scores can range from 7 to 28. Higher scores indicate more frequent meta-worries. The measure provides no time frame. The

MWQ shows good internal consistency, a supported factor structure, and convergent validity (Wells, 2005). In the present study the MWQ had a Cronbach's alpha of .86 at baseline, of .88 at four weeks post-treatment, and of .90 at four months post-treatment.

Metacognitive beliefs. The Metacognitions Questionnaire-30 (MCQ-30; Wells & Cartwright-Hatton, 2004) was used to measure beliefs about worry, memory, and thought awareness. The MCQ-30 is a 30-item self-report questionnaire, with items scored on four-point Likert-type scales (see Appendix B). It contains five subscales, each of which range from 6 to 24, that measure positive beliefs about worry, negative beliefs about worry being uncontrollable and dangerous, beliefs about the need to control thoughts, lack of confidence in memory (cognitive confidence), and monitoring of thoughts (cognitive self-consciousness). Higher scores indicate more pathological beliefs. The measure asks how much participants agree with each statement generally. The MCQ-30 shows good internal consistency, a supported five factor structure, convergent validity, and moderate test-retest reliability (Wells & Cartwright-Hatton, 2004). In the present study the MCQ-30 subscales had Cronbach's alphas that ranged from .70-.91 at baseline, .74-.94 at four weeks post-treatment, and .72-.92 at four months post-treatment.

Negative evaluation sensitivity. The Brief Fear of Negative Evaluation scale (BFNE; Leary, 1983) was used to measure fear of being negatively evaluated by others. The BFNE is a short-form of the original Fear of Negative Evaluation scale (Watson & Friend, 1969). The BFNE is a 12-item self-report questionnaire, with items scored on five-point Likert-type scales (see Appendix B). Total scores can range from 12 to 60. Higher scores indicate more fear of being negatively evaluated. The measure provides no time frame. The BFNE strongly correlates with the original scale, has high internal consistency, test-retest reliability, convergent validity, and is better at discriminating amongst participants than the original scale (Leary, 1983;

Rodebaugh et al., 2004). In the present study the BFNE had a Cronbach's alpha of .93 at baseline, of .91 at four weeks post-treatment, and of .95 at four months post-treatment.

Treatment characteristic measures.

Treatment credibility, expectancies, and success. A revised version of the newly redeveloped Credibility/Expectancy Scale (RCES; Devilly & Borkovec, 2000) was used to measure how much participants believe that the technique is credible and how much they believe it will change their symptoms. Rather than using the newly redeveloped version of this measure, which differentiates how much a person *thinks* the treatment is credible and effective versus how much a person *feels* that the treatment is credible and effective, only Set I of the Credibility/Expectancy Scale was used, and the differentiation between the *thinking* and *feeling* aspects of beliefs was not emphasized. This decision was made to return the scale to the originally published version (Borkovec & Nau, 1972), which has been used extensively in the literature, although no psychometric properties of the original version have been published.

The RCES is a 4-item self-report questionnaire (see Appendix B). The three credibility items scored on nine-point Likert-type scales, and the expectancy item scored on a percentage continuum in 20 point increments (e.g., -40%, -20%, 0%, 20%, 40%, and so on). Scores on the Credibility scale range from 3 to 27, while scores on the Expectancy Scale range from -100% to 100%. The expectancy item was modified to include negative percentages so that participants could report if they believed that their symptoms would deteriorate at baseline or had deteriorated at follow-ups. The credibility items ask how much participants believe in the treatment right now. At baseline the expectancy items ask participants to estimate how much symptoms will change over the next few weeks, while at follow-ups the expectancy item asks participants to compare their symptoms to the start of the study. The Credibility/Expectancy

scale has found to have high internal consistencies, strong test-retest reliability, good construct validity, and good predictive validity (Deville & Borkovec, 2000).

Treatment implementation. A revised version of the Homework Compliance Scale (RHCS; Westra & Dozois, 2006; Westra, Dozois, & Marcus, 2007) was used to measure how often participants use the technique that they are taught, and how difficult the technique is to use. The item “*How much of the assigned homework did you complete*” was removed from the RHCS because it was not applicable to the current study. Further, the wording of items was changed from *homework assignments*, to *worry scheduling*, and from *previous treatment session*, to *next week* at baseline, and to *last week* at follow-ups. As well, the first item of the questionnaire, which assesses how many days the homework was completed, was changed from the response options of *None*, *Every other day*, and *Every day*, to *0 days*, *1 day*, *2 days*, and so on up to *7 days*. Finally, an additional item, assessing how difficult the technique is to start or complete was added to the scale. The RHCS is a 4-item self-report questionnaire (see Appendix B), with the first item assessing the number of days the technique was used scored on an 8-point Likert-type scale, and the remaining three items scored on a 5-point Likert-type scale. Higher scores indicate more use of the therapeutic technique. The original Homework Compliance Scale has been found to have high internal consistency, convergent validity, and predictive validity (Westra & Dozois, 2006; Westra et al., 2007).

Problematic response styles. Because the majority of the measures in the present study rely on self-report (which is required given the inherent impossibility of directly observing internal thoughts and emotions), measures of impression management and random responding were included to exclude data that appears to be inaccurate or biased.

Positive impression management. The Positive Impression Management scale (PIM) of the Personality Assessment Inventory (Morey, 1991) was used to measure positive impression management (i.e., presenting oneself in a socially desirable light). The PIM is a 9-item self-report questionnaire, with items scored on four-point Likert-type scales from “False” to “Very True” (see Appendix B). Total scores can range from 0 to 27. Higher scores indicate more positive impression management. The PIM has moderate internal consistency, high test-retest reliability, good construct validity, and an established empirical raw cut-off score of 17 or above.

Negative impression management. The Negative Impression Management scale (NIM) of the Personality Assessment Inventory (Morey, 1991) was used to measure negative impression management (i.e., exaggerating the degree of one’s clinical symptoms). The NIM is a 9-item self-report questionnaire, with items scored on four-point Likert-type scales from “False” to “Very True” (see Appendix B). Total scores can range from 0 to 27. Higher scores indicate more negative impression management. The NIM has moderate internal consistency, high test-retest reliability, good construct validity, and an established empirical raw cut-off score of 11 or above.

Random responding. The Infrequency scale (INF) of the Personality Assessment Inventory (Morey, 1991) was used to measure random responding. The INF is an 8-item self-report questionnaire, with items scored on four-point Likert-type scales from “False” to “Very True” (see Appendix B). Total scores can range from 0 to 24. Higher scores indicate more random responding. Although the INF has low internal consistency and moderate test-retest reliability this would be expected given the nature of the items. Further, it has good construct validity and an established empirical raw cut-off score of 9 or above.

Supplemental measures. Additional measures that were not directly related to the hypotheses and are not key outcome measures, but were theoretically interesting for future examining, were also included. These measures include: the Inventory of Depression and Anxiety Symptoms (Watson et al., 2007, 2008), the Obsessive-Compulsive Inventory – Revised (Foa et al., 2002; Hajcak, Huppert, Simons, & Foa, 2004), and the Self-Control Self-Management Scale (Mezo, 2009; Mezo & Short, 2012). These measures assess depression, social anxiety, panic disorder, obsessive-compulsive disorder, and self-management skills (see Appendix B). All of these measures have strong psychometric properties.

Procedure

Study design. Ethical approval for this study was obtained from Lakehead University's Senate Research Ethics Board in November 2012. Participant recruitment began January 2013 and finished August 2013, with the last data collection occurring in January 2014. Upon contacting the researcher by telephone or email, potential participants were given a brief introduction into the nature of the study and treatments, the nature of randomization, and given the opportunity to schedule an appointment. Before attending the appointment, participants were randomly assigned, using a random number generator, to the CAWS treatment, the MWS treatment, or the DT condition. Approximately two-thirds of participants were assigned to receive treatment at the first appointment, while the remaining one-third of participants were assigned to the DT condition before receiving treatment. Participants were randomly assigned prior to their first appointment for ease of coordination with the therapists.

Upon meeting with the researcher at Lakehead University in the Health, Hormones, and Behaviour Laboratory, the potential participants were fully informed of the nature of study and the nature of randomization (see Appendix C). Any participant who did not wish to be

randomized, or withdrew from the study upon being explained the details of the study, was provided with information on how to seek professional counselling in Thunder Bay (see Appendix D). Participants who continued were then provided with a consent form to complete (see Appendix E). Consenting participants completed a contact information form (see Appendix F) before completing the Background Information Questionnaire online. Following this questionnaire, the researcher conducted the MINI. After the MINI was completed, participants completed the following questionnaires online in the following order: the WAQ, the MWQ, the PSWQ, the CAQ, the RGHAS, the BFNE, the MCQ-30, the MRTS, the Positive and Negative Affect Schedule, the PMUS, the SHAI, the ACES, the Obsessive-Compulsive Inventory – Revised, the Self-Control Self-Management Scale, and the Inventory of Depression and Anxiety Symptoms. The PIM, the NIM, and the INF items were scattered amongst the other measures. The measures were not counter-balanced, because of a concern of participant fatigue. The most important measures to the study were placed at the beginning of the set, so that if participants began to no longer pay close attention to the items as time went on, this would occur with the measures deemed less important to the study. Please see Appendix B for the baseline self-report measures. Participants generally completed this section in approximately 45 to 90 minutes. All self-report questionnaires were completed online through SurveyMonkey (www.surveymonkey.com), a safe and secure survey hosting website that has been used extensively by the Health, Hormones, and Behaviour Laboratory.

After completing the questionnaires, participants who were assigned the DT condition received a debriefing form (see Appendix G) and the list of available counselling services (see Appendix D), and were contacted after three weeks to schedule a second appointment. For these participants, the second appointment involved completing the MINI and all self-report

questionnaires a second time prior to being entered into treatment. Participants who were originally assigned to either the CAWS or MWS conditions at the first appointment received treatment immediately upon completing the questionnaires. For treatment, participants were first provided with the Canadian Psychological Association's "*Psychology Works*" *Fact Sheets: Generalized Anxiety Disorder* (Canadian Psychological Association, 2009). This information was chosen as it is publically available, concise, and does not exclusively endorse one etiological model of GAD (see Appendix H). After this brief psychoeducational component, the participants had one of the treatment strategies explained to them individually by a student therapist in less than 20 minutes. Participants were also provided with a handout for them to keep to aid in remembering both the theoretical and practical elements of their assigned treatment. After meeting with a therapist, participants completed the RCES and the RHCS online (see Appendix B), which generally took participants less than three minutes to complete. After completing the RCES and RHCS, participants were given the debriefing form (see Appendix G) and the list of available counselling services (see Appendix D).

Participants were asked to return to Lakehead University to complete all self-report questionnaires and the MINI four weeks after the therapy session. All measures were given in the same order at follow-ups as they were given at baseline. Again, the items were not counter-balanced due to a concern of participant fatigue. In general, for all measures that used time frames of greater than one week or did not specify a time frame, these measures were changed to focus on the past week only (see Appendix I for the four weeks post-treatment self-report measures). For the PMUS, the RCES, and the RHCS, please see the descriptions of these measures in the *Measures* section for further details on changes to these measures from baseline to follow-up. After completing the questionnaires, participants were instructed that they could

continue to use the technique they were taught as long as they would like. Participants were also allowed to ask any question regarding the treatment that they had to the researcher. Finally, participants were asked to complete the same questionnaires at a four-month follow-up. For all measures that used time frames of greater than one month or did not specify a time frame, these measures were changed to focus on the past month (see Appendix J for the four-month post-treatment self-report measures). Again, for the PMUS, the RCES, and the RHCS, please see the descriptions of these measures in the *Measures* section for further details on changes to these measures from baseline to follow-up.

If a participant was unable to meet with the researcher at Lakehead University at any follow-up (i.e., was out of town or was unable to come in due to other commitments), the participant was given the option of completing the self-report questionnaires, but not the MINI, online at home or wherever they were able to complete them. Participants were given a brief reminder of their rights as participants and requirements of the study before completing any measures at every follow-up, and were given debriefing letters (see Appendix G) and the list of available counselling services (see Appendix D) after completing the questionnaires each time they met with the researcher at Lakehead University or after completing the questionnaires online at home. Participants were also contacted once between the four-week and four-month follow-up to thank them for participating, to provide them information about the study, and to remind them when the next follow-up would be. This contact served to help participants feel connected and engaged in the study, and to decrease attrition rates. For the study, based on the difficulties with retention reported by the prevention studies, a 15% attrition rate between each follow-up point was anticipated.

See Figure 1 for a diagram of the flow of participants through the study. Across the entire study, 75.4% of the participants were retained from the initial screening to four months post-treatment. Only one participant who was assigned to the delayed treatment condition failed to return for the treatment session. At four weeks post-treatment, there was a higher rate of withdrawal in the MWS treatment (20.0% withdrawal) than the CAWS treatment (8.6% withdrawal). At four months post-treatment there was a smaller difference in the rates of withdrawal, with 13.7% of the remaining MWS participants withdrawing from the study, and 9.4% of the remaining CAWS participants withdrawing from the study. The majority of participants who did not continue in the study did not respond to emails at the prescribed follow-ups, although three participants asked to withdraw from the study at four weeks post-treatment, and one participant asked to withdraw at four months post-treatment.

Treatments. The CAWS treatment followed the worry scheduling procedures from Borkovec et al. (1983). Upon meeting with a therapist, the therapist described how worry can become associated with many environments and how the contingency between worry and different environmental stimuli need to be weakened in order to decrease the frequency of worry and anxiety. Participants in the CAWS treatment were asked to self-restrict their worry to a 30-minute period every day for the following four weeks. Participants were asked to attend to what is occurring in their immediate environment or their own physiology (e.g., their breathing) whenever they notice that they are beginning to worry during the day. They were also instructed that whenever they notice that the distraction is effective in alleviating worries, anxiety, or distress, that they should reward themselves either overtly or covertly. For their 30-minute worry period, participants were asked to set aside a 30-minute period in the early evening during which time they allow themselves to worry as much as they can. They were instructed to worry

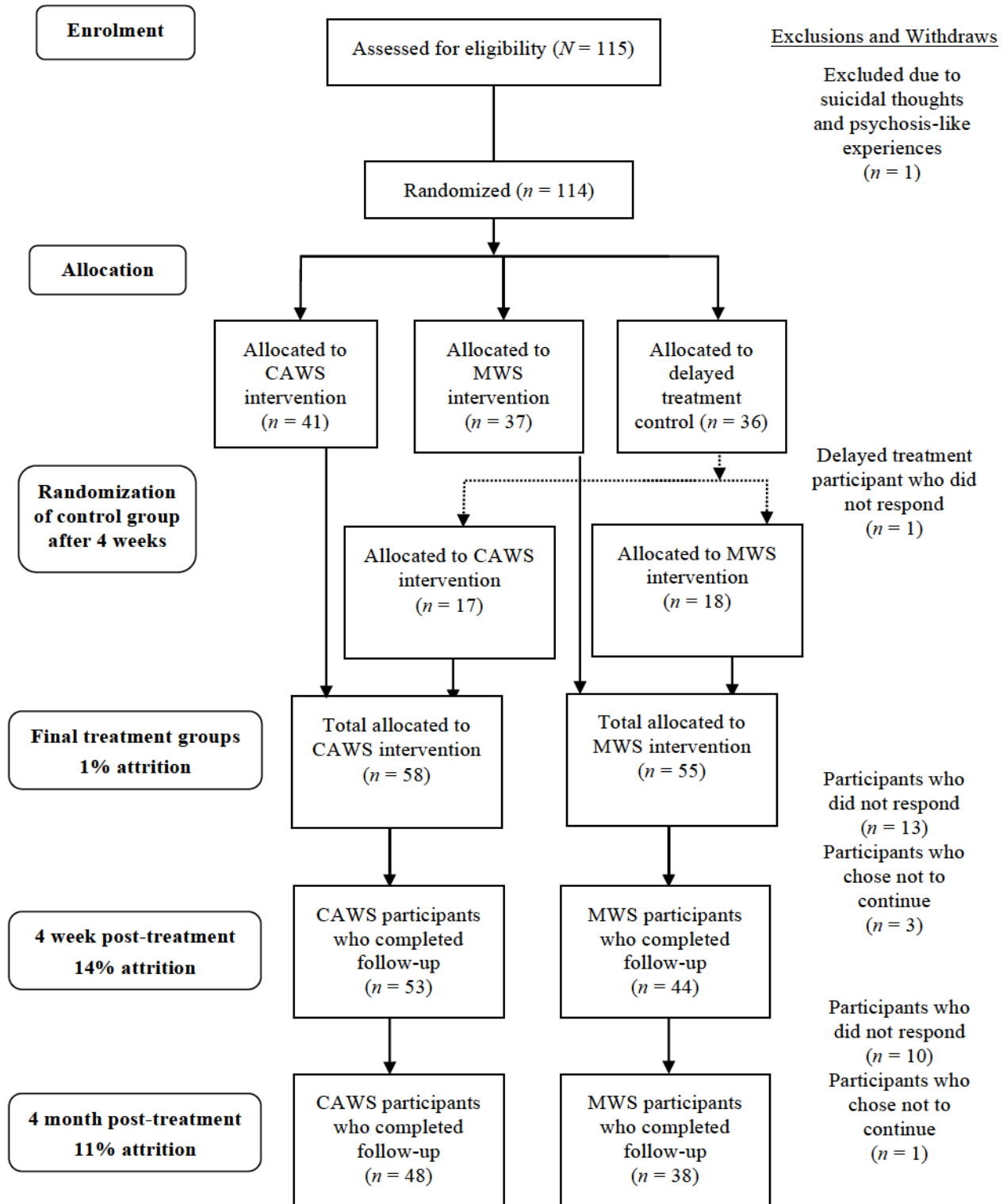


Figure 1. Progress of participants through the study.

as intensely as they can, so that the worry becomes associated with the specific location.

Participants were neither encouraged or discouraged from attempting to problem solve at this time.

The MWS treatment was based on the worry postponement experiment and detached mindfulness techniques as described by Wells (2009). Upon meeting with the therapist, the therapist described how the beliefs that worry is uncontrollable and dangerous leads to worry and anxiety, and that the participant must develop a sense of control over his or her worry. Like the CAWS treatment, participants were asked to self-restrict their worry to a 30-minute period every day for the following four weeks. Unlike the CAWS treatment, which asked participants to turn their attention outwards when worry occurs outside of the worry period, in the MWS treatment participants were asked to non-judgmentally observe their thoughts and worries whenever the participants began to worry during the day. For their 30-minute worry period, participants were asked to set aside a 30-minute period in the early evening during which time they allow themselves to worry as much as they can. They were instructed to worry as intensely as they can, so that they would be able to see that worrying is not dangerous to their body or mind. Participants were neither encouraged or discouraged from attempting to problem solve at this time.

Almost all of the discussion of the theory and application of the techniques was scripted for the therapists to decrease the influence of between-therapist variation. Please see Appendix K for the treatment scripts and associated handouts. The therapists were permitted to explain the techniques in their own terms, but were instructed to adhere to the original scripts as closely as possible. For the CAWS, the average time that a therapist was meeting with a client was approximately 11 minutes (ranging from 7 minutes to 20 minutes). For the MWS, the average

time that a therapist was meeting with a client was approximately 10 minutes (ranging from 6 minutes to 20 minutes). These times were comparable to the average times physicians talk to their patients (an average of 10.7 minutes; Gottschalk & Flocke, 2005).

Therapists. The therapists for this study were six Clinical Psychology Ph.D. students who had completed courses in CBT, clinical interviewing, ethics, and assessment, and had completed at least 400 hours of supervised practice. None of the therapists had prior experience with using the worry scheduling techniques. The therapists were trained in the therapeutic techniques by the researcher and primary supervisor through a one-day workshop, and were provided with additional reading materials to become familiar with both the theory and application of each technique. Throughout the course of the study, they were formally supervised by the primary supervisor of this study, and were able to clarify any issues with the researcher.

Treatment adherence. To ensure that the therapists explained only the therapeutic technique that the participant was assigned to, and did not discuss the other treatment, all treatment sessions were audiotaped. The researcher and primary supervisor reviewed the first five tapes of each treatment from each therapist to provide corrective feedback and ensure excellent participant care. To assess adherence, three tapes from each therapy for each therapist were randomly selected to be reviewed by an independent rater. The rater was an advanced honours undergraduate student in psychology who was not familiar with the study hypotheses. The rater was given checklists of techniques permitted and not permitted with each technique and assessed how closely each therapist adhered to the permitted techniques (see Appendix L).

Compensation. One draw for a \$50 pre-paid VISA card occurred every four months, with a total of three draws occurring during the course of the study. Every time a participant

attended a session at Lakehead University or completed questionnaires online, he or she was given one entry into the next draw. Each draw was independent of all other draws. As well, when a participant completed the four-week follow-up, he or she was given a \$10 gift card for Tim Horton's. Further, when a participant completed the four-month follow-up, he or she was given \$20. Finally, any participant who would have had to pay for parking at Lakehead University to complete a portion of the study had his or her parking fees paid.

Statistical Analyses

The data were first examined to check the accuracy of data entry, missing values, outliers, and fit to multivariate assumptions. Any possible departures from linearity and homoscedasticity were examined. Scores on the problematic response styles questionnaires were also examined.

After the data screening was complete, the main analyses were conducted. Multivariate analyses of variances (MANOVAs) were conducted prior to conducting any univariate analyses. To test Hypothesis 1, that the treatments would lead to larger decreases in GAD symptoms, worry severity, health anxiety, and negative affect than the DT condition, repeated measures analyses of variances (ANOVAs) were used to examine if the treatments were superior to the delayed treatment control from baseline to four-week follow-up. The PSWQ, WAQ, SHAI, and PANAS-NA were the dependent measures.

To test Hypothesis 2, that the treatments would lead to larger decreases in medication use and health care utilization than the delayed treatment control, Pearson chi-square tests and repeated measures ANOVAs were conducted to examine if the treatments were superior to the DT condition from baseline to four-week follow-up. The first two PMUS items and the number of visits to primary care physician as measured by the RGHAS were the dependent measures.

To test Hypothesis 3, that the treatments would lead to larger increases in motivation for more intensive therapy and in the expectancy that the worry can be treated than the delayed treatment control, repeated measures ANOVAs were conducted to examine if the treatments were superior to the DT condition from baseline to four-week follow-up. The MRTS and the ACES were the dependent measures.

To test Hypothesis 4, that the MWS would lead to larger decreases in GAD symptoms and worry severity than the CAWS after four weeks and four months repeated measures ANOVAs were conducted using baseline and four-week post-treatment scores, and four-week and four-month post-treatment scores on the WAQ and PSWQ.

To test Hypothesis 5, that the MWS would lead to larger decreases on measures of the proposed cognitive factors than the CAWS after four weeks and four months repeated measures ANOVAs were conducted using baseline and four-week post-treatment scores, and four-week and four-month post-treatment scores on the MCQ-30, MWQ, CAQ, and BFNE.

To test Hypothesis 6, that the CAWS would lead to larger increases in positive affect than the MWS after four weeks and four months a series of repeated measures ANOVAs comparing the treatments was conducted using baseline and four-week post-treatment scores, and four-week and four-month post-treatment scores on the PANAS-PA scale.

To test Hypothesis 7, that changes in negative beliefs about worry and meta-worry, but not changes in cognitive avoidance, negative evaluation sensitivity, positive beliefs about worry, or other metacognitive beliefs, would be related to changes in GAD symptoms and worry severity, change scores on the MWQ, MCQ-30, CAQ, and BFNE were calculated using baseline and four-week follow-up scores, and baseline and four-month follow-up scores. Change scores on the WAQ and PSWQ were also calculated using baseline and four-week follow-up scores,

and baseline and four-month follow-up scores. A series of regression equations was used to examine which change scores of the MCQ-30, MWQ, CAQ, and BFNE were related to changes in WAQ and PSWQ scores.

For all analyses, except for the analyses done to test Hypothesis 7, the ANOVAs or chi-square tests were first conducted using data from participants who returned for the given follow-ups, and any participants who did not return were excluded from the analyses (termed completer analyses). This was followed by conducting intent-to-treat analyses. For intent-to-treat analyses, if a participant did not return for a follow-up, the last score they supplied was moved forward to the follow-up they missed. For example, if a participant missed the four-week and four-month follow-ups, their baseline scores would be moved to forward to both the four-week and four-month follow-ups, assuming no change in scores. Intent-to-treat analyses are conducted to decrease the effect of participants who did not improve dropping out of the study, while participants who benefited from the treatments staying in the study. Therefore, intent-to-treat analyses generally result in less significant findings and lower effect sizes.

To examine effect sizes, partial eta squared (η^2) were computed where appropriate, and interpreted as according to Cohen (1988) where .01 is a small effect, .09 is a medium effect, and .25 is a large effect. Post hoc *t*-tests or Pearson chi-square tests were conducted when appropriate for simple effects. To address the potential of a high Type I error rate, a range of options were considered, from applying a stringent Bonferroni type adjustment, to assigning different alpha levels to different tests. In order to strike a balance between potential Type I error and being too conservative, alpha was set to .025 for all analyses. In addition, for interpretation of the findings, the focus was placed on effect sizes rather than significance level.

Results

Data Screening

Prior to data analyses, the raw data for all variables were examined for errors and possible outliers. For missing data, if less than 20% of the data from a given scale was missing, the missing scores were replaced using the average item score that was calculated from the remaining items that were completed. Therefore, if a scale had less than five items, no missing scores were replaced, while if a scale was between 10 and 14 items long, two missing scores could be replaced. For the RGHAS, because it is designed as a checklist and scored yes (i.e., a score of 1) or no (i.e., a score of 0), any missing item was replaced with a 0. While many participants missed a few items at each measurement point, only one participant, at the four-month follow-up, was missing a large enough percentage of data to warrant having all of their scores removed from the analyses at that measurement point. The total number of missing scores replaced was 128 at baseline, 90 at four weeks post-treatment, and 65 at four months post-treatment. This equals an average of 1.12 missing items per participant at baseline (i.e., less than 1% of all items), 0.93 missing items per participant at four weeks (i.e., less than 1% of all items), and 0.76 missing items per participant at four months post-treatment (i.e., less than 1% of all items).

Following recommendations by Tabachnick and Fidell, (2007), any subscale or total scale scores exceeding three standard deviations above and below the mean of that subscale or total scale was replaced. Scores that were three standard deviations above the mean were changed to be one value higher than the highest score that was not an outlier. Scores that were three standard deviations below the mean were changed to be one value lower than the lowest score that was not an outlier. Only two outliers were replaced in total.

Skewness and kurtosis were examined for all measures. All scales were within acceptable limits and did not require transformation (Tabachnick & Fidell, 2007). Similarly, following Tabachnick and Fidell (2007), multicollinearity and singularity were not found with the scales used in this study. Upon examining the measures of positive impression management, negative impression management, and random responding, it was found that between seven and 17 participants scored above the empirical cut-off of the PIM across the different measurement points. For the NIM and INF scales, less than four participants scored above the empirical cut-offs at any measurement point. All of the scores on the PIM, NIM, and INF were no more than seven points above the cut-offs, and based on the participants' other self-reported symptoms, none of the scores suggested extremely biased or careless responding, and the decision was made to not remove the participants from the analyses.

Participant Characteristics at Baseline

The main demographic characteristics of the sample at baseline, as well as the mean scores on the primary outcome measures, are presented in Table 1. There were no significant differences between the groups at baseline, including no significant differences in terms of ethnicity, marital status, employment, or education, $ps > .115$. The entire sample had an age range of 18 to 75 ($M = 38.67$, $SD = 15.26$), was 84.2% White/Caucasian, was predominantly single (32.5%) or married (40.4%), was employed (68.4%), and had a college diploma (26.3%) or some university education (56.2%), although only 35.3% were currently students.

Therapist Effects and Treatment Adherence

Due to issues with availability and scheduling, the number of participants that each therapist met with varied greatly, from a low of 12 participants to a high of 34 participants. While most therapists met with nearly equal numbers of participants from each therapy, there

Table 1

Characteristics of the Sample at Baseline

Variable	CAW (<i>n</i> = 41)	MWS (<i>n</i> = 37)	DT (<i>n</i> = 36)	<i>p</i> -value
Age	40.02	38.00	37.81	.779
Sex (% female)	70.7%	72.2%	83.3%	.389
Currently a student	36.6%	30.3%	44.1%	.611
GAD	58.5%	64.9%	75.0%	.312
Number of current diagnoses	1.54	1.62	1.56	.961
WAQ	52.29	51.00	50.56	.836
PSWQ	57.83	59.24	58.50	.830
SHAI	18.68	17.83	17.61	.850
PANAS-PA	29.90	28.70	29.43	.815
PANAS-NA	28.12	28.78	27.37	.749
Currently using medication	34.1%	32.4%	27.8%	.828
RGHAS total	3.61	3.95	2.81	.099
RGHAS primary care item	1.93	1.55	0.44	.212
MRTS	21.66	25.22	22.06	.064
ACES	72.88	74.51	75.17	.712

Note. GAD = Met criteria for generalized anxiety disorder; WAQ = Worry and Anxiety Questionnaire; PSWQ = Penn State Worry Questionnaire; SHAI = Short Health Anxiety Inventory; PANAS-PA = Positive and Negative Affect Schedule – Positive affect subscale; PANAS-NA = Positive and Negative Affect Schedule – Negative affect subscale; RGHAS = Revised Getting Help for Anxiety Scale; MRTS = Motivation for Receiving Treatment Scale; ACES = Anxiety Change Expectancy Scale.

was variation, with a therapist seeing up to eight more participants in one therapy than the other therapy. However, ANOVAs were used to examine differences in the baseline scores of the WAQ, PSWQ, SHAI, PANAS-NA, PANAS-PA, RGHAS total, number of visits to primary care, MRTS, ACES, RCES, and RHCS found no main effect of therapist, $ps > .097$. Similarly, ANOVAs found no main effect of therapist on these measures at four weeks post-treatment, $ps > .121$, or four months post-treatment, $ps > .105$. However, there was a significant main effect of therapist on the PANAS-PA, $F(5, 80) = 2.96, p = .017$ at four months post-treatment. This was due to the participants of one therapist scoring the lowest on the PANAS-PA. Because this was the only measure showing a significant main effect of therapist, the effect of therapists on outcome was deemed to be negligible.

When reviewed by an independent researcher, the therapists had a high treatment adherence. Three recordings of each therapy for each therapist were chosen at random for the adherence checks. This equates to 18 recordings from each therapy, or 31.0% of CAW treatments, and 32.7% of MWS treatments. For the CAWS, there was an average adherence of 98.9%, which ranged from 95% to 100%. For the MWS, there was an average adherence of 96.1%, which ranged from 90% to 100%.

Treatment Credibility, Expectancy, and Implementation

In addition to having high adherence rates, the treatments were also perceived to be highly credible. Immediately following therapy, the CAWS had a mean credibility rating of 19.64 ($SD = 5.21$), and the MWS had a mean credibility rating of 18.31 ($SD = 5.06$), $F(1, 111) = 1.89, p = .172$. At four-week post-treatment the credibility remained high, with the CAWS having a mean credibility of 18.17 ($SD = 5.48$), and the MWS having a mean credibility of 16.61 ($SD = 5.84$), $F(1, 95) = 1.83, p = .179$. These levels were maintained at four months post-

treatment, with the CAWS having a mean credibility of 18.67 ($SD = 6.10$), and the MWS having a mean credibility of 17.03 ($SD = 5.99$), $F(1, 84) = 1.56, p = .215$.

The participants also reported that they expected the treatment would decrease their anxiety and worry at baseline. The CAWS had a mean expectancy score of 34.14 ($SD = 27.27$), while the MWS had a mean expectancy score of 34.91 ($SD = 31.32$), $F(1, 111) = 0.02, p = .889$. After four weeks, participants generally reported that the treatments had been effective in decreasing their symptoms, with the CAWS having a mean expectancy score of 29.06 ($SD = 35.42$), and the MWS having a mean expectancy score of 27.27 ($SD = 28.64$), $F(1, 95) = 0.07, p = .789$. This continued at four months post-treatment, with the CAWS having a mean expectancy score of 42.50 ($SD = 33.17$), and the MWS having a mean expectancy score of 38.95 ($SD = 34.47$), $F(1, 84) = 0.23, p = .629$.

The amount that participants reported using the treatments at follow-ups also did not significantly differ between treatments. Scores on the RHCS items at four weeks post-treatment, $F_s < 1.30, p_s > .250$, and four months post-treatment, $F_s < 1.30, p_s > .250$, were not significantly different between the CAWS and MWS treatments.

Comparison of Treatments to Waitlist

Completer analyses. For all analyses comparing the treatments to DT, a grouping variable combining participants who completed the CAWS and participants who completed the MWS was created. Before examining changes on the primary outcome measures between the treatments and DT, changes in the percentage of participants meeting criteria for GAD were examined. As previously mentioned, it was determined *a priori* that significant differences were not anticipated, so significance tests were not conducted. For the DT participants, the percentage meeting criteria for GAD decreased from 74.3% at baseline to 55.9% at four-week follow-up.

For the participants who received treatment, the percentage meeting criteria for GAD decreased from 62.1% at baseline to 6.6% at four-week follow-up. Further, the average number of current diagnoses decreased from 1.51 ($SD = 1.27$) at baseline to 1.21 ($SD = 1.25$) at four-week follow-up for DT participants, while going from 1.53 ($SD = 1.46$) at baseline to 0.25 ($SD = 0.65$) at four-week follow-up for participants who received treatment.

Prior to univariate analyses, a 2-between (treatment, DT) \times 2-within (baseline, four-week follow-up) MANOVA with the following dependent measures was conducted: the WAQ, the PSWQ, the SHAI, the PANAS-NA, the change in amount of medication being used, the RGHAS, the MRTS, and the ACES. Since the omnibus F value of Wilk's criterion was significant, $F(20, 38) = 332.59, p < .001$, the univariate analyses were conducted.

To test Hypothesis 1, that treatment would lead to larger decreases on the WAQ, PSWQ, SHAI, and PANAS-NA than the DT condition, 2-between (treatment, DT) \times 2-within (baseline, four-week follow-up) ANOVAs were conducted. For the WAQ, there was a significant main effect of measurement point (change from baseline to four-week follow-up), $F(1, 99) = 77.01, p < .001$, partial $\eta^2 = .44$, a significant main effect of condition (treatment vs. DT), $F(1, 99) = 6.95, p = .010$, partial $\eta^2 = .06$, and a significant condition \times measurement point interaction, $F(1, 99) = 24.22, p < .001$, partial $\eta^2 = .20$. While the treatment ($M = 51.58, SD = 13.64$) and DT conditions ($M = 50.43, SD = 13.07$) did not differ at baseline, $t(99) = 0.41, p = .684$, the WAQ scores of the treated participants ($M = 29.03, SD = 15.71$) were significantly lower than the WAQ scores of DT participants ($M = 44.09, SD = 16.99$) at four-week follow-up, $t(99) = -4.45, p < .001$.

For scores on the PSWQ, there was a significant main effect of measurement point, $F(1, 99) = 38.87, p < .001$, partial $\eta^2 = .28$, and a significant condition \times measurement point

interaction, $F(1, 99) = 18.71, p < .001$, partial $\eta^2 = .16$. There was no main effect of condition, $F(1, 99) = 3.08, p = .082$, partial $\eta^2 = .03$. While the treatment ($M = 58.52, SD = 10.62$) and DT conditions ($M = 58.17, SD = 10.14$) did not differ at baseline, $t(99) = 0.16, p = .875$, the PSWQ scores of the treated participants ($M = 49.03, SD = 11.13$) were significantly lower than the PSWQ scores of DT participants ($M = 56.46, SD = 9.72$) at four-week follow-up, $t(99) = -3.33, p = .001$.

There was also a significant main effect of measurement point, $F(1, 98) = 16.54, p < .001$, partial $\eta^2 = .14$, on the SHAI. However, there was no main effect of condition, $F(1, 98) = 0.002, p = .969$, partial $\eta^2 < .001$, or condition \times measurement point interaction, $F(1, 98) = 2.87, p = .093$, partial $\eta^2 = .03$. While the SHAI scores decreased from baseline to four-week follow-up, there was no difference between participants who received treatment and participants in the DT condition.

Regarding the PANAS-NA, there was a significant main effect of measurement point, $F(1, 99) = 26.48, p < .001$, partial $\eta^2 = .21$, and a significant condition \times measurement point interaction, $F(1, 99) = 15.36, p < .001$, partial $\eta^2 = .13$. There was no main effect of condition, $F(1, 99) = 2.08, p = .152$, partial $\eta^2 = .02$. While the treatment ($M = 28.32, SD = 7.59$) and DT conditions ($M = 27.37, SD = 8.42$) did not differ at baseline, $t(99) = 0.57, p = .567$, the PANAS-NA scores of the treated participants ($M = 21.35, SD = 7.26$) were significantly lower than the PSWQ scores of DT participants ($M = 26.43, SD = 8.37$) at four-week follow-up, $t(99) = -3.17, p = .002$.

To test the first part of Hypothesis 2, that the treatments would lead to larger decreases in the percentage of participants using medication for worry and anxiety than the delayed treatment control, a Pearson's chi-square was conducted on the percentage of participants using medication

item of the PMUS at four-week follow-up. To test the remaining elements of Hypothesis 2, that the treatments would lead to greater decreases in amounts of medication being used and decreased number of visits to primary care than the delayed treatment control, a 2-between (treatment, DT) \times 2-within (baseline, four-week follow-up) ANOVA was conducted for the change in medication use item of the PMUS, and an independent samples *t*-test was conducted on the number of visits to a primary care physician item of the RGHAS at four-week follow-up. There was no significant difference between the participants reporting that they used medication at four-week follow-up, $\chi^2(1, n = 101) = 1.55, p = .214$. Of the participants in DT, 22.9% reported using a medication, while 34.8% of the participants who were treated reported using a medication at four-week follow-up. For the amount of medication, there was a significant main effect of measurement point, $F(1, 57) = 5.39, p = .025$, partial $\eta^2 = .09$, but no main effect of condition, $F(1, 57) = 1.01, p = .320$, partial $\eta^2 = .02$, or condition \times measurement point interaction, $F(1, 57) = 0.02, p = .881$, partial $\eta^2 < .001$. Treatment had no effect on medication use.

Because the RGHAS visits to primary care item is a frequency item, an ANOVA could not be used because the RGHAS at baseline measures the number of times in the past month, while the RGHAS at four-week follow-up measures the number of times in the past week. Treatment had no effect on the number of visits to primary care at four-week follow-up, $t(99) = 1.49, p = .139$, with treated participants ($M = 0.33, SD = 0.69$) and DT participants ($M = 0.14, SD = .43$) both reporting few visits to primary care at four-week follow-up.

To test Hypothesis 3, that treatment would lead to larger increases on the MRTS and ACES than the DT condition, 2-between (treatment, DT) \times 2-within (baseline, four-week follow-up) ANOVAs were conducted. On the MRTS, there was a significant main effect of

measurement point, $F(1, 98) = 9.62, p = .003$, partial $\eta^2 = .09$. However, there was no main effect of condition, $F(1, 98) = 0.51, p = .479$, partial $\eta^2 = .01$, or condition \times measurement point interaction, $F(1, 98) = 1.64, p = .203$, partial $\eta^2 = .02$. There was no difference in MRTS scores between participants who received treatment and participants in the DT condition, and the average scores of participants decreased from baseline (M treated participants = 23.70, $SD = 7.45$; M DT participants = 21.86, $SD = 6.65$) to four-week follow-up (M treated participants = 21.12, $SD = 7.30$; M DT participants = 20.83, $SD = 7.83$).

For the ACES, on the other hand, there was a significant main effect of measurement point, $F(1, 99) = 8.08, p = .005$, partial $\eta^2 = .07$, and a significant condition \times measurement point interaction, $F(1, 99) = 9.66, p = .002$, partial $\eta^2 = .09$. There was no main effect of condition, $F(1, 99) = 0.22, p = .640$, partial $\eta^2 = .002$. While the treatment ($M = 73.79, SD = 11.74$) and DT conditions ($M = 75.43, SD = 12.84$) did not differ at baseline, $t(99) = -0.65, p = .519$, the ACES scores of the treated participants ($M = 78.92, SD = 9.81$) were higher than the ACES scores of DT participants ($M = 75.20, SD = 11.99$) at four-week follow-up, though not significantly so, $t(99) = 1.68, p = .096$.

Intent-to-treat analyses. As intent-to-treat analyses generally result in less significant findings and lower effect sizes, only the completer analyses that had resulted in a significant main effect of condition or a significant interaction effect were examined using the intent-to-treat analyses. The variables selected included the WAQ, PSWQ, PANAS-NA, and ACES. Therefore, these analyses further tested elements of Hypothesis 1 (that treatment would decrease scores on the WAQ, PSWQ, and PANAS-NA greater than delayed treatment) and Hypothesis 3 (that treatment would increase scores on the ACES greater than delayed treatment).

For scores on the WAQ, there was a significant main effect of measurement point, $F(1, 111) = 60.24, p < .001$, partial $\eta^2 = .35$, and a significant condition \times measurement point interaction, $F(1, 111) = 16.05, p < .001$, partial $\eta^2 = .13$. However, the main effect of condition was not significant, $F(1, 111) = 4.43, p = .038$, partial $\eta^2 = .04$. While the treatment ($M = 51.61, SD = 13.48$) and DT conditions ($M = 50.56, SD = 12.90$) did not differ at baseline, $t(111) = 0.39, p = .695$, the WAQ scores of the treated participants ($M = 32.29, SD = 17.26$) were significantly lower than the WAQ scores of DT participants ($M = 44.39, SD = 16.84$) at four-week follow-up, $t(111) = -3.50, p = .001$ (see Figure 2).

The findings of the PSWQ mirrored those of the WAQ, as there was a significant main effect of measurement point, $F(1, 111) = 32.04, p < .001$, partial $\eta^2 = .22$, and a significant condition \times measurement point interaction, $F(1, 111) = 13.94, p < .001$, partial $\eta^2 = .11$. There was no main effect of condition, $F(1, 111) = 2.95, p = .089$, partial $\eta^2 = .03$. While the treatment ($M = 58.42, SD = 10.23$) and DT conditions ($M = 58.50, SD = 10.18$) did not differ at baseline, $t(111) = -0.04, p = .967$, the PSWQ scores of the treated participants ($M = 50.29, SD = 11.13$) were significantly lower than the PSWQ scores of DT participants ($M = 56.83, SD = 9.84$) at four-week follow-up, $t(111) = -3.02, p = .003$ (see Figure 3).

On the PANAS-NA, in line with the completer analyses results, there was a significant main effect of measurement point, $F(1, 110) = 21.79, p < .001$, partial $\eta^2 = .16$, and a significant condition \times measurement point interaction, $F(1, 110) = 11.53, p = .001$, partial $\eta^2 = .09$, but no main effect of condition, $F(1, 110) = 1.09, p = .299$, partial $\eta^2 = .01$. While the treatment ($M = 28.39, SD = 7.61$) and DT conditions ($M = 27.37, SD = 8.42$) did not differ at baseline, $t(110) = 0.63, p = .527$, the PANAS-NA scores of the treated participants ($M = 22.42, SD = 7.79$) were

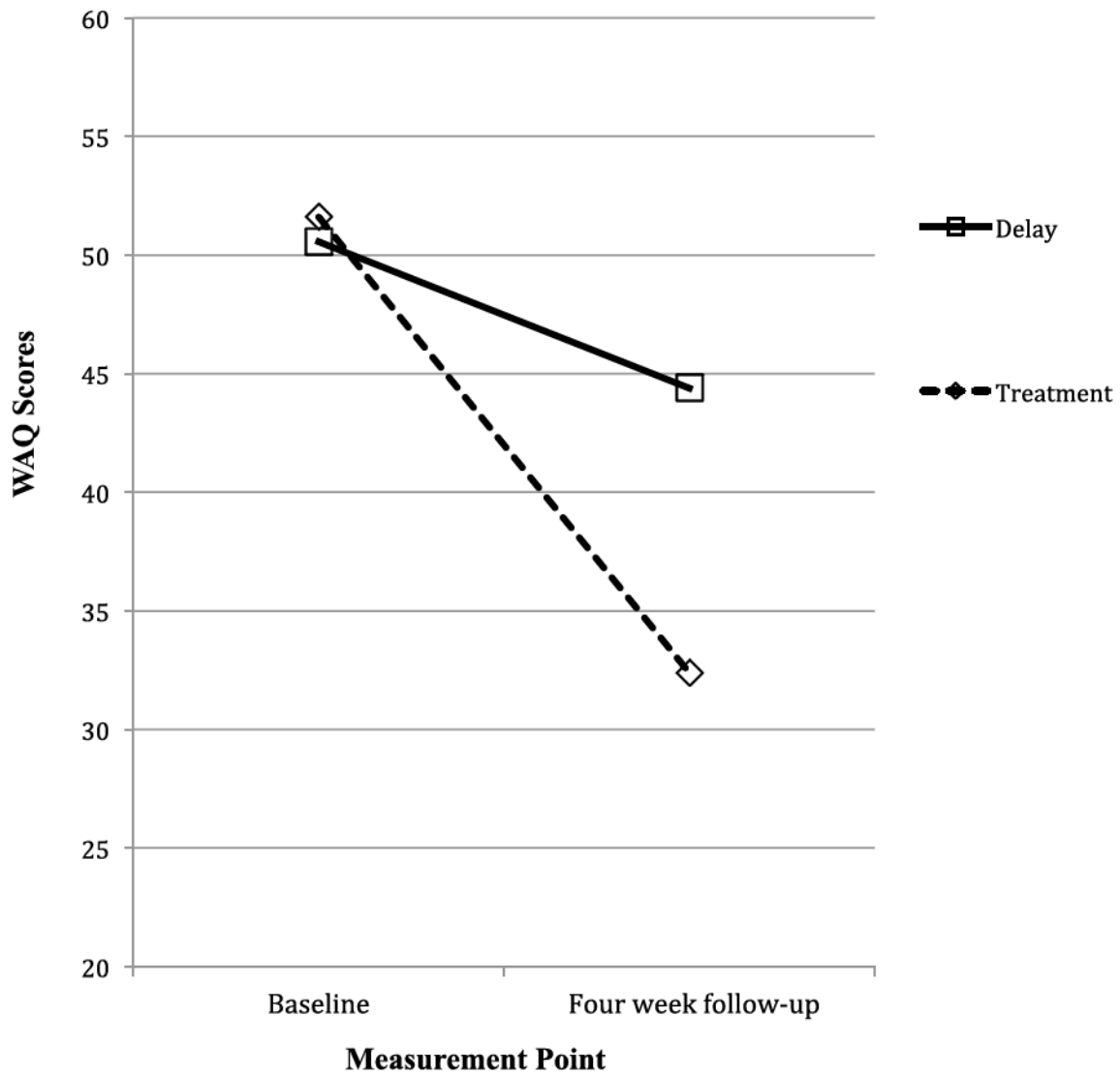


Figure 2. Changes in generalized anxiety disorder symptoms when comparing the delayed treatment condition with treatment conditions. WAQ = Worry and Anxiety Questionnaire; Delay = participants assigned to the Delayed Treatment condition; Treatment = participants assigned to the Cognitive Avoidance Worry Scheduling and Metacognitive Worry Scheduling conditions.

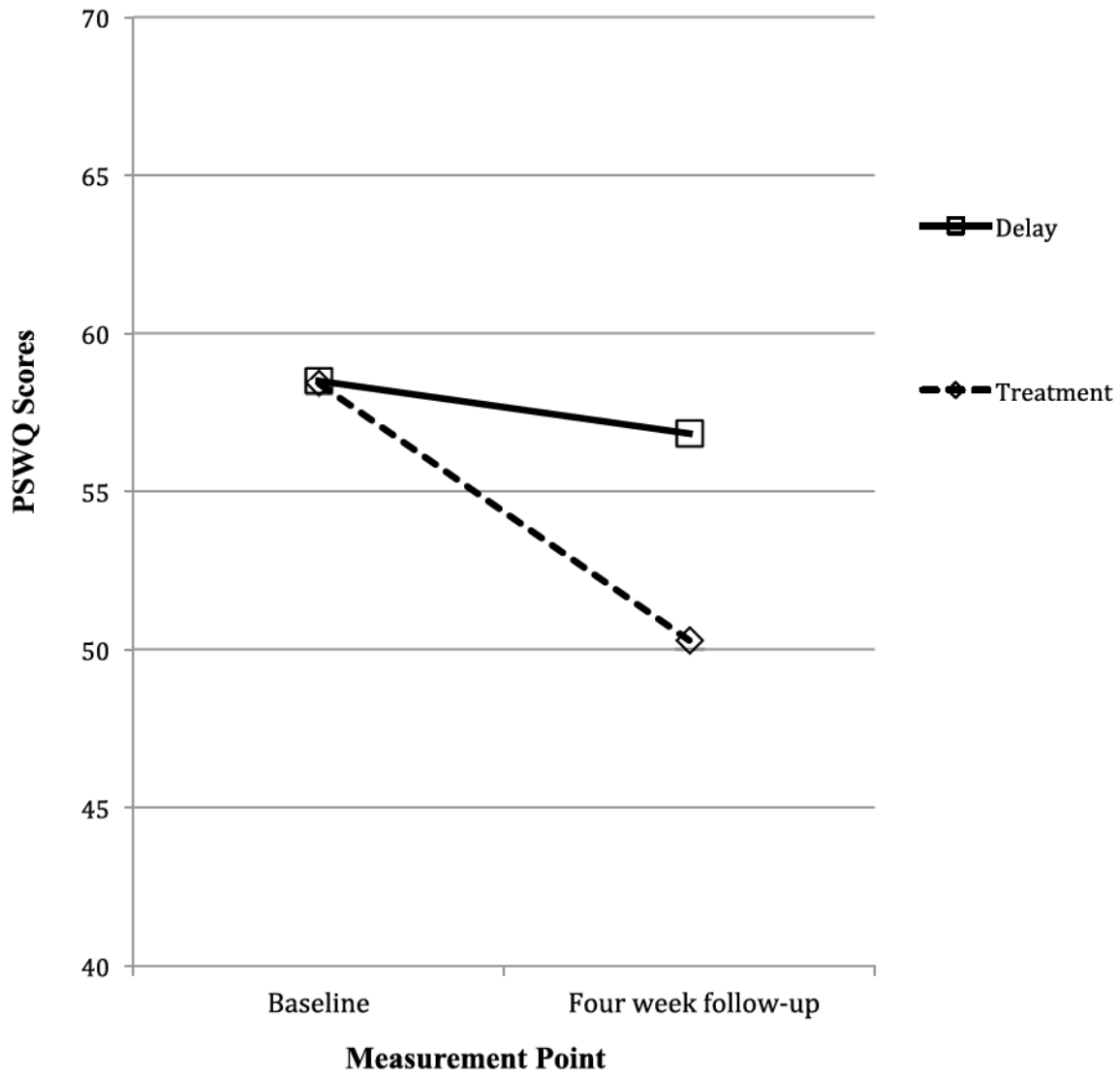


Figure 3. Changes in worry severity when comparing the delayed treatment condition with treatment conditions. PSWQ = Penn State Worry Questionnaire; Delay = participants assigned to the Delayed Treatment condition; Treatment = participants assigned to the Cognitive Avoidance Worry Scheduling and the Metacognitive Worry Scheduling conditions.

significantly lower than the PSWQ scores of DT participants ($M = 26.43$, $SD = 8.37$) at four-week follow-up, $t(110) = -2.47$, $p = .015$ (see Figure 4).

Lastly, on the ACES, there was a significant main effect of measurement point, $F(1, 111) = 6.80$, $p = .010$, partial $\eta^2 = .06$, and a significant condition \times measurement point interaction, $F(1, 111) = 8.32$, $p = .005$, partial $\eta^2 = .07$. There was no main effect of condition, $F(1, 110) = 0.11$, $p = .743$, partial $\eta^2 = .001$. As found with the completer analyses, while the treatment ($M = 73.61$, $SD = 12.56$) and DT conditions ($M = 75.17$, $SD = 12.76$) did not differ at baseline, $t(111) = -0.61$, $p = .543$, the ACES scores of the treated participants ($M = 78.01$, $SD = 11.27$) were higher than the ACES scores of DT participants ($M = 74.94$, $SD = 11.92$) at four-week follow-up, though not significantly so, $t(111) = 1.32$, $p = .188$.

Comparison of CAWS to MWS

Completer analyses.

Baseline to four weeks post-treatment. The baseline data for comparing the CAWS and MWS included data collected at the first appointment of the participants who were randomized to either CAWS or MWS for their first appointment, and the data collected at four-week follow-up for participants who were randomly assigned to DT, since the DT participants received treatment at the first follow-up. Before examining changes on the primary outcome measures between the CAWS and MWS, changes in the percentage of participants meeting criteria for GAD were examined. Again, it had been determined *a priori* that significant differences were not anticipated, so significance tests were not conducted. For the CAWS participants, the percentage meeting criteria for GAD decreased from 54.4% at baseline to 4.2% at four-week post-treatment. For the MWS participants, the percentage meeting criteria for GAD decreased from 65.5% at baseline to 12.8% at four-week post-treatment. Further, the average number of

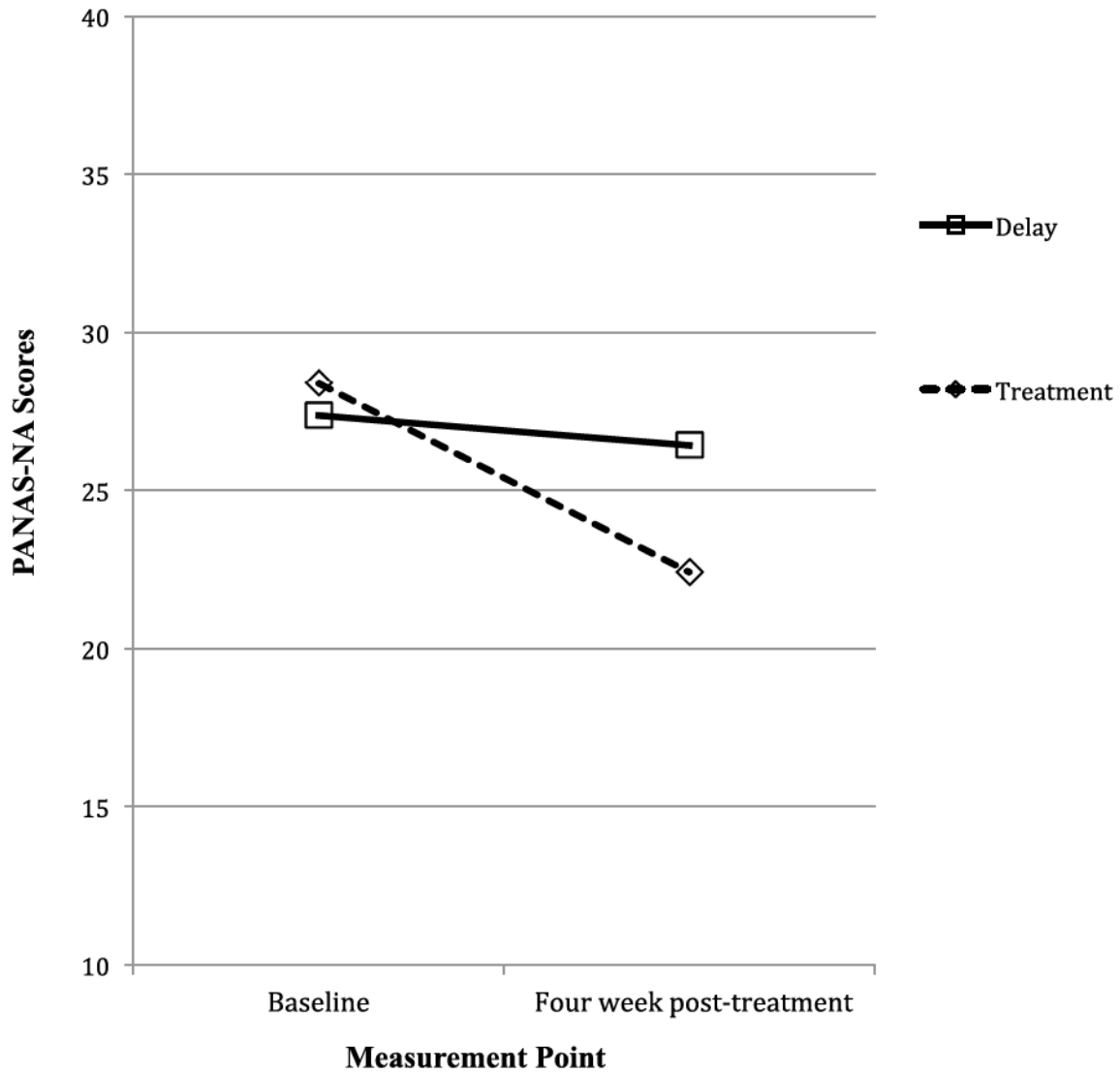


Figure 4. Changes in negative affect when comparing the delayed treatment condition with treatment conditions. PANAS-NA = Positive and Negative Affect Schedule – Negative affect subscale; Delay = participants assigned to the Delayed Treatment condition; Treatment = participants assigned to the Cognitive Avoidance Worry Scheduling and the Metacognitive Worry Scheduling conditions.

current diagnoses decreased from 1.39 ($SD = 1.39$) at baseline to 0.21 ($SD = 0.65$) at four-week post-treatment for CAWS participants, while going from 1.55 ($SD = 1.36$) at baseline to 0.49 ($SD = 0.88$) at four-week post-treatment for MWS participants.

Prior to univariate analyses, a 2-between (CAWS, MWS) \times 2-within (baseline, four-week post-treatment) MANOVA with the following dependent measures was conducted: the WAQ, the PSWQ, the PANAS-PA, the MCQ-30 subscales, the MWQ, the CAQ, and the BFNE. Since the omnibus F value of Wilk's criterion was significant, $F(22, 70) = 355.03, p < .001$, the univariate analyses were conducted. For analyses where no significant difference was found between the treatments, the mean scores (and standard deviations) presented are for all participants who received treatment.

To test Hypothesis 4, that the MWS treatment would lead to larger decreases on the WAQ and PSWQ than the CAWS condition after four weeks, 2-between (CAWS, MWS) \times 2-within (baseline, four-week post-treatment) ANOVAs were conducted. For the WAQ, there was a significant main effect of measurement point, $F(1, 95) = 135.43, p < .001$, partial $\eta^2 = .58$. However, there was no main effect of condition, $F(1, 95) = 0.001, p = .975$, partial $\eta^2 < .001$, and no condition \times measurement point interaction, $F(1, 95) = 0.99, p = .321$, partial $\eta^2 = .01$. While the treatments were not significantly different, the WAQ scores of participants significantly decreased from baseline ($M = 48.91, SD = 15.34$) to four-week post-treatment ($M = 28.41, SD = 16.35$), $t(96) = 11.78, p < .001$.

The same results were found on the PSWQ. There was a significant main effect of measurement point, $F(1, 95) = 86.73, p < .001$, partial $\eta^2 = .48$, but there was no main effect of condition, $F(1, 95) = 0.08, p = .778$, partial $\eta^2 = .001$, and no condition \times measurement point interaction, $F(1, 95) = 0.27, p = .605$, partial $\eta^2 = .003$. While the treatments were not

significantly different, the PSWQ scores of participants significantly decreased from baseline ($M = 57.72$, $SD = 10.34$) to four-week post-treatment ($M = 48.72$, $SD = 10.86$), $t(96) = 9.44$, $p < .001$.

To test Hypothesis 5, that the MWS would lead to larger decreases on the MCQ-30, MWQ, CAQ, and BFNE than the CAWS after four weeks, 2-between (CAWS, MWS) \times 2-within (baseline, four-week post-treatment) ANOVAs were conducted. On the positive beliefs of worry subscale of the MCQ-30, there was no main effect of measurement point, $F(1, 94) = 0.49$, $p = .487$, partial $\eta^2 = .005$, no main effect of condition, $F(1, 94) = 0.62$, $p = .434$, partial $\eta^2 = .007$, and no condition \times measurement point interaction, $F(1, 94) = 0.007$, $p = .934$, partial $\eta^2 < .001$. The positive beliefs of worry scores did not significantly change from baseline ($M = 10.56$, $SD = 4.45$) to four-week post-treatment ($M = 10.30$, $SD = 4.63$).

The treatments did decrease the negative beliefs about worry. On the negative beliefs of worry subscale of the MCQ-30, there was a significant main effect of measurement point, $F(1, 94) = 82.30$, $p < .001$, partial $\eta^2 = .47$. However, there was no main effect of condition, $F(1, 94) = 0.40$, $p = .527$, partial $\eta^2 = .004$, and no condition \times measurement point interaction, $F(1, 94) = 1.07$, $p = .304$, partial $\eta^2 = .01$. The negative beliefs of worry scores significantly decreased from baseline ($M = 15.52$, $SD = 4.45$) to four-week post-treatment ($M = 11.95$, $SD = 4.34$), $t(95) = 9.19$, $p < .001$, although the treatments were not significantly different.

The treatments also decreased scores on the need to control thoughts subscale of the MCQ-30, as there was a significant main effect of measurement point, $F(1, 94) = 18.62$, $p < .001$, partial $\eta^2 = .16$. There was no main effect of condition, $F(1, 94) = 1.11$, $p = .295$, partial $\eta^2 = .01$, and no condition \times measurement point interaction, $F(1, 94) = 1.23$, $p = .270$, partial $\eta^2 = .01$. Again, although the treatments were not significantly different, the need to control

thoughts scores significantly decreased from baseline ($M = 11.22$, $SD = 3.48$) to four-week post-treatment ($M = 9.97$, $SD = 3.38$), $t(95) = 4.42$, $p < .001$.

A different pattern of results were produced on the MCQ-30 lack of cognitive confidence subscale, as there was a significant main effect of condition, $F(1, 94) = 5.74$, $p = .019$, partial $\eta^2 = .06$. However, there was no main effect of measurement point, $F(1, 94) = 1.21$, $p = .274$, partial $\eta^2 = .01$, and no condition \times measurement point interaction, $F(1, 94) = 2.47$, $p = .119$, partial $\eta^2 = .03$. Although the treatments did not significantly decrease the lack of cognitive confidence, CAWS participants ($M = 12.84$, $SD = 4.85$) reported a significantly higher lack of cognitive confidence at baseline than the MWS participants ($M = 10.50$, $SD = 4.69$), $t(109) = 2.58$, $p = .011$. At four-week post-treatment, no significant difference was found between the CAWS participants ($M = 11.91$, $SD = 4.87$) and the MWS participants ($M = 10.27$, $SD = 4.46$), $t(95) = 1.71$, $p = .091$.

Regarding the MCQ-30 cognitive self-consciousness scale, there was a significant main effect of measurement point, $F(1, 94) = 13.03$, $p < .001$, partial $\eta^2 = .12$, but there was no main effect of condition, $F(1, 94) = 0.07$, $p = .788$, partial $\eta^2 = .001$, and no condition \times measurement point interaction, $F(1, 95) = 2.71$, $p = .103$, partial $\eta^2 = .03$. While the treatments were not significantly different, the cognitive self-consciousness scores of participants significantly decreased from baseline ($M = 16.01$, $SD = 4.23$) to four-week post-treatment ($M = 14.67$, $SD = 4.66$), $t(95) = 3.73$, $p < .001$.

Moving on to the MWQ, there was a significant main effect of measurement point, $F(1, 95) = 57.93$, $p < .001$, partial $\eta^2 = .38$. However, there was no main effect of condition, $F(1, 95) = 0.46$, $p = .501$, partial $\eta^2 = .005$, and no condition \times measurement point interaction, $F(1, 95) = 0.68$, $p = .413$, partial $\eta^2 = .007$. The MWQ scores of participants significantly decreased from

baseline ($M = 15.86$, $SD = 5.00$) to four-week post-treatment ($M = 12.43$, $SD = 4.38$), $t(96) = 7.73$, $p < .001$, although the treatments did not significantly differ.

The same pattern of results was found on the CAQ. There was a significant main effect of measurement point, $F(1, 92) = 17.29$, $p < .001$, partial $\eta^2 = .16$, but there was no main effect of condition, $F(1, 92) = 1.78$, $p = .186$, partial $\eta^2 = .02$, and no condition \times measurement point interaction, $F(1, 92) = 0.17$, $p = .677$, partial $\eta^2 = .002$. The treatments did not significantly differ. The CAQ scores of participants significantly decreased from baseline ($M = 66.11$, $SD = 20.22$) to four-week post-treatment ($M = 58.07$, $SD = 17.51$), $t(93) = 4.23$, $p < .001$.

There was a significant main effect of measurement point, $F(1, 95) = 24.17$, $p < .001$, partial $\eta^2 = .20$, on the BFNE as well. However, there was no main effect of condition, $F(1, 95) = 1.27$, $p = .262$, partial $\eta^2 = .01$, and no condition \times measurement point interaction, $F(1, 95) = 1.41$, $p = .237$, partial $\eta^2 = .01$. While the treatments did not significantly differ, the BFNE scores of participants significantly decreased from baseline ($M = 43.81$, $SD = 10.46$) to four-week post-treatment ($M = 40.32$, $SD = 9.93$), $t(96) = 5.04$, $p < .001$.

To test Hypothesis 6, that the CAWS would lead to larger increases on the PANAS-PA than the MWS after four weeks, a 2-between (CAWS, MWS) \times 2-within (baseline, four-week post-treatment) ANOVA were conducted. The PANAS-PA scores provided a unique set of findings. There was a significant main effect of measurement point, $F(1, 94) = 7.72$, $p = .007$, partial $\eta^2 = .08$, and a significant main effect of condition, $F(1, 94) = 6.09$, $p = .015$, partial $\eta^2 = .06$, but no condition \times measurement point interaction, $F(1, 94) = 0.28$, $p = .594$, partial $\eta^2 = .003$. The PANAS-PA scores significantly increased from baseline ($M = 28.89$, $SD = 8.11$) to four-week post-treatment ($M = 30.74$, $SD = 7.41$) for participants, $t(95) = 2.75$, $p = .007$. While there was a significant main effect of condition, the PANAS-PA scores of the CAWS

participants ($M = 30.14$, $SD = 9.11$) were not significantly different from the PANAS-PA scores of the MWS participants ($M = 27.53$, $SD = 7.55$) at baseline, $t(111) = 1.65$, $p = .101$. The PANAS-PA scores of the CAWS participants ($M = 30.14$, $SD = 9.11$) also did not significantly differ from the scores of the MWS participants ($M = 27.53$, $SD = 7.55$) at four-week post-treatment, $t(94) = 2.09$, $p = .039$.

Four weeks to four months post-treatment. Changes in the percentage of participants meeting criteria for GAD from four-week post-treatment to four-month post-treatment were examined prior to conducting analyses on the dimensional measures. For the CAWS participants, the percentage meeting criteria for GAD increased from 4.2% at four-week post-treatment to 11.4% at four-month post-treatment. For the MWS participants, the percentage meeting criteria for GAD increased from 7.7% at four-week post-treatment to 12.8% at four-month post-treatment. Further, the average number of current diagnoses increased from 0.21 ($SD = 0.65$) at four-week post-treatment to 0.46 ($SD = 0.89$) at four-month post-treatment for CAWS participants, while going from 0.49 ($SD = 0.88$) at four-week post-treatment to 0.46 ($SD = 1.10$) at four-month post-treatment for MWS participants.

As previously done, a 2-between (CAWS, MWS) \times 2-within (four-week post-treatment, four-month post-treatment) MANOVA with the following dependent measures was conducted prior to univariate analyses: the WAQ, the PSWQ, the PANAS-PA, the MCQ-30 subscales, the MWQ, the CAQ, and the BFNE. Since the omnibus F value of Wilk's criterion was significant, $F(22, 59) = 270.62$, $p < .001$, the univariate analyses were conducted. For analyses where no significant difference was found between the treatments, the mean scores (and standard deviations) are presented for all participants.

To further test Hypothesis 4, that the MWS treatment would lead to larger decreases on the WAQ and PSWQ than the CAWS condition after four months, 2-between (CAWS, MWS) \times 2-within (four-week post-treatment, four-month post-treatment) ANOVAs were conducted. For the WAQ, there was no main effect of measurement point, $F(1, 84) = 1.31, p = .255$, partial $\eta^2 = .01$, no main effect of condition, $F(1, 84) = 1.02, p = .314$, partial $\eta^2 = .01$, and no condition \times measurement point interaction, $F(1, 84) = 0.27, p = .603$, partial $\eta^2 = .003$. The treatments were not significantly different, and the WAQ scores of participants did not significantly change from four-week post-treatment ($M = 28.85, SD = 16.46$) to four-month post-treatment ($M = 30.70, SD = 17.26$).

There were also no significant effects found on the PSWQ. There was no main effect of measurement point, $F(1, 84) = 1.01, p = .318$, partial $\eta^2 = .01$, no main effect of condition, $F(1, 84) = 1.17, p = .283$, partial $\eta^2 = .01$, and no condition \times measurement point interaction, $F(1, 84) = 0.08, p = .781$, partial $\eta^2 = .001$. The PSWQ scores of participants did not significantly change from four-week post-treatment ($M = 49.00, SD = 11.24$) to four-month post-treatment ($M = 47.87, SD = 11.71$), and there was no difference between treatments.

To test the second half of Hypothesis 5, that the MWS would lead to larger decreases on the MCQ-30, MWQ, CAQ, and BFNE than the CAWS after four months, 2-between (CAWS, MWS) \times 2-within (four-week post-treatment, four-month post-treatment) ANOVAs were conducted. On the positive beliefs of worry subscale of the MCQ-30, there was no main effect of measurement point, $F(1, 84) = 2.10, p = .151$, partial $\eta^2 = .02$, no main effect of condition, $F(1, 84) = 0.15, p = .700$, partial $\eta^2 = .002$, and no condition \times measurement point interaction, $F(1, 84) = 0.12, p = .728$, partial $\eta^2 = .001$. Positive beliefs of worry scores did not significantly

change from four-week post-treatment ($M = 10.71$, $SD = 4.73$) to four-month post-treatment ($M = 10.26$, $SD = 3.94$).

Scores on the negative beliefs subscale of the MCQ-30 also did not change between four-week post-treatment and four-month post-treatment. On the negative beliefs of worry subscale, there was no main effect of measurement point, $F(1, 84) = 2.03$, $p = .157$, partial $\eta^2 = .02$, no main effect of condition, $F(1, 84) = 0.21$, $p = .648$, partial $\eta^2 = .002$, and no condition \times measurement point interaction, $F(1, 84) = 0.03$, $p = .863$, partial $\eta^2 < .001$. In addition to no difference between the CAWS and MWS, the negative beliefs of worry scores of the MCQ-30 did not significantly differ from four-week post-treatment ($M = 12.08$, $SD = 4.37$) to four-month post-treatment ($M = 11.53$, $SD = 4.18$).

On the need to control thoughts subscale of the MCQ-30, there was no main effect of measurement point, $F(1, 84) = 0.04$, $p = .847$, partial $\eta^2 < .001$, and no main effect of condition, $F(1, 84) = 0.12$, $p = .729$, partial $\eta^2 = .001$. There was also no condition \times measurement point interaction, $F(1, 84) = 1.83$, $p = .180$, partial $\eta^2 = .02$. The need to control thoughts scores did not significantly differ from four-week post-treatment ($M = 10.09$, $SD = 3.37$) to four-month post-treatment ($M = 10.10$, $SD = 3.24$).

This pattern of results continued with the MCQ-30 lack of cognitive confidence subscale. There was no main effect of measurement point, $F(1, 84) = 0.05$, $p = .828$, partial $\eta^2 = .001$, no main effect of condition, $F(1, 84) = 1.88$, $p = .174$, partial $\eta^2 = .02$, and no condition \times measurement point interaction, $F(1, 84) = 0.25$, $p = .621$, partial $\eta^2 = .003$. The lack of cognitive confidence scores did not significantly change from four-week post-treatment ($M = 11.23$, $SD = 4.61$) to four-month post-treatment ($M = 11.34$, $SD = 4.89$).

For the MCQ-30 cognitive self-consciousness scale, there was a significant main effect of measurement point, $F(1, 84) = 6.54, p = .012, \text{partial } \eta^2 = .07$. However, there was no main effect of condition, $F(1, 84) = 0.67, p = .415, \text{partial } \eta^2 = .008$, and no condition \times measurement point interaction, $F(1, 84) = 0.01, p = .917, \text{partial } \eta^2 < .001$. While the treatments were not significantly different, the cognitive self-consciousness scores of participants significantly decreased from four-week post-treatment ($M = 14.79, SD = 4.59$) to four-month post-treatment ($M = 13.87, SD = 4.45$), $t(85) = 2.60, p = .011$.

Moving on to the MWQ, the pattern of non-significant findings returned. There was a no main effect of measurement point, $F(1, 84) = 0.55, p = .460, \text{partial } \eta^2 = .01$, no main effect of condition, $F(1, 84) = 0.001, p = .979, \text{partial } \eta^2 < .001$, and no condition \times measurement point interaction, $F(1, 84) = 0.02, p = .880, \text{partial } \eta^2 < .001$. From four-week post-treatment ($M = 12.58, SD = 4.36$) to four-month post-treatment ($M = 12.21, SD = 4.69$) the MWQ scores did not significantly change, and no difference between treatments was found.

The same pattern of results was found on the CAQ. There was no main effect of measurement point, $F(1, 82) = 0.01, p = .919, \text{partial } \eta^2 < .001$. There was also no main effect of condition, $F(1, 82) = 1.48, p = .227, \text{partial } \eta^2 = .02$, and no condition \times measurement point interaction, $F(1, 82) = 0.10, p = .749, \text{partial } \eta^2 = .001$. The CAQ scores of participants did not significantly differ from four-week post-treatment ($M = 58.24, SD = 17.01$) to four-month post-treatment ($M = 58.36, SD = 19.08$).

The scores on the BFNE produced the only significant main effect of condition, $F(1, 83) = 5.59, p = .020, \text{partial } \eta^2 = .06$, in this set of analyses. Again however, there was no main effect of measurement point, $F(1, 83) = 0.22, p = .640, \text{partial } \eta^2 = .01$, and no condition \times measurement point interaction, $F(1, 83) = 0.29, p = .594, \text{partial } \eta^2 = .003$. The BFNE scores of

participants did not significantly change from four-week post-treatment ($M = 40.91$, $SD = 10.12$) to four-month post-treatment ($M = 40.48$, $SD = 12.01$). In addition, although there was a main effect of condition, the BFNE scores of CAWS participants ($M = 38.94$, $SD = 9.33$) and MWS participants ($M = 41.98$, $SD = 10.47$) did not significantly differ at four-week post-treatment, $t(95) = -1.51$, $p = .135$, nor did the BFNE scores of CAWS participants ($M = 37.94$, $SD = 11.94$) and MWS participants ($M = 43.63$, $SD = 11.48$) significantly differ at four-month post-treatment, $t(83) = -2.22$, $p = .029$.

To test the second part of Hypothesis 6, that the CAWS would lead to larger increases on the PANAS-PA than the MWS after four months, a 2-between (CAWS, MWS) \times 2-within (four-week post-treatment), four-month post-treatment ANOVA were conducted. There was no main effect of measurement point, $F(1, 83) = 0.02$, $p = .886$, partial $\eta^2 < .001$, no main effect of condition, $F(1, 83) = 4.27$, $p = .042$, partial $\eta^2 = .05$, and no condition \times measurement point interaction, $F(1, 83) = 0.45$, $p = .502$, partial $\eta^2 = .005$, on the PANAS-PA. The PANAS-PA scores did not significantly change from four-week post-treatment ($M = 31.04$, $SD = 7.19$) to four-month post-treatment ($M = 30.99$, $SD = 8.47$).

Intent-to-treat analyses. As previously discussed, because intent-to-treat analyses tend to result in less significant findings and lower effect sizes, the only intent-to-treat analyses that were conducted focused on the completer analyses that had resulted in a significant main effect of measurement point or significant main effect of condition. For the baseline to four-week post-treatment analyses the variables selected included the WAQ, the PSWQ, all of the MCQ-30 subscales except for the positive beliefs about worry subscale, the WAQ, the CAQ, the BFNE, and the PANAS-PA. For the four-week to four-month post-treatment analyses the variables selected included the MCQ-30 cognitive self-consciousness subscale and the BFNE. Therefore,

these analyses further tested elements of Hypothesis 4 (that the MWS would decrease scores on the WAQ and PSWQ greater than the CAWS), Hypothesis 5 (that the MWS would decrease scores on the MCQ-30 subscales, the WAQ, the CAQ, and the BFNE greater than the CAWS), and Hypothesis 6 (that the CAWS would increase scores on the PANAS-PA greater than the MWS).

Baseline to four weeks post-treatment. On the WAQ, there was a significant main effect of measurement point, $F(1, 111) = 116.07, p < .001$, partial $\eta^2 = .51$. However, as found in the completer analyses, there was no main effect of condition, $F(1, 111) = 0.09, p = .760$, partial $\eta^2 = .001$, and no condition \times measurement point interaction, $F(1, 111) = 2.65, p = .106$, partial $\eta^2 = .02$. While the treatments were not significantly different, the WAQ scores of participants significantly decreased from baseline ($M = 49.33, SD = 14.95$) to four-week post-treatment ($M = 31.73, SD = 17.82$), $t(112) = 10.74, p < .001$ (see Figure 5).

The intent-to-treat results also mirrored the completer results for the PSWQ. There was a significant main effect of measurement point, $F(1, 111) = 78.40, p < .001$, partial $\eta^2 = .41$, but there was no main effect of condition, $F(1, 111) = 0.82, p = .368$, partial $\eta^2 = .007$, and no condition \times measurement point interaction, $F(1, 111) = 1.61, p = .284$, partial $\eta^2 = .01$. While the treatments were not significantly different, the PSWQ scores of participants significantly decreased from baseline ($M = 57.87, SD = 10.05$) to four-week post-treatment ($M = 50.14, SD = 11.08$), $t(112) = 8.88, p < .001$ (see Figure 6).

The same pattern was also found for the negative beliefs about worry subscale. On the negative beliefs of worry subscale of the MCQ-30, there was a significant main effect of measurement point, $F(1, 110) = 75.44, p < .001$, partial $\eta^2 = .41$. However, there was no main effect of condition, $F(1, 110) = 0.16, p = .688$, partial $\eta^2 = .001$, and no condition \times

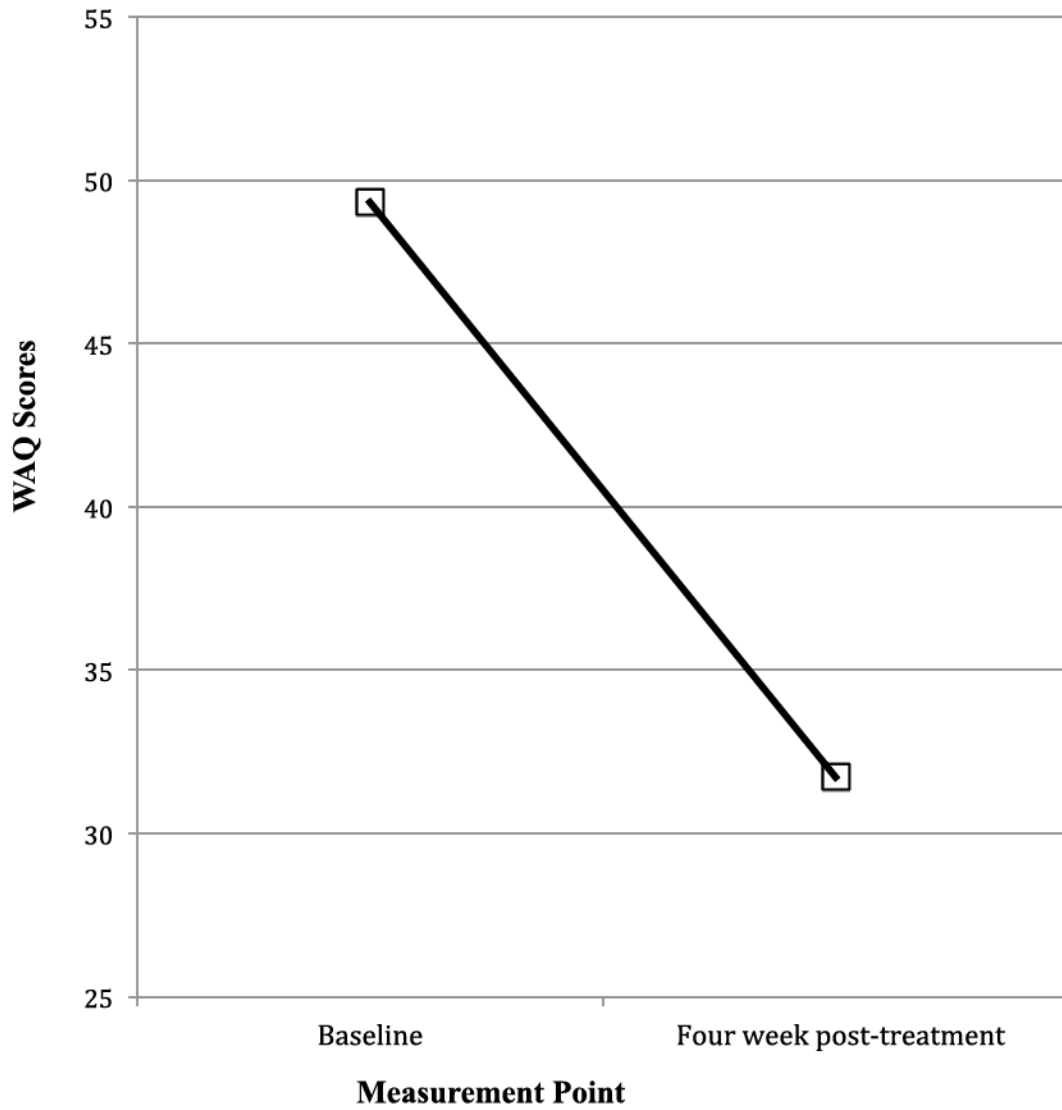


Figure 5. Changes in generalized anxiety disorder symptoms due to treatment. WAQ = Worry and Anxiety Questionnaire.

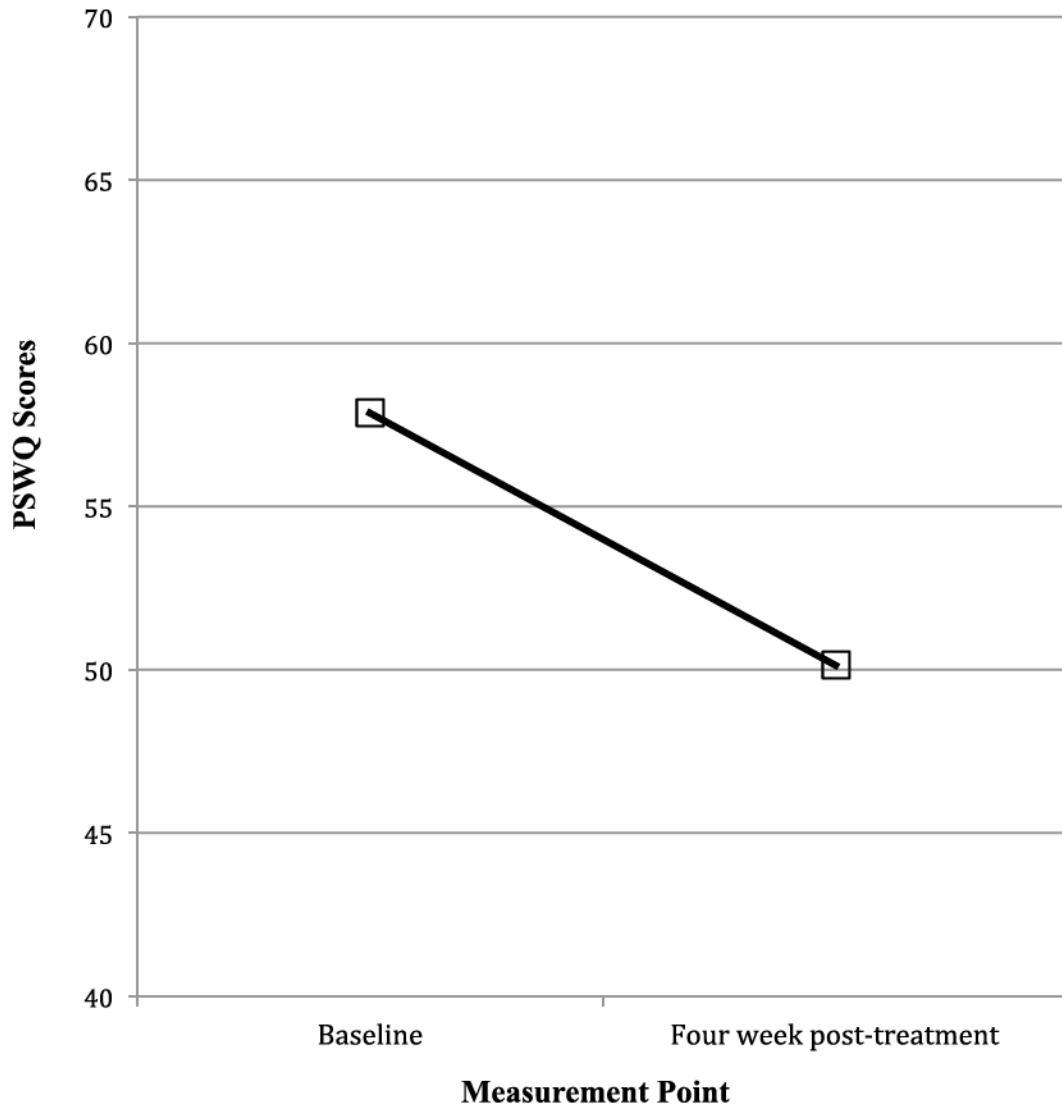


Figure 6. Changes in worry severity due to treatment. PSWQ = Penn State Worry Questionnaire.

measurement point interaction, $F(1, 110) = 2.39, p = .125$, partial $\eta^2 = .02$. Although the treatments were not significantly different, the negative beliefs of worry scores significantly decreased from baseline ($M = 15.39, SD = 4.35$) to four-week post-treatment ($M = 12.33, SD = 4.35$), $t(111) = 8.66, p < .001$ (see Figure 7).

The treatments also decreased scores on the need to control thoughts subscale of the MCQ-30, as there was a significant main effect of measurement point, $F(1, 110) = 18.93, p < .001$, partial $\eta^2 = .15$. There was no main effect of condition, $F(1, 110) = 0.41, p = .525$, partial $\eta^2 = .004$, and no condition \times measurement point interaction, $F(1, 110) = 1.91, p = .170$, partial $\eta^2 = .02$. As was found in the completer analyses, although the treatments were not significantly different, the need to control thoughts scores significantly decreased from baseline ($M = 11.37, SD = 3.69$) to four-week post-treatment ($M = 10.29, SD = 3.68$), $t(111) = 4.35, p < .001$ (see Figure 7).

Although the completer analyses found a significant main effect of condition on the MCQ-30 lack of confidence subscale, with the intent-to-treat analyses there was no main effect of condition, $F(1, 109) = 4.71, p = .032$, partial $\eta^2 = .04$. There was also no main effect of measurement point, $F(1, 109) = 1.42, p = .236$, partial $\eta^2 = .01$, and no condition \times measurement point interaction, $F(1, 109) = 2.68, p = .105$, partial $\eta^2 = .02$. The treatments did not significantly decrease the lack of cognitive confidence from baseline ($M = 11.70, SD = 4.89$) to four-week post-treatment ($M = 11.34, SD = 4.81$).

Regarding the MCQ-30 cognitive self-consciousness scale, there was a significant main effect of measurement point, $F(1, 110) = 13.68, p < .001$, partial $\eta^2 = .11$, but there was no main effect of condition, $F(1, 110) = 0.02, p = .877$, partial $\eta^2 < .001$, and no condition \times measurement point interaction, $F(1, 110) = 3.51, p = .064$, partial $\eta^2 = .03$, as was found with

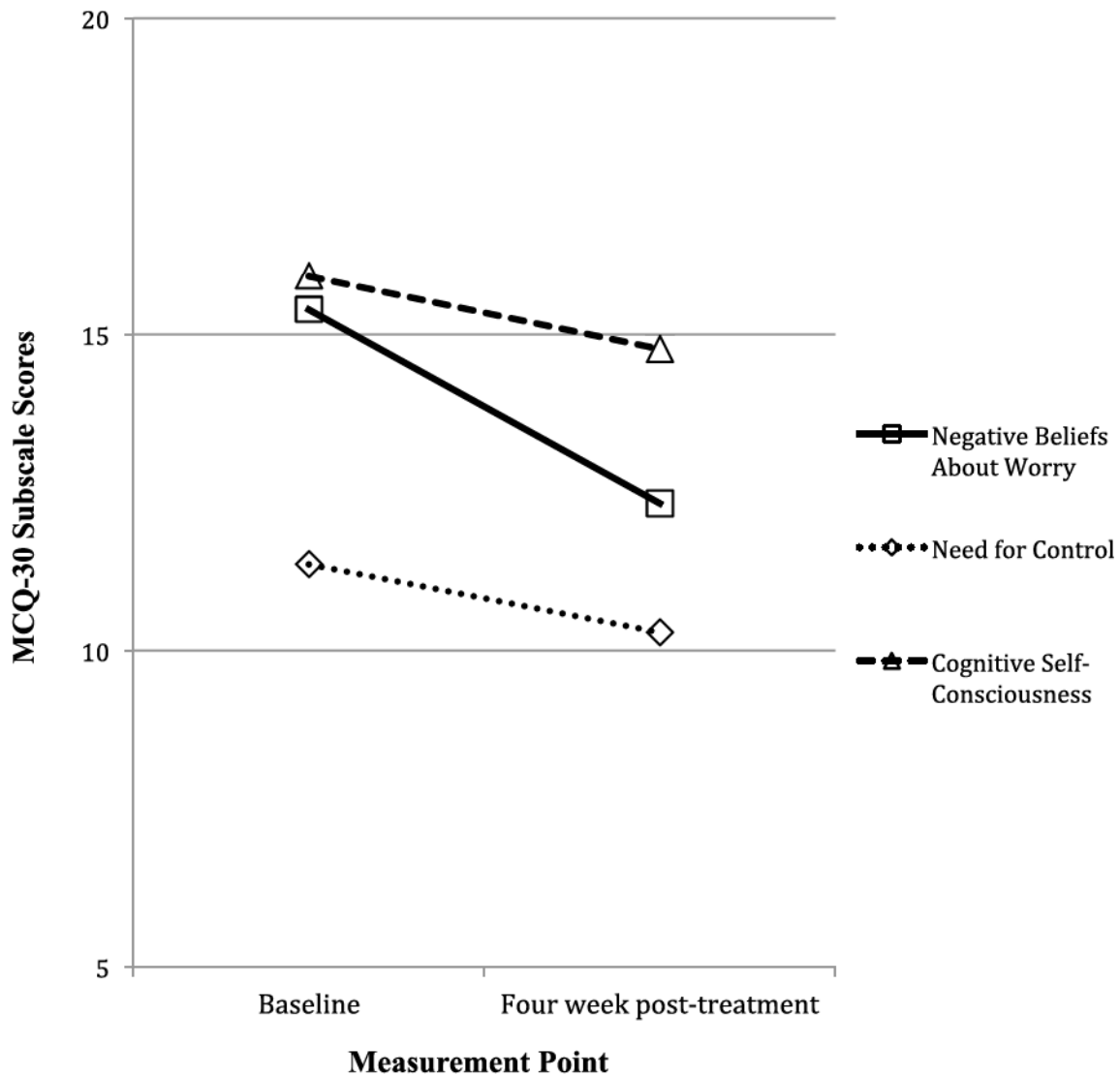


Figure 7. Changes in negative metacognitions due to treatment. Only subscales that had significant main effects are shown. MCQ-30 = Metacognitions Questionnaire-30; Negative Beliefs About Worry = Negative beliefs about worry subscale; Need for Control = Need to control thoughts subscale; Cognitive Self-Consciousness = Cognitive self-consciousness subscale.

the completer analyses. While the treatments were not significantly different, the cognitive self-consciousness scores of participants significantly decreased from baseline ($M = 15.92$, $SD = 4.48$) to four-week post-treatment ($M = 14.77$, $SD = 4.83$), $t(95) = 3.69$, $p < .001$ (see Figure 7).

For the MWQ, as was found with the completer analyses, there was a significant main effect of measurement point, $F(1, 111) = 54.82$, $p < .001$, partial $\eta^2 = .33$. However, there was no main effect of condition, $F(1, 111) = 0.05$, $p = .828$, partial $\eta^2 < .001$, and no condition \times measurement point interaction, $F(1, 111) = 1.65$, $p = .202$, partial $\eta^2 = .01$. The MWQ scores of participants significantly decreased from baseline ($M = 15.88$, $SD = 4.88$) to four-week post-treatment ($M = 12.94$, $SD = 4.52$), $t(112) = 7.42$, $p < .001$, although the treatments did not significantly differ (see Figure 8).

The CAQ intent-to-treat analyses results also mirrored the CAQ completer analyses results. There was a significant main effect of measurement point, $F(1, 108) = 17.22$, $p < .001$, partial $\eta^2 = .14$, but there was no main effect of condition, $F(1, 108) = 0.25$, $p = .620$, partial $\eta^2 = .002$, and no condition \times measurement point interaction, $F(1, 108) = 0.47$, $p = .491$, partial $\eta^2 = .004$. The treatments did not significantly differ. The CAQ scores of participants significantly decreased from baseline ($M = 66.64$, $SD = 20.18$) to four-week post-treatment ($M = 59.77$, $SD = 18.31$), $t(109) = 4.17$, $p < .001$ (see Figure 9).

On the BFNE there was a significant main effect of measurement point, $F(1, 111) = 24.36$, $p < .001$, partial $\eta^2 = .18$. Aligning with the completer analyses, there was no main effect of condition, $F(1, 111) = 0.84$, $p = .363$, partial $\eta^2 = .007$, and no condition \times measurement point interaction, $F(1, 111) = 2.24$, $p = .137$, partial $\eta^2 = .02$. While the treatments did not differ, the BFNE scores of participants significantly decreased from baseline ($M = 43.65$, $SD = 10.50$) to four-week post-treatment ($M = 40.65$, $SD = 10.07$), $t(112) = 4.95$, $p < .001$ (see Figure 10).

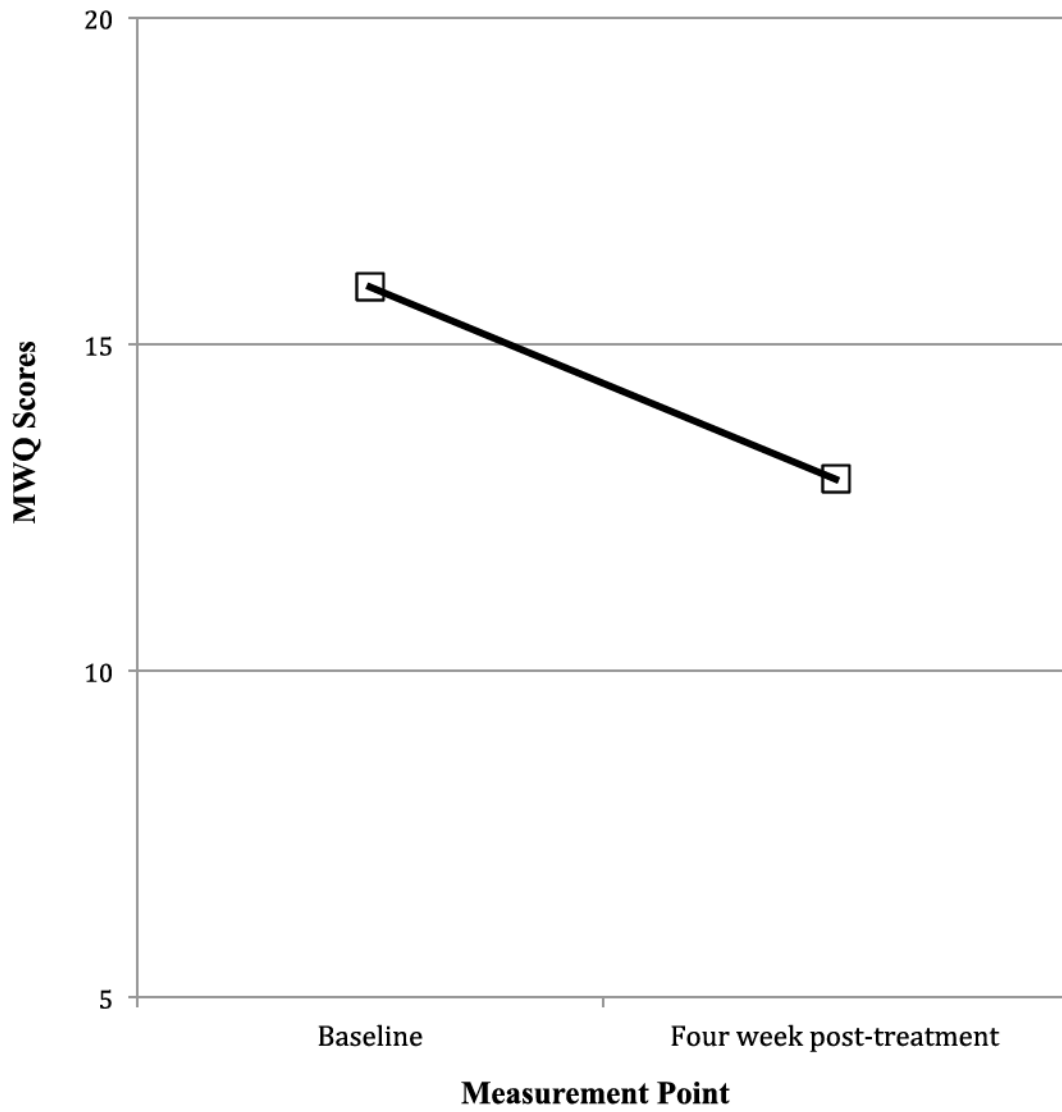


Figure 8. Changes in meta-worry due to treatment. MWQ = Meta-Worry Questionnaire.

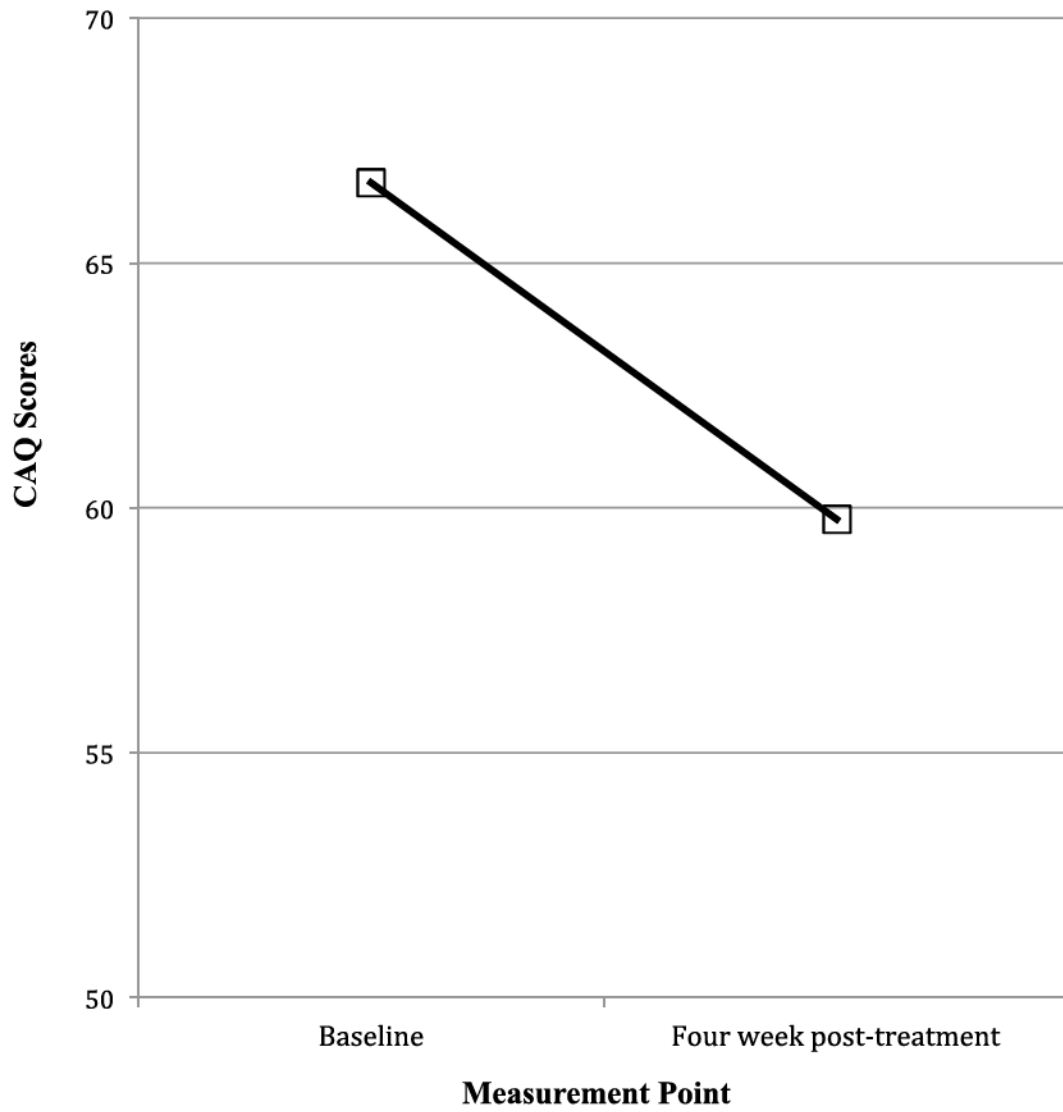


Figure 9. Changes in cognitive avoidance due to treatment. CAQ = Cognitive Avoidance Questionnaire.

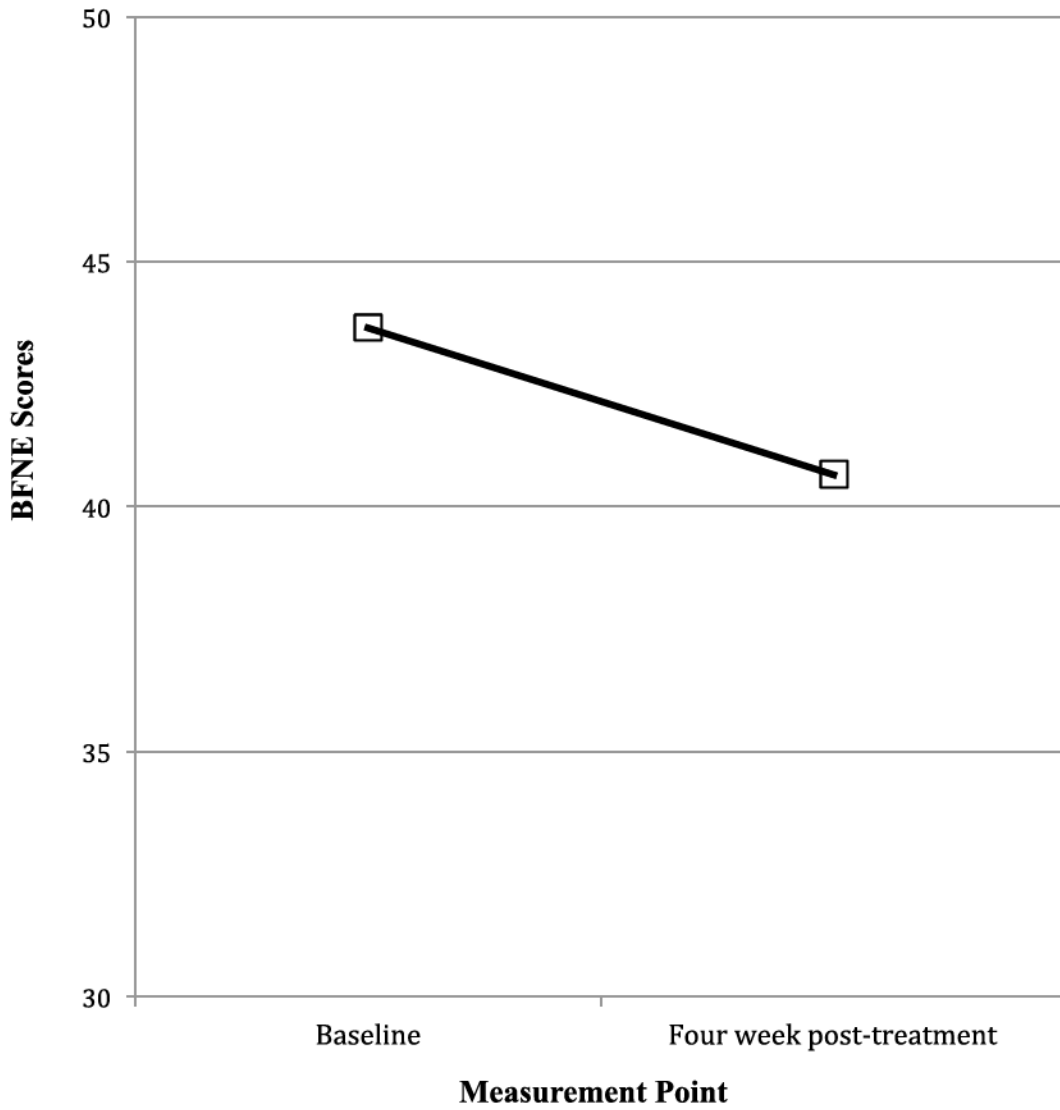


Figure 10. Changes in fear of negative evaluation due to treatment. BFNE = Brief Fear of Negative Evaluation scale.

The results of the intent-to-treat analyses of PANAS-PA scores provided a different set of findings than the completer analyses of PANAS-PA scores. While the completer analyses found a significant main effect of measurement point and significant main effect of condition, the intent-to-treat analyses produced only a significant main effect of measurement point, $F(1, 110) = 7.48, p = .007, \text{partial } \eta^2 = .06$. There was no main effect of condition, $F(1, 110) = 2.83, p = .096, \text{partial } \eta^2 = .02$, and no condition \times measurement point interaction, $F(1, 110) = 0.12, p = .733, \text{partial } \eta^2 = .001$. The PANAS-PA scores significantly increased from baseline ($M = 28.89, SD = 8.48$) to four-week post-treatment ($M = 30.48, SD = 7.82$), $t(111) = 2.73, p = .007$, though there was no difference between the CAWS participants and the MWS participants.

Four weeks to four months post-treatment. On the cognitive self-consciousness scale of the MCQ-30 the intent-to-treat analyses led to the same findings as the completer analyses.

There was a significant main effect of measurement point, $F(1, 111) = 6.56, p = .012, \text{partial } \eta^2 = .06$, but there was no main effect of condition, $F(1, 111) = 0.83, p = .365, \text{partial } \eta^2 = .007$, and no condition \times measurement point interaction, $F(1, 111) = 0.11, p = .739, \text{partial } \eta^2 = .001$. While the treatments were not significantly different, the cognitive self-consciousness scores of participants significantly decreased from four-week post-treatment ($M = 14.78, SD = 4.81$) to four-month post-treatment ($M = 14.04, SD = 4.72$), $t(111) = 2.58, p = .011$.

In contrast to the completer analyses, the intent-to-treat analyses of the BFNE scores led to no significant findings. There was no main effect of measurement point, $F(1, 110) = 0.27, p = .604, \text{partial } \eta^2 = .002$, no main effect of condition, $F(1, 110) = 2.25, p = .136, \text{partial } \eta^2 = .02$, and no condition \times measurement point interaction, $F(1, 110) = 0.34, p = .563, \text{partial } \eta^2 = .003$. In addition to there being no difference between the treatments, the BFNE scores of participants

did not significantly change from four-week post-treatment ($M = 40.67$, $SD = 10.11$) to four-month post-treatment ($M = 40.35$, $SD = 11.57$).

Comparison of Proposed Cognitive Factors

To test Hypothesis 7, that change scores of the negative beliefs about worry subscale of the MCQ-30 and change scores of the MWQ, but not change scores of the CAQ, BFNE, or other subscales of the MCQ-30, would be related to change scores on the WAQ and PSWQ, a series of multiple regression equations were conducted. These analyses were conducted using the completer analyses data for participants who received treatment and returned for the follow-ups. The first set of change scores were calculated by subtracting each participant's four-week post-treatment scores on the WAQ, PSWQ, MCQ-30 subscales, MWQ, CAQ, and BFNE from their own baseline scores. The second set of change scores were calculated by subtracting each participant's four-month post-treatment scores on the WAQ, PSWQ, MCQ-30 subscales, MWQ, CAQ, and BFNE from their own four-week post-treatment scores.

Changes in GAD symptoms. Table 2 reports the results of the regression equations using the WAQ as the dependent variable. The variables included in the two analyses accounted for between 43% and 64% of the variance in WAQ scores, $ps < .001$. In both the baseline to four-week post-treatment analysis and the four-week to four-month post-treatment analyses the negative belief about worry subscale of the MCQ-30 significantly related to changes on the WAQ, $ps < .01$. For the four-week to four-month post-treatment analysis, changes on the MWQ were also related to changes on the WAQ, $p < .001$. No other variables were significantly related to changes in WAQ scores.

Changes in worry severity. Table 3 reports the results of the regression equations using the PSWQ as the dependent variable. The variables included in the two analyses accounted for

Table 2

Summary of Regression Analyses for Examining Variables Related to Change in GAD Symptoms

Variable	<i>R</i>	Adjusted <i>R</i> ²	<i>R</i> ² Change	<i>t</i>	<i>pr</i>
Panel11: Baseline to four-week post-treatment	.65	.37	.43**		
MWQ				0.87	.09
MCQ-30 negative beliefs about worry				2.85*	.29*
MCQ-30 positive beliefs				-0.58	-.06
MCQ-30 need to control thoughts				-0.07	-.01
MCQ-30 lack of cognitive confidence				0.32	.03
MCQ-30 cognitive self-consciousness				1.21	.13
CAQ				1.65	.18
BFNE				0.26	.03
Panel12: Four-week to four-month post-treatment	.80	.60	.64**		
MWQ				4.92**	.49**
MCQ-30 negative beliefs about worry				3.00*	.33*
MCQ-30 positive beliefs				-0.47	-.05
MCQ-30 need to control thoughts				0.32	.04
MCQ-30 lack of cognitive confidence				-0.06	-.01
MCQ-30 cognitive self-consciousness				0.87	.10
CAQ				0.80	.09
BFNE				-0.21	-.02

Note. MWQ = Meta-Worry Questionnaire; MCQ-30 = Metacognitions Questionnaire-30; CAQ = Cognitive Avoidance Questionnaire; BFNE = Brief Fear of Negative Evaluation scale; *pr* = Partial correlation.

* $p < .01$. ** $p < .001$.

Table 3

Summary of Regression Analyses for Examining Variables Related to Change in Worry Severity

Variable	<i>R</i>	Adjusted <i>R</i> ²	<i>R</i> ² Change	<i>t</i>	<i>pr</i>
Panel11: Baseline to four-week post-treatment	.68	.41	.46**		
MWQ				0.61	.07
MCQ-30 negative beliefs about worry				2.72*	.28*
MCQ-30 positive beliefs				2.01	.21
MCQ-30 need to control thoughts				-0.29	-.03
MCQ-30 lack of cognitive confidence				0.65	.07
MCQ-30 cognitive self-consciousness				-1.24	-.13
CAQ				2.70*	.28*
BFNE				0.95	.10
Panel12: Four-week to four-month post-treatment	.79	.58	.62**		
MWQ				3.26*	.35*
MCQ-30 negative beliefs about worry				3.74**	.40**
MCQ-30 positive beliefs				1.50	.17
MCQ-30 need to control thoughts				0.28	.03
MCQ-30 lack of cognitive confidence				-0.86	-.10
MCQ-30 cognitive self-consciousness				-0.74	-.09
CAQ				0.97	.11
BFNE				1.15	.13

Note. MWQ = Meta-Worry Questionnaire; MCQ-30 = Metacognitions Questionnaire-30; CAQ = Cognitive Avoidance Questionnaire; BFNE = Brief Fear of Negative Evaluation scale; *pr* = Partial correlation.

* $p < .01$. ** $p < .001$.

between 46% and 62% of the variance in PSWQ scores, $ps < .001$. As was found with the WAQ analyses, in both the baseline to four-week post-treatment and the four-week to four-month post-treatment analyses the negative belief about worry subscale of the MCQ-30 significantly related to changes on the PSWQ, $ps < .01$. As well, for the baseline to four-week post-treatment analysis, changes on the CAQ were also related to changes on the PSWQ, $p < .01$. Changes on the MWQ were also related to changes on the PSWQ in the four-week to four-month post-treatment analysis, $p < .01$. No other variables were significantly related to changes in PSWQ scores.

Discussion

The present study contrasted two ultra-brief treatments for GAD symptoms and worry severity with a delayed treatment control condition, and investigated which proposed cognitive factors were related to changes in GAD symptoms and worry severity. The treatments were efficacious in decreasing GAD symptoms, worry severity, and negative affect, with medium to large effect sizes, when compared to a four-week delayed treatment control. Of the participants who returned for four-week follow-up, participants who were treated also met criteria for fewer disorders and had a lower percentage meeting criteria for GAD than participants who did not receive treatment. However, the treatments had little to no effect on health anxiety, medication use, visits to primary care, motivation for additional therapy, or the belief that anxiety could be treated. Therefore, while the results provided substantial support for Hypothesis 1, which focused on the primary outcome measures, Hypothesis 2 and Hypothesis 3, which focused on the secondary indicators of mental health, were not supported.

In addition to significantly decreasing GAD symptoms and worry severity, the treatments also led to significant decreases, with predominately medium to large effect sizes, in negative

beliefs about worry, the belief that one should control their thoughts at all times, the belief that one should be aware and conscious of their thoughts constantly, the frequency of meta-worry, cognitive avoidance, and fear of negative evaluation. Positive affect also increased in both treatments from baseline to four-week post-treatment. The scores on these measures were also maintained from four-week post-treatment to four-month post-treatment. Similarly, low percentages of participants who were treated and returned for follow-ups met criteria for GAD, despite the majority of the sample meeting criteria for GAD at baseline. However, no substantive differences between the CAWS and MWS treatments were noted on any of the measures examined. Therefore, while Hypothesis 4, Hypothesis 5, and Hypothesis 6, which predicted differences between the treatments, were not supported, this was due to both treatments being efficacious.

Although these hypotheses were not supported, Hypothesis 7 was largely supported. As predicted, negative beliefs about worry and the frequency of meta-worry were strongly related to changes in GAD symptoms and worry severity. However, cognitive avoidance was also related to changes in worry severity from baseline to four-week post-treatment, which was not hypothesized. The other proposed cognitive factors that were examined in this study were not related to changes in GAD symptoms or worry severity, as was predicted. The theoretical and treatment implications of the findings from this study are next explored in turn.

Theoretical Implications

Overall, the results of this study provide some support for the Metacognitive Model of GAD as proposed by Wells (2009). Negative beliefs about worry and meta-worries underlie the Metacognitive Model. As expected, negative beliefs about worry were related to changes in GAD symptoms and worry severity from baseline to four-week post-treatment, and from four-

week post-treatment to four-month post-treatment. Similarly, Sica et al. (2007) previously found that negative beliefs about worry at baseline predicted chronic worry four months later, even when controlling for baseline chronic worry, obsessional thoughts, and the other metacognitive beliefs. Further, the treatments led to large effect size decreases in negative beliefs about worry, coinciding with the large effect size decreases in GAD symptoms and worry severity. Multiple research teams have consistently indicated that negative beliefs about worry are closely related to GAD symptoms (Cartwright-Hatton & Wells, 1997; Hirsch et al., 2013; Penney et al., 2013; Ruscio, 2002; Ruscio & Borkovec, 2004) and worry severity (Belloch et al., 2007; de Bruin et al., 2007; Penney et al., 2013; Wells & Cartwright-Hatton, 2004), and negative beliefs about worry are often more strongly related to GAD symptoms than other proposed cognitive factors. Believing that worry is uncontrollable and believing that worrying is dangerous to one's mind and body appears to increase both the amount of worries a person experiences, classified as both *Type 1* and *Type 2* worries in the metacognitive model of GAD, and the physiological symptoms of GAD.

Changes in the frequency of *Type 2* worry, also known as meta-worry, were also related to changes in GAD symptoms and worry severity from four-week post-treatment to four-month post-treatment. This finding converges with previous research showing that meta-worry plays a significant role in GAD symptoms and chronic worry (Wells, 2005; Wells & Carter 1999, 2001). Interestingly, the frequency of meta-worry was found to be related to changes in GAD symptoms when examining changes from four-week post-treatment to four-month post-treatment, when there was little change in GAD symptoms, worry severity, or meta-worry frequency overall. Yet, when the frequency of meta-worry, GAD symptoms, and worry severity all had large effect size decreases from baseline to four-week post-treatment, the change in frequency of meta-worry

was not found to be related to changes in GAD symptoms or worry severity. Negative beliefs about worry, on the other hand, were related to changes in GAD symptoms and worry severity during periods of both large and small changes in GAD symptoms and worry severity.

Recently, Wells (2005) reported that the frequency of meta-worry mediated the relationship between negative beliefs about worry and GAD symptoms. Wells (2005) argued that the frequency of meta-worry plays a more proximal role in GAD symptoms than negative beliefs about worry. In the present study, although meta-worry frequency was more strongly related to GAD symptoms than negative beliefs about worry from four-week post-treatment to four-month post-treatment, the frequency of meta-worry was unrelated to changes in GAD symptoms from baseline to four-week post-treatment. These findings suggest that negative beliefs about worry may be a more proximal factor in GAD symptoms than the frequency of meta-worry. It may be possible that while the negative beliefs about worry have both a state- and trait-like association with GAD symptoms and worry severity (i.e., changes in negative beliefs about worry may influence the expression of GAD symptoms and worry severity in both the short-term and long-term), the frequency of meta-worry has a predominately trait-like association with GAD symptoms and worry severity (i.e., changes in the frequency of meta-worry influence the expression of GAD symptoms and worry severity only in the long-term). However, given that this study was not optimally designed to test how changes in the proposed cognitive factors temporally mediated changes in GAD symptoms and worry severity, further research in this area is needed. Researchers may wish to explore this possibility and further examine which of the proposed cognitive factors have a more proximal relationship with GAD symptoms using longitudinal studies of untreated individuals with GAD.

The present study also provides some support for the Metacognitive Model by illustrating that other metacognitive beliefs and fear of negative evaluations are not strongly related to GAD symptoms or worry severity. While some studies discussed earlier (Belloch et al., 2007; Davis & Valentier, 2000; Penney et al., 2013) have produced inconsistent results relating the belief that thoughts must be controlled, lack of cognitive confidence, and cognitive self-consciousness, the present study found that these beliefs were not related to changes in GAD symptoms or worry severity. This converges with other research finding that these beliefs do not play a substantive role in GAD symptoms or worry severity (Cartwright-Hatton & Wells, 1997; de Bruin et al., 2007; Sica et al., 2007). However, additional studies comparing factors from across models of GAD are needed, and this study alone cannot provide strong support for one model over the other. As well, while Kotov et al. (2007) found that fear of negative evaluations were uniquely related to GAD, fear of negative evaluations was not related to changes in GAD symptoms or worry severity in the present study. However, two studies are not enough to draw firm conclusions regarding this potential relationship. Other researchers may wish to further examine this potential relationship, particularly with a clinical sample.

While this study offers some support for the Metacognitive Model, it also offers support for the Cognitive Avoidance Model (Sibrava & Borkovec, 2006). The CAWS treatment was as efficacious as the MWS treatment across all outcome measures. This finding equally supports the Cognitive Avoidance Model and the Metacognitive Model. Focusing the treatment on meta-worry and negative beliefs about worry is not necessary to decrease GAD symptoms. The CAWS targeted cognitive avoidance, and used distraction and behavioural strategies for reducing worry. This indicates, not surprisingly, that decreasing worry is an efficacious way to decrease GAD symptoms. However, given the limitations of the study, it is unclear what precise changes

to proposed cognitive factors, and which exact treatment techniques, directly led to changes in GAD symptoms. Further research will be necessary to examine if treatments based on the Cognitive Avoidance Model and Metacognitive Model operate primarily through the proposed cognitive factors from their associated model, or if these treatments from different theoretical perspectives are efficacious due to decreases in the same proposed cognitive factors.

Changes in cognitive avoidance from baseline to four-week post-treatment were related to changes in worry severity, but not GAD symptoms. This finding offers partial support to the Cognitive Avoidance Model. It is important to note that the Cognitive Avoidance Model may be considered to be a model of worry, and the role that chronic worry plays in GAD. Therefore, it could be argued that Cognitive Avoidance Model equates GAD to high levels of chronic worry. As previously discussed research has shown that GAD can be distinguished from chronic worry (Hirsch et al., 2013; Ruscio, 2002; Ruscio & Borkovec, 2004) and the two are not equivalent. Therefore, the finding that cognitive avoidance was related changes in worry severity supports the Cognitive Avoidance Model, but the finding that cognitive avoidance was not related to GAD symptoms indicates that while cognitive avoidance may be a key factor of chronic worry, but not necessarily GAD symptoms. Overall, however, the finding that cognitive avoidance was related to worry severity does support the Cognitive Avoidance Model.

This study provided some tentative clues regarding how the use of cognitive avoidance may increase or decrease how much a person is worrying. Because cognitive avoidance was not related to changes in worry severity from four-week post-treatment to four-month post-treatment, it may display the opposite relationship to worry severity of that discussed with meta-worry above. That is, cognitive avoidance may have state-like, short-term influences on worry severity. As a person engages in more or less cognitive avoidance he or she may worry more or

less over the following days and weeks. However, on longer time scales, other factors such as meta-worry and negative beliefs about worry may exhibit greater influence on how much an individual worries. Again, additional research, including longitudinal research with untreated samples, is needed to examine this possibility.

One of the proposed cognitive factors that the Cognitive Avoidance Model focuses on is positive beliefs about worry. The findings from the present study do not support that positive beliefs about worry are a significant contributor to GAD symptoms or worry severity. Positive beliefs about worry were not related to changes in GAD symptoms or worry severity from baseline to four-week post-treatment, or from four-week post-treatment to four-month post-treatment. In addition, treatment did not lead to decreases in positive beliefs about worry, despite decreases in GAD symptoms and worry severity. It is possible that positive beliefs about worry may function at low levels of worry, and may differentiate people who rarely worry from people who worry some of the time. Positive beliefs about worry may also play a role across anxiety disorders (Ladouceur et al., 1999), and may not have a unique relationship to chronic worry or GAD (Penney et al., 2013). Alternatively, positive beliefs about worry may be largely based on cultural norms and family beliefs, and have little influence on day-to-day behaviour. However, some studies have found positive beliefs about worry to be an important factor in GAD and worry severity (Borkovec & Roemer, 1995; Freeston et al., 1994; Holowka et al. 2000; Ladouceur et al., 1998), so additional research is needed.

While this study did not aim to address the other theoretical models of GAD such as the Emotional Dysregulation Model (Mennin et al., 2004) or Acceptance-based Model (Roemer & Orsillo, 2005), it did examine elements of the Intolerance of Uncertainty Model (Dugas & Koerner, 2005) that are shared in common with the Cognitive Avoidance Model. Two key

components of the Intolerance of Uncertainty Model include the use of worry as a cognitive avoidance technique, and positive beliefs about worry. As discussed, the role of cognitive avoidance in worry severity has received support from this study. However, as discussed above, the findings from this study do not indicate that positive beliefs about worry play a special role in GAD, and therefore these findings do not support the importance of positive beliefs about worry in the Intolerance of Uncertainty Model. Again, however, this one study is not enough to make definitive statements about the role of positive beliefs about worry in GAD, and further studies are needed.

Treatment Implications

While this study did not find differences between the CAWS and MWS treatments, the results still have significant value for the treatment of GAD. First, this study demonstrated that ultra-brief treatments for GAD are feasible. The treatments in this study were explained to participants in approximately 10 to 11 minutes on average. The therapists reported that the treatments were easy to explain, and they rarely had to move away from the script to explain the basic concepts of the treatments to the participants. Participants also reported that the treatments were credible, and believed that the treatments would reduce their symptoms. This indicates that the scripts could be used in primary care, making it easy to implement these therapies in primary care facilities.

The treatments also did not require extensive training time for the therapists. However, the therapists used in this study all had previously delivered CBT, and had extensive backgrounds in CBT. Additional instruction may be necessary if this treatment were to be used by professionals with limited backgrounds in CBT. However, because participants generally easily understood the scripts used in this study, it appears likely that the scripts could be used in

primary care without difficulty. Implementation and dissemination research is needed to verify this hypothesis. As well, because this study aimed to have high ecological validity, and did not restrict participants from seeking other therapists or using medication, this indicates that the therapies may be effectively implemented outside of academic research without a loss of efficacy. Research examining the dissemination and implementation of these treatments in primary care facilities and private clinics is necessary to fully test this hypothesis, but the current findings support taking this next step.

These easy to implement treatments led to significant improvements in GAD symptoms, worry severity, and negative affect. The medium to large effect size decreases found in this study on these primary outcome measures, in addition to the small effect size increase found on positive affect, indicate that these treatments can lead to substantial improvement for individuals with excessive worry. The treatments also led to substantially fewer participants meeting criteria for GAD and other disorders. Although the percent meeting criteria for GAD and other disorders increased slightly from the four-week follow-up to the four-month follow-up, it is not uncommon to find that a few participants in GAD outcome studies are unable to maintain their gains across multiple follow-ups (Borkovec et al., 2002; Ladouceur et al., 2000; Wells et al., 2010). This study was only the second study to implement this type of treatment with participants who were seeking treatment. Previous research on the CAWS primarily used adolescent and young adult samples that were not seeking treatment (Borkovec et al., 1983; Brosschot & van der Doef, 2006; McGowan & Behar, 2013), though Verkuil et al. (2011) provided the CAWS prior to adults engaging in a standard CBT. The effect sizes found in the current study were similar to the effect sizes found by McGowan and Behar (2013). This leads to two conclusions: 1) delivering the CAWS treatment in less than 20 minutes does not appear to decrease the strength of the

treatments, and 2) the CAWS treatment may be as efficacious as a stand-alone treatment in treatment seeking samples as it is with student samples.

The results also indicate that the MWS treatment is no more efficacious than the CAWS treatment. Based on previous research showing that metacognitive therapy was superior to standard CBT and intolerance of uncertainty therapy (Nordahl, 2009; van der Heiden et al., 2012), it was predicted that the MWS would be superior to the CAWS on a number of measures. The lack of significant findings may be for a number of reasons. First, the common component to both the MWS and CAWS, the 30-minute worry scheduling, may be the key factor in both treatments. Forcing oneself to worry at only a specific time and specific place, as intensely as possible, may be all that is needed to elicit change in GAD symptoms and worry severity. The differences between the treatments in terms of rationale (i.e., behaviouristic perspective versus metacognitive perspective) and strategies to use outside of the 30-minute period when worrying appears (i.e., distraction versus detached mindfulness) may play small roles in eliciting change. Alternatively, these perspectives and strategies may each be efficacious and useful, with little difference between them in terms of how efficacious they are. With only two studies previously comparing models of therapy for GAD against each other, it is unclear whether the superiority of metacognitive therapy found in these studies were representative of the superiority of metacognitive therapy in general, or if they were rare findings. In this study, an ultra-brief form of metacognitive therapy was not superior to an ultra-brief form of standard CBT.

It had also been hypothesized that the CAWS would be superior to the MWS in increasing positive affect. This was hypothesized due to the self-reinforcing component that was added to the CAWS script, based on previous research indicating that individuals with GAD symptoms have normal self-reinforcing skills (Penney & Mazmanian, 2010a; 2010c). The self-

reinforcing component was added to the CAWS script since McGowan and Behar (2013) found no changes in positive affect due to the CAWS treatment after two weeks. However, in the present study, both the CAWS and the MWS led to increases in positive affect after four weeks, though the effect size was small. The finding that positive affect increased in the present study but not in the McGowan and Behar (2013) study may be primarily due to the two week difference in the length of follow-ups between the studies. It does not appear that the self-reinforcing component of the CAWS script added substantially to the treatment.

While the MWS and CAWS were efficacious in decreasing GAD symptoms, worry severity, negative affect, and the proposed cognitive factors in GAD, the treatments had no significant effects on health anxiety, medication use, or visits to primary care. Due to the limited time frame of the study, and the few visits that participants made to primary care, it is not surprising that treatment had little influence on these variables. However, treatment was expected to decrease health anxiety. If health anxiety had been decreased due to treatment, it could have been postulated that visits to primary care may be reduced in the long-term.

Treatment also had no effect on motivation to receive a full-course (i.e., 12 weeks) of therapy. In fact, participants reported slightly lower motivation for a full-course of therapy when they returned at four-week follow-up than they did at baseline. While Verkuil et al. (2011) found that providing the CAWS prior to a standard CBT led to significant improvements at post-treatment, it does not appear that this was due to the CAWS enhancing motivation for treatment. However, there are multiple possible reasons for the lack of enhanced motivation. First, the measure of motivation, the MRTS, was developed for this study, and additional research will be necessary to determine if the measure is adequately measuring motivation for treatment. As well, it is possible that if participants are experiencing large benefits from the CAWS or MWS,

they may feel that they do not need to receive additional treatment. Alternatively, if participants experienced little benefit from treatment, they may feel that committing to a 12-week therapy could be a waste of time. The research has shown, however, that clarifying motivation for treatment, particularly through the use of motivational interviewing, can lead to improved outcomes in GAD treatment (Westra, Arkowitz, & Dozois, 2009). Because the research has shown that motivational interviewing or pre-treatment of worry can improve outcomes for individuals receiving treatment for GAD, future researchers may wish to compare motivational interviewing with an ultra-brief treatment to determine if either lead to better post-treatment outcomes.

The finding that the MWS and CAWS did not decrease health anxiety or increase motivation for treatment also supports a conclusion reached by McGowan and Behar (2013): the CAWS and MWS treatments specifically target worry and GAD. McGowan and Behar (2013) reached this conclusion because the CAWS treatment had little effect on depression symptoms. In the present study, although the treatments also decreased negative affect and led to small increases in positive affect, the treatments predominately decreased symptoms of GAD and worry severity. Therefore, if the CAWS or MWS treatments were implemented in primary care, they may not be useful as a general, transdiagnostic approach. While the CAWS or MWS may decrease some comorbid symptoms by decreasing negative affect, alternative treatments would likely still be necessary for participants with depression, health anxiety, a lack of motivation, or other anxiety symptoms.

A final note is needed on the treatments used in this study. At the outset of this study, one of the reasons for predicting that the MWS would be more efficacious than the CAWS was due to the different techniques that were used outside the worry period in each treatment. While

the MWS treatment used detached mindfulness, the CAWS treatment focused on distraction. It was assumed that by engaging in detached mindfulness when worries arose MWS participants would experience greater decreases in negative beliefs about worry, and therefore greater decreases in GAD symptoms and worry severity, than CAWS participants using distraction when worries arose. There are a number of possibilities for why the use of detached mindfulness was not more efficacious than distraction, but three of the possibilities are discussed here.

First, detached mindfulness is a complex idea that is not easily grasped by members of the general public. Some of the participants who received the MWS treatment mentioned when they returned at four-week post-treatment that they did not use the detached mindfulness, and some reported using a combination of thought stopping and distraction. As well, when reviewing the audiotapes with therapists during the initial stages of the study, it was clear that participants occasionally did not fully grasp the concept of detached mindfulness. It may be that a longer treatment session, where detached mindfulness is first explored with the guidance of a therapist, is necessary before individuals are able to use this technique on their own. Although Sugiura (2004) previously examined how the use of detached mindfulness interacted with worry, Sugiura (2004) was measuring a trait-like form of detached mindfulness. The current study was the first to attempt to teach detached mindfulness without incorporating it as part of a larger therapy protocol. Future studies may wish to look at how easy it is to teach detached mindfulness and examine who can benefit the most from developing a detached attitude towards worrying.

A second possibility for why detached mindfulness did not appear to be superior to distraction may be due to the strength of distraction as a therapeutic technique. The general public often regards distraction as a means to avoid working through emotional issues, and some

clinicians equate distraction to thought and emotion suppression. Wells (2009) even argues that the use of distraction maintains GAD as part of the Metacognitive Model. Yet, research has shown many benefits to distraction. For example, in depressed patients, the use of distraction and habitual distraction predicts better mood outcomes following a negative mood induction than rumination or mindful self-focus (Huffziger & Kuehner, 2009), and habitual distraction from depressed mood also predicts greater receptivity to treatment and stronger therapeutic alliances during treatment (Teismann, Michalak, Willutzki, & Schulte, 2012). Further, in anxiety, using distraction during exposure trials in the treatment of phobia leads to improved outcomes (Johnstone & Page, 2004), and engaging in distraction after giving a speech has been found to be beneficial for individuals with social anxiety (Kocovski, MacKenzie, & Rector, 2011). Wells and Davies (1994) also previously found that meta-worry and worry severity were not related to the use of distraction. Further, Coles and Heimberg (2005) and Fehm and Hoyer (2004) also found that worry severity negatively correlated with the use of distraction. However, distraction may also be used as a safety behaviour for some individuals (Wells et al., 1995), therefore the use of distraction should be determined on a case-by-case basis. Indeed, follow-ups may be necessary when implementing the CAWS or MWS treatments to determine if the treatment is functioning to maintain the excessive worry at its baseline level, or if the treatment is targeting underlying dysfunctional beliefs and leading to true change in symptoms.

Of course, a final potential reason why detached mindfulness did not appear to be particularly useful in decreasing symptoms of GAD may be due to detached mindfulness not being a strong therapeutic technique. While Wells (2009) has reported that this technique works very well with clients, and has used detached mindfulness in his mindfulness-based treatment outcome studies, there has been no independent examination of the efficacy of this technique as a

standalone treatment. Indeed, further research that conducts component analyses of the MWS and CAWS treatments (i.e., comparing the efficacy of worry scheduling, detached mindfulness, and distraction as standalone treatments) is needed to fully examine the utility of the techniques used within these treatments.

Overall, the results of this study indicate that the CAWS and MWS treatments could potentially be useful in primary care. Given the high rate of GAD in primary care (Bélanger et al., 2005; Goldberg & Lecrubier, 1995; Katon et al., 1990), and long waitlists for mental health services (Barua et al., 2011), new and cost-effective approaches are needed to treat GAD and excessive worry. There has been a call for more CBT in primary care (Demertzis & Craske, 2006), and equipping primary care workers with the skills to treat worry could also help to increase the recognition of GAD in front line care. With minimal investment into teaching the CAWS and MWS techniques to primary care workers, these techniques could potentially lead to substantial reductions in GAD symptoms and worry severity for patients with excessive worry. As previous brief and preventative treatments for GAD have had equivocal results (Higgins, 2006; Higgins & Hecker, 2008; Nordahl, 2009; Seligman et al., 1999; Shoenberger, 2008), bringing the CAWS and MWS treatments to primary care workers could be innovative, efficacious, and cost-effective approaches to treating GAD and excessive worry which certainly warrants future examination.

Strengths and Weaknesses

Although the present study had some limitations, it also had some significant strengths. First, while the sample was low in ethnic diversity, the sample came primarily from the community. As well, GAD research, and psychology research as a whole, commonly recruits participants from undergraduate psychology (e.g., Borkovec et al., 1983; Dugas et al., 1995;

McGowan & Behar, 2013; Wells & Cartwright-Hatton, 2004). The large community component in this study allows the findings from this study to be generalized to a much greater degree than similar studies.

By recruiting from the general community and university population, the sample in this study was not anticipated to represent a clinical population. Indeed, many in this sample were currently employed or students, and may not have sought out treatment for their worry through typical medical channels. However, the majority of participants in this sample met diagnostic criteria for GAD, and numerous participants had comorbid disorders. While this sample may not represent a clinical sample found at a specialty mental health clinic, it may represent the range of individuals with excessive worry found in primary care. The sample size was also much larger than typically reported in GAD treatment research.

Some may point to the extensive use of self-report questionnaires as being problematic for this study, and that a couple of measures had low Cronbach's alphas. Others may also point to the need for additional measures coming from other theoretical perspectives, such as measures of intolerance of uncertainty or emotional avoidance. The lack of a larger and more detailed diagnostic measure, completed by an independent diagnostic interviewer, may also be pointed to as a significant limitation of the study. However, given the internal nature of worries, and the fact that only self-report measures have been developed to tap constructs such as negative beliefs about worry and cognitive avoidance, the reliance on self-report measures was justified for this study. Time constraints and the potential for participant fatigue also limited the number of measures that could be included. Further, while measures from different theoretical perspectives were not included, this study was one of only a handful of studies that have contrasted different theoretical models of GAD. Resource constraints, the length of the study, the large sample size,

and the multiple follow-up appointments also made the involvement of independent diagnostic interviewers regrettably unfeasible.

The fact that some participants completed the follow-ups at home or other locations may also be considered a limitation. By completing the follow-ups at home, diagnostic interviews could not be completed with these participants, and the integrity of how the questionnaires were completed could not be ascertained. However, by permitting participants to complete the questionnaires at home, this study had a low attrition rate, and three-quarters of participants completed the entire study. The lack of highly restrictive criteria, such as allowing participants to see other therapists and change medications during the study, may also be seen as a limitation to some researchers. However, in doing so, this study had good ecological validity, and the results give a better indication of likely outcomes should the CAWS or MWS be implemented in the community.

It may also be argued that the therapists used in this study were not representative of the practitioners that would potentially be implementing these ultra-brief treatments in primary care. Indeed, the therapists used in this study had extensive background training in CBT, which most practitioners in primary care are unlikely to have. However, none of the therapists in this study had prior exposure to the treatments used in this study, and rarely brought up material that was not already included in the treatment scripts. This indicates that with only minor training, the scripts used in this study could be implemented by primary care practitioners. Of course, until the dissemination of these treatments into primary care is attempted, it is not possible to know for certain how much training would be required.

Differences in rates of attrition between the CAWS and MWS may also be pointed out as a significant limitation. With 20.0% of participants in the MWS treatment withdrawing at four-

week post-treatment, versus 8.6% of participants in the CAWS treatment withdrawing at four-week post-treatment, it could be argued that this difference influenced the results, and indicates that the MWS was less efficacious than the CAWS. However, conducting the intent-to-treat analyses, and focusing the discussion on the findings that came from the intent-to-treat results, mitigates the potential that the differences in withdrawals significantly influenced the conclusions drawn from this study.

Future Directions

As already mentioned, numerous studies can build off the findings presented in this study. The potential studies already presented include an examination of the predictors of symptom change in longitudinal studies of people with GAD, a study of changes on measures of the proposed cognitive factors in standard CBT based on the Cognitive Avoidance Model and Metacognitive Model, and research into the dissemination and implementation of CAWS and MWS in primary care. Additional potential studies already stated include testing whether ultra-brief treatments or motivational interviewing prior to standard therapy lead to a greater reduction in symptoms at post-treatment, and analyses of the efficacy of worry scheduling, detached mindfulness, and distraction as standalone treatments for excessive worry and GAD symptoms. Since this study by itself is not enough to definitively support one model of GAD over another, additional studies that contrast the different models of GAD would be required to reach more definitive conclusions. However, these are but a few of the many potential follow-up studies.

One potential study following from this research would be an examination of how patient characteristics interact with the type of ultra-brief treatment. For example, do individuals with previous exposure to mindfulness experience greater symptom reduction when using the MWS, are the elderly better at implementing the CAWS than the MWS, and are people with more

regular routines and schedules able to use the treatments better than individuals with changing life and work schedules, are all potential research questions. Researchers may also consider examining alternative forms of delivery for the CAWS and MWS, such as the use of handouts or pre-recorded videos.

The CAWS or MWS may also be examined as preventative treatments in the future, using a strictly preventative research design. This would include restricting the potential participants to only individuals with subclinical levels of GAD. Using multiple long-term follow-ups and a large sample, this could be a very useful study, particularly if adolescents or young adults were recruited as participants. Alternatively, the CAWS or MWS could also be tested as relapse-prevention strategies, and taught to participants after they have received standard CBT. Researchers may also wish to compare ultra-brief therapies with standard treatment across a range of measures beyond effectiveness, potentially including such things as therapeutic alliance, perceived credibility, ease of dissemination, and cognitive factors.

Finally, an area with the greatest potential for future research is in the development of additional ultra-brief therapies for other anxiety and mood disorders. Given that ultra-brief therapies have been found to be efficacious for GAD symptoms in the present study, and found to be efficacious for alcohol abuse and pathological gambling in previous studies (Carlbring et al., 2010; Moyer et al., 2002; Vasilaki et al., 2006), researchers may wish to consider developing ultra-brief therapies for depression, social anxiety, panic disorder, and other emotional disorders. This would also help researchers and therapists think deeply about which elements of standard therapy are the most efficacious, and should be implemented early in treatment. A movement towards ultra-brief therapies could also greatly reduce costs in primary care, help people with emotional disorders receive empirical treatment without sitting on a wait-list for several months,

and could potentially form the first step in stepped-care approaches to the treatment of emotional disorders.

Conclusions

GAD is commonly found in primary care, however the standard treatments for GAD include either medication, with negative side effects, or receiving standard CBT at a speciality mental health clinic after being placed on a waitlist for many months. By examining two ultra-brief treatments for GAD based on the Cognitive Avoidance Model and Metacognitive Model, this study revealed that GAD symptoms and excessive worry could be treated in less than 20 minutes. While the treatments did not differ, compared to a waitlist control, the CAWS and MWS led to substantial reductions in GAD symptoms, worry severity, and negative affect. The ultra-brief treatments also led to large decreases in negative metacognitions, meta-worry, cognitive avoidance, and fear of negative evaluation, while also increasing positive affect. With future research, these ultra-brief treatments would appear to be well suited for application in primary care settings.

Further, by contrasting these two models and treatments of GAD, the results also provided support for both the Cognitive Avoidance Model and the Metacognitive Model. Finding that both treatments decreased GAD symptoms, worry severity, and the proposed cognitive factors provide support for both models of GAD. Changes in negative beliefs about worry and the frequency of meta-worries significantly were significantly related to changes in GAD symptoms and worry severity, providing further support for the Metacognitive Model. In addition, the finding that changes in cognitive avoidance were related to changes in worry severity as a result of treatment provided support for the Cognitive Avoidance Model, while also

further indicating that the Cognitive Avoidance model could be considered a model of worry, rather than a model of GAD specifically.

References

- Abramowitz, J. S., Olatunji, B. O., & Deacon, B. J. (2007). Health anxiety, hypochondriasis, and the anxiety disorders. *Behavior Therapy, 38*, 86-94. doi:10.1016/j.beth.2006.05.001.
- American Psychiatric Association (1980). *Diagnostic and statistical manual of mental disorders* (3rd edition). Washington, DC: Author.
- American Psychiatric Association (1987). *Diagnostic and statistical manual of mental disorders* (3rd edition - revised). Washington, DC: Author.
- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders* (4th edition). Washington, DC: Author.
- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders* (5th edition). Washington, DC: Author.
- Andor, T., Gerlach, A. L., & Rist, F. (2008). Superior perception of phasic physiological arousal and the detrimental consequences of the conviction to be aroused on worrying and metacognitions in GAD. *Journal of Abnormal Psychology, 117*, 193-205.
doi:10.1037/0021-843X.117.1.193
- Andrews, V. H., & Borkovec, T. D. (1988). The differential effects of inductions of worry, somatic anxiety, and depression on emotional experience. *Journal of Behavior Therapy and Experimental Psychiatry, 19*, 21-26. doi:10.1016/0005-7916(88)90006-7
- Barua, B., Rovere, M., & Skinner, B. J. (2011). *Waiting your turn: Wait times for health care in Canada* (2011 Report). Calgary, AB: The Fraser Institute.

- Behar, E., DiMarco, I. D., Hekler, E. B., Mohlman, J., & Staples, A. M. (2009). Current theoretical models of generalized anxiety disorder (GAD): Conceptual review and treatment implications. *Journal of Anxiety Disorders, 23*, 1011-1023. doi:10.1016/j.janxdis.2009.07.006
- Behar, E., Vescio, T. K., & Borkovec, T. D. (2005). The effects of suppressing thoughts and images about worrisome stimuli. *Behavior Therapy, 36*, 289-298. doi:10.1016/S0005-7894(05)80077-2
- Bélanger, L., Ladouceur, R., & Morin, C. M. (2005). Generalized anxiety disorder and health care use. *Canadian Family Physician, 51*, 1362-1363.
- Belloch, A., Morillo, C., & García-Soriano, G. (2007). Are the dysfunctional beliefs that predict worry different from those that predict obsessions? *Clinical Psychology and Psychotherapy, 14*, 438-448. doi:10.1002/cpp.551
- Boelen, P. A., & Reijntjes, A. (2009). Intolerance of uncertainty and social anxiety. *Journal of Anxiety Disorders, 23*, 130-135. doi:10.1016/j.janxdis.2008.04.007
- Borkovec, T. D., Abel, J. L., & Newman, H. (1995). Effects of psychotherapy on comorbid conditions in generalized anxiety disorder. *Journal of Consulting and Clinical Psychology, 63*, 479-483. doi:10.1037/0022-006X.63.3.479
- Borkovec, T. D., & Costello, E. (1993). Efficacy of applied relaxation and cognitive-behavioral therapy in the treatment of generalized anxiety disorder. *Journal of Consulting and Clinical Psychology, 61*, 611-619. doi:10.1037/0022-006X.61.4.611

- Borkovec, T. D., Hazelett-Stevens, H., & Diaz, M. L. (1999). The role of positive beliefs about worry in generalized anxiety disorder and its treatment. *Clinical Psychology and Psychotherapy*, 6, 126-138. doi:10.1002/(SICI)1099-0879(199905)6:2<126::AID-CPP193>3.0.CO;2-M
- Borkovec, T. D., & Hu, S. (1990). The effect of worry on cardiovascular response to phobic imagery. *Behaviour Research and Therapy*, 28, 69-73. doi:10.1016/0005-7967(90)90056-O
- Borkovec, T. D., & Inz, J. (1990). The nature of worry in generalized anxiety disorder: A predominance of thought activity. *Behaviour Research and Therapy*, 28, 153-158. doi:10.1016/0005-7967(90)90027-G
- Borkovec, T. D., & Matthews, A. M. (1988). Treatment of nonphobic anxiety disorders: A comparison of nondirective, cognitive, and coping desensitization therapy. *Journal of Consulting and Clinical Psychology*, 56, 877-884. doi:10.1037/0022-006X.56.6.877
- Borkovec, T. D., Mathews, A. M., Chambers, A., Ebrahimi, S., Lytle, R., & Nelson, R. (1987). The effects of relaxation training with cognitive or nondirective therapy and the role of relaxation-induced anxiety in the treatment of generalized anxiety. *Journal of Consulting and Clinical Psychology*, 55, 883-888. doi:10.1037/0022-006X.55.6.883
- Borkovec, T. D., & Nau, S. D. (1972). Credibility of analogue therapy rationales. *Journal of Behavior Therapy and Experimental Psychiatry*, 3, 257-260. doi:10.1016/0005-7916(72)90045-6

- Borkovec, T. D., Newman, M. G., Pincus, A. L., & Lytle, R. (2002). A component analysis of cognitive-behavioral therapy for generalized anxiety disorder and the role of interpersonal problems. *Journal of Consulting and Clinical Psychology, 70*, 288-298. doi:10.1037/0022-006X.70.2.288
- Borkovec, T. D., Robinson, E., Pruzinsky, T., & DePree, J. A. (1983). Preliminary exploration of worry: Some characteristics and processes. *Behaviour Research and Therapy, 21*, 9-16. doi:10.1016/0005-7967(83)90121-3
- Borkovec, T. D., & Roemer, L. (1995). Perceived functions of worry among generalized anxiety disorder subjects: Distraction from more emotionally distressing topics? *Journal of Behavior Therapy and Experimental Psychiatry, 26*, 25-30. doi:10.1016/0005-7916(94)00064-S
- Borkovec, T. D., Wilkinson, L., Folenbee, R., & Lerman, C. (1983). Stimulus control applications to the treatment of worry. *Behaviour Research and Therapy, 21*, 247-251. doi:10.1016/0005-7967(83)90206-1
- Brawman-Mintzer, O., & Lydiard, R. B. (1996). Generalized anxiety disorder: Issues in epidemiology. *Journal of Clinical Psychiatry, 57*(Suppl. 7), 3-8.
- Bridges, K. W., & Goldberg, D. P. (1985). Somatic presentation of DSM III psychiatric disorders in primary care. *Journal of Psychosomatic Research, 29*, 563-569. doi:10.1016/0022-3999(85)90064-9
- Brosschot, J. F., & van der Doef, M. (2006). Daily worrying and somatic health complaints: Testing the effectiveness of a simple worry reduction intervention. *Psychology & Health, 21*, 19-31. doi:10.1080/14768320500105346

- Buhr, K. & Dugas, M. J. (2006). Investigating the construct validity of intolerance of uncertainty and its unique relationship with worry. *Anxiety Disorders, 20*, 222-236.
doi:10.1016/j.janxdis.2004.12.004
- Canadian Psychological Association (2009). "*Psychology Works*" *Facts Sheet: Generalized Anxiety Disorder*. Retrieved July 4, 2012, from Canadian Psychological Association Web site: <http://cpa.ca/psychologyfactsheets/generalizedanxietydisorder/>
- Carlbring, P., Jonsson, J., Josephson, H., & Forsberg, L. (2010). Motivational interviewing versus cognitive behavioral group therapy in the treatment of problem and pathological gambling: A randomized controlled trial. *Cognitive Behaviour Therapy, 39*, 92-103.
doi:10.1080/16506070903190245
- Carleton, R. N., Collimore, K. C., & Asmundson, G. J. (2010). "It's not just the judgements – It's that I don't know": Intolerance of uncertainty as a predictor of social anxiety. *Journal of Anxiety Disorders, 24*, 189-195. doi:10.1016/j.janxdis.2010.06.015
- Cartwright-Hatton, S. & Wells, A. (1997). Beliefs about worry and intrusions: The Meta-Cognitions Questionnaire and its correlates. *Journal of Anxiety Disorders, 11*, 279-296.
doi:10.1016/S0887-6185(97)00011-X
- Churchill, R., Hunot, V., Corney, R., Knapp, M., McGuire, H., Tylee, A., Wessely, S. (2001). A systematic review of controlled trials of the effectiveness and cost-effectiveness of brief psychological treatments for depression. *Health Technology Assessment, 5*, 1-173.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edition). New Jersey: Lawrence Erlbaum.
- Coles, M. E., & Heimberg, R. G. (2005). Thought control strategies in generalized anxiety disorder. *Cognitive Therapy and Research, 29*, 47-56. doi:10.1007/s10608-005-1647-x

- Conroy, R. M., Smyth, O., Siriwardena, R., & Fernandes, P. (1999). Health anxiety and characteristics of self-initiated general practitioner consultations. *Journal of Psychosomatic Research, 46*, 45-50. doi:10.1016/S0022-3999(98)00066-X
- Cox, B. J., Cohen, E., Direnfeld, D. M., & Swinson, R. P. (1996). Does the Beck Anxiety Inventory measure anything beyond panic attack symptoms? *Behaviour Research and Therapy, 34*, 949-954. doi:10.1016/S0005-7967(96)00037-X
- Craske, M. G., Rapee, R. M., Jackel, L., & Barlow, D. H. (1989). Qualitative dimensions of worry in DSM-III-R generalized anxiety disorder subjects and nonanxious controls. *Behaviour and Research Therapy, 27*, 397-402. doi:10.1016/0005-7967(89)90010-7
- Craske, M. G., Rose, R. D., Lang, A., Welch, S. S., Campbell-Sills, L., ... & Roy-Byrne, P. P. (2009). Computer-assisted delivery of cognitive behavioral therapy for anxiety disorders in primary-care settings. *Depression and Anxiety, 26*, 235-242. doi:10.1002/da.20542
- Craske, M. G., Stein, M. B., Sullivan, G., Sherbourne, C., Bystritsky, A., ... & Roy-Byrne, P. (2011). Disorder-specific impact of coordinated anxiety learning and management treatment for anxiety disorders in primary care. *Archives of General Psychiatry, 68*, 378-388. doi:10.1001/archgenpsychiatry.2011.25
- Crits-Christoph, P., Newman, M. G., Rickels, K., Gallop, R., Gibbons, M. B., Hamilton, J. L., ... & Pastva, A. M. (2011). Combined medication and cognitive therapy for generalized anxiety disorder. *Journal of Anxiety Disorders, 25*, 1087-1094. doi:10.1016/j.janxdis.2011.07.007

- Daughters, S. B., Braun, A. R., Sargeant, M. N., Reynolds, E. K., Hopko, D. R., Blanco, C. , & Lejuez, C. W. (2008). Effectiveness of a brief behavioral treatment for innercity illicit drug users with elevated depressive symptoms: The life enhancement treatment for substance use (LETS Act!). *Journal of Clinical Psychiatry, 69*, 122-129.
doi:10.4088/JCP.v69n0116
- Davey, G. C. (1992). A comparison of three worry questionnaires. *Behaviour Research and Therapy, 31*, 51-56. doi:10.1016/0005-7967(93)90042-S
- Davey, G. C., Hampton, J., Farrell, J., & Davidson, S. (1992). Some characteristics of worrying: Evidence for worrying and anxiety as separate constructs. *Personality and Individual Differences, 13*, 133-147. doi:10.1016/0191-8869(92)90036-O
- Davey, G. C., Tallis, F., & Capuzzo, N. (1996). Beliefs about the consequences of worrying. *Cognitive Therapy and Research, 20*, 499-520. doi:10.1007/BF02227910
- Davidson, J. R. (2009). First-line pharmacotherapy approaches for generalized anxiety disorder. *Journal of Clinical Psychiatry, 70*(Suppl. 2), 25-31. doi:10.1093/clipsy.9.1.54
- Davidson, J. R., Zhang, W., Connor, K. M., Ji, J., Jobson, K., Lecruiber, Y., ... & Versiani, M. (2010). A psychopharmacological treatment algorithm for generalised anxiety disorder (GAD). *Journal of Psychopharmacology, 24*, 3-26.
doi:10.1097/01.jcp.0000155820.74832.b0
- Davis, R. N., & Valentier, D. P. (2000). Does meta-cognitive theory enhance our understanding of pathological worry and anxiety? *Personality and Individual Differences, 29*, 513-526.
doi:10.1016/S0191-8869(99)00211-1

- de Bruin, G. O., Muris, P., & Rassin, E. (2007). Are there specific meta-cognitions associated with vulnerability to symptoms of worry and obsessional thoughts? *Personality and Individual Differences, 42*, 689-699. doi:10.1016/j.paid.2006.08.015
- Decker, M. L., Turk, C. L., Hess, B., & Murray, C. E. (2008). Emotion regulation among individuals classified with and without generalized anxiety disorder. *Journal of Anxiety Disorders, 22*, 485-494. doi:10.1016/j.janxdis.2007.04.002
- Demertzis, K. H., & Craske, M. G. (2006). Anxiety in primary care. *Current Psychiatry Reports, 8*, 291-297. doi:10.1007/s11920-006-0065-4
- Devilley, G. J., & Borkovec, T. D. (2000). Psychometric properties of the credibility/expectancy questionnaire. *Journal of Behavior Therapy and Experimental Psychiatry, 31*, 73-86. doi:10.1016/S0005-7916(00)00012-4
- Dozois, D. J., & Westra, H. A. (2005). Development of the Anxiety Change Expectancy Scale (ACES) and validation in college, community, and clinical samples. *Behaviour Research and Therapy, 43*, 1655-1672. doi:10.1016/j.brat.2004.12.001
- Dozois, D. J., Westra, H. A., Collins, K. A., Fung, T. S., & Garry, J. K. (2004). Stages of change in anxiety: Psychometric properties of the University of Rhode Island Change Assessment (URICA) scale. *Behaviour Research and Therapy, 42*, 711-729. doi:10.1016/S0005-7967(03)00193-1
- Dugas, M. J., Brillon, P., Savard, P., Turcotte, J., Gaudet, A., Ladouceur, R., ... Gervais, N. J. (2010). A randomized clinical trial of cognitive-behavioral therapy and applied relaxation for adults with generalized anxiety disorder. *Behavior Therapy, 41*, 46-58. doi:10.1016/j.beth.2008.12.004

- Dugas, M. J., Freeston, M. H., & Ladouceur, R. (1997). Intolerance of uncertainty and problem orientation in worry. *Cognitive Therapy and Research, 21*, 593-606.
doi:10.1023/A:1021890322153
- Dugas, M. J., Freeston, M. H., Provencher, M. D., Lachance, S., Ladouceur, R., & Gosselin, P. (2001a). Le Questionnaire sur l'inquiétude et l'anxiété: Validation dans les échantillons non cliniques et cliniques [The Worry and Anxiety Questionnaire: Validation in nonclinical and clinical samples]. *Journal de Thérapie Comportementale et Cognitive, 17*, 31-36.
- Dugas, M. J., Freeston, M. H., Provencher, M. D., Lachance, S., Ladouceur, R., & Gosselin, P. (2001b). *The Worry and Anxiety Questionnaire: English Translation*. Retrieved May 22, 2012, from Concordia University, Anxiety Disorders Laboratory Web site:
http://psychology.concordia.ca/fac/dugas/downloads_en.html.
- Dugas, M. J., Gosselin, P., & Ladouceur, R. (2001). Intolerance of uncertainty and worry: Investigating specificity in a nonclinical sample. *Cognitive Therapy and Research, 25*, 551-558. doi:10.1023/A:1005553414688
- Dugas, M. J., & Koerner, N. (2005). Cognitive-behavioral treatment for generalized anxiety disorder: Current status and future directions. *Journal of Cognitive Psychotherapy, 19*, 61-81. doi:10.1891/jcop.19.1.61.66326
- Dugas, M. J., Ladouceur, R., Léger, E., Freeston, M. H., Langlois, F., Provencher, M. D., & Boisvert, J.-M. (2003). Group cognitive-behavioral therapy for generalized anxiety disorder: Treatment outcome and long-term follow-up. *Journal of Consulting and Clinical Psychology, 71*, 821-825. doi:10.1037/0022-006X.71.4.821

- Dugas, M. J., Letarte, H., Rhéaume, J., Freeston, M. H., & Ladouceur, R. (1995). Worry and problem solving: Evidence of a specific relationship. *Cognitive Therapy and Research, 19*, 109-120. doi:10.1007/BF02229679
- Dugas, M. J., Savard, P., Gaudet, A., Turcotte, J., Laugesen, N., Robichaud, M., Francis, K., & Koerner, N. (2007). Can the components of a cognitive model predict the severity of generalized anxiety disorder? *Behavior Therapy, 38*, 169-178. doi:10.1016/j.beth.2006.07.002
- Eastin, M. S., & Guinseler, N. M. (2006). Worried and wired: Effects of health anxiety on information-seeking and health care utilization behaviors. *CyberPsychology & Behavior, 9*, 494-498. doi:10.1089/cpb.2006.9.494
- Eng, W., & Heimberg, R. G. (2006). Interpersonal correlates of generalized anxiety disorder: Self versus other perception. *Anxiety Disorders, 20*, 380-387. doi:10.1016/j.janxdis.2005.02.005
- Eysenck, M. W. (1992). *Anxiety: The cognitive perspective*. Hove, U.K.: Lawrence Erlbaum Associates.
- Fehm, L., & Hoyer, J. (2004). Measuring thought control strategies: The Thought Control Questionnaire and a look beyond. *Cognitive Therapy and Research, 28*, 105-117. doi:10.1023/B:COTR.0000016933.41653.dc
- Feldner, M. T., Zvolensky, M. J., & Schmidt, N. B. (2004). Prevention of anxiety psychopathology: A critical review of the empirical literature. *Clinical Psychology: Science and Practice, 11*, 405-424. doi:10.1093/clipsy.bph098

- Fifer, S. K., Mathias, S. D., Patrick, D. L., Mazonson, P. D., Lubeck, D. P., & Buesching, D. P. (1994). Untreated anxiety among adult primary care patients in a health maintenance organization. *Archives of General Psychiatry, 51*, 740-750.
doi:10.1001/archpsyc.1994.03950090072010
- Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P. M. (2002). The Obsessive–Compulsive Inventory: Development and validation of a short version. *Psychological Assessment, 14*, 485-496. doi:10.1037//1040-3590.14.4.485
- Fournier, L., Lesage, A. D., Toupin, J., & Cyr, M. (1997). Telephone surveys as an alternative for estimating prevalence of mental disorders and service utilization: A Montreal catchment area survey. *Canadian Journal of Psychiatry, 42*, 737-743.
- Freeston, M. H., Dugas, M. J., & Ladouceur, R. (1996). Thoughts, images, worry, and anxiety. *Cognitive Therapy and Research, 20*, 265-273. doi:10.1007/BF02229237
- Freeston, M. H., Rhéaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? *Personality and Individual Differences, 17*, 791-802. doi:10.1016/0191-8869(94)90048-5
- Gawrysiak, M., Nicholas, C., & Hopko, D. R. (2009). Behavioral activation for moderately depressed university students: Randomized controlled trial. *Journal of Counseling Psychology, 56*, 468-475. doi:10.1037/a0016383
- Gladstone, G., & Parker, G. (2003). What's the use of worrying? Its function and dysfunction. *Australian and New Zealand Journal of Psychiatry, 37*, 347-354. doi:10.1046/j.1440-1614.2003.01187.x

- Glazier, J., Penney, A. M., Mazmanian, D., & Rudanycz, C. E. (2011, February). *Worry themes and their relation to generalized anxiety disorder symptoms and age*. Poster presented at the annual Research and Innovation Week, Lakehead University, Thunder Bay, Ontario.
- Goldberg, D. P., & Lecrubier, Y. (1995). Form and frequency of mental disorders across centres. In T. Üstün & N. Sartorius (Eds.), *Mental illness in general health care: An international study* (pp. 323-334). Chichester, U.K.: John Wiley & Sons.
- Goldfried, M. A. (1971). Systematic desensitization as training in self-control. *Journal of Consulting and Clinical Psychology, 37*, 228-234. doi:10.1037/h0031974
- Goldman, N., Dugas, M. J., Sexton, K. A., & Gervais, N. J. (2007). The impact of written exposure on worry a preliminary investigation. *Behavior Modification, 31*, 512-538. doi:10.1177/0145445506298651
- Gosselin, P., Langlois, F., Freeston, M. H., Ladouceur, R., Dugas, M. J., & Pelletier, O. (2002). Le Questionnaire d'évitement cognitif (QEC): Développement et validation auprès d'adultes et d'adolescents [The Cognitive Avoidance Questionnaire (CAQ): Development and validation among adult and adolescent samples]. *Journal de Thérapie Comportementale et Cognitive, 12*, 24-37.
- Gottschalk, A., & Flocke, S. A. (2005). Time spent in face-to-face patient care and work outside the examination room. *Annals of Family Medicine, 3*, 488-493. doi:10.1370/afm.404
- Grant, B. F., Hasin, D. S., Stinson, F. S., Dawson, D. A., Ruan, W. J., Goldstein, R. B., . . . & Huang, B. (2005). Prevalence, correlates, co-morbidity, and comparative disability of DSM-IV generalized anxiety disorder in the USA: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychological Medicine, 35*, 1747-1759. doi:10.1017/S0033291705006069

- Grant, B. F., Goldstein, R. B., Chou, S. P., Huang, B., Stinson, F. S., . . . & Compton, W. M. (2009). Sociodemographic and psychopathologic predictors of first incidence of DSM-IV substance use, mood and anxiety disorders: Results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *Molecular Psychiatry, 14*, 1051-1066. doi:10.1038/mp.2008.41
- Gravel, R., & Beland, Y. (2005). The Canadian community health survey: Mental health and well-being. *Canadian Journal of Psychiatry, 50*, 573-579.
- Greenberg, P. E., Sisitsky, T., Kessler, R. C., Finkelstein, S. N., Berndt, E. R., Davidson, J. R., ... & Fryer, A. J. (1999). The economic burden of anxiety disorders in the 1990s. *Journal of Clinical Psychiatry, 60*, 427-435. doi:10.4088/JCP.v60n0702
- Hajcak, G., Huppert, J. D., Simons, R. F., & Foa, E. B. (2004). Psychometric properties of the OCI-R in a college sample. *Behaviour Research and Therapy, 42*, 115-123. doi:10.1016/j.brat.2003.08.002
- Herbert, J. D., Rheingold, A. A., & Goldstein, S. G. (2002). Brief cognitive behavioral group therapy for social anxiety disorder. *Cognitive and Behavioral Practice, 9*, 1-8. doi:10.1016/S1077-7229(02)80033-5
- Higgins, D. M. (2006). Preventing generalized anxiety disorder in an at-risk sample of college students: A brief cognitive-behavioral approach. Available from ProQuest Dissertations and Theses database. (UMI No. 3235646)
- Higgins, D. M., & Hecker, J. E. (2008). A randomized trial of brief cognitive-behavioral therapy for prevention of generalized anxiety disorder [Letter to the Editor]. *Journal of Clinical Psychiatry, 69*, 1336.

- Hirsch, C. R., Hayes, S., Mathews, A., Perman, G., & Borkovec, T. (2012). The extent and nature of imagery during worry and positive thinking in generalized anxiety disorder. *Journal of Abnormal Psychology, 12*, 238-243. doi:10.1037/a0024947
- Hirsch, C. R., Matthews, A., Lequertier, B., Perman, G., & Hayes, S. (2013). Characteristics of worry in generalized anxiety disorder. *Journal of Behavior Therapy and Experimental Psychiatry, 44*, 388-395. doi:10.1016/j.jbtep.2013.03.004
- Hofmann, S. G., Moscovitch, D. A., Litz, B. T., Kim, H.-J., Davis, L. L., & Pizzagalli, D. A. (2005). The worried mind: Autonomic and prefrontal activation during worrying. *Emotion, 5*, 464-475. doi:10.1037/1528-3542.5.4.464
- Holaway, R. M., Heimberg, R. G., & Coles, M. E. (2006). A comparison of intolerance of uncertainty in analogue obsessive-compulsive disorder and generalized anxiety disorder. *Anxiety Disorders, 20*, 158-174. doi:10.1016/j.janxdis.2005.01.002
- Holowka, D. W., Dugas, M. J., Francis, K., & Laugesen, N. (2000, November). *Measuring beliefs about worry: A psychometric evaluation of the Why Worry-II Questionnaire*. Poster presented at the Association for Advancement of Behavior Therapy's 34th Annual Convention, New Orleans, LA.
- Huffziger, S., & Kuehner, C. (2009). Rumination, distraction, and mindful self-focus in depressed patients. *Behaviour Research and Therapy, 47*, 224-230. doi:10.1016/j.brat.2008.12.005
- Jackson, J., Fiddler, M., Kapur, N., Wells, A., Tomenson, B., & Creed, F. (2006). Number of bodily symptoms predicts outcome more accurately than health anxiety in patients attending neurology, cardiology, and gastroenterology clinics. *Journal of Psychosomatic Research, 60*, 357-363. doi:10.1016/j.jpsychores.2006.02.006

- Joesch, J. M., Sherbourne, C., Sullivan, G., Stein, M. B., Craske, M. G., & Roy-Byrne, P. (2012). Incremental benefits and cost of coordinated anxiety learning and management for anxiety treatment in primary care. *Psychological Medicine, 42*, 1937-1948. doi:10.1017/S0033291711002893
- Johnstone, K. A. & Page, A. C. (2004). Attention to phobic stimuli during exposure: The effect of distraction on anxiety reduction, self-efficacy and perceived control. *Behaviour Research and Therapy, 42*, 249-275. doi:10.1016/S0005-7967(03)00137-2
- Kanfer, F. H., & Gaelick, L. (1986). Self-management methods. In F. H. Kanfer & A. P. Goldstein (Eds.), *Helping people change: A textbook of methods* (pp. 283-345). New York: Pergamon Press Inc.
- Kanfer, F. H., & Karoly, P. (1972). Self-control: A behavioristic excursion in to the lion's den. *Behavior Therapy, 3*, 398-416. doi:10.1016/S0005-7894(72)80140-0
- Katon, W., VonKorff, M., Lin, E., Lipscomb, P., Russo, J., ... & Polk, E. (1990). Distressed high utilizers of medical care: DSM-III-R diagnoses and treatment needs. *General Hospital Psychiatry, 12*, 355-362. doi:10.1016/0163-8343(90)90002-T
- Katzman, M. A. (2009). Current considerations in the treatment of generalized anxiety disorder. *CNS Drugs, 23*, 103-120. doi:10.2165/00023210-200923020-00002
- Kehle, S. (2008). The effectiveness of cognitive behavioral therapy for generalized anxiety disorder in a frontline service setting. *Cognitive Behaviour Therapy, 37*, 192-198. doi:10.1080/16506070802190262
- Kennedy, B. L., & Schwab, J. J. (1997). Utilization of medical specialists by anxiety disorder patients. *Psychosomatics, 38*, 109-112. doi:10.1016/S0033-3182(97)71478-6

- Kertz, S. J., & Woodruff-Borden, J. (2011). Human and economic burden of GAD, subthreshold GAD, and worry in a primary care sample. *Journal of Clinical Psychology in Medical Settings, 18*, 281-290. doi:10.1007/s10880-011-9248-1
- Kessler, D., Lloyd, K., Lewis, G., & Gray, D. P. (1999). Cross sectional study of symptom attribution and recognition of depression and anxiety in primary care. *British Medical Journal, 318*, 436-439. doi:10.1136/bmj.318.7181.436
- Kessler, R. C., & Wittchen, H.-U. (2002). Patterns and correlates of generalized anxiety disorder in community samples. *Journal of Clinical Psychiatry, 63* (Suppl. 8), 4-10.
- Khawaja, N. G., & McMahon, J. (2011). The relationship of meta-worry and intolerance of uncertainty with pathological worry, anxiety, and depression. *Behaviour Change, 28*, 165-180. doi:10.1375/bech.28.4.165
- Khawaja, N. G., McMahon, J., & Strodl, E. (2011). Intolerance of uncertainty and meta-worry: Relative importance in discriminating GAD. *Behaviour Change, 28*, 181-194. doi: 10.1375/bech.28.4.181
- Kocovski, N. L., MacKenzie, M. B., & Rector, N. A. (2011). Rumination and distraction periods immediately following a speech task: Effect on postevent processing in social anxiety. *Cognitive Behaviour Therapy, 40*, 45-56. doi:10.1080/16506073.2010.526631
- Koen, N., & Stein, D. J. (2011). Pharmacotherapy of anxiety disorders: A critical review. *Dialogues in Clinical Neuroscience, 13*, 423-437.
- Koerner, N. (2002). *The costs associated with generalized anxiety disorder* (Master's thesis). Available from ProQuest Dissertations and Theses database. (UMI No. MQ72862)

- Konnopka, A., Leichsenring, F., Leibing, E., & König, H.-H. (2009). Cost-of-illness studies and cost-effectiveness analyses in anxiety disorders: A systematic review. *Journal of Affective Disorders, 114*, 14-31. doi:10.1016/j.jad.2008.07.014
- Kotov, R., Watson, D., Robles, J. P., & Schmidt, N. B. (2007). Personality traits and anxiety symptoms: The multilevel trait predictor model. *Behaviour Research and Therapy, 45*, 1485-1503. doi:10.1016/j.brat.2006.11.011
- Kroenke, K., Spitzer, R. L., Williams, J. B., Monahan, P. O., & Löwe, B. (2007). Anxiety disorders in primary care: Prevalence, impairment, comorbidity, and detection. *Annals of Internal Medicine, 146*, 317-325.
- Ladouceur, R., Blais, F., Freeston, M. H., & Dugas, M. J. (1998). Problem solving and problem orientation in generalized anxiety disorder. *Journal of Anxiety Disorders, 12*, 139-152. doi:10.1016/S0887-6185(98)00002-4
- Ladouceur, R., Dugas, M. J., Freeston, M. H., Léger, E., Gagnon, F., & Thibodeau, N. (2000). Efficacy of a cognitive-behavioral treatment for generalized anxiety disorder: Evaluation in a controlled clinical trial. *Journal of Consulting and Clinical Psychology, 68*, 957-964. doi:10.1037/0022-006X.68.6.957
- Ladouceur, R., Dugas, M. J., Freeston, M. H., Rhéaume, J., Blais, F., Boisvert, J.-M., ... & Thibodeau, N. (1999). Specificity of generalized anxiety disorder symptoms and processes. *Behavior Therapy, 30*, 191-207. doi:10.1016/S0005-7894(99)80003-3
- Laguna, L. B., Ham, L. S., Hope, D. A., & Bell, C. (2004). Chronic worry as avoidance of arousal. *Cognitive Therapy and Research, 28*, 269-281. doi:10.1023/B:COTR.0000021545.79764.69

- Leary, M. R. (1983). A brief version of the fear of negative evaluation scale. *Personality and Social Psychology Bulletin*, *9*, 371-375. doi:10.1177/0146167283093007
- Lecrubier, Y, Sheehan, D. V., Weiller, E., Amorim, P., Bonora, I., Sheehan, K. H., ... & Dunbar, G. C. (1997). The MINI International Neuropsychiatric Interview (MINI). A short diagnostic structured interview: Reliability and validity according to the CIDI. *European Psychiatry*, *12*, 224-231. doi:10.1016/S0924-9338(97)83296-8
- Lee, J. K., Orsillo, S. M., Roemer, L., & Allen, L. B. (2010). Distress and avoidance in generalized anxiety disorder: Exploring the relationships with intolerance of uncertainty and worry. *Cognitive Behaviour Therapy*, *39*, 126-136.
doi:10.1080/16506070902966918
- Lee, S., Ma, Y. L., & Tsang, A. (2011). A community study of generalized anxiety disorder with vs. without health anxiety in Hong Kong. *Journal of Anxiety Disorders*, *25*, 376-380.
doi:10.1016/j.janxdis.2010.10.012
- Llera, S. J., & Newman, M. G. (2010). Effects of worry on physiological and subjective reactivity to emotional stimuli in generalized anxiety disorder and nonanxious control participants. *Emotion*, *10*, 640-650. doi:10.1037/a0019351
- Logue, M. B., Thomas, A.M., Barbee, J.G., Hoehn-Saric, R., Maddock, R. J., Schwab, J., et al. (1993). Generalized anxiety disorder patients seek evaluation for cardiological symptoms at the same frequency as patients with panic disorder. *Journal of Psychiatric Research*, *27*, 55-59. doi:10.1016/0022-3956(93)90049-8

- Luciano, J. V., Belloch, A., Algarabel, S., Tomás, J. M., Morillo, C., & Lucero, M. (2006). Confirmatory factor analysis of the White Bear Suppression Inventory and the Thought Control Questionnaire: A comparison of alternative models. *European Journal of Psychological Assessment, 22*, 250-258. doi:10.1027/1015-5759.22.4.250
- Lucock, M. P., & Morley, S. (1996). The Health Anxiety Questionnaire. *British Journal of Health Psychology, 1*, 137-150. doi:10.1111/j.2044-8287.1996.tb00498.x
- Lucock, M. P., White, C., Peake, M. D., & Morley, S. (1998). Biased perception and recall of reassurance in medical patients. *British Journal of Health Psychology, 3*, 237-243. doi:10.1111/j.2044-8287.1998.tb00570.x
- Lyonfields, J. D., Borkovec, T. D., & Thayer, J. F. (1995). Vagal tone in generalized anxiety disorder and the effects of aversive imagery and worrisome thinking. *Behavior Therapy, 26*, 457-466. doi:10.1016/S0005-7894(05)80094-2
- MacPherson, L., Tull, M. T., Matusiewicz, A. K., Rodman, S., Strong, D. R., . . . Lejuez, C. W. (2010). Randomized controlled trial of behavioral activation smoking cessation treatment for smokers with elevated depressive symptoms. *Journal of Consulting and Clinical Psychology, 78*, 55-71. doi:10.1037/a0017939
- Mathews, A. (1990). Why worry? The cognitive function of anxiety. *Behaviour Research and Therapy, 28*, 455-468. doi:10.1016/0005-7967(90)90132-3
- McCusker, J., Boulenger, J.-P., Boyer, R., Bellavance, F., & Miller, J.-M. (1997). Use of health services for anxiety disorders: A multisite study in Quebec. *Canadian Journal of Psychiatry, 42*, 730-736.

McGowan, S. K., & Behar, E. (2013). A preliminary investigation of stimulus control training for worry: Effects on anxiety and insomnia. *Behavior Modification, 37*, 90-112.

doi:10.1177/0145445512455661

Mclean, A., & Broomfield, N. M. (2007). How does thought suppression impact upon beliefs about uncontrollability of worry? *Behaviour Research and Therapy, 45*, 2938-2949.

doi:10.1016/j.brat.2007.08.005

Mickelson, K. D., Kessler, R. C., & Shaver, P. R. (1997). Adult attachment in a nationally representative sample. *Journal of Personality and Social Psychology, 73*, 1092-1106.

doi:10.1037/0022-3514.73.5.1092

Meehan, G. T., Collins, J. P., Moss-Morris, R. E., & Petrie, K. J. (2005). Who is not reassured following benign diagnosis of breast symptoms? *Psycho-Oncology, 14*, 239-246.

doi:10.1002/pon.841

Mennin, D. S. (2004). Emotion regulation therapy for generalized anxiety disorder. *Clinical Psychology and Psychotherapy, 11*, 17-29. doi:10.1002/cpp.389

Mennin, D. S., Heimberg, R. G., Turk, C. L., & Fresco, D. M. (2005). Preliminary evidence for an emotion dysregulation model of generalized anxiety disorder. *Behaviour Research and Therapy, 43*, 1281-1310. doi:10.1016/j.brat.2004.08.008

Mennin, D. S., Holaway, R. M., Fresco, D. M., Moore, M. T., & Heimberg, R. G. (2007). Delineating components of emotion and its dysregulation in anxiety and mood psychopathology. *Behavior Therapy, 38*, 284-302. doi:10.1016/j.beth.2006.09.001

- Mennin, D. S., Turk, C. L., Heimberg, R. G., & Carmin, C. (2004). Focusing on the regulation of emotion: A new direction for conceptualizing generalized anxiety disorder. In M. A. Reinecke & D. A. Clark (Eds.), *Cognitive therapy over the lifespan: Evidence and practice* (pp. 60-89). New York: Cambridge University Press.
- Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy*, 28, 487-495. doi:10.1016/0005-7967(90)90135-6
- Mezo, P. G. (2009). The self-control and self-management scale (SCMS): Development of a self-regulatory coping skills instrument. *Journal of Psychopathology and Behavioral Assessment*, 31, 83-93. doi:10.1007/s10862-008-9104-2
- Mezo, P. G., & Short, M. M. (2012). Construct validity and confirmatory factor analysis of the Self-Control and Self-Management Scale. *Canadian Journal of Behavioural Science*, 44, 1-8. doi:10.1037/a0024414
- Morey, L. C. (1991). *The Personality Assessment Inventory professional manual*. Lutz, FL: Psychological Assessment Resources.
- Mowrer, O. H. (1947). On the dual nature of learning: A re-interpretation of “conditioning” and “problem-solving.” *Harvard Educational Review*, 17, 102-148.
- Moyer, A., Finney, J. W., Swearingen, C. E., & Vergun, P. (2002). Brief interventions for alcohol problems: A meta-analytic review of controlled investigations in treatment-seeking and non-treatment-seeking populations. *Addiction*, 97, 279-292. doi:10.1046/j.1360-0443.2002.00018.x
- Nassif, Y. (1999). *Predictors of pathological worry*. Unpublished Master’s of Philosophy thesis. University of Manchester, UK.

- Newman, M. G., Castonguay, L. G., Borkovec, T. D., Fisher, A. J., Boswell, J. F., Szkodny, L. E., & Nordberg, S. S. (2011). A randomized controlled trial of cognitive-behavioral therapy for generalized anxiety disorder with integrated techniques from emotion-focused and interpersonal therapies. *Journal of Consulting and Clinical Psychology, 79*, 171-181. doi:10.1037/a0022489
- Newman, M. G., Castonguay, L. G., Borkovec, T. D., Fisher, A. J., & Nordberg, S. S. (2008). An open trial of integrative for generalized anxiety disorder. *Psychotherapy: Theory, Research, Practice, Training, 45*, 135-147. doi:10.1037/0033-3204.45.2.135
- Newman, M. G., Przeworski, A., Fisher, A. J., & Borkovec, T. D. (2010). Diagnostic comorbidity in adults with generalized anxiety disorder: Impact of comorbidity on psychotherapy outcome and impact of psychotherapy on comorbid diagnoses. *Behavior Therapy, 41*, 59-72. doi:10.1016/j.beth.2008.12.005
- Novick-Kline, P., Turk, C. L., Mennin, D. S., Hoyt, E. A., & Gallagher, C. L. (2005). Level of emotional awareness as a differentiating variable between individuals with and without generalized anxiety disorder. *Journal of Anxiety Disorders, 19*, 557-572. doi:10.1016/j.janxdis.2004.06.001
- Norcross, J. C., & Rogan, J. D. (2013). Psychologists conducting psychotherapy in 2012: Current practices and historical trends among Division 29 members. *Psychotherapy, 50*, 490-495. doi:10.1037/a0033512
- Nordahl, H. M. (2009). Effectiveness of brief metacognitive therapy versus cognitive-behavioral therapy in a general outpatient setting. *International Journal of Cognitive Therapy, 2*, 152-159. doi:10.1521/ijct.2009.2.2.152

- Norton, P. J., & Mehta, P. D. (2007). Hierarchical model of vulnerabilities for emotional disorders. *Cognitive Behaviour Therapy, 36*, 240-254. doi:10.1080/16506070701628065
- Norton, P. J., Sexton, K. A., Walker, J. R., & Norton, G. R. (2003). Hierarchical model of vulnerabilities for anxiety: Replication and extension with a clinical sample. *Cognitive Behaviour Therapy, 34*, 50-63. doi:10.1080/16506070410005401
- Oathes, D. J., Ray, W. J., Yamasaki, A. S., Borkovec, T. D., Castonguay, L. G., Newman, M. G., & Nitschke, J. (2008). Worry, generalized anxiety disorder, and emotion: Evidence from the EEG gamma band. *Biological Psychology, 79*, 165-170.
doi:10.1016/j.biopsycho.2008.04.005
- Offord, D. R., Boyle, M. H., Campbell, D., Goering, P., Lin, E., Wong, M., & Racine, Y. A. (1996). One-year prevalence of psychiatric disorder in Ontarians 15 to 64 years of age. *Canadian Journal of Psychiatry, 41*, 559-563.
- Ormel, J., Koeter, M. W., van den Brink, W., & van der Willige, G. (1991). Recognition, management, and course of anxiety and depression in general practice. *Archives of General Psychiatry, 48*, 700-706.
- Ormel, J., van den Brink, W., Koeter, M. W., Giel, R., van der Meer, K., van de Willige, G., & Wilminck, F. W. (1990). Recognition, management and outcome of psychological disorders in primary care: A naturalistic follow-up study. *Psychological Medicine, 20*, 909-923. doi: 10.1017/S0033291700036606
- Penney, A. M., & Mazmanian, D. (2010a, April). *Relationships between self-management skills, beliefs about worry, and generalized anxiety disorder symptoms*. Poster presented at the Anxiety Disorder Association of Canada's Scientific and Academic Conference, Vancouver, British Columbia.

- Penney, A. M., & Mazmanian, D. (2010b, June). *Psychometric properties of the English version of the Worry and Anxiety Questionnaire*. Poster presented at the Canadian Psychological Association's 71st Annual Conference, Winnipeg, Manitoba.
- Penney, A. M., & Mazmanian, D. (2010c, November). *The effectiveness of a self-management intervention in reducing distress caused by worrying*. Poster presented at the Association for Behavioral and Cognitive Therapies 44th Annual Conference, San Francisco, California.
- Penney, A. M., Mazmanian, D., & Rudanycz, C. (2013). Comparing positive and negative beliefs about worry in predicting generalized anxiety disorder symptoms. *Canadian Journal of Behavioural Science, 45*, 34-41. doi:10.1037/a0027623
- Petry, N. M., Weinstock, J., Ledgerwood, D. M., & Morasco, B. (2008). A randomized trial of brief interventions for problem and pathological gamblers. *Journal of Consulting and Clinical Psychology, 76*, 318-328. doi: 10.1037/0022-006X.76.2.318
- Power, K. G., Jerrom, D. W., Simpson, R. J., Mitchell, M. J., & Swanson, V. (1989). A controlled comparison of cognitive-behaviour therapy, diazepam, and placebo in the management of generalized anxiety. *Behavioural Psychotherapy, 17*, 1-14.
doi:10.1017/S0141347300015597
- Power, K. G., Simpson, R. J., Swanson, V., & Wallace, L. A. (1990). Controlled comparison of pharmacological and psychological treatment of generalized anxiety disorder in primary care. *British Journal of General Practice, 40*, 289-294.

- Rezvan, S., Baghban, I., Bahrami, F., & Abedi, M. (2008). A comparison of cognitive-behavior therapy with interpersonal and cognitive behavior therapy in the treatment of generalized anxiety disorder. *Counselling Psychology Quarterly*, *21*, 309-321.
doi:10.1080/09515070802602096
- Robichaud, M., & Dugas, M. (2005). Negative problem orientation (Part II): Construct validity and specificity to worry. *Behaviour Research and Therapy*, *43*, 403-412.
doi:10.1016/j.brat.2004.02.008
- Rodebaugh, T. L., Woods, C. M., Thissen, D. M., Heimberg, R. G., Chambless, D. L., & Rapee, R. M. (2004). More information from fewer questions: The factor structure and item properties of the original and brief Fear of Negative Evaluation Scale. *Psychological Assessment*, *16*, 169-181. doi:10.1037/1040-3590.16.2.169
- Roemer, L., Lee, J. K., Salters-Pedneault, K., Erisman, S. M., Orsillo, S. M., & Mennin, D. S. (2009). Mindfulness and emotion regulation difficulties in generalized anxiety disorder: Preliminary evidence for independent and overlapping contributions. *Behavior Therapy*, *40*, 142-154. doi:10.1016/j.beth.2008.04.001
- Roemer, L., Molina, S., & Borkovec, T. D. (1997). An investigation of worry content among generally anxious individuals. *Journal of Nervous and Mental Diseases*, *185*, 314-319.
doi:10.1097/00005053-199705000-00005
- Roemer, L., & Orsillo, S. M. (2002). Expanding our conceptualization of and treatment for generalized anxiety disorder: Integrating mindfulness/acceptance-based approaches with existing cognitive behavioral models. *Clinical Psychology: Science and Practice*, *9*, 54-68. doi:10.1093/clipsy.9.1.54

- Roemer, L., & Orsillo, S. M. (2005). An acceptance-based behavior therapy for generalized anxiety disorder. In S. M. Orsillo & L. Roemer (Eds.), *Acceptance and mindfulness-based approaches to anxiety: Conceptualization and treatment* (pp. 213–240). New York: Springer.
- Roemer, L., & Orsillo, S. M. (2007). An open trial of an acceptance-based behavior therapy for generalized anxiety disorder. *Behavior Therapy, 38*, 72-85.
doi:10.1016/j.beth.2006.04.004
- Roemer, L., Orsillo, S. M., & Salters-Pedneault, K. (2008). Efficacy of an acceptance-based behavior therapy for generalized anxiety disorder: Evaluation in a randomized controlled trial. *Journal of Consulting and Clinical Psychology, 76*, 1083-1089.
doi:10.1037/a0012720
- Roemer, L., Salters, K., Raffa, S. D., & Orsillo, S. M. (2005). Fear and avoidance of internal experiences in GAD: Preliminary tests of conceptual model. *Cognitive Therapy and Research, 29*, 71-88. doi:10.1007/s10608-005-1650-2
- Roy-Byrne, P. P., Craske, M. G., Stein, M. B., Sullivan, G., Bystritsky, A., ... & Sherbourne, C. D. (2005). A randomized effectiveness trial of cognitive-behavioral therapy and medication for primary care panic disorder. *Archives of General Psychiatry, 62*, 290-298.
doi:10.1001/archpsyc.62.3.290
- Roy-Byrne, P., Craske, M. G., Sullivan, G., Rose, R. D., Edlund, M. J., ... & Stein, M. B. (2011). Delivery of evidence-based treatment for multiple anxiety disorders in primary care: A randomized controlled trial. *The Journal of the American Medical Association, 303*, 1921-1928. doi:10.1001/jama.2010.608

- Ruscio, A. M. (2002). Delimiting the boundaries of generalized anxiety disorder: Differentiating high worriers with and without GAD. *Journal of Anxiety Disorders, 16*, 377-400.
doi:10.1016/S0887-6185(02)00130-5
- Ruscio, A. M., & Borkovec, T. D. (2004). Experience and appraisal of worry among high worriers with and without generalized anxiety disorder. *Behaviour Research and Therapy, 42*, 1469-1482. doi:10.1016/j.brat.2003.10.007
- Salkovskis, P. M., Rimes, K. A., Warwick, H. M., & Clark, D. M. (2002). The Health Anxiety Inventory: Development and validation of scales of the measurement of health anxiety and hypochondriasis. *Psychological Medicine, 32*, 843-853.
doi:10.1017/S0033291702005822
- Salters-Pedneault, K., Roemer, L., Tull, M. T., Rucker, L., & Mennin, D. S. (2006). Evidence of broad deficits in emotion regulation associated with chronic worry and generalized anxiety disorder. *Cognitive Therapy and Research, 30*, 469-480. doi:10.1007/s10608-006-9055-4
- Salzer, S., Pincus, A. L., Hoyer, J., Kreische, R., Leichsenring, F., & Leibing, E. (2008). Interpersonal subtypes within generalized anxiety disorder. *Journal of Personality Assessment, 90*, 292-299. doi:10.1080/00223890701885076
- Sanderson, W. C., & Barlow, D. H. (1990). A description of patients diagnosed with DSM-III revised generalized anxiety disorder. *Journal of Nervous and Mental Diseases, 178*, 588-591. doi:10.1097/00005053-199009000-00006
- Seligman, M. E., Schulman, P., DeRubeis, R. J., & Hollon, S. D. (1999). The prevention of depression and anxiety. *Prevention & Treatment, 2*, 21p. doi:10.1037/1522-3736.2.1.28a

- Sexton, K. A., & Dugas, M. J. (2008). The cognitive avoidance questionnaire: Validation of the English translation. *Journal of Anxiety Disorders, 22*, 355-370.
doi:10.1016/j.janxdis.2007.04.005
- Sexton, K. A., & Dugas, M. J. (2009a). An investigation of factors associated with cognitive avoidance in worry. *Cognitive Therapy and Research, 33*, 150-162. doi:10.1007/s10608-007-9177-3
- Sexton, K. A., & Dugas, M. J. (2009b). Defining distinct negative beliefs about uncertainty: Validating the factor structure of the intolerance of uncertainty scale. *Psychological Assessment, 21*, 176-186. doi:10.1037/a0015827
- Sexton, K. A., Norton, P. J., Walker, J. R., & Norton, G. R. (2003). Hierarchical model of generalized and specific vulnerabilities in anxiety. *Cognitive Behaviour Therapy, 32*, 82-94. doi:10.1080/16506070302321
- Sheehan, D. V., Lecrubier, Y, Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., ... & Dunbar, G. (1998). The Mini International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Journal of Clinical Psychiatry, 59*(Suppl. 20), 22-33.
- Sheehan, D. V., Lecrubier, Y, Sheehan, K. H., Janavs, J., Weiller, E., Bonara, L. I., ... & Dunbar, G. C. (1997). The validity of the Mini International Neuropsychiatric Interview (M.I.N.I.) according to the SCID-P and its reliability. *European Psychiatry, 12*, 232-241. doi:10.1016/S0924-9338(97)83297-X
- Shoenberger, D. (2008). Preliminary investigation of the effectiveness of a self-help intervention for chronic worry. Available from ProQuest Dissertations and Theses database. (UMI No. 3307576)

- Sibrava, N. J., & Borkovec, T. D. (2006). The cognitive avoidance theory of worry. In G. C. Davey & A. Wells (Eds.) *Worry and its psychological disorders: Theory, assessment and treatment* (pp. 239-256). West Sussex, England: John Wiley & Sons Ltd.
- Sica, C., Steketee, G., Ghisi, M., Chiri, L. R., & Franceschini, S. (2007). Metacognitive beliefs and strategies predict worry, obsessive-compulsive symptoms and coping styles: A preliminary prospective study on an Italian non-clinical sample. *Clinical Psychology and Psychotherapy, 14*, 258-268. doi:10.1002/cpp.520
- Simon, G., Ormel, J., VonKorff, M., & Barlow, W. (1995). Health-care costs associated with depressive and anxiety disorders in primary care. *American Journal of Psychiatry, 152*, 352-357.
- Stapinski, L. A., Abbott, M. J., & Rapee, R. M. (2010). Evaluating the cognitive avoidance model of generalised anxiety disorder: Impact of worry on threat appraisal, perceived control and anxious arousal. *Behaviour Research and Therapy, 48*, 1032-1040. doi:10.1016/j.brat.2010.07.005
- Startup, H. M., & Erickson, T. M. (2006). The Penn State Worry Questionnaire (PSWQ). In G. C. Davey & A. Wells (Eds.) *Worry and its psychological disorders: Theory, assessment and treatment* (pp. 101-119). West Sussex, England: John Wiley & Sons Ltd.
- Stöber, J. (1998). Reliability and validity of two widely-used worry questionnaires: Self-report and self-peer convergence. *Personality and Individual Differences, 24*, 887-890. doi:10.1016/S0191-8869(97)00232-8
- Sugiura, &. (2004). Detached mindfulness and worry: A meta-cognitive analysis. *Personality and Individual Differences, 37*, 169-179. doi:10.1016/j.paid.2003.08.009

- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Toronto, ON: Allyn and Bacon.
- Teismann, T., Michalak, J., Willutzki, U., & Schulte, D. (2012). Influence of rumination and distraction on the therapeutic process in cognitive-behavioral therapy for depression. *Cognitive Therapy and Research, 36*, 15-24. doi:10.1007/s10608-010-9347-6
- Thayer, J. F., Friedman, B. H., & Borkovec, T. D. (1996). Autonomic characteristics of generalized anxiety disorder and worry. *Biological Psychiatry, 39*, 255-266. doi:10.1016/0006-3223(95)00136-0
- Turk, C. L., Heimberg, R. G., Luterek, J. A., Mennin, D. S., & Fresco, D. M. (2005). Emotion dysregulation in generalized anxiety disorder: A comparison with social anxiety disorder. *Cognitive Therapy and Research, 29*, 89-106. doi:10.1007/s10608-005-1651-1
- Tyrer, P., Cooper, S., Crawford, M., Dupont, S., Green, J.... Tyrer, H. (2011). Prevalence of health anxiety problems in medical clinics. *Journal of Psychosomatic Research, 71*, 392-394. doi:10.1016/j.jpsychores.2011.07.004
- Urbanoski, K. A., Rush, B. R., Wild, T. C., Bassani, D. G., & Castel, S. (2007). Use of mental health care services by Canadians with co-occurring substance dependence and mental disorders. *Psychiatric Services, 58*, 962-969.
- van der Heiden, C., Muris, P., & van der Molen, H. (2012). Randomized controlled trial on the effectiveness of metacognitive therapy and intolerance-of-uncertainty therapy for generalized anxiety disorder. *Behaviour Research and Therapy, 50*, 100-109. doi:10.1016/j.brat.2011.12.005

- Vasilaki, E. I., Hosier, S. G., & Cox, W. M. (2006). The efficacy of motivational interviewing as a brief intervention for excessive drinking: A meta-analytic review. *Alcohol & Alcoholism, 41*, 328-335. doi:10.1093/alcalc/agl016
- Vasiliadis, H.-M., Lesage, A., Adair, C., & Boyer, R. (2005). Service use for mental health reasons: Cross-provincial differences in rates, determinants, and equity of access. *Canadian Journal of Psychiatry, 50*, 614-619.
- Verkuil, B., Brosschot, J. F., Korrelboom, K., Reul-Verlaan, R., & Thayer, J. F. (2011). Pretreatment of worry enhances the effects of stress management therapy: A randomized clinical trial. *Psychotherapy and Psychosomatics, 80*, 189-190. doi:10.1159/000320328
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070. doi:10.1037/0022-3514.54.6.1063
- Watson, D., & Friend, R. (1969). Measurement of social evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*, 448-457. doi:10.1037/h0027806
- Watson, D., O'Hara, M. W., Chmielewski, M., McDade-Montez, E. A., Koffel, E., Naragon, K., & Stuart, S. (2008). Further validation of the IDAS: Evidence of convergent, discriminant, criterion, and incremental validity. *Psychological Assessment, 20*, 248-259. doi: 10.1037/a0012570
- Watson, D., O'Hara, M. W., Simms, L. J., Kotov, R., Chmielewski, M., McDade-Montez, E. A., ... & Stuart, S. (2007). Development and validation of the inventory of depression and anxiety symptoms (IDAS). *Psychological Assessment, 19*, 253-268. doi:10.1037/1040-3590.19.3.253

- Weiller, E., Bisserbe, J.-C., Maier, W., & Lecrubier, Y. (1998). Prevalence and recognition of anxiety syndromes in five European primary care settings: A report from the WHO study on psychological problems in general health care. *British Journal of Psychiatry*, *173*(Suppl. 34), 18-23.
- Wells, A. (1994). A multi-dimensional measure of worry: Development and preliminary validation of the Anxious Thoughts Inventory. *Anxiety, Stress and Coping*, *6*, 289-299.
doi:10.1080/10615809408248803
- Wells, A. (1995). Meta-cognition and worry: A cognitive model of generalized anxiety disorder. *Behavioural and Cognitive Psychotherapy*, *23*, 301-320.
doi:10.1017/S1352465800015897
- Wells, A. (1997). *Cognitive therapy of anxiety disorders: A practice manual and conceptual guide*. Chichester, UK: John Wiley & Sons.
- Wells, A. (2000). *Emotional disorders and metacognition: Innovative cognitive therapy*. Chichester, UK: John Wiley & Sons.
- Wells, A. (2004). A cognitive model of GAD: Metacognitions and pathological worry. In R. G. Heimberg, C. L. Turk, & D. S. Mennin (Eds.), *Generalized anxiety disorder: Advances in research and practice* (pp. 164-186). New York, NY: The Guilford Press.
- Wells, A. (2005). The metacognitive model of GAD: Assessment of meta-worry and relationship with DSM-IV generalized anxiety disorder. *Cognitive Therapy and Research*, *29*, 107-121. doi:10.1007/s10608-005-1652-0
- Wells, A. (2009). *Metacognitive Therapy for Anxiety and Depression*. New York: The Guilford Press.

- Wells, A., & Carter, K. (1999). Preliminary tests of a cognitive model of generalized anxiety disorder. *Behaviour Research and Therapy*, *37*, 585-594. doi:10.1016/S0005-7967(98)00156-9
- Wells, A., & Carter, K. (2001). Further tests of a cognitive model of generalized anxiety disorder: Metacognitions and worry in gad, panic disorder, social phobia, depression, and nonpatients. *Behavior Therapy*, *32*, 85-102. doi:10.1016/S0005-7894(01)80045-9
- Wells, A., & Carter, K. E. (2009). Maladaptive thought control strategies in generalized anxiety disorder, major depressive disorder, and nonpatient groups and relationships with trait anxiety. *International Journal of Cognitive Therapy*, *2*, 224-234.
doi:10.1521/ijct.2009.2.3.224
- Wells, A., & Cartwright-Hatton, S. (2004). A short form of the Metacognitions Questionnaire: Properties of the MCQ-30. *Behaviour Research and Therapy*, *42*, 385-396.
doi:10.1016/S0005-7967(03)00147-5
- Wells, A., Clark, D. M., Salkovskis, P., Ludgate, J., Hackman, A., & Gelder, M. (1995). Social phobia: The role of in-situation safety behaviors in maintaining anxiety and negative beliefs. *Behavior Therapy*, *26*, 153-161. doi:10.1016/S0005-7894(05)80088-7
- Wells, A., & Davies, M. (1994). The Thought Control Questionnaire: A measure of individual differences in the control of unwanted thoughts. *Behaviour Research and Therapy*, *32*, 871-878. doi:10.1016/0005-7967(94)90168-6
- Wells, A., & King, P. (2006). Metacognitive therapy for generalized anxiety disorder: An open trial. *Journal of Behavior Therapy and Experimental Psychiatry*, *37*, 206-212.
doi:10.1016/j.jbtep.2005.07.002

Wells, A., & Matthews, G. (1994). *Attention and emotion: A clinical perspective*. Hove, UK: Lawrence Erlbaum Associates.

Wells, A., & Matthews, G. (1996). Modelling cognition in emotional disorder: The S-REF model. *Behaviour Research and Therapy*, 32, 867-870. doi:10.1016/S0005-7967(96)00050-2

Wells, A., & Papageorgiou, C. (1995). Worry and the incubation of intrusive images following stress. *Behaviour Research and Therapy*, 33, 579-583. doi:10.1016/0005-7967(94)00087-Z

Wells, A., & Papageorgiou, C. (1998). Relationships between worry, obsessive-compulsive symptoms, and meta-cognitive beliefs. *Behaviour Research and Therapy*, 36, 899-913. doi:10.1016/S0005-7967(98)00070-9

Wells, A., Welford, M., King, P., Papageorgiou, C., Wisely, J., & Mendel, E. (2010). A pilot randomized trial of metacognitive therapy vs applied relaxation in the treatment of adults with generalized anxiety disorder. *Behaviour Research and Therapy*, 48, 429-434. doi:10.1016/j.brat.2009.11.013

Westra, H. A., Arkowitz, H., & Dozois, D. J. (2009). Adding a motivational interviewing pretreatment to cognitive behavioral therapy for generalized anxiety disorder: A preliminary randomized controlled trial. *Journal of Anxiety Disorders*, 23, 1106-1117. doi:10.1016/j.janxdis.2009.07.014

Westra, H. A., & Dozois, D. J. (2006). Preparing clients for cognitive behavioural therapy: A randomized pilot study of motivational interviewing for anxiety. *Cognitive Therapy and Research*, 30, 481-498. doi:10.1007/s10608-006-9016-y

- Westra, H. A., Dozois, D. J., & Marcus, M. (2007). Expectancy, homework compliance, and initial change in cognitive-behavioral therapy for anxiety. *Journal of Consulting and Clinical Psychology, 75*, 363-373. doi:10.1037/0022-006X.75.3.363
- Wittchen. H.-U., Kessler, R. C., Bessdo, K., Krause, P., Hofler, M., & Hoyer, J. (2002). Generalized anxiety and depression in primary care: Prevalence, recognition, and management. *Journal of Clinical Psychiatry, 63*(Suppl. 8): 24-34.
- York, D., Borkovec, T. D., Vasey, M. & Stern, R. (1987). Effects of worry and somatic anxiety induction on thoughts, emotion and physiological activity. *Behaviour Research and Therapy, 25*, 523-526. doi:10.1016/0005-7967(87)90060-X
- Zalta, A. K. (2011). A meta-analysis of anxiety symptom prevention with cognitive-behavioral interventions. *Journal of Anxiety Disorders, 25*, 749-760.
doi:10.1016/j.janxdis.2011.02.007

Appendix A
Recruitment Materials

Script for the Recruitment of
Introduction to Psychology Students

My name is Alex Penney, and I am a PhD student in Psychological Science working being supervised by Dr. Dwight Mazmanian. I am currently conducting a study on ultra-brief treatments for worry and anxiety. I am examining the effectiveness of 2 different treatments. The treatments take only 20 minutes. Participants will be randomly allocated to receive one of the treatments immediately or after a 4 week delay. We also ask participants to complete a number of questionnaires regarding worry, mood, and anxiety, which takes approximately an hour and a half prior to receiving the treatment. Finally, we also ask people to return 4 weeks and 4 months after treatment for follow-up questionnaires. If you believe that you are worrying too much, or if you feel anxious or stressed most days, please contact me to participate in the study.

If you are interested in being a participant in this study, please email me at worrystudy@lakeheadu.ca or call 343-8943. As well, if you have of any friends or relatives who you think worry too much, and if they might be interested in receiving the treatment, please give them my contact information.

Your participation to this study is entirely voluntary, and your instructor will not be made aware of who chooses to participate in this study.

Thank you for your time.

Information for Local Newspaper Ads

Are you worrying too much? Do you feel anxious or stressed most days? Psychologists and researchers at Lakehead University are examining the effectiveness of two ultra-brief treatments for worry or anxiety. Anyone 18 years or older can participate. The treatment is free, easy to use, and does not involve medication. Contact Alexander Penney at 343-8943 or worrystudy@lakeheadu.ca to find out more.

WORRY TOO MUCH?
Psychologists at Lakehead University
are researching brief
psychotherapies for anxiety.
100% FREE.
Contact Alexander Penney @
worrystudy@lakeheadu.ca
or 343-8943 to find out more.

Lakehead
UNIVERSITY

HHAB Lab




 Health	 Hormones	 Behaviour
---	---	--

Figure A1. Newspaper advertisement

Lakehead UNIVERSITY HHAB Lab

**ALWAYS ANXIOUS?
FEEL STRESSED OUT?**

Psychologists are researching ultra-brief therapies for worry and anxiety.
Anyone 18 years or older can participate.

The study involves questionnaires, an interview, and meeting with a student therapist for one FREE treatment session.

Please contact **Alexander Penney @**
worrystudy@lakeheadu.ca or
343-8943

This study has been reviewed and approved by Lakehead University's Research Ethics Board.

worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943
worrystudy@lakeheadu.ca 3438943

Figure A3. Recruitment poster version 2

Appendix B

Self-Report Questionnaires at Baseline

Background Information Questionnaire

We would appreciate your responses to the following questions.

1) Biological Sex: Male Female

2) Age: _____

3) Ethnicity: Caucasian/White Middle Eastern
 African-Canadian/Black East Indian
 Native-Canadian/Aboriginal Hispanic/Latino
 Asian Other

4) What is your marital status?

Single Dating
 Married/common law Divorced/separated
 Widowed

5) Are you pregnant? Yes No

6) Do you have any children?

Yes No

Number of biological children _____

Number of step-children _____

Number of adopted children _____

7) Are you currently employed?

Full Time Part Time
 Retired No

8) Are you currently a student?

Yes – Full Time

Yes – Part Time

No

9) What is the highest level of education that you have achieved?

Doctoral degree

College diploma

Master’s degree

Some college

Undergraduate degree

High school diploma

Some university

Some high school

10) How many alcohol-containing beverages (1 shot of hard liquor = 1 bottle of beer = 1 cooler = 1 glass of wine) have you consumed **in the last week**? _____

11) How often do you drink alcohol-containing beverages in **a normal month**?

Never

Once or twice
a month

Once or twice
a week

Three or four
times a week

Almost
every day

0

1

2

3

4

12) What percentage of the day did you spend worrying on **a typical day during the past week** (0-100%): _____

13) How many times did you worry on **a typical day during the past week**?

Never

Once or twice
a day

Three to five
times a day

Six to ten
times a day

All day/
continuously

0

1

2

3

4

WAQ

1. What things do you worry about most often?

- a) _____ d) _____
 b) _____ e) _____
 c) _____ f) _____

For the following items, please circle the corresponding number (0-8).

2. Do your worries seem excessive or exaggerated?

- | | | | | | | | | | | |
|-------------------------|---|---|---|---|-------------------------|---|---|---|--|----------------------|
| Not at all
excessive | | | | | Moderately
excessive | | | | | Totally
excessive |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | |

3. **Over the past six months**, how many days have you been bothered by excessive worry?

- | | | | | | | | | |
|-------|---|---|---|-------------------|---|---|---|----------|
| Never | | | | 1 day
out of 2 | | | | Everyday |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

4. Do you have difficulty controlling your worries? For example, when you start worrying about something, do you have difficulty stopping?

- | | | | | | | | | | |
|------------------|---|---|---|---|------------------------|---|---|---|-----------------------|
| No
difficulty | | | | | Moderate
difficulty | | | | Extreme
difficulty |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |

5. **Over the past six months**, to what extent have you been disturbed by the following sensations when you were worried or anxious? Rate each sensation by circling a number (0-8).

a) Restlessness or feeling keyed up or on edge.

- | | | | | | | | | | |
|------------|---|---|---|---|------------|---|---|---|------------------|
| Not at all | | | | | Moderately | | | | Very
Severely |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |

b) Being easily fatigued.

- | | | | | | | | | | |
|------------|---|---|---|---|------------|---|---|---|------------------|
| Not at all | | | | | Moderately | | | | Very
Severely |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |

For the following items, please circle the corresponding number (0-8).

c) Difficulty concentrating or mind going blank.

Not at all					Moderately				Very Severely
0	1	2	3	4	5	6	7	8	

d) Irritability.

Not at all					Moderately				Very Severely
0	1	2	3	4	5	6	7	8	

e) Muscle tension.

Not at all					Moderately				Very Severely
0	1	2	3	4	5	6	7	8	

f) Sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep).

Not at all					Moderately				Very Severely
0	1	2	3	4	5	6	7	8	

6. To what extent does worry or anxiety interfere with your life? For example, your work, social activities, family life, etc.?

Not at all					Moderately				Very Severely
0	1	2	3	4	5	6	7	8	

MWQ

This questionnaire assesses thoughts and ideas about worrying. Listed below are some thoughts that you may have about worrying when you notice yourself worrying. Indicate **how often** each thought occurs by circling the appropriate number, using the scale below.

Never 1	Sometimes 2	Often 3	Almost always 4
------------	----------------	------------	--------------------

WHEN I AM WORRYING I THINK:

1. I am going crazy with worrying.

1 2 3 4

2. My worrying will escalate and I'll cease to function.

1 2 3 4

3. I'm making myself ill with worry.

1 2 3 4

4. I'm abnormal for worrying.

1 2 3 4

5. My mind can't take the worrying.

1 2 3 4

6. I'm losing out in life because of worrying.

1 2 3 4

7. My body can't take the worrying.

1 2 3 4

PIM

Please respond to all the items, there are no right or wrong answers.

False; Not at all True 1	Slightly True 2	Mainly true 3	Very true 4
1. Sometimes I let little things bother me too much.			
1	2	3	4
2. Sometimes I'll avoid someone I really don't like.			
1	2	3	4
3. I sometimes complain too much.			
1	2	3	4
4. Sometimes I'm too impatient.			
1	2	3	4
5. I don't take criticism very well.			
1	2	3	4
6. Sometimes I put things off until the last minute.			
1	2	3	4
7. I sometimes make promises I can't keep.			
1	2	3	4
8. There have been times when I could have been more thoughtful than I was.			
1	2	3	4
9. I rarely get in a bad mood.			
1	2	3	4

PSWQ

Circle the number that describes how typical or characteristic each item is of you, using the following scale:

Not at all Typical		Somewhat Typical		Very Typical
1	2	3	4	5

1. If I don't have enough time to do everything, I don't worry about it.

1 2 3 4 5

2. My worries overwhelm me.

1 2 3 4 5

3. I don't tend to worry about things.

1 2 3 4 5

4. Many situations make me worry.

1 2 3 4 5

5. I know I shouldn't worry about things, but I just can't help it.

1 2 3 4 5

6. When I'm under pressure, I worry a lot.

1 2 3 4 5

7. I am always worrying about something.

1 2 3 4 5

8. I find it easy to dismiss worrisome thoughts.

1 2 3 4 5

9. As soon as I finish one task, I start to worry about everything else I have to do.

1 2 3 4 5

10. I never worry about anything.

1 2 3 4 5

Not at all Typical 1	2	Somewhat Typical 3	4	Very Typical 5
11. When there is nothing more I can do about a concern, I don't worry about it anymore.				
1	2	3	4	5
12. I've been a worrier all my life.				
1	2	3	4	5
13. I notice that I have been worrying about things.				
1	2	3	4	5
14. Once I start worrying, I can't stop.				
1	2	3	4	5
15. I worry all the time.				
1	2	3	4	5
16. I worry about projects until they are all done.				
1	2	3	4	5

CAQ

People react differently to certain types of thoughts. Using the following scale, please indicate to what extent each of the following statements is typical of the way that you respond to certain thoughts. Please circle the appropriate number (1 to 5).

Not at all typical 1	A little typical 2	Somewhat typical 3	Very typical 4	Completely typical 5
1. There are things that I would rather not think about.				
1	2	3	4	5
2. I avoid certain situations that lead me to pay attention to things I don't want to think about.				
1	2	3	4	5
3. I replace threatening mental images with things I say to myself in my mind.				
1	2	3	4	5
4. I think about things that concern me as if they were occurring to someone else.				
1	2	3	4	5
5. I have thoughts that I try to avoid.				
1	2	3	4	5
6. I try not to think about the most upsetting aspects of some situations so as not to be too afraid.				
1	2	3	4	5
7. I sometimes avoid objects that can trigger upsetting thoughts.				
1	2	3	4	5
8. I distract myself to avoid thinking about certain disturbing subjects.				
1	2	3	4	5
9. I avoid people who make me think about things that I do not want to think about.				
1	2	3	4	5

Not at all typical 1	A little typical 2	Somewhat typical 3	Very typical 4	Completely typical 5
----------------------------	--------------------------	--------------------------	----------------------	----------------------------

10. I often do things to distract myself from my thoughts.

1 2 3 4 5

11. I think about trivial details so as not to think about important subjects that worry me.

1 2 3 4 5

12. Sometimes I throw myself into an activity so as not to think about certain things.

1 2 3 4 5

13. To avoid thinking about subjects that upset me, I force myself to think about something else.

1 2 3 4 5

14. There are things I try not to think about.

1 2 3 4 5

15. I keep saying things to myself in my head to avoid visualizing scenarios (a series of mental images) that frighten me.

1 2 3 4 5

16. Sometimes I avoid places that make me think about things I would prefer not to think about.

1 2 3 4 5

17. I think about past events so as not to think about future events that make me feel insecure.

1 2 3 4 5

18. I avoid actions that remind me of things I do not want to think about.

1 2 3 4 5

19. When I have mental images that are upsetting, I say things to myself in my head to replace the images.

1 2 3 4 5

Not at all typical 1	A little typical 2	Somewhat typical 3	Very typical 4	Completely typical 5
----------------------------	--------------------------	--------------------------	----------------------	----------------------------

20. I think about many little things so as not to think about more important matters.

1 2 3 4 5

21. Sometimes I keep myself occupied just to prevent thoughts from popping up in my mind.

1 2 3 4 5

22. I avoid situations that involve people who make me think about unpleasant things.

1 2 3 4 5

23. Rather than having images of upsetting events form in my mind, I try to describe the events using an internal monologue (things that I say to myself in my head).

1 2 3 4 5

24. I push away the mental images related to a threatening situation by trying to describe the situation using an internal monologue.

1 2 3 4 5

25. I think about things that are worrying other people rather than thinking about my own worries.

1 2 3 4 5

RGHAS

Listed below are various methods that people use to get help for an anxiety problem. Check all of the methods that you have used **in the past month**. If you check an item, please indicate the number of times you have used this method **in the past month**. If none apply, leave it blank.

- ___ I have read a book or multiple books on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have searched the internet for resources on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have watched tapes or videos on my own on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have exercised on my own or as part of a group (e.g., yoga, Tai Chi, walking, biking, weight lifting, swimming, etc.) to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have discussed on one or more occasions how to solve or manage my anxiety with a friend, family member, pastor, or work colleague in order to get advice on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have been involved with a "chat-group" or other internet service to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have gone on one or more occasions to a self-help or support group to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have attended a class/seminar or have attended multiple classes/seminars (e.g., stress management, relaxation, meditation, etc.) to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have discussed how to solve or manage my anxiety with my family physician or other primary care provider (i.e., registered nurse, etc.)
Number of occasions: _____
- ___ I have seen one or more professional counselors or therapists on one or more occasions to help me how to solve or manage my anxiety
Number of occasions: _____
- ___ I have been hospitalized for to help me solve or manage my anxiety
Number of occasions: _____
- ___ Other (please describe): _____
Number of occasions: _____

BFNE

Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale.

Not at all characteristic of me 1	Slightly characteristic of me 2	Moderately characteristic of me 3	Very characteristic of me 4	Extremely characteristic of me 5
1. I worry about what other people will think of me even when I know it doesn't make any difference.				
1	2	3	4	5
2. I am unconcerned even if I know people are forming an unfavourable impression of me.				
1	2	3	4	5
3. I am frequently afraid of other people noticing my shortcomings.				
1	2	3	4	5
4. I rarely worry about what kind of impression I am making on someone.				
1	2	3	4	5
5. I am afraid that others will not approve of me.				
1	2	3	4	5
6. I am afraid that other people will find fault with me.				
1	2	3	4	5
7. Other people's opinions of me do not bother me.				
1	2	3	4	5
8. When I am talking to someone, I worry about what they may be thinking of me.				
1	2	3	4	5
9. I am usually worried about what kind of impression I make.				
1	2	3	4	5

Not at all characteristic of me 1	Slightly characteristic of me 2	Moderately characteristic of me 3	Very characteristic of me 4	Extremely characteristic of me 5
--	--	--	--------------------------------------	---

10. If I know someone is judging me, it has little effect on me.

1 2 3 4 5

11. Sometimes I think I am too concerned with what other people think of me.

1 2 3 4 5

12. I often worry that I will say or do the wrong things.

1 2 3 4 5

INF

 Please respond to all the items, there are no right or wrong answers.

False; Not at all True 1	Slightly True 2	Mainly True 3	Very True 4
1. My favourite poet is Raymond Kertezc.			
1	2	3	4
2. Sometimes I get ads in the mail that I don't really want.			
1	2	3	4
3. My favourite sports event on television is the high jump.			
1	2	3	4
4. Most people would rather win than lose.			
1	2	3	4
5. My favourite hobbies are archery and stamp-collecting.			
1	2	3	4
6. I don't like to have to buy things that are overpriced.			
1	2	3	4
7. Most people look forward to a trip to the dentist.			
1	2	3	4
8. In my free time I might read, watch TV, or just relax.			
1	2	3	4

MCQ-30

This questionnaire is concerned with beliefs people have about their thinking. Listed below are a number of beliefs that people have expressed. Please read each item and say how much you **generally** agree with it by circling the appropriate number. Please respond to all the items, there are no right or wrong answers.

Do not agree 1	Agree slightly 2	Agree moderately 3	Agree very much 4
1. Worrying helps me to avoid problems in the future			
1	2	3	4
2. My worrying is dangerous for me			
1	2	3	4
3. I think a lot about my thoughts			
1	2	3	4
4. I could make myself sick with worrying			
1	2	3	4
5. I am aware of the way my mind works when I am thinking through a problem			
1	2	3	4
6. If I did not control a worrying thought, and then it happened, it would be my fault			
1	2	3	4
7. I need to worry in order to remain organized			
1	2	3	4
8. I have little confidence in my memory for words and names			
1	2	3	4
9. My worrying thoughts persist, no matter how I try to stop them			
1	2	3	4

Do not agree 1	Agree slightly 2	Agree moderately 3	Agree very much 4
10. Worrying helps me to get things sorted out in my mind			
1	2	3	4
11. I cannot ignore my worrying thoughts			
1	2	3	4
12. I monitor my thoughts			
1	2	3	4
13. I should be in control of my thoughts all of the time			
1	2	3	4
14. My memory can mislead me at times			
1	2	3	4
15. My worrying could make me go mad			
1	2	3	4
16. I am constantly aware of my thinking			
1	2	3	4
17. I have a poor memory			
1	2	3	4
18. I pay close attention to the way my mind works			
1	2	3	4
19. Worrying helps me cope			
1	2	3	4

Do not agree 1	Agree slightly 2	Agree moderately 3	Agree very much 4
20. Not being able to control my thoughts is a sign of weakness			
1	2	3	4
21. When I start worrying, I cannot stop			
1	2	3	4
22. I will be punished for not controlling certain thoughts			
1	2	3	4
23. Worrying helps me to solve problems			
1	2	3	4
24. I have little confidence in my memory for places			
1	2	3	4
25. It is bad to think certain thoughts			
1	2	3	4
26. I do not trust my memory			
1	2	3	4
27. If I could not control my thoughts, I would not be able to function			
1	2	3	4
28. I need to worry, in order to work well			
1	2	3	4
29. I have little confidence in my memory for actions			
1	2	3	4
30. I constantly examine my thoughts			
1	2	3	4

MRTS

Please select the likelihood that you would engage in the following treatments, if they were made available to you:

Not very likely			Not sure			Very likely
1	2	3	4	5	6	7

1. I would attend a 12-week group psychotherapy/counselling program:

1 2 3 4 5 6 7

2. I would attend a 12-week individual psychotherapy/counselling program:

1 2 3 4 5 6 7

3. I would attend a 12-week support group (i.e., Mental Health Peer Support Group):

1 2 3 4 5 6 7

4. I would attend a 12-week psychotherapy/counselling seminar (i.e., classes) program:

1 2 3 4 5 6 7

5. I would use a 12-week self-help manual:

1 2 3 4 5 6 7

PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then choose the appropriate answer by circling the number under the word. Indicate to what extent you have **felt this way during the past few weeks**. Use the following scale to record your answers.

Very slightly or not at all 1	A little 2	Moderately 3	Quite a bit 4	Extremely 5
1. Interested				
1	2	3	4	5
2. Irritable				
1	2	3	4	5
3. Distressed				
1	2	3	4	5
4. Alert				
1	2	3	4	5
5. Excited				
1	2	3	4	5
6. Ashamed				
1	2	3	4	5
7. Upset				
1	2	3	4	5
8. Inspired				
1	2	3	4	5
9. Strong				
1	2	3	4	5

Very slightly or not at all 1	A little 2	Moderately 3	Quite a bit 4	Extremely 5
10. Nervous				
1	2	3	4	5
11. Guilty				
1	2	3	4	5
12. Determined				
1	2	3	4	5
13. Scared				
1	2	3	4	5
14. Attentive				
1	2	3	4	5
15. Hostile				
1	2	3	4	5
16. Jittery				
1	2	3	4	5
17. Enthusiastic				
1	2	3	4	5
18. Active				
1	2	3	4	5
19. Proud				
1	2	3	4	5
20. Afraid				
1	2	3	4	5

PMUS

1. Are you **currently** taking any medications to treat anxiety or worry? Yes No

2. **Compared to 4 weeks ago**, how has your medication use changed:

Greatly decreased the frequency/ dose/amount		No change in the frequency/ dose/amount		Greatly increased the frequency/ dose/amount		
-3	-2	-1	0	+1	+2	+3

3. Please list any medications you are currently taking to treat anxiety, worry, depression, or other emotional issue:

Medication A: _____ Dose per week: _____

Medication B: _____ Dose per week: _____

Medication C: _____ Dose per week: _____

Medication D: _____ Dose per week: _____

Medication E: _____ Dose per week: _____

Medication F: _____ Dose per week: _____

Medication G: _____ Dose per week: _____

NIM

Please respond to all the items, there are no right or wrong answers.

False; Not at all True 1	Slightly True 2	Mainly True 3	Very True 4
1. Sometimes I cannot remember who I am.			
1	2	3	4
2. I have visions in which I see myself forced to commit crimes.			
1	2	3	4
3. Since the day I was born, I was destined to be unhappy.			
1	2	3	4
4. I think I have three or four completely different personalities inside of me.			
1	2	3	4
5. People don't understand how much I suffer.			
1	2	3	4
6. Every once in a while I totally lose my memory.			
1	2	3	4
7. Sometimes my vision is only in black and white.			
1	2	3	4
8. I don't have any good memories from my childhood.			
1	2	3	4
9. I have severe psychological problems that began very suddenly			
1	2	3	4

SHAI

Each question in this section consists of a group of four statements. Please read each group of statements carefully and then select the one which best describes your feelings, **over the past six months**. Identify the statement by circling the letter next to the statement. It may be that more than one statement applies, in which case, please circle any that are applicable.

1. (a) I do not worry about my health.
 (b) I occasionally worry about my health.
 (c) I spend much of my time worrying about my health.
 (d) I spend most of my time worrying about my health.

2. (a) I notice aches/pains less than most other people (of my age).
 (b) I notice aches/pains as much as most other people (of my age).
 (c) I notice aches/pains more than most other people (of my age).
 (d) I am aware of aches/pains in my body all the time.

3. (a) As a rule I am not aware of bodily sensations or changes.
 (b) Sometimes I am aware of bodily sensations or changes.
 (c) I am often aware of bodily sensations or changes.
 (d) I am constantly aware of bodily sensations or changes.

4. (a) Resisting thoughts of illness is never a problem.
 (b) Most of the time I can resist thoughts of illness.
 (c) I try to resist thoughts of illness but am often unable to do so.
 (d) Thoughts of illness are so strong that I no longer even try to resist them.

5. (a) As a rule I am not afraid that I have a serious illness.
 (b) I am sometimes afraid that I have a serious illness.
 (c) I am often afraid that I have a serious illness.
 (d) I am always afraid that I have a serious illness.

6. (a) I do not have images (mental pictures) of myself being ill.
 (b) I occasionally have images of myself being ill.
 (c) I frequently have images of myself being ill.
 (d) I constantly have images of myself being ill.

7.
 - (a) I do not have any difficulty taking my mind off thoughts about my health.
 - (b) I sometimes have difficulty taking my mind off thoughts about my health.
 - (c) I often have difficulty in taking my mind off thoughts about my health.
 - (d) Nothing can take my mind off thoughts about my health.

8.
 - (a) I am lastingly relieved if my doctor tells me there is nothing wrong.
 - (b) I am initially relieved but the worries sometimes return later.
 - (c) I am initially relieved but the worries always return later.
 - (d) I am not relieved if my doctor tells me there is nothing wrong.

9.
 - (a) If I hear about an illness I never think I have it myself.
 - (b) If I hear about an illness I sometimes think I have it myself.
 - (c) If I hear about an illness I often think I have it myself.
 - (d) If I hear about an illness I always think I have it myself.

10.
 - (a) If I have a bodily sensation or change I rarely wonder what it means.
 - (b) If I have a bodily sensation or change I often wonder what it means.
 - (c) If I have a bodily sensation or change I always wonder what it means.
 - (d) If I have a bodily sensation or change I must know what it means.

11.
 - (a) I usually feel at very low risk for developing a serious illness.
 - (b) I usually feel at fairly low risk for developing a serious illness.
 - (c) I usually feel at moderate risk for developing a serious illness.
 - (d) I usually feel at high risk for developing a serious illness.

12.
 - (a) I never think I have a serious illness.
 - (b) I sometimes think I have a serious illness.
 - (c) I often think I have a serious illness.
 - (d) I usually think that I am seriously ill.

13. (a) If I notice an unexplained bodily sensation I don't find it difficult to think about other things.
(b) If I notice an unexplained bodily sensation I sometimes find it difficult to think about other things.
(c) If I notice an unexplained bodily sensation I often find it difficult to think about other things.
(d) If I notice an unexplained bodily sensation I always find it difficult to think about other things.
14. (a) My family/friends would say I do not worry enough about my health.
(b) My family/friends would say I have a normal attitude to my health.
(c) My family/friends would say I worry too much about my health.
(d) My family/friends would say I am a hypochondriac.

For the following questions, please think about what it might be like if you had a serious illness of a type which particularly concerns you (such as heart disease, cancer, multiple sclerosis and so on). Obviously it may not be possible to know for definite what it would be like; please give your best estimate of what you think might happen, basing your estimate on what you know about yourself and serious illness in general.

15. (a) If I had a serious illness I would still be able to enjoy things in my life quite a lot.
(b) If I had a serious illness I would still be able to enjoy things in my life a little.
(c) If I had a serious illness I would be almost completely unable to enjoy things in my life.
(d) If I had a serious illness I would be completely unable to enjoy life at all.
16. (a) If I developed a serious illness there is a good chance that modern medicine would be able to cure me.
(b) If I developed a serious illness there is a moderate chance that modern medicine would be able to cure me.
(c) If I developed a serious illness there is a very small chance that modern medicine would be able to cure me.
(d) If I developed a serious illness there is no chance that modern medicine would be able to cure me.

17. (a) A serious illness would ruin some aspects of my life.
(b) A serious illness would ruin many aspects of my life.
(c) A serious illness would ruin almost every aspect of my life.
(d) A serious illness would ruin every aspect of my life.
18. (a) If I had a serious illness I would not feel that I had lost my dignity.
(b) If I had a serious illness I would feel that I had lost a little of my dignity.
(c) If I had a serious illness I would feel that I had lost quite a lot of my dignity.
(d) If I had a serious illness I would feel that I had totally lost my dignity.

ACES

Listed below are a number of statements concerning beliefs about change. Please read each item carefully, and circle one of the five options that best reflect how you feel about the statement **right now**.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

1. I feel pessimistic that my anxiety problems could ever change for the better.

1	2	3	4	5
---	---	---	---	---

2. Even though I try, nothing seems to help with my anxiety.

1	2	3	4	5
---	---	---	---	---

3. It would be extremely difficult or impossible to solve my problems with anxiety.

1	2	3	4	5
---	---	---	---	---

4. I have had some positive experiences with being able to control my anxiety through talking positively to myself.

1	2	3	4	5
---	---	---	---	---

5. My problems with anxiety are too severe to benefit from treatment.

1	2	3	4	5
---	---	---	---	---

6. Self-help methods may help others control their anxiety but they won't work for me.

1	2	3	4	5
---	---	---	---	---

7. I don't believe I will ever feel truly relaxed and not worried.

1	2	3	4	5
---	---	---	---	---

8. Facing my fears has never helped me to reduce my anxiety.

1	2	3	4	5
---	---	---	---	---

9. When I force myself to do something that scares me, often it's not as bad as I thought.

1	2	3	4	5
---	---	---	---	---

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

10. I have had some success in reducing my anxiety.

1 2 3 4 5

11. There is very little anyone could do to help me solve my anxiety problems.

1 2 3 4 5

12. Even when I try to talk positively to myself, it doesn't help my anxiety.

1 2 3 4 5

13. Positive thinking is helpful to me in managing my anxiety.

1 2 3 4 5

14. There is no solution to my anxiety problems.

1 2 3 4 5

15. I am optimistic that my anxiety can change for the better.

1 2 3 4 5

16. I have found that I can reduce my anxiety by telling myself to relax or by using relaxation exercises.

1 2 3 4 5

17. I'll never be able to control my anxiety and worry.

1 2 3 4 5

18. I believe it's quite possible for me to feel less worried and more relaxed.

1 2 3 4 5

19. If I work hard, I can have a positive impact on my problems with anxiety.

1 2 3 4 5

20. There are factors contributing to my anxiety that I can learn to control.

1 2 3 4 5

OCI-R

The following statements refer to experiences that many people have in their everyday lives. Circle the number that best describes how much that experience has distressed or bothered you during the **past month**. The numbers refer to the following verbal labels:

Not at all	A little	Moderately	A lot	Extremely
0	1	2	3	4

1. I have saved up so many things that they get in the way.

0 1 2 3 4

2. I check things more often than necessary.

0 1 2 3 4

3. I get upset if objects are not arranged properly.

0 1 2 3 4

4. I feel compelled to count while I am doing things.

0 1 2 3 4

5. I find it difficult to touch an object when I know it has been touched by strangers or certain people.

0 1 2 3 4

6. I find it difficult to control my own thoughts.

0 1 2 3 4

7. I collect things I don't need.

0 1 2 3 4

8. I repeatedly check doors, windows, drawers, etc.

0 1 2 3 4

9. I get upset if others change the way I have arranged things.

0 1 2 3 4

Not at all 0	A little 1	Moderately 2	A lot 3	Extremely 4
-----------------	---------------	-----------------	------------	----------------

10. I feel I have to repeat certain numbers.

0 1 2 3 4

11. I sometimes have to wash or clean myself simply because I feel contaminated.

0 1 2 3 4

12. I am upset by unpleasant thoughts that come into my mind against my will.

0 1 2 3 4

13. I avoid throwing things away because I am afraid I might need them later.

0 1 2 3 4

14. I repeatedly check gas and water taps and light switches after turning them off.

0 1 2 3 4

15. I need things to be arranged in a particular order.

0 1 2 3 4

16. I feel that there are good and bad numbers.

0 1 2 3 4

17. I wash my hands more often and longer than necessary.

0 1 2 3 4

18. I frequently get nasty thoughts and have difficulty in getting rid of them.

0 1 2 3 4

SCMS

Please read each of the following statements and rate how well each statement describes you, using the following scale:

Very undescriptive of me 0	Somewhat/mostly undescriptive of me 1	A little undescriptive of me 2	A little descriptive of me 3	Somewhat/mostly descriptive of me 4	Very descriptive of me 5
1. When I work toward something, it gets all my attention.					
0	1	2	3	4	5
2. The goals I achieve do not mean much to me.					
0	1	2	3	4	5
3. I become very aware of what I am doing when I am working towards a goal.					
0	1	2	3	4	5
4. I get myself through hard things by planning to enjoy myself afterwards.					
0	1	2	3	4	5
5. I know I can track my behaviour when working toward a goal.					
0	1	2	3	4	5
6. When I set important goals for myself, I usually do not achieve them.					
0	1	2	3	4	5
7. When I do something right, I take time to enjoy the feeling.					
0	1	2	3	4	5
8. I pay close attention to my thoughts when I am working on something hard.					
0	1	2	3	4	5
9. I silently praise myself even when others do not praise me.					
0	1	2	3	4	5

Very undescriptive of me 0	Somewhat/mostly undescriptive of me 1	A little undescriptive of me 2	A little descriptive of me 3	Somewhat/mostly descriptive of me 4	Very descriptive of me 5
-------------------------------------	--	---	---------------------------------------	--	-----------------------------------

10. I do not seem capable of making clear plans for most problems that come up in my life.

0 1 2 3 4 5

11. I make sure to track my progress regularly when I am working on a goal.

0 1 2 3 4 5

12. The standards I set for myself are unclear and make it hard for me to judge how I am doing on a task.

0 1 2 3 4 5

13. I congratulate myself when I make some progress.

0 1 2 3 4 5

14. I keep focused on tasks I need to do even if I do not like them.

0 1 2 3 4 5

15. I have learned that it is useless to make plans.

0 1 2 3 4 5

16. I give myself something special when I make some progress.

0 1 2 3 4 5

IDAS

Below is a list of feelings, sensations, problems, and experiences that people sometimes have. Read each item to determine how well it describes your recent feelings and experiences. Then select the option that best describes how much you have felt or experienced things this way **during the past two weeks, including today**. Use this scale when answering:

1 Not at all	2 A little bit	3 Moderately	4 Quite a bit	5 Extremely
_____ 1. I was proud of myself				_____ 19. I did not feel much like eating
_____ 2. I felt exhausted				_____ 20. I ate when I wasn't hungry
_____ 3. I felt depressed				_____ 21. I felt optimistic
_____ 4. I felt inadequate				_____ 22. I ate more than usual
_____ 5. I slept less than usual				_____ 23. I felt that I had accomplished a lot
_____ 6. I felt fidgety, restless				_____ 24. I looked forward to things with enjoyment
_____ 7. I had thoughts of suicide				_____ 25. I was furious
_____ 8. I slept more than usual				_____ 26. I felt hopeful about the future
_____ 9. I hurt myself purposely				_____ 27. I felt that I had a lot to look forward to
_____ 10. I slept very poorly				_____ 28. I felt like breaking things
_____ 11. I blamed myself for things				_____ 29. I had disturbing thoughts of something bad that happened to me
_____ 12. I had trouble falling asleep				_____ 30. Little things made me mad
_____ 13. I felt discouraged about things				_____ 31. I felt enraged
_____ 14. I thought about my own death				_____ 32. I had nightmares that reminded me of something bad that happened
_____ 15. I thought about hurting myself				_____ 33. I lost my temper and yelled at people
_____ 16. I did not have much of an appetite				_____ 34. I felt like I had a lot of interesting things to do
_____ 17. I felt like eating less than usual				_____ 35. I felt like I had a lot of energy
_____ 18. I thought a lot about food				

1 Not at all	2 A little bit	3 Moderately	4 Quite a bit	5 Extremely
-----------------	-------------------	-----------------	------------------	----------------

_____ 36. I had memories of something scary that happened

_____ 37. I felt self-conscious knowing that others were watching me

_____ 38. I felt a pain in my chest

_____ 39. I was worried about embarrassing myself socially

_____ 40. I felt dizzy or light headed

_____ 41. I cut or burned myself on

purpose

_____ 42. I had little interest in my usual hobbies or activities

_____ 43. I thought that the world would be better off without me

_____ 44. I felt much worse in the morning than later in the day

_____ 45. I felt drowsy, sleepy

_____ 46. I woke up early and could not get back to sleep

_____ 47. I had trouble concentrating

_____ 48. I had trouble making up my

mind

_____ 49. I talked more slowly than usual

_____ 50. I had trouble waking up in the morning

_____ 51. I found myself worrying all the time

_____ 52. I woke up frequently during the night

_____ 53. It took a lot of effort for me to get going

_____ 54. I woke up much earlier than usual

_____ 55. I was trembling or shaking

_____ 56. I became anxious in a crowded public setting

_____ 57. I felt faint

_____ 58. I found it difficult to make eye contact with people

_____ 59. My heart was racing or pounding

_____ 60. I got upset thinking about something bad that happened

_____ 61. I found it difficult to talk with people I did not know well

_____ 62. I had a very dry mouth

_____ 63. I was short of breath

_____ 64. I felt like I was choking

RCES

We would like you to indicate below how much you believe, **right now**, that the treatment that was described to you will help to reduce your anxiety.

1. At this point, how logical does the therapy offered to you seem?

Not logical at all			Somewhat Logical				Very Logical	
1	2	3	4	5	6	7	8	9

2. At this point, how successful do you think this treatment will be in reducing your worry?

Not at all useful			Somewhat Useful				Very Useful	
1	2	3	4	5	6	7	8	9

3. How confident would you be in recommending this treatment to a friend who has similar problems?

Not at all confident			Somewhat Confident				Very Confident	
1	2	3	4	5	6	7	8	9

4. **Over the next few weeks**, how much worsening or improvement in your worry and anxiety symptoms do you think will occur?

<i>Symptoms becoming worse</i>				<i>No symptom change</i>			<i>Symptoms improving</i>			
-100%	-80%	-60%	-40%	-20%	0%	20%	40%	60%	80%	100%

RHCS

On how many days **in the next week** do you plan to do the worry scheduling?

0 days 1 day 2 days 3 days 4 days 5 days 6 days 7 days

In the next week:

How much actual time do you plan to spend doing the worry scheduling?

None	A little	Some	Quite a bit	A whole lot
0	1	2	3	4

In the next week:

How much effort do you plan to put into the worry scheduling?

None	A little	Some	Quite a bit	A whole lot
0	1	2	3	4

How difficult to start or complete **in the next week** does the worry scheduling sound?

Not at all difficult	A little difficult	Somewhat difficult	Quite difficult	Extremely difficult
0	1	2	3	4

Appendix C

Cover Letter



Health, Hormones, and Behaviour Lab

Phone: (807) 343-8943

Fax: (807) 343-7734

Email: worrystudy@lakeheadu.ca

Project title: Ultra-Brief Treatments for Worry and Anxiety
Information Letter

To the Potential Participant,

Thank you for being interested in our study on two ultra-brief treatments for worry and anxiety. This research project is being conducted by Alexander Penney and Dr. Dwight Mazmanian with the Department of Psychology at Lakehead University. This study is being conducted to compare the effectiveness of two ultra-brief treatments that are based on components of larger therapies. By participating, you can help us gain a better understanding of how to treat worry and anxiety, and will potentially experience some decrease in these symptoms yourself. You are being invited to participate because you are a member of the Lakehead University or Thunder Bay community and are interested in receiving an ultra-brief treatment for worry or anxiety.

The study uses a random number generator to randomly assign participants to receive treatment either immediately or after a 4 week waiting period. If you do not wish to be randomly assigned, you will be given a list of available services in the Thunder Bay area that you may contact to receive treatment. However, since these services are independent of this study, you will not receive these services faster than a member from the general public. If you chose to continue with the study, you will be randomly assigned to one of the two treatments (offered either immediately or following the 4 week waiting period). For treatment, you will meet with a therapist for approximately 15 to 20 minutes one time, during which time you will be taught a strategy for managing your worry and anxiety. You will also be provided with additional reading material. The therapists for this study are all Doctoral Level students in the Clinical Psychology Ph.D. program at Lakehead University. All therapists have received a M.A. in Clinical Psychology and have received extensive training in how to deliver psychotherapy in general, as well as specific training for this study. The therapists have also previously worked with mental health clients in diverse clinical settings (i.e., outpatient mental health clinics, inpatient units, etc.). The treatment sessions will be audiotaped to ensure the treatments were administered correctly for research purposes and to ensure excellent participant care. Completion of this study does not exclude you from seeking treatment via other counsellors, doctors, or other agencies.

You will also be asked to complete questionnaires and a brief interview regarding worry, anxiety, mood, and beliefs about these experiences. Completion of the questionnaires and brief interview will take approximately 50 minutes. In order for us to measure the long-term effectiveness of the treatments, we also ask participants to return to Lakehead University after 4 weeks, 4 months, and 8 months post-treatment. Participants in the delayed treatment condition will also be asked to complete the questionnaires after a 4 week waiting period, at which time they will receive treatment. Participants in the delayed treatment condition will also be asked to return to Lakehead University after 4 weeks, 4 months, and 8 months post-treatment. Please fill

out the Contact Information Sheet, so that we may contact you to return to complete the questionnaires and interview, and so that we may keep in contact with you throughout the study.

Anonymity will be maintained throughout the study. Your name will not be published in any reports stemming from this research. All forms will be stored in a secure place at Lakehead University for five years for publication purposes. A number will uniquely identify you. Only persons directly involved with the research will have access to the questionnaires, and they will be required to uphold confidentiality. Your participation in this study is completely voluntary, you may refuse to complete any part or question in the study, and you may withdraw from this study at any point without any explanation or penalty. However, since you will be asked questions relating to self-harm and suicidal thoughts, it is important for you to be aware that if the researcher is led to believe that you are at risk for harming yourself we are obligated to take appropriate steps to ensure your safety, which may result in breaking confidentiality. As well, any participant who reports a history of mania, hypomania, or psychotic experiences, or is having recurrent suicidal thoughts, will be asked to seek professional counselling rather than continuing with the study.

If you are willing to participate, please complete the consent form provided, and return it to the researcher. The consent form will be kept in a file separate from the study results in order to maintain confidentiality and anonymity. You will not be placed at any foreseeable risks above those involved in disclosing thoughts and feelings related to worry, anxiety, and depression, which on occasion may generate some internal discomfort for some people.

In addition to potentially learning to combat your worry and anxiety, you will also be entered into a draw for a \$50 pre-paid VISA whenever you complete a set of questionnaires. Draws will be held every 4 months throughout the study. You will also be given a \$10 Tim Horton's gift card for returning to Lakehead University to complete the questionnaires at 4 weeks post-treatment, \$20 cash at 4 months post-treatment, and \$20 cash at 8 months post-treatment. You will also be provided with a parking pass if you chose to park at Lakehead University to complete the study.

Manuscripts and posters documenting the research findings may be submitted for publication and conference presentations in the future. If you would like information on the results of the study, you can make a request via email to the address below and a summary will be sent to you at the end of the study.

Occasionally, completing questionnaires on worry, anxiety, or mood may raise some personal issues. If you are a Lakehead University student, and this research causes any internal discomfort please contact the Student Health and Counselling Centre at UC1007 (telephone: 343-8261). If you are a member of the community and you have a personal emergency, please call the Thunder Bay Crisis Response Service at (1-807) 346-8282 to speak with a counsellor. A list of additional services in the Thunder Bay area will also be provided to you.

If you have any questions or concerns regarding this study, please contact Alexander Penney at apenney@lakeheadu.ca or 343-8943, or Dr. Dwight Mazmanian at dmazmani@lakeheadu.ca or 343-8257. You may also contact Lakehead University's Research Ethics Board, which has reviewed and approved of this study, at 343-8283.

Sincerely,

Alexander Penney
Psychological Science
Doctor of Philosophy Candidate
Email: apenney@lakeheadu.ca
Tel: (807) 343-8943

Dwight Mazmanian, Ph.D., C. Psych.
Associate Professor
Department of Psychology
Email: dmazmani@lakeheadu.ca
Tel: (807) 343-8257

Appendix D

List of Counselling Services Available in Thunder Bay

Phone: (807) 343-8943

Fax: (807) 343-7734

Email: worrystudy@lakeheadu.ca

List of Counselling Services Available in Thunder Bay

Canadian Mental Health Association (CMHA) – Crisis Response Service

<http://thunderbay.cmha.ca/>*(807) 346-8282 or toll free 1-888-269-3100.*

Thunder Bay Counseling Centre

<http://www.tbaycounselling.com/index.php>*(807) 684-1880*

Children's Centre Thunder Bay

<http://www.childrenscentre.ca/index.htm>*(807) 343-5000*

Dilico

<http://www.dilico.com/>*(807) 623-8511 or toll free 1-800-465-398*

Thunder Bay Sexual Assault & Sexual Abuse Counseling & Crisis Centre

<http://www.tbsasa.org/index.htm>*(807) 345-0894*

Catholic Family Development Centre

<http://catholicfamilycentre.ca/site/>*(807) 345-7323*

Kids Help Phone

<http://www.kidshelpphone.ca/>

For ages 20 and under

1-800-668-6868

Appendix E
Consent Form

Phone: (807) 343-8943

Fax: (807) 343-7734

Email: worrystudy@lakeheadu.ca

Project title: Ultra-Brief Treatments for Worry and Anxiety
Consent Form

I _____ (please print), have read the information letter provided and have been told how to get more information about this study. My signature on this page indicates that I agree to participate in this research and understand the following:

- I have received an explanation about the nature of the research project, its purpose, and procedures.
- The study uses a random number generator to randomly assign participants to receive treatment either immediately or after a 4 week waiting period. If I do not wish to be randomly assigned, I will be given a list of available services in the Thunder Bay area that I may contact to receive treatment for any distress. Since these services are independent of this study, I understand that I will not receive these services faster than a member from the general public.
- The study is investigating the effectiveness of two different ultra-brief treatments for worry and anxiety. I will be randomly assigned to one of the two treatments. For treatment, I will meet with a therapist for less than 20 minutes one time, during which time I will be taught a strategy for managing my worry and anxiety. I will also be provided with additional reading material.
- The therapists for this study are all Doctoral Level students in the Clinical Psychology Ph.D. program at Lakehead University. All therapists have received a M.A. in Clinical Psychology and have received extensive training in how to deliver psychotherapy in general, as well as specific training for this study.
- These treatment sessions will be audiotaped to ensure the treatments were administered correctly for research purposes and to ensure excellent participant care.
- Completion of this study does not exclude me from seeking treatment from other counsellors, doctors, or other agencies. I will also be provided with a list of available services in the Thunder Bay area to contact if I experience increased emotional distress.
- I will be asked to complete questionnaires and a brief interview regarding worry, anxiety, mood, and beliefs about these experiences. I can choose to skip any questions that I am not comfortable answering.
- I will also be asked questions relating to self-harm and suicidal thoughts. I am aware that if the researcher is led to believe that I am at risk for harming myself, the researcher is obligated to take appropriate steps to ensure my safety, which may result in breaking confidentiality. As well, I am aware that if I report a history of mania, hypomania, or psychotic experiences, or am having recurrent suicidal thoughts, I will be asked to seek professional counselling rather than continuing with the study.

- I will be asked to complete these questionnaires and interview during the initial meeting, after a 4 week period (if assigned to the delayed treatment condition), 4 weeks after meeting with the therapist, 4 months after meeting with therapist, and 8 months after meeting with the therapist.
- I will be asked to return to Lakehead University to complete the questionnaires and interview, though I will be permitted to complete the questionnaires online if I am unable to come to Lakehead University.
- I will be provided with a brief form of the Information Letter whenever I complete the questionnaires.
- Completion of the questionnaires and brief interview will take approximately 50 minutes
- In order to complete the follow up periods, I will complete the Contact Information Sheet, and I permit the researcher to contact me via the email address or telephone number I provide throughout the course of the study.
- I will not be placed at any foreseeable risks above those involved in disclosing my thoughts and feelings related to worry, anxiety, and depression, which on occasion may generate some internal discomfort for some people.
- I will potentially benefit from this study by receiving new skills to combat my worry and anxiety.
- I will also be entered into a draw for a \$50 pre-paid VISA whenever I complete a set of questionnaires. Draws will be held every 4 months throughout the study. I will also be given a \$10 Tim Horton's gift card for returning to Lakehead University to complete the questionnaires at 4 weeks post-treatment, \$20 cash at 4 months post-treatment, and \$20 cash at 8 months post-treatment. I will also be provided with a parking pass if I park at Lakehead University to complete the study.
- I am a volunteer and can withdraw at any time from this study without explanation or penalty.
- I understand my data will be securely stored for five years.
- Only persons directly involved with the research will have access to the questionnaires, and they will be required to uphold confidentiality.
- I will not be identified on any reports or publications stemming from this research.
- A summary of the research findings can be made available to me at the completion of the study by emailing the lead researcher, Alexander Penney, PhD student in Psychological Science, at apenney@lakeheadu.ca.
- I may ask questions about this project at any time. These questions can be submitted to Alexander Penney (apenney@lakeheadu.ca, 343-8943) or Dr. Dwight Mazmanian (dmazmani@lakeheadu.ca, 343-8257). I may also direct questions to the Lakehead University Research Ethics Board, which has reviewed and approved of this study, at 343-8283.

Participant Signature

Date

Appendix F

Contact Information Form



Health, Hormones, and Behaviour Lab

Phone: (807) 343-8943

Fax: (807) 343-7734

Email: worrystudy@lakeheadu.ca

Project title: Ultra-Brief Treatments for Worry and Anxiety
Contact Information Sheet

Please fill out the following information so that we may contact you throughout the study. We will be in contact with you to provide you with any updates about the study, and to help schedule your follow-up points. We request that all participants return at 4 weeks, 4 months, and 8 months post-treatment to measure the effectiveness of the treatments. Participants in the delayed treatment condition will be asked to return in 4 weeks to complete the measures again prior to meeting with the therapist. If you will be unable to return to Lakehead University (i.e., are out of town) at a measurement point, you will be permitted to complete the questionnaires online at home.

You will be entered into a draw for a \$50 pre-paid VISA every time you complete a set of questionnaires. Draws will be held every 4 months throughout the study. You will also be given a \$10 Tim Horton's gift card for returning to Lakehead University to complete the questionnaires at 4 weeks post-treatment, \$20 cash at 4 months post-treatment, and \$20 cash at 8 months post-treatment. You will also be provided with a parking pass if you park at Lakehead University to complete the study.

This sheet will be destroyed after the study is complete.

Please check your preferred method of contact:

Name: _____

Phone: _____

E-mail: _____

 For Laboratory Use Only (DO NOT COMPLETE)

ID = _____

Appendix G

Brief Cover Letter for Follow-ups
and Debriefing Form



Health, Hormones, and Behaviour Lab

Phone: (807) 343-8943

Fax: (807) 343-7734

Email: worrystudy@lakeheadu.ca

Project title: Ultra-Brief Treatments for Worry and Anxiety
Information Letter Reminder

To the Participant,

Thank you for returning to complete follow-up measures for our study on two ultra-brief treatments for worry and anxiety. This information letter serves to remind you of your rights as a participant before you continue with the study.

As a voluntary participant, please remember that:

- Completion of this study does not exclude you from seeking treatment from other counsellors, doctors, or other agencies.
- You will be asked to complete questionnaires and a brief interview regarding worry, anxiety, mood, and beliefs about these experiences. You can choose to skip any questions that you are not comfortable answering.
- Completion of the questionnaires and brief interview will take approximately 50 minutes.
- The brief interview will be conducted only with participants who complete the follow-ups at Lakehead University.
- You will also be asked questions relating to self-harm and suicidal thoughts. Please be aware that if the researcher is led to believe that you are at risk for harming yourself, the researcher is obligated to take appropriate steps to ensure your safety, which may result in breaking confidentiality.
- You will be entered into a draw for a \$50 pre-paid VISA whenever you complete a set of questionnaires. Draws will be held every 4 months throughout the study.
- You will also be given a \$10 Tim Horton's gift card for returning to Lakehead University to complete the questionnaires at 4 weeks post-treatment, \$20 Cash at 4 months post-treatment, and \$20 Cash at 8 months post-treatment. You will also be provided with a parking pass if you park at Lakehead University to complete the study.
- You are a volunteer and can withdraw at any time from this study without explanation or penalty.
- Anonymity will be maintained throughout the study. Your name will not be published in any reports stemming from this research. All forms will be stored in a secure place at Lakehead University for five years for publication purposes.

Occasionally, completing questionnaires on worry, anxiety, or mood may raise some personal issues. If you are a Lakehead University student and this research causes any internal discomfort, please contact the Student Health and Counselling Centre at UC1007 (telephone: 343-8261). If you are a member of the community and you have a personal emergency, please call the Thunder Bay Crisis Response Service at (1-807) 346-8282 to speak with a counsellor. A list of additional services in the Thunder Bay area will also be provided to you.

If you have any questions or concerns regarding this study, please contact Alexander Penney at apenney@lakeheadu.ca or 343-8943, or Dr. Dwight Mazmanian at dmazmani@lakeheadu.ca or 343-8257. You may also contact Lakehead University's Research Ethics Board, which has reviewed and approved of this study, at 343-8283.

Sincerely,

Alexander Penney
Psychological Science
Doctor of Philosophy Candidate
Email: apenney@lakeheadu.ca
Tel: (807) 343-8943

Dwight Mazmanian, Ph.D., C. Psych.
Associate Professor
Department of Psychology
Email: dmazmani@lakeheadu.ca
Tel: (807) 343-8257

Phone: (807) 343-8943

Fax: (807) 343-7734

Email: worrystudy@lakeheadu.ca

Project title: Ultra-Brief Treatments for Worry and Anxiety
Debriefing Form

Thank you for participating in this study on ultra-brief treatments for worry and anxiety. By participating, you are helping us to gain a better understanding of how worry could be treated in a primary care setting. Excessive and uncontrollable worry is the defining characteristic of generalized anxiety disorder, and by understanding how to treat worry, we may be able to prevent the development of generalized anxiety disorder. We hope that this study has helped you to decrease your own worry and anxiety.

Please be assured that the data you provided will be in no way linked to your name or contact information. All the questionnaires will be labelled with ID numbers that will not be connected to you and all data will remain anonymous. To obtain a summary of the results after the study is completed, please email Alexander Penney at apenney@lakeheadu.ca and an electronic summary of the results will be sent to you at the completion of the study.

If you have any friends, relatives, or colleagues who you believe may be interested in receiving treatment for worry or anxiety and partaking in this study, please feel free to provide them with our contact information (worrystudy@lakeheadu.ca or **343-8943**).

If you are interested in seeking additional therapy, please see the handout provided with this form for a list of counselling services available in Thunder Bay. If you should have a personal emergency, please call the Thunder Bay Crisis Response Service at (1-807) 346-8282 to speak with a counsellor.

If you are interested in reading more about this area, below are excellent references for additional information:

Heimberg, R. G., Turk, C. L., & Mennin D. S. (2004). *Generalized Anxiety Disorder: Advances in Research and Practice*. New York: Guilford Press.

Wells, A. (2009). *Metacognitive Therapy for Anxiety and Depression*. New York: Guilford Press.

Sincerely,

Alexander Penney
Psychological Science
Doctor of Philosophy Candidate
Email: apenney@lakeheadu.ca
Tel: (807) 343-8943

Dwight Mazmanian, Ph.D., C. Psych.
Associate Professor
Department of Psychology
Email: dmazmani@lakeheadu.ca
Tel: (807) 343-8257

Appendix H

The “*Psychology Works*” *Fact Sheets: Generalized Anxiety Disorder*

“Psychology Works” Facts Sheet: Generalized Anxiety Disorder

What is generalized anxiety disorder (GAD)?

If you have Generalized Anxiety Disorder you will experience chronic, excessive, and uncontrollable worry, be on edge, be easily fatigued, have difficulty concentrating, feel irritable, experience muscle tension, and have problems sleeping.

GAD is one of the most common anxiety disorders. Studies show that at least one out of every 20 individuals will suffer from GAD at some time in their life. It can be mild or it can contribute to unemployment and serious family and social problems.

GAD can lead to other problems such as fear of meeting people (social phobia), severe panic attacks (panic disorder), and depression. If left untreated, those with GAD are at greater risk of developing medical problems such as heart disease, diabetes, and cancer.

Proven psychological approaches to treat GAD

There are a number of proven psychological therapies for GAD. They will help you gain control over your worries, decrease your anxiety, and improve your quality of life. The therapies that have been shown to be most helpful are:

- cognitive re-evaluation to help you correct thinking patterns which cause and increase worry;
- problem-solving training to help you learn better ways to solve everyday problems;
- exposure to help you confront and control rather than avoid and be controlled by fears; and
- progressive relaxation to decrease your physical symptoms of anxiety such as rapid breathing and sore muscles.

Research shows that psychological treatments are effective in treating GAD

Psychological therapy is very effective in the treatment of GAD. In a recent Canadian study, 77% of those receiving short-term psychotherapy (16 sessions of cognitive re-evaluation, problem-solving training, and exposure) remained GAD-free one year after treatment.

The fact that you get better and stay better after psychological therapy is certainly an important consideration for those seeking help for anxiety-related problems.

Where do I go for more information?

For more information visit the following websites:

- The Anxiety Disorders Association of Canada at <http://www.anxietycanada.ca>.
- AnxietyBC at <http://www.anxietybc.com>.

You can consult with a registered psychologist to find out if psychological interventions might be of help to you. For the names and coordinators of provincial and territorial associations of psychology, please visit www.cpa.ca/public/whatisapsychologist/PTassociations/. The Canadian Register of Health Service Providers in Psychology also has a listing service and can be reached through <http://www.crhspp.ca>.

Appendix I

Self-Report Questionnaires at Four-Week Follow-up

8) Are you currently a student?

Yes – Full Time

Yes – Part Time

No

9) What is the highest level of education that you have achieved?

Doctoral degree

College diploma

Master’s degree

Some college

Undergraduate degree

High school diploma

Some university

Some high school

10) How many alcohol-containing beverages (1 shot of hard liquor = 1 bottle of beer = 1 cooler = 1 glass of wine) have you consumed **in the last week**? _____

11) How often do you drink alcohol-containing beverages **in a normal month**?

Never

Once or twice
a month

Once or twice
a week

Three or four
times a week

Almost
every day

0

1

2

3

4

12) What percentage of the day did you spend worrying on **a typical day during the past week** (0-100%): _____

13) How many times did you worry on **a typical day during the past week**?

Never

Once or twice
a day

Three to five
times a day

Six to ten
times a day

All day/
continuously

0

1

2

3

4

WAQ

1. What things do you worry about most often?

- a) _____ d) _____
 b) _____ e) _____
 c) _____ f) _____

For the following items, please circle the corresponding number (0-8).

2. **Over the past week**, have your worries seemed excessive or exaggerated?

Not at all excessive					Moderately excessive					Totally excessive
0	1	2	3	4	5	6	7	8		

3. **Over the past week**, how many days have you been bothered by excessive worry?

Never				1 day out of 2					Everyday
0	1	2	3	4	5	6	7	8	

4. **Over the past week**, did you have difficulty controlling your worries? For example, when you start worrying about something, did you have difficulty stopping?

No difficulty					Moderate difficulty					Extreme difficulty
0	1	2	3	4	5	6	7	8		

5. **Over the past week**, to what extent have you been disturbed by the following sensations when you were worried or anxious? Rate each sensation by circling a number (0-8).

a) Restlessness or feeling keyed up or on edge.

Not at all					Moderately					Very Severely
0	1	2	3	4	5	6	7	8		

b) Being easily fatigued.

Not at all					Moderately					Very Severely
0	1	2	3	4	5	6	7	8		

For the following items, please circle the corresponding number (0-8).

c) Difficulty concentrating or mind going blank.

Not at all					Moderately					Very Severely
0	1	2	3	4	5	6	7	8		8

d) Irritability.

Not at all					Moderately					Very Severely
0	1	2	3	4	5	6	7	8		8

e) Muscle tension.

Not at all					Moderately					Very Severely
0	1	2	3	4	5	6	7	8		8

f) Sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep).

Not at all					Moderately					Very Severely
0	1	2	3	4	5	6	7	8		8

6. **Over the past week**, to what extent did worry or anxiety interfere with your life? For example, your work, social activities, family life, etc.?

Not at all					Moderately					Very Severely
0	1	2	3	4	5	6	7	8		8

MWQ

This questionnaire assesses thoughts and ideas about worrying. Listed below are some thoughts that you may have about worrying when you notice yourself worrying. Indicate **how often** each thought occurred **over the past week** by circling the appropriate number, using the scale below.

Never 1	Sometimes 2	Often 3	Almost always 4
------------	----------------	------------	--------------------

WHEN I AM WORRYING I THINK:

1. I am going crazy with worrying.

1 2 3 4

2. My worrying will escalate and I'll cease to function.

1 2 3 4

3. I'm making myself ill with worry.

1 2 3 4

4. I'm abnormal for worrying.

1 2 3 4

5. My mind can't take the worrying.

1 2 3 4

6. I'm losing out in life because of worrying.

1 2 3 4

7. My body can't take the worrying.

1 2 3 4

PIM

Please respond to all the items, there are no right or wrong answers.

False; Not at all True 1	Slightly True 2	Mainly true 3	Very true 4
1. Sometimes I let little things bother me too much.			
1	2	3	4
2. Sometimes I'll avoid someone I really don't like.			
1	2	3	4
3. I sometimes complain too much.			
1	2	3	4
4. Sometimes I'm too impatient.			
1	2	3	4
5. I don't take criticism very well.			
1	2	3	4
6. Sometimes I put things off until the last minute.			
1	2	3	4
7. I sometimes make promises I can't keep.			
1	2	3	4
8. There have been times when I could have been more thoughtful than I was.			
1	2	3	4
9. I rarely get in a bad mood.			
1	2	3	4

PSWQ

Circle the number that describes how typical or characteristic each item is of you **over the past week**, using the following scale:

Not at all Typical		Somewhat Typical		Very Typical
1	2	3	4	5
1. If I don't have enough time to do everything, I don't worry about it.				
1	2	3	4	5
2. My worries overwhelm me.				
1	2	3	4	5
3. I don't tend to worry about things.				
1	2	3	4	5
4. Many situations make me worry.				
1	2	3	4	5
5. I know I shouldn't worry about things, but I just can't help it.				
1	2	3	4	5
6. When I'm under pressure, I worry a lot.				
1	2	3	4	5
7. I am always worrying about something.				
1	2	3	4	5
8. I find it easy to dismiss worrisome thoughts.				
1	2	3	4	5
9. As soon as I finish one task, I start to worry about everything else I have to do.				
1	2	3	4	5
10. I never worry about anything.				
1	2	3	4	5

Not at all Typical		Somewhat Typical		Very Typical
1	2	3	4	5

11. When there is nothing more I can do about a concern, I don't worry about it anymore.

1 2 3 4 5

12. I notice that I have been worrying about things.

1 2 3 4 5

13. Once I start worrying, I can't stop.

1 2 3 4 5

14. I worry all the time.

1 2 3 4 5

15. I worry about projects until they are all done.

1 2 3 4 5

CAQ

People react differently to certain types of thoughts. Using the following scale, please indicate to what extent each of the following statements is typical of the way that you respond to certain thoughts **over the past week**. Please circle the appropriate number (1 to 5).

Not at all typical 1	A little typical 2	Somewhat typical 3	Very typical 4	Completely typical 5
----------------------------	--------------------------	--------------------------	----------------------	----------------------------

1. There are things that I would rather not think about.

1 2 3 4 5

2. I avoid certain situations that lead me to pay attention to things I don't want to think about.

1 2 3 4 5

3. I replace threatening mental images with things I say to myself in my mind.

1 2 3 4 5

4. I think about things that concern me as if they were occurring to someone else.

1 2 3 4 5

5. I have thoughts that I try to avoid.

1 2 3 4 5

6. I try not to think about the most upsetting aspects of some situations so as not to be too afraid.

1 2 3 4 5

7. I sometimes avoid objects that can trigger upsetting thoughts.

1 2 3 4 5

8. I distract myself to avoid thinking about certain disturbing subjects.

1 2 3 4 5

9. I avoid people who make me think about things that I do not want to think about.

1 2 3 4 5

Not at all typical 1	A little typical 2	Somewhat typical 3	Very typical 4	Completely typical 5
----------------------------	--------------------------	--------------------------	----------------------	----------------------------

10. I often do things to distract myself from my thoughts.

1 2 3 4 5

11. I think about trivial details so as not to think about important subjects that worry me.

1 2 3 4 5

12. Sometimes I throw myself into an activity so as not to think about certain things.

1 2 3 4 5

13. To avoid thinking about subjects that upset me, I force myself to think about something else.

1 2 3 4 5

14. There are things I try not to think about.

1 2 3 4 5

15. I keep saying things to myself in my head to avoid visualizing scenarios (a series of mental images) that frighten me.

1 2 3 4 5

16. Sometimes I avoid places that make me think about things I would prefer not to think about.

1 2 3 4 5

17. I think about past events so as not to think about future events that make me feel insecure.

1 2 3 4 5

18. I avoid actions that remind me of things I do not want to think about.

1 2 3 4 5

19. When I have mental images that are upsetting, I say things to myself in my head to replace the images.

1 2 3 4 5

Not at all typical 1	A little typical 2	Somewhat typical 3	Very typical 4	Completely typical 5
----------------------------	--------------------------	--------------------------	----------------------	----------------------------

20. I think about many little things so as not to think about more important matters.

1 2 3 4 5

21. Sometimes I keep myself occupied just to prevent thoughts from popping up in my mind.

1 2 3 4 5

22. I avoid situations that involve people who make me think about unpleasant things.

1 2 3 4 5

23. Rather than having images of upsetting events form in my mind, I try to describe the events using an internal monologue (things that I say to myself in my head).

1 2 3 4 5

24. I push away the mental images related to a threatening situation by trying to describe the situation using an internal monologue.

1 2 3 4 5

25. I think about things that are worrying other people rather than thinking about my own worries.

1 2 3 4 5

RGHAS

Listed below are various methods that people use to get help for an anxiety problem. Check all of the methods that you have used **in the past week**. If you check an item, please indicate the number of times you have used this method **in the past week**. If none apply, leave it blank.

- ___ I have read a book or multiple books on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have searched the internet for resources on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have watched tapes or videos on my own on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have exercised on my own or as part of a group (e.g. yoga, Tai Chi, walking, biking, weight lifting, swimming, etc.) to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have discussed on one or more occasions how to solve or manage my anxiety with a friend, family member, pastor, or work colleague in order to get advice on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have been involved with a "chat-group" or other internet service to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have gone on one or more occasions to a self-help or support group to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have attended a class/seminar or have attended multiple classes/seminars (e.g. stress management, relaxation, meditation, etc.) to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have discussed how to solve or manage my anxiety with my family physician or other primary care provider (i.e., registered nurse, etc.)
Number of occasions: _____
- ___ I have seen one or more professional counselors or therapists on one or more occasions to help me how to solve or manage my anxiety
Number of occasions: _____
- ___ I have been hospitalized for to help me solve or manage my anxiety
Number of occasions: _____
- ___ Other (please describe): _____
Number of occasions: _____

BFNE

Read each of the following statements carefully and indicate how characteristic it is of you **over the past week** according to the following scale.

Not at all characteristic of me 1	Slightly characteristic of me 2	Moderately characteristic of me 3	Very characteristic of me 4	Extremely characteristic of me 5
1. I worry about what other people will think of me even when I know it doesn't make any difference.				
1	2	3	4	5
2. I am unconcerned even if I know people are forming an unfavourable impression of me.				
1	2	3	4	5
3. I am frequently afraid of other people noticing my shortcomings.				
1	2	3	4	5
4. I rarely worry about what kind of impression I am making on someone.				
1	2	3	4	5
5. I am afraid that others will not approve of me.				
1	2	3	4	5
6. I am afraid that other people will find fault with me.				
1	2	3	4	5
7. Other people's opinions of me do not bother me.				
1	2	3	4	5
8. When I am talking to someone, I worry about what they may be thinking of me.				
1	2	3	4	5
9. I am usually worried about what kind of impression I make.				
1	2	3	4	5

Not at all characteristic of me 1	Slightly characteristic of me 2	Moderately characteristic of me 3	Very characteristic of me 4	Extremely characteristic of me 5
--	--	--	--------------------------------------	---

10. If I know someone is judging me, it has little effect on me.

1 2 3 4 5

11. Sometimes I think I am too concerned with what other people think of me.

1 2 3 4 5

12. I often worry that I will say or do the wrong things.

1 2 3 4 5

INF

Please respond to all the items, there are no right or wrong answers.

False; Not at all True 1	Slightly True 2	Mainly True 3	Very True 4
1. My favourite poet is Raymond Kertezc.			
1	2	3	4
2. Sometimes I get ads in the mail that I don't really want.			
1	2	3	4
3. My favourite sports event on television is the high jump.			
1	2	3	4
4. Most people would rather win than lose.			
1	2	3	4
5. My favourite hobbies are archery and stamp-collecting.			
1	2	3	4
6. I don't like to have to buy things that are overpriced.			
1	2	3	4
7. Most people look forward to a trip to the dentist.			
1	2	3	4
8. In my free time I might read, watch TV, or just relax.			
1	2	3	4

MCQ-30

This questionnaire is concerned with beliefs people have about their thinking. Listed below are a number of beliefs that people have expressed. Please read each item and say how much you agree with it **in general over the past week** by circling the appropriate number. Please respond to all the items, there are no right or wrong answers.

Do not agree 1	Agree slightly 2	Agree moderately 3	Agree very much 4
1. Worrying helps me to avoid problems in the future			
1	2	3	4
2. My worrying is dangerous for me			
1	2	3	4
3. I think a lot about my thoughts			
1	2	3	4
4. I could make myself sick with worrying			
1	2	3	4
5. I am aware of the way my mind works when I am thinking through a problem			
1	2	3	4
6. If I did not control a worrying thought, and then it happened, it would be my fault			
1	2	3	4
7. I need to worry in order to remain organized			
1	2	3	4
8. I have little confidence in my memory for words and names			
1	2	3	4
9. My worrying thoughts persist, no matter how I try to stop them			
1	2	3	4

Do not agree 1	Agree slightly 2	Agree moderately 3	Agree very much 4
10. Worrying helps me to get things sorted out in my mind			
1	2	3	4
11. I cannot ignore my worrying thoughts			
1	2	3	4
12. I monitor my thoughts			
1	2	3	4
13. I should be in control of my thoughts all of the time			
1	2	3	4
14. My memory can mislead me at times			
1	2	3	4
15. My worrying could make me go mad			
1	2	3	4
16. I am constantly aware of my thinking			
1	2	3	4
17. I have a poor memory			
1	2	3	4
18. I pay close attention to the way my mind works			
1	2	3	4
19. Worrying helps me cope			
1	2	3	4

Do not agree 1	Agree slightly 2	Agree moderately 3	Agree very much 4
20. Not being able to control my thoughts is a sign of weakness			
1	2	3	4
21. When I start worrying, I cannot stop			
1	2	3	4
22. I will be punished for not controlling certain thoughts			
1	2	3	4
23. Worrying helps me to solve problems			
1	2	3	4
24. I have little confidence in my memory for places			
1	2	3	4
25. It is bad to think certain thoughts			
1	2	3	4
26. I do not trust my memory			
1	2	3	4
27. If I could not control my thoughts, I would not be able to function			
1	2	3	4
28. I need to worry, in order to work well			
1	2	3	4
29. I have little confidence in my memory for actions			
1	2	3	4
30. I constantly examine my thoughts			
1	2	3	4

MRTS

Please select the likelihood that you would engage in the following treatments, if they were made available to you:

Not very likely			Not sure			Very Likely
1	2	3	4	5	6	7

1. I would attend a 12-week group psychotherapy/counselling program:

1 2 3 4 5 6 7

2. I would attend a 12-week individual psychotherapy/counselling program:

1 2 3 4 5 6 7

3. I would attend a 12-week support group (i.e., Mental Health Peer Support Group):

1 2 3 4 5 6 7

4. I would attend a 12-week psychotherapy/counselling seminar (i.e., classes) program:

1 2 3 4 5 6 7

5. I would use a 12-week self-help manual:

1 2 3 4 5 6 7

PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then choose the appropriate answer by circling the number under the word. Indicate to what extent you have **felt this way during the past week**. Use the following scale to record your answers.

Very slightly or not at all 1	A little 2	Moderately 3	Quite a bit 4	Extremely 5	
1. Interested	1	2	3	4	5
2. Irritable	1	2	3	4	5
3. Distressed	1	2	3	4	5
4. Alert	1	2	3	4	5
5. Excited	1	2	3	4	5
6. Ashamed	1	2	3	4	5
7. Upset	1	2	3	4	5
8. Inspired	1	2	3	4	5
9. Strong	1	2	3	4	5

Very slightly or not at all 1	A little 2	Moderately 3	Quite a bit 4	Extremely 5
10. Nervous				
1	2	3	4	5
11. Guilty				
1	2	3	4	5
12. Determined				
1	2	3	4	5
13. Scared				
1	2	3	4	5
14. Attentive				
1	2	3	4	5
15. Hostile				
1	2	3	4	5
16. Jittery				
1	2	3	4	5
17. Enthusiastic				
1	2	3	4	5
18. Active				
1	2	3	4	5
19. Proud				
1	2	3	4	5
20. Afraid				
1	2	3	4	5

PMUS

1. Are you **currently** taking any medications to treat anxiety or worry? Yes No

2. **Compared to when you first began the study**, how has your medication use changed:

Greatly decreased the frequency/ dose/amount		No change in the frequency/ dose/amount		Greatly increased the frequency/ dose/amount		
-3	-2	-1	0	+1	+2	+3

3. Please list any medications you are currently taking to treat anxiety, worry, depression, or other emotional issue:

Medication A: _____ Dose per week: _____

Medication B: _____ Dose per week: _____

Medication C: _____ Dose per week: _____

Medication D: _____ Dose per week: _____

Medication E: _____ Dose per week: _____

Medication F: _____ Dose per week: _____

Medication G: _____ Dose per week: _____

NIM

Please respond to all the items, there are no right or wrong answers.

False; Not at all True 1	Slightly True 2	Mainly True 3	Very True 4
1. Sometimes I cannot remember who I am.			
1	2	3	4
2. I have visions in which I see myself forced to commit crimes.			
1	2	3	4
3. Since the day I was born, I was destined to be unhappy.			
1	2	3	4
4. I think I have three or four completely different personalities inside of me.			
1	2	3	4
5. People don't understand how much I suffer.			
1	2	3	4
6. Every once in a while I totally lose my memory.			
1	2	3	4
7. Sometimes my vision is only in black and white.			
1	2	3	4
8. I don't have any good memories from my childhood.			
1	2	3	4
9. I have severe psychological problems that began very suddenly			
1	2	3	4

SHAI

Each question in this section consists of a group of four statements. Please read each group of statements carefully and then select the one which best describes your feelings, **over the past week**. Identify the statement by circling the letter next to the statement. It may be that more than one statement applies, in which case, please circle any that are applicable.

1. (a) I do not worry about my health.
 (b) I occasionally worry about my health.
 (c) I spend much of my time worrying about my health.
 (d) I spend most of my time worrying about my health.

2. (a) I notice aches/pains less than most other people (of my age).
 (b) I notice aches/pains as much as most other people (of my age).
 (c) I notice aches/pains more than most other people (of my age).
 (d) I am aware of aches/pains in my body all the time.

3. (a) As a rule I am not aware of bodily sensations or changes.
 (b) Sometimes I am aware of bodily sensations or changes.
 (c) I am often aware of bodily sensations or changes.
 (d) I am constantly aware of bodily sensations or changes.

4. (a) Resisting thoughts of illness is never a problem.
 (b) Most of the time I can resist thoughts of illness.
 (c) I try to resist thoughts of illness but am often unable to do so.
 (d) Thoughts of illness are so strong that I no longer even try to resist them.

5. (a) As a rule I am not afraid that I have a serious illness.
 (b) I am sometimes afraid that I have a serious illness.
 (c) I am often afraid that I have a serious illness.
 (d) I am always afraid that I have a serious illness.

6. (a) I do not have images (mental pictures) of myself being ill.
 (b) I occasionally have images of myself being ill.
 (c) I frequently have images of myself being ill.
 (d) I constantly have images of myself being ill.

7.
 - (a) I do not have any difficulty taking my mind off thoughts about my health.
 - (b) I sometimes have difficulty taking my mind off thoughts about my health.
 - (c) I often have difficulty in taking my mind off thoughts about my health.
 - (d) Nothing can take my mind off thoughts about my health.

8.
 - (a) I am lastingly relieved if my doctor tells me there is nothing wrong.
 - (b) I am initially relieved but the worries sometimes return later.
 - (c) I am initially relieved but the worries always return later.
 - (d) I am not relieved if my doctor tells me there is nothing wrong.

9.
 - (a) If I hear about an illness I never think I have it myself.
 - (b) If I hear about an illness I sometimes think I have it myself.
 - (c) If I hear about an illness I often think I have it myself.
 - (d) If I hear about an illness I always think I have it myself.

10.
 - (a) If I have a bodily sensation or change I rarely wonder what it means.
 - (b) If I have a bodily sensation or change I often wonder what it means.
 - (c) If I have a bodily sensation or change I always wonder what it means.
 - (d) If I have a bodily sensation or change I must know what it means.

11.
 - (a) I usually feel at very low risk for developing a serious illness.
 - (b) I usually feel at fairly low risk for developing a serious illness.
 - (c) I usually feel at moderate risk for developing a serious illness.
 - (d) I usually feel at high risk for developing a serious illness.

12.
 - (a) I never think I have a serious illness.
 - (b) I sometimes think I have a serious illness.
 - (c) I often think I have a serious illness.
 - (d) I usually think that I am seriously ill.

13. (a) If I notice an unexplained bodily sensation I don't find it difficult to think about other things.
(b) If I notice an unexplained bodily sensation I sometimes find it difficult to think about other things.
(c) If I notice an unexplained bodily sensation I often find it difficult to think about other things.
(d) If I notice an unexplained bodily sensation I always find it difficult to think about other things.
14. (a) My family/friends would say I do not worry enough about my health.
(b) My family/friends would say I have a normal attitude to my health.
(c) My family/friends would say I worry too much about my health.
(d) My family/friends would say I am a hypochondriac.

For the following questions, please think about what it might be like if you had a serious illness of a type which particularly concerns you (such as heart disease, cancer, multiple sclerosis and so on). Obviously it may not be possible to know for definite what it would be like; please give your best estimate of what you think might happen, basing your estimate on what you know about yourself and serious illness in general.

15. (a) If I had a serious illness I would still be able to enjoy things in my life quite a lot.
(b) If I had a serious illness I would still be able to enjoy things in my life a little.
(c) If I had a serious illness I would be almost completely unable to enjoy things in my life.
(d) If I had a serious illness I would be completely unable to enjoy life at all.
16. (a) If I developed a serious illness there is a good chance that modern medicine would be able to cure me.
(b) If I developed a serious illness there is a moderate chance that modern medicine would be able to cure me.
(c) If I developed a serious illness there is a very small chance that modern medicine would be able to cure me.
(d) If I developed a serious illness there is no chance that modern medicine would be able to cure me.

17.
 - (a) A serious illness would ruin some aspects of my life.
 - (b) A serious illness would ruin many aspects of my life.
 - (c) A serious illness would ruin almost every aspect of my life.
 - (d) A serious illness would ruin every aspect of my life.

18.
 - (a) If I had a serious illness I would not feel that I had lost my dignity.
 - (b) If I had a serious illness I would feel that I had lost a little of my dignity.
 - (c) If I had a serious illness I would feel that I had lost quite a lot of my dignity.
 - (d) If I had a serious illness I would feel that I had totally lost my dignity.

ACES

Listed below are a number of statements concerning beliefs about change. Please read each item carefully, and circle one of the five options that best reflect how you feel about the statement **right now**.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

1. I feel pessimistic that my anxiety problems could ever change for the better.

1	2	3	4	5
---	---	---	---	---

2. Even though I try, nothing seems to help with my anxiety.

1	2	3	4	5
---	---	---	---	---

3. It would be extremely difficult or impossible to solve my problems with anxiety.

1	2	3	4	5
---	---	---	---	---

4. I have had some positive experiences with being able to control my anxiety through talking positively to myself.

1	2	3	4	5
---	---	---	---	---

5. My problems with anxiety are too severe to benefit from treatment.

1	2	3	4	5
---	---	---	---	---

6. Self-help methods may help others control their anxiety but they won't work for me.

1	2	3	4	5
---	---	---	---	---

7. I don't believe I will ever feel truly relaxed and not worried.

1	2	3	4	5
---	---	---	---	---

8. Facing my fears has never helped me to reduce my anxiety.

1	2	3	4	5
---	---	---	---	---

9. When I force myself to do something that scares me, often it's not as bad as I thought.

1	2	3	4	5
---	---	---	---	---

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

10. I have had some success in reducing my anxiety.

1 2 3 4 5

11. There is very little anyone could do to help me solve my anxiety problems.

1 2 3 4 5

12. Even when I try to talk positively to myself, it doesn't help my anxiety.

1 2 3 4 5

13. Positive thinking is helpful to me in managing my anxiety.

1 2 3 4 5

14. There is no solution to my anxiety problems.

1 2 3 4 5

15. I am optimistic that my anxiety can change for the better.

1 2 3 4 5

16. I have found that I can reduce my anxiety by telling myself to relax or by using relaxation exercises.

1 2 3 4 5

17. I'll never be able to control my anxiety and worry.

1 2 3 4 5

18. I believe it's quite possible for me to feel less worried and more relaxed.

1 2 3 4 5

19. If I work hard, I can have a positive impact on my problems with anxiety.

1 2 3 4 5

20. There are factors contributing to my anxiety that I can learn to control.

1 2 3 4 5

OCI-R

The following statements refer to experiences that many people have in their everyday lives. Circle the number that best describes how much that experience has distressed or bothered you during the **past week**. The numbers refer to the following verbal labels:

Not at all	A little	Moderately	A lot	Extremely
0	1	2	3	4

1. I have saved up so many things that they get in the way.

0 1 2 3 4

2. I check things more often than necessary.

0 1 2 3 4

3. I get upset if objects are not arranged properly.

0 1 2 3 4

4. I feel compelled to count while I am doing things.

0 1 2 3 4

5. I find it difficult to touch an object when I know it has been touched by strangers or certain people.

0 1 2 3 4

6. I find it difficult to control my own thoughts.

0 1 2 3 4

7. I collect things I don't need.

0 1 2 3 4

8. I repeatedly check doors, windows, drawers, etc.

0 1 2 3 4

9. I get upset if others change the way I have arranged things.

0 1 2 3 4

Not at all 0	A little 1	Moderately 2	A lot 3	Extremely 4
-----------------	---------------	-----------------	------------	----------------

10. I feel I have to repeat certain numbers.

0 1 2 3 4

11. I sometimes have to wash or clean myself simply because I feel contaminated.

0 1 2 3 4

12. I am upset by unpleasant thoughts that come into my mind against my will.

0 1 2 3 4

13. I avoid throwing things away because I am afraid I might need them later.

0 1 2 3 4

14. I repeatedly check gas and water taps and light switches after turning them off.

0 1 2 3 4

15. I need things to be arranged in a particular order.

0 1 2 3 4

16. I feel that there are good and bad numbers.

0 1 2 3 4

17. I wash my hands more often and longer than necessary.

0 1 2 3 4

18. I frequently get nasty thoughts and have difficulty in getting rid of them.

0 1 2 3 4

SCMS

Please read each of the following statements and rate how well each statement describes you **over the past week**, using the following scale:

Very undescriptive of me 0	Somewhat/mostly undescriptive of me 1	A little undescriptive of me 2	A little descriptive of me 3	Somewhat/mostly descriptive of me 4	Very descriptive of me 5
1. When I work toward something, it gets all my attention.					
0	1	2	3	4	5
2. The goals I achieve do not mean much to me.					
0	1	2	3	4	5
3. I become very aware of what I am doing when I am working towards a goal.					
0	1	2	3	4	5
4. I get myself through hard things by planning to enjoy myself afterwards.					
0	1	2	3	4	5
5. I know I can track my behaviour when working toward a goal.					
0	1	2	3	4	5
6. When I set important goals for myself, I usually do not achieve them.					
0	1	2	3	4	5
7. When I do something right, I take time to enjoy the feeling.					
0	1	2	3	4	5
8. I pay close attention to my thoughts when I am working on something hard.					
0	1	2	3	4	5
9. I silently praise myself even when others do not praise me.					
0	1	2	3	4	5

Very undescriptive of me 0	Somewhat/mostly undescriptive of me 1	A little undescriptive of me 2	A little descriptive of me 3	Somewhat/mostly descriptive of me 4	Very descriptive of me 5
-------------------------------------	--	---	---------------------------------------	--	-----------------------------------

10. I do not seem capable of making clear plans for most problems that come up in my life.

0 1 2 3 4 5

11. I make sure to track my progress regularly when I am working on a goal.

0 1 2 3 4 5

12. The standards I set for myself are unclear and make it hard for me to judge how I am doing on a task.

0 1 2 3 4 5

13. I congratulate myself when I make some progress.

0 1 2 3 4 5

14. I keep focused on tasks I need to do even if I do not like them.

0 1 2 3 4 5

15. I have learned that it is useless to make plans.

0 1 2 3 4 5

16. I give myself something special when I make some progress.

0 1 2 3 4 5

IDAS

Below is a list of feelings, sensations, problems, and experiences that people sometimes have. Read each item to determine how well it describes your recent feelings and experiences. Then select the option that best describes how much you have felt or experienced things this way **during the past week, including today**. Use this scale when answering:

1 Not at all	2 A little bit	3 Moderately	4 Quite a bit	5 Extremely
_____ 1. I was proud of myself				_____ 20. I ate when I wasn't hungry
_____ 2. I felt exhausted				_____ 21. I felt optimistic
_____ 3. I felt depressed				_____ 22. I ate more than usual
_____ 4. I felt inadequate				_____ 23. I felt that I had accomplished a lot
_____ 5. I slept less than usual				_____ 24. I looked forward to things with enjoyment
_____ 6. I felt fidgety, restless				_____ 25. I was furious
_____ 7. I had thoughts of suicide				_____ 26. I felt hopeful about the future
_____ 8. I slept more than usual				_____ 27. I felt that I had a lot to look forward to
_____ 9. I hurt myself purposely				_____ 28. I felt like breaking things
_____ 10. I slept very poorly				_____ 29. I had disturbing thoughts of something bad that happened to me
_____ 11. I blamed myself for things				_____ 30. Little things made me mad
_____ 12. I had trouble falling asleep				_____ 31. I felt enraged
_____ 13. I felt discouraged about things				_____ 32. I had nightmares that reminded me of something bad that happened
_____ 14. I thought about my own death				_____ 33. I lost my temper and yelled at people
_____ 15. I thought about hurting myself				_____ 34. I felt like I had a lot of interesting things to do
_____ 16. I did not have much of an appetite				_____ 35. I felt like I had a lot of energy
_____ 17. I felt like eating less than usual				_____ 36. I had memories of something scary that happened
_____ 18. I thought a lot about food				
_____ 19. I did not feel much like eating				

1 Not at all	2 A little bit	3 Moderately	4 Quite a bit	5 Extremely
_____ 37. I felt self-conscious knowing that others were watching me				_____ 51. I found myself worrying all the time
_____ 38. I felt a pain in my chest				_____ 52. I woke up frequently during the night
_____ 39. I was worried about embarrassing myself socially				_____ 53. It took a lot of effort for me to get going
_____ 40. I felt dizzy or light headed				_____ 54. I woke up much earlier than usual
_____ 41. I cut or burned myself on purpose				_____ 55. I was trembling or shaking
_____ 42. I had little interest in my usual hobbies or activities				_____ 56. I became anxious in a crowded public setting
_____ 43. I thought that the world would be better off without me				_____ 57. I felt faint
_____ 44. I felt much worse in the morning than later in the day				_____ 58. I found it difficult to make eye contact with people
_____ 45. I felt drowsy, sleepy				_____ 59. My heart was racing or pounding
_____ 46. I woke up early and could not get back to sleep				_____ 60. I got upset thinking about something bad that happened
_____ 47. I had trouble concentrating				_____ 61. I found it difficult to talk with people I did not know well
_____ 48. I had trouble making up my mind				_____ 62. I had a very dry mouth
_____ 49. I talked more slowly than usual				_____ 63. I was short of breath
_____ 50. I had trouble waking up in the morning				_____ 64. I felt like I was choking

RCES

We would like you to indicate below how much you believe, **right now**, that the treatment that was described to you has helped to reduce your anxiety.

1. At this point, how logical does the therapy offered to you seem?

Not logical at all			Somewhat Logical				Very Logical	
1	2	3	4	5	6	7	8	9

2. At this point, how successful do you think this treatment has been in reducing your worry?

Not at all useful			Somewhat Useful				Very Useful	
1	2	3	4	5	6	7	8	9

3. How confident would you be in recommending this treatment to a friend who has similar problems?

Not at all confident			Somewhat Confident				Very Confident	
1	2	3	4	5	6	7	8	9

4. **Compared to when you first began the study**, how much worsening or improvement in your worry and anxiety symptoms did you experience?

<i>Symptoms becoming worse</i>				<i>No symptom change</i>				<i>Symptoms improving</i>		
-100%	-80%	-60%	-40%	-20%	0%	20%	40%	60%	80%	100%

RHCS

On how many days **in the last week** did you use the worry scheduling?

0 days 1 day 2 days 3 days 4 days 5 days 6 days 7 days

In the last week:

How much actual time did you spend doing the worry scheduling?

None	A little	Some	Quite a bit	A whole lot
0	1	2	3	4

In the last week:

How much effort did you put into the worry scheduling?

None	A little	Some	Quite a bit	A whole lot
0	1	2	3	4

How difficult to start or complete **in the last week** was the worry scheduling?

Not at all difficult	A little difficult	Somewhat difficult	Quite difficult	Extremely difficult
0	1	2	3	4

Appendix J

Self-Report Questionnaires at Four-Month Post-Treatment

8) Are you currently a student?

Yes – Full Time

Yes – Part Time

No

9) What is the highest level of education that you have achieved?

Doctoral degree

College diploma

Master’s degree

Some college

Undergraduate degree

High school diploma

Some university

Some high school

10) How many alcohol-containing beverages (1 shot of hard liquor = 1 bottle of beer = 1 cooler = 1 glass of wine) have you consumed **in the last week**? _____

11) How often do you drink alcohol-containing beverages **in a normal month**?

Never

Once or twice
a month

Once or twice
a week

Three or four
times a week

Almost
every day

0

1

2

3

4

12) What percentage of the day did you spend worrying on **a typical day during the past week** (0-100%): _____

13) How many times did you worry on **a typical day during the past week**?

Never

Once or twice
a day

Three to five
times a day

Six to ten
times a day

All day/
continuously

0

1

2

3

4

WAQ

1. What things do you worry about most often?

- a) _____ d) _____
 b) _____ e) _____
 c) _____ f) _____

For the following items, please circle the corresponding number (0-8).

2. **Over the past month**, have your worries seemed excessive or exaggerated?

Not at all excessive					Moderately excessive					Totally excessive
0	1	2	3	4	5	6	7	8		

3. **Over the past month**, how many days have you been bothered by excessive worry?

Never				1 day out of 2				Everyday
0	1	2	3	4	5	6	7	8

4. **Over the past month**, did you have difficulty controlling your worries? For example, when you start worrying about something, did you have difficulty stopping?

No difficulty					Moderate difficulty				Extreme difficulty
0	1	2	3	4	5	6	7	8	

5. **Over the past month**, to what extent have you been disturbed by the following sensations when you were worried or anxious? Rate each sensation by circling a number (0-8).

a) Restlessness or feeling keyed up or on edge.

Not at all					Moderately				Very Severely
0	1	2	3	4	5	6	7	8	

b) Being easily fatigued.

Not at all					Moderately				Very Severely
0	1	2	3	4	5	6	7	8	

For the following items, please circle the corresponding number (0-8).

c) Difficulty concentrating or mind going blank.

Not at all							Moderately			Very Severely
0	1	2	3	4	5	6	7	8		

d) Irritability.

Not at all							Moderately			Very Severely
0	1	2	3	4	5	6	7	8		

e) Muscle tension.

Not at all							Moderately			Very Severely
0	1	2	3	4	5	6	7	8		

f) Sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep).

Not at all							Moderately			Very Severely
0	1	2	3	4	5	6	7	8		

6. **Over the past month**, to what extent did worry or anxiety interfere with your life? For example, your work, social activities, family life, etc.?

Not at all							Moderately			Very Severely
0	1	2	3	4	5	6	7	8		

MWQ

This questionnaire assesses thoughts and ideas about worrying. Listed below are some thoughts that you may have about worrying when you notice yourself worrying. Indicate **how often** each thought occurred **over the past month** by circling the appropriate number, using the scale below.

Never 1	Sometimes 2	Often 3	Almost always 4
------------	----------------	------------	--------------------

WHEN I AM WORRYING I THINK:

1. I am going crazy with worrying.

1 2 3 4

2. My worrying will escalate and I'll cease to function.

1 2 3 4

3. I'm making myself ill with worry.

1 2 3 4

4. I'm abnormal for worrying.

1 2 3 4

5. My mind can't take the worrying.

1 2 3 4

6. I'm losing out in life because of worrying.

1 2 3 4

7. My body can't take the worrying.

1 2 3 4

PIM

Please respond to all the items, there are no right or wrong answers.

False; Not at all True 1	Slightly True 2	Mainly true 3	Very true 4
1. Sometimes I let little things bother me too much.			
1	2	3	4
2. Sometimes I'll avoid someone I really don't like.			
1	2	3	4
3. I sometimes complain too much.			
1	2	3	4
4. Sometimes I'm too impatient.			
1	2	3	4
5. I don't take criticism very well.			
1	2	3	4
6. Sometimes I put things off until the last minute.			
1	2	3	4
7. I sometimes make promises I can't keep.			
1	2	3	4
8. There have been times when I could have been more thoughtful than I was.			
1	2	3	4
9. I rarely get in a bad mood.			
1	2	3	4

PSWQ

Circle the number that describes how typical or characteristic each item is of you **over the past month**, using the following scale:

Not at all Typical		Somewhat Typical		Very Typical
1	2	3	4	5

1. If I don't have enough time to do everything, I don't worry about it.

1 2 3 4 5

2. My worries overwhelm me.

1 2 3 4 5

3. I don't tend to worry about things.

1 2 3 4 5

4. Many situations make me worry.

1 2 3 4 5

5. I know I shouldn't worry about things, but I just can't help it.

1 2 3 4 5

6. When I'm under pressure, I worry a lot.

1 2 3 4 5

7. I am always worrying about something.

1 2 3 4 5

8. I find it easy to dismiss worrisome thoughts.

1 2 3 4 5

9. As soon as I finish one task, I start to worry about everything else I have to do.

1 2 3 4 5

10. I never worry about anything.

1 2 3 4 5

Not at all Typical		Somewhat Typical		Very Typical
1	2	3	4	5

11. When there is nothing more I can do about a concern, I don't worry about it anymore.

1 2 3 4 5

12. I notice that I have been worrying about things.

1 2 3 4 5

13. Once I start worrying, I can't stop.

1 2 3 4 5

14. I worry all the time.

1 2 3 4 5

15. I worry about projects until they are all done.

1 2 3 4 5

CAQ

People react differently to certain types of thoughts. Using the following scale, please indicate to what extent each of the following statements is typical of the way that you respond to certain thoughts **over the past month**. Please circle the appropriate number (1 to 5).

Not at all typical 1	A little typical 2	Somewhat typical 3	Very typical 4	Completely typical 5
----------------------------	--------------------------	--------------------------	----------------------	----------------------------

1. There are things that I would rather not think about.

1 2 3 4 5

2. I avoid certain situations that lead me to pay attention to things I don't want to think about.

1 2 3 4 5

3. I replace threatening mental images with things I say to myself in my mind.

1 2 3 4 5

4. I think about things that concern me as if they were occurring to someone else.

1 2 3 4 5

5. I have thoughts that I try to avoid.

1 2 3 4 5

6. I try not to think about the most upsetting aspects of some situations so as not to be too afraid.

1 2 3 4 5

7. I sometimes avoid objects that can trigger upsetting thoughts.

1 2 3 4 5

8. I distract myself to avoid thinking about certain disturbing subjects.

1 2 3 4 5

9. I avoid people who make me think about things that I do not want to think about.

1 2 3 4 5

Not at all typical 1	A little typical 2	Somewhat typical 3	Very typical 4	Completely typical 5
----------------------------	--------------------------	--------------------------	----------------------	----------------------------

10. I often do things to distract myself from my thoughts.

1 2 3 4 5

11. I think about trivial details so as not to think about important subjects that worry me.

1 2 3 4 5

12. Sometimes I throw myself into an activity so as not to think about certain things.

1 2 3 4 5

13. To avoid thinking about subjects that upset me, I force myself to think about something else.

1 2 3 4 5

14. There are things I try not to think about.

1 2 3 4 5

15. I keep saying things to myself in my head to avoid visualizing scenarios (a series of mental images) that frighten me.

1 2 3 4 5

16. Sometimes I avoid places that make me think about things I would prefer not to think about.

1 2 3 4 5

17. I think about past events so as not to think about future events that make me feel insecure.

1 2 3 4 5

18. I avoid actions that remind me of things I do not want to think about.

1 2 3 4 5

19. When I have mental images that are upsetting, I say things to myself in my head to replace the images.

1 2 3 4 5

Not at all typical 1	A little typical 2	Somewhat typical 3	Very typical 4	Completely typical 5
----------------------------	--------------------------	--------------------------	----------------------	----------------------------

20. I think about many little things so as not to think about more important matters.

1 2 3 4 5

21. Sometimes I keep myself occupied just to prevent thoughts from popping up in my mind.

1 2 3 4 5

22. I avoid situations that involve people who make me think about unpleasant things.

1 2 3 4 5

23. Rather than having images of upsetting events form in my mind, I try to describe the events using an internal monologue (things that I say to myself in my head).

1 2 3 4 5

24. I push away the mental images related to a threatening situation by trying to describe the situation using an internal monologue.

1 2 3 4 5

25. I think about things that are worrying other people rather than thinking about my own worries.

1 2 3 4 5

RGHAS

Listed below are various methods that people use to get help for an anxiety problem. Check all of the methods that you have used **in the past month**. If you check an item, please indicate the number of times you have used this method **in the past month**. If none apply, leave it blank.

- ___ I have read a book or multiple books on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have searched the internet for resources on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have watched tapes or videos on my own on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have exercised on my own or as part of a group (e.g. yoga, Tai Chi, walking, biking, weight lifting, swimming, etc.) to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have discussed on one or more occasions how to solve or manage my anxiety with a friend, family member, pastor, or work colleague in order to get advice on how to solve or manage my anxiety
Number of occasions: _____
- ___ I have been involved with a "chat-group" or other internet service to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have gone on one or more occasions to a self-help or support group to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have attended a class/seminar or have attended multiple classes/seminars (e.g. stress management, relaxation, meditation, etc.) to help me solve or manage my anxiety
Number of occasions: _____
- ___ I have discussed how to solve or manage my anxiety with my family physician or other primary care provider (i.e., registered nurse, etc.)
Number of occasions: _____
- ___ I have seen one or more professional counselors or therapists on one or more occasions to help me how to solve or manage my anxiety
Number of occasions: _____
- ___ I have been hospitalized for to help me solve or manage my anxiety
Number of occasions: _____
- ___ Other (please describe): _____
Number of occasions: _____

BFNE

Read each of the following statements carefully and indicate how characteristic it is of you **over the past month** according to the following scale.

Not at all characteristic of me 1	Slightly characteristic of me 2	Moderately characteristic of me 3	Very characteristic of me 4	Extremely characteristic of me 5
1. I worry about what other people will think of me even when I know it doesn't make any difference.				
1	2	3	4	5
2. I am unconcerned even if I know people are forming an unfavourable impression of me.				
1	2	3	4	5
3. I am frequently afraid of other people noticing my shortcomings.				
1	2	3	4	5
4. I rarely worry about what kind of impression I am making on someone.				
1	2	3	4	5
5. I am afraid that others will not approve of me.				
1	2	3	4	5
6. I am afraid that other people will find fault with me.				
1	2	3	4	5
7. Other people's opinions of me do not bother me.				
1	2	3	4	5
8. When I am talking to someone, I worry about what they may be thinking of me.				
1	2	3	4	5
9. I am usually worried about what kind of impression I make.				
1	2	3	4	5

Not at all characteristic of me 1	Slightly characteristic of me 2	Moderately characteristic of me 3	Very characteristic of me 4	Extremely characteristic of me 5
--	--	--	--------------------------------------	---

10. If I know someone is judging me, it has little effect on me.

1 2 3 4 5

11. Sometimes I think I am too concerned with what other people think of me.

1 2 3 4 5

12. I often worry that I will say or do the wrong things.

1 2 3 4 5

INF

Please respond to all the items, there are no right or wrong answers.

False; Not at all True 1	Slightly True 2	Mainly True 3	Very True 4
1. My favourite poet is Raymond Kertezc.			
1	2	3	4
2. Sometimes I get ads in the mail that I don't really want.			
1	2	3	4
3. My favourite sports event on television is the high jump.			
1	2	3	4
4. Most people would rather win than lose.			
1	2	3	4
5. My favourite hobbies are archery and stamp-collecting.			
1	2	3	4
6. I don't like to have to buy things that are overpriced.			
1	2	3	4
7. Most people look forward to a trip to the dentist.			
1	2	3	4
8. In my free time I might read, watch TV, or just relax.			
1	2	3	4

MCQ-30

This questionnaire is concerned with beliefs people have about their thinking. Listed below are a number of beliefs that people have expressed. Please read each item and say how much you agree with it **in general over the past month** by circling the appropriate number. Please respond to all the items, there are no right or wrong answers.

Do not agree 1	Agree slightly 2	Agree moderately 3	Agree very much 4
1. Worrying helps me to avoid problems in the future			
1	2	3	4
2. My worrying is dangerous for me			
1	2	3	4
3. I think a lot about my thoughts			
1	2	3	4
4. I could make myself sick with worrying			
1	2	3	4
5. I am aware of the way my mind works when I am thinking through a problem			
1	2	3	4
6. If I did not control a worrying thought, and then it happened, it would be my fault			
1	2	3	4
7. I need to worry in order to remain organized			
1	2	3	4
8. I have little confidence in my memory for words and names			
1	2	3	4
9. My worrying thoughts persist, no matter how I try to stop them			
1	2	3	4

Do not agree 1	Agree slightly 2	Agree moderately 3	Agree very much 4
10. Worrying helps me to get things sorted out in my mind			
1	2	3	4
11. I cannot ignore my worrying thoughts			
1	2	3	4
12. I monitor my thoughts			
1	2	3	4
13. I should be in control of my thoughts all of the time			
1	2	3	4
14. My memory can mislead me at times			
1	2	3	4
15. My worrying could make me go mad			
1	2	3	4
16. I am constantly aware of my thinking			
1	2	3	4
17. I have a poor memory			
1	2	3	4
18. I pay close attention to the way my mind works			
1	2	3	4
19. Worrying helps me cope			
1	2	3	4

Do not agree 1	Agree slightly 2	Agree moderately 3	Agree very much 4
20. Not being able to control my thoughts is a sign of weakness			
1	2	3	4
21. When I start worrying, I cannot stop			
1	2	3	4
22. I will be punished for not controlling certain thoughts			
1	2	3	4
23. Worrying helps me to solve problems			
1	2	3	4
24. I have little confidence in my memory for places			
1	2	3	4
25. It is bad to think certain thoughts			
1	2	3	4
26. I do not trust my memory			
1	2	3	4
27. If I could not control my thoughts, I would not be able to function			
1	2	3	4
28. I need to worry, in order to work well			
1	2	3	4
29. I have little confidence in my memory for actions			
1	2	3	4
30. I constantly examine my thoughts			
1	2	3	4

MRTS

Please select the likelihood that you would engage in the following treatments, if they were made available to you:

Not very likely			Not sure			Very Likely
1	2	3	4	5	6	7

1. I would attend a 12-week group psychotherapy/counselling program:

1	2	3	4	5	6	7
---	---	---	---	---	---	---

2. I would attend a 12-week individual psychotherapy/counselling program:

1	2	3	4	5	6	7
---	---	---	---	---	---	---

3. I would attend a 12-week support group (i.e., Mental Health Peer Support Group):

1	2	3	4	5	6	7
---	---	---	---	---	---	---

4. I would attend a 12-week psychotherapy/counselling seminar (i.e., classes) program:

1	2	3	4	5	6	7
---	---	---	---	---	---	---

5. I would use a 12-week self-help manual:

1	2	3	4	5	6	7
---	---	---	---	---	---	---

PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then choose the appropriate answer by circling the number under the word. Indicate to what extent you have **felt this way during the past few weeks**. Use the following scale to record your answers.

Very slightly or not at all 1	A little 2	Moderately 3	Quite a bit 4	Extremely 5
1. Interested				
1	2	3	4	5
2. Irritable				
1	2	3	4	5
3. Distressed				
1	2	3	4	5
4. Alert				
1	2	3	4	5
5. Excited				
1	2	3	4	5
6. Ashamed				
1	2	3	4	5
7. Upset				
1	2	3	4	5
8. Inspired				
1	2	3	4	5
9. Strong				
1	2	3	4	5

Very slightly or not at all 1	A little 2	Moderately 3	Quite a bit 4	Extremely 5
10. Nervous				
1	2	3	4	5
11. Guilty				
1	2	3	4	5
12. Determined				
1	2	3	4	5
13. Scared				
1	2	3	4	5
14. Attentive				
1	2	3	4	5
15. Hostile				
1	2	3	4	5
16. Jittery				
1	2	3	4	5
17. Enthusiastic				
1	2	3	4	5
18. Active				
1	2	3	4	5
19. Proud				
1	2	3	4	5
20. Afraid				
1	2	3	4	5

PMUS

1. Are you **currently** taking any medications to treat anxiety or worry? Yes No

2. **Compared to when you first began the study**, how has your medication use changed:

Greatly decreased the frequency/ dose/amount		No change in the frequency/ dose/amount		Greatly increased the frequency/ dose/amount		
-3	-2	-1	0	+1	+2	+3

3. Please list any medications you are currently taking to treat anxiety, worry, depression, or other emotional issue:

Medication A: _____ Dose per week: _____

Medication B: _____ Dose per week: _____

Medication C: _____ Dose per week: _____

Medication D: _____ Dose per week: _____

Medication E: _____ Dose per week: _____

Medication F: _____ Dose per week: _____

Medication G: _____ Dose per week: _____

NIM

Please respond to all the items, there are no right or wrong answers.

False; Not at all True 1	Slightly True 2	Mainly True 3	Very True 4
1. Sometimes I cannot remember who I am.			
1	2	3	4
2. I have visions in which I see myself forced to commit crimes.			
1	2	3	4
3. Since the day I was born, I was destined to be unhappy.			
1	2	3	4
4. I think I have three or four completely different personalities inside of me.			
1	2	3	4
5. People don't understand how much I suffer.			
1	2	3	4
6. Every once in a while I totally lose my memory.			
1	2	3	4
7. Sometimes my vision is only in black and white.			
1	2	3	4
8. I don't have any good memories from my childhood.			
1	2	3	4
9. I have severe psychological problems that began very suddenly			
1	2	3	4

SHAI

Each question in this section consists of a group of four statements. Please read each group of statements carefully and then select the one which best describes your feelings, **over the past month**. Identify the statement by circling the letter next to the statement. It may be that more than one statement applies, in which case, please circle any that are applicable.

1. (a) I do not worry about my health.
 (b) I occasionally worry about my health.
 (c) I spend much of my time worrying about my health.
 (d) I spend most of my time worrying about my health.

2. (a) I notice aches/pains less than most other people (of my age).
 (b) I notice aches/pains as much as most other people (of my age).
 (c) I notice aches/pains more than most other people (of my age).
 (d) I am aware of aches/pains in my body all the time.

3. (a) As a rule I am not aware of bodily sensations or changes.
 (b) Sometimes I am aware of bodily sensations or changes.
 (c) I am often aware of bodily sensations or changes.
 (d) I am constantly aware of bodily sensations or changes.

4. (a) Resisting thoughts of illness is never a problem.
 (b) Most of the time I can resist thoughts of illness.
 (c) I try to resist thoughts of illness but am often unable to do so.
 (d) Thoughts of illness are so strong that I no longer even try to resist them.

5. (a) As a rule I am not afraid that I have a serious illness.
 (b) I am sometimes afraid that I have a serious illness.
 (c) I am often afraid that I have a serious illness.
 (d) I am always afraid that I have a serious illness.

6. (a) I do not have images (mental pictures) of myself being ill.
 (b) I occasionally have images of myself being ill.
 (c) I frequently have images of myself being ill.
 (d) I constantly have images of myself being ill.

7.
 - (a) I do not have any difficulty taking my mind off thoughts about my health.
 - (b) I sometimes have difficulty taking my mind off thoughts about my health.
 - (c) I often have difficulty in taking my mind off thoughts about my health.
 - (d) Nothing can take my mind off thoughts about my health.

8.
 - (a) I am lastingly relieved if my doctor tells me there is nothing wrong.
 - (b) I am initially relieved but the worries sometimes return later.
 - (c) I am initially relieved but the worries always return later.
 - (d) I am not relieved if my doctor tells me there is nothing wrong.

9.
 - (a) If I hear about an illness I never think I have it myself.
 - (b) If I hear about an illness I sometimes think I have it myself.
 - (c) If I hear about an illness I often think I have it myself.
 - (d) If I hear about an illness I always think I have it myself.

10.
 - (a) If I have a bodily sensation or change I rarely wonder what it means.
 - (b) If I have a bodily sensation or change I often wonder what it means.
 - (c) If I have a bodily sensation or change I always wonder what it means.
 - (d) If I have a bodily sensation or change I must know what it means.

11.
 - (a) I usually feel at very low risk for developing a serious illness.
 - (b) I usually feel at fairly low risk for developing a serious illness.
 - (c) I usually feel at moderate risk for developing a serious illness.
 - (d) I usually feel at high risk for developing a serious illness.

12.
 - (a) I never think I have a serious illness.
 - (b) I sometimes think I have a serious illness.
 - (c) I often think I have a serious illness.
 - (d) I usually think that I am seriously ill.

13. (a) If I notice an unexplained bodily sensation I don't find it difficult to think about other things.
- (b) If I notice an unexplained bodily sensation I sometimes find it difficult to think about other things.
- (c) If I notice an unexplained bodily sensation I often find it difficult to think about other things.
- (d) If I notice an unexplained bodily sensation I always find it difficult to think about other things.
14. (a) My family/friends would say I do not worry enough about my health.
- (b) My family/friends would say I have a normal attitude to my health.
- (c) My family/friends would say I worry too much about my health.
- (d) My family/friends would say I am a hypochondriac.

For the following questions, please think about what it might be like if you had a serious illness of a type which particularly concerns you (such as heart disease, cancer, multiple sclerosis and so on). Obviously it may not be possible to know for definite what it would be like; please give your best estimate of what you think might happen, basing your estimate on what you know about yourself and serious illness in general.

15. (a) If I had a serious illness I would still be able to enjoy things in my life quite a lot.
- (b) If I had a serious illness I would still be able to enjoy things in my life a little.
- (c) If I had a serious illness I would be almost completely unable to enjoy things in my life.
- (d) If I had a serious illness I would be completely unable to enjoy life at all.
16. (a) If I developed a serious illness there is a good chance that modern medicine would be able to cure me.
- (b) If I developed a serious illness there is a moderate chance that modern medicine would be able to cure me.
- (c) If I developed a serious illness there is a very small chance that modern medicine would be able to cure me.
- (d) If I developed a serious illness there is no chance that modern medicine would be able to cure me.

17.
 - (a) A serious illness would ruin some aspects of my life.
 - (b) A serious illness would ruin many aspects of my life.
 - (c) A serious illness would ruin almost every aspect of my life.
 - (d) A serious illness would ruin every aspect of my life.

18.
 - (a) If I had a serious illness I would not feel that I had lost my dignity.
 - (b) If I had a serious illness I would feel that I had lost a little of my dignity.
 - (c) If I had a serious illness I would feel that I had lost quite a lot of my dignity.
 - (d) If I had a serious illness I would feel that I had totally lost my dignity.

ACES

Listed below are a number of statements concerning beliefs about change. Please read each item carefully, and circle one of the five options that best reflect how you feel about the statement **right now**.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

1. I feel pessimistic that my anxiety problems could ever change for the better.

1	2	3	4	5
---	---	---	---	---

2. Even though I try, nothing seems to help with my anxiety.

1	2	3	4	5
---	---	---	---	---

3. It would be extremely difficult or impossible to solve my problems with anxiety.

1	2	3	4	5
---	---	---	---	---

4. I have had some positive experiences with being able to control my anxiety through talking positively to myself.

1	2	3	4	5
---	---	---	---	---

5. My problems with anxiety are too severe to benefit from treatment.

1	2	3	4	5
---	---	---	---	---

6. Self-help methods may help others control their anxiety but they won't work for me.

1	2	3	4	5
---	---	---	---	---

7. I don't believe I will ever feel truly relaxed and not worried.

1	2	3	4	5
---	---	---	---	---

8. Facing my fears has never helped me to reduce my anxiety.

1	2	3	4	5
---	---	---	---	---

9. When I force myself to do something that scares me, often it's not as bad as I thought.

1	2	3	4	5
---	---	---	---	---

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

10. I have had some success in reducing my anxiety.

1 2 3 4 5

11. There is very little anyone could do to help me solve my anxiety problems.

1 2 3 4 5

12. Even when I try to talk positively to myself, it doesn't help my anxiety.

1 2 3 4 5

13. Positive thinking is helpful to me in managing my anxiety.

1 2 3 4 5

14. There is no solution to my anxiety problems.

1 2 3 4 5

15. I am optimistic that my anxiety can change for the better.

1 2 3 4 5

16. I have found that I can reduce my anxiety by telling myself to relax or by using relaxation exercises.

1 2 3 4 5

17. I'll never be able to control my anxiety and worry.

1 2 3 4 5

18. I believe it's quite possible for me to feel less worried and more relaxed.

1 2 3 4 5

19. If I work hard, I can have a positive impact on my problems with anxiety.

1 2 3 4 5

20. There are factors contributing to my anxiety that I can learn to control.

1 2 3 4 5

OCI-R

The following statements refer to experiences that many people have in their everyday lives. Circle the number that best describes how much that experience has distressed or bothered you during the **past month**. The numbers refer to the following verbal labels:

Not at all 0	A little 1	Moderately 2	A lot 3	Extremely 4
1. I have saved up so many things that they get in the way.				
0	1	2	3	4
2. I check things more often than necessary.				
0	1	2	3	4
3. I get upset if objects are not arranged properly.				
0	1	2	3	4
4. I feel compelled to count while I am doing things.				
0	1	2	3	4
5. I find it difficult to touch an object when I know it has been touched by strangers or certain people.				
0	1	2	3	4
6. I find it difficult to control my own thoughts.				
0	1	2	3	4
7. I collect things I don't need.				
0	1	2	3	4
8. I repeatedly check doors, windows, drawers, etc.				
0	1	2	3	4
9. I get upset if others change the way I have arranged things.				
0	1	2	3	4

Not at all 0	A little 1	Moderately 2	A lot 3	Extremely 4
-----------------	---------------	-----------------	------------	----------------

10. I feel I have to repeat certain numbers.

0 1 2 3 4

11. I sometimes have to wash or clean myself simply because I feel contaminated.

0 1 2 3 4

12. I am upset by unpleasant thoughts that come into my mind against my will.

0 1 2 3 4

13. I avoid throwing things away because I am afraid I might need them later.

0 1 2 3 4

14. I repeatedly check gas and water taps and light switches after turning them off.

0 1 2 3 4

15. I need things to be arranged in a particular order.

0 1 2 3 4

16. I feel that there are good and bad numbers.

0 1 2 3 4

17. I wash my hands more often and longer than necessary.

0 1 2 3 4

18. I frequently get nasty thoughts and have difficulty in getting rid of them.

0 1 2 3 4

SCMS

Please read each of the following statements and rate how well each statement describes you **over the past month**, using the following scale:

Very undescriptive of me 0	Somewhat/mostly undescriptive of me 1	A little undescriptive of me 2	A little descriptive of me 3	Somewhat/mostly descriptive of me 4	Very descriptive of me 5
1. When I work toward something, it gets all my attention.					
0	1	2	3	4	5
2. The goals I achieve do not mean much to me.					
0	1	2	3	4	5
3. I become very aware of what I am doing when I am working towards a goal.					
0	1	2	3	4	5
4. I get myself through hard things by planning to enjoy myself afterwards.					
0	1	2	3	4	5
5. I know I can track my behaviour when working toward a goal.					
0	1	2	3	4	5
6. When I set important goals for myself, I usually do not achieve them.					
0	1	2	3	4	5
7. When I do something right, I take time to enjoy the feeling.					
0	1	2	3	4	5
8. I pay close attention to my thoughts when I am working on something hard.					
0	1	2	3	4	5
9. I silently praise myself even when others do not praise me.					
0	1	2	3	4	5

Very undescriptive of me 0	Somewhat/mostly undescriptive of me 1	A little undescriptive of me 2	A little descriptive of me 3	Somewhat/mostly descriptive of me 4	Very descriptive of me 5
-------------------------------------	--	---	---------------------------------------	--	-----------------------------------

10. I do not seem capable of making clear plans for most problems that come up in my life.

0 1 2 3 4 5

11. I make sure to track my progress regularly when I am working on a goal.

0 1 2 3 4 5

12. The standards I set for myself are unclear and make it hard for me to judge how I am doing on a task.

0 1 2 3 4 5

13. I congratulate myself when I make some progress.

0 1 2 3 4 5

14. I keep focused on tasks I need to do even if I do not like them.

0 1 2 3 4 5

15. I have learned that it is useless to make plans.

0 1 2 3 4 5

16. I give myself something special when I make some progress.

0 1 2 3 4 5

IDAS

Below is a list of feelings, sensations, problems, and experiences that people sometimes have. Read each item to determine how well it describes your recent feelings and experiences. Then select the option that best describes how much you have felt or experienced things this way **during the past month, including today**. Use this scale when answering:

1 Not at all	2 A little bit	3 Moderately	4 Quite a bit	5 Extremely
_____ 1. I was proud of myself				_____ 20. I ate when I wasn't hungry
_____ 2. I felt exhausted				_____ 21. I felt optimistic
_____ 3. I felt depressed				_____ 22. I ate more than usual
_____ 4. I felt inadequate				_____ 23. I felt that I had accomplished a lot
_____ 5. I slept less than usual				_____ 24. I looked forward to things with enjoyment
_____ 6. I felt fidgety, restless				_____ 25. I was furious
_____ 7. I had thoughts of suicide				_____ 26. I felt hopeful about the future
_____ 8. I slept more than usual				_____ 27. I felt that I had a lot to look forward to
_____ 9. I hurt myself purposely				_____ 28. I felt like breaking things
_____ 10. I slept very poorly				_____ 29. I had disturbing thoughts of something bad that happened to me
_____ 11. I blamed myself for things				_____ 30. Little things made me mad
_____ 12. I had trouble falling asleep				_____ 31. I felt enraged
_____ 13. I felt discouraged about things				_____ 32. I had nightmares that reminded me of something bad that happened
_____ 14. I thought about my own death				_____ 33. I lost my temper and yelled at people
_____ 15. I thought about hurting myself				_____ 34. I felt like I had a lot of interesting things to do
_____ 16. I did not have much of an appetite				_____ 35. I felt like I had a lot of energy
_____ 17. I felt like eating less than usual				_____ 36. I had memories of something scary that happened
_____ 18. I thought a lot about food				
_____ 19. I did not feel much like eating				

1 Not at all	2 A little bit	3 Moderately	4 Quite a bit	5 Extremely
_____ 37. I felt self-conscious knowing that others were watching me				_____ 51. I found myself worrying all the time
_____ 38. I felt a pain in my chest				_____ 52. I woke up frequently during the night
_____ 39. I was worried about embarrassing myself socially				_____ 53. It took a lot of effort for me to get going
_____ 40. I felt dizzy or light headed				_____ 54. I woke up much earlier than usual
_____ 41. I cut or burned myself on purpose				_____ 55. I was trembling or shaking
_____ 42. I had little interest in my usual hobbies or activities				_____ 56. I became anxious in a crowded public setting
_____ 43. I thought that the world would be better off without me				_____ 57. I felt faint
_____ 44. I felt much worse in the morning than later in the day				_____ 58. I found it difficult to make eye contact with people
_____ 45. I felt drowsy, sleepy				_____ 59. My heart was racing or pounding
_____ 46. I woke up early and could not get back to sleep				_____ 60. I got upset thinking about something bad that happened
_____ 47. I had trouble concentrating				_____ 61. I found it difficult to talk with people I did not know well
_____ 48. I had trouble making up my mind				_____ 62. I had a very dry mouth
_____ 49. I talked more slowly than usual				_____ 63. I was short of breath
_____ 50. I had trouble waking up in the morning				_____ 64. I felt like I was choking

RCES

We would like you to indicate below how much you believe, **right now**, that the treatment that was described to you has helped to reduce your anxiety.

1. At this point, how logical does the therapy offered to you seem?

Not logical at all			Somewhat Logical				Very Logical	
1	2	3	4	5	6	7	8	9

2. At this point, how successful do you think this treatment has been in reducing your worry?

Not at all useful			Somewhat Useful				Very Useful	
1	2	3	4	5	6	7	8	9

3. How confident would you be in recommending this treatment to a friend who has similar problems?

Not at all confident			Somewhat Confident				Very Confident	
1	2	3	4	5	6	7	8	9

4. **Compared to when you first began the study**, how much worsening or improvement in your worry and anxiety symptoms did you experience?

<i>Symptoms becoming worse</i>				<i>No symptom change</i>				<i>Symptoms improving</i>		
-100%	-80%	-60%	-40%	-20%	0%	20%	40%	60%	80%	100%

RHCS

On how many days **in the last week** did you use the worry scheduling?

0 days 1 day 2 days 3 days 4 days 5 days 6 days 7 days

In the last week:

How much actual time did you spend doing the worry scheduling?

None	A little	Some	Quite a bit	A whole lot
0	1	2	3	4

In the last week:

How much effort did you put into the worry scheduling?

None	A little	Some	Quite a bit	A whole lot
0	1	2	3	4

How difficult to start or complete **in the last week** was the worry scheduling?

Not at all difficult	A little difficult	Somewhat difficult	Quite difficult	Extremely difficult
0	1	2	3	4

Appendix K

Treatment Scripts and Associated Handouts

Cognitive Avoidance Worry Scheduling Script

I'm going to introduce you to a technique called worry scheduling. The rationale for this treatment is that when you worry throughout the day, the worrying becomes associated with the places, times, and situations you tend to worry in. Over time being in those places, times, and/or situations come to elicit spontaneous worry. For example, let's say that you tend to worry a lot at your desk. Over time, your body will associate the desk with worrying. So, you may sit at your desk someday without any reason to worry, but your desk now has the ability to cause you to start worrying – even though there is nothing to worry about at that very moment.

Let's take another example. A lot of people say that they tend to worry in their cars on the way to work in the morning. Now, someone who worries all the time in his or her car might just hop in the car to go to the beach, and find that he or she is worrying! The reason for this is that the car has become associated with worry, so that it can elicit worry all by itself, even when there is nothing to worry about that day.

Now, you can imagine that this creates a big problem, because as a person continues to worry, over time almost every place, time, or situation can come to elicit worry!

Does this make sense? Do you notice that you tend to worry in specific places or at specific times? What are those places or times?

The good news is that psychologists have developed a way to stop this cycle. What they've developed is called worry scheduling. The goal of worry scheduling is to limit the amount of worry that occurs throughout the day by training people to do all of their worrying in a specific location and at a specific time, so that only a chosen time and location elicits worry.

Specifically, I want you to identify a 30-minute period each day to engage in worry. It is recommended you chose a period in the evening, but not too close to bed time. Remember - this "worry period" will occur at the same time every day and in the same location. This is important, because as I just said, worry can become associated with lots of different places, situations, and times of day. During your 30-minute worry period, you should worry as you normally do, but try to make it as intense as possible. I want you to do this so that you are really able to focus all of your attention on your worries without trying to minimize them or make them seem less important. You might also think about writing things down or making lists if you are worried about something in particular. Just make sure that you do all of this worrying in the same location, at the same time of day, and that you worry intensely for the entire 30 minutes, if possible.

At other times during the day, or if your worry continues beyond the 30 minute period, if you begin to worry, try to delay that worry to the next worry period. In order to take your mind away from the worrying at that moment, you should try to focus your attention outside of your body and in the present moment. Focus on things happening outside of yourself or things you are doing. Watch what other people are doing around you, look at the different colours around you, focus on your breathing, or on what you are eating... just try to distract yourself by being aware of what is happening around you at the moment. You'll have lots of time later to worry to your

heart's content, but we're going to try to make the worries associated with that one time and one location.

One final thing, any time you are able to successfully distract yourself from worrying during the day, it is important that you reward yourself for doing that. Try to reward yourself by silently giving yourself a pat on the back, buy something nice for yourself at the end of the week, or any other way that you can reward yourself. I want you to be your own motivational coach, and encourage yourself to continue using this treatment. Really try to congratulate yourself as you are able to stop the worrying during the day, and congratulate yourself for restricting the worrying to that single worry period.

It is important to also remember that this technique takes time to master, so please try to use it every day for the next four weeks. It may take a few days or weeks to become effective, but if you continue to use the technique, it will help to decrease your stress, anxiety, and how often you worry.

Does all of this make sense? Do you understand what the purpose of the treatment is? Just to make sure we are on the same page, can you explain the purpose of this treatment in your own words? If you begin to worry outside of the worry period, what will you do? Do you have any questions?

Cognitive Avoidance Worry Scheduling Handout

Worry Scheduling

Some tips to get the most out of this treatment:

For the worry period:

- Worry at the same place, at the same time, every day.
- Try to choose a comfortable chair to sit in while you worry.
- Do not purposefully worry in bed, as this may make it difficult to sleep later.
- Try to worry in the evening, after supper, but an hour or two before bed.
- Try to worry as intensely as possible.
- If you live with other people, ask that they do not disturb you during your worry period.
- If you cannot be at home in time for your worry period, wait until the next day, rather than worrying at a different location.
- You may write things down or create lists if it helps you worry.
- Try to worry for the entire 30 minutes. If you start thinking about other topics, try to bring your mind back to the worries.

If worries occur outside of the worry period:

- Try to delay the worry until the next worry period.
- Try to focus outside of your body.
- You could focus on other people's clothes or conversations.
- You could focus on how your clothes feel against your skin, your breathing, or the taste of the food you are eating.
- If helpful, write your worry down on a piece of paper, so that you will remember to worry about it later.
- Remember to praise yourself anytime you notice that you are able to shift your focus away from your worries. Try to be your own coach.
- Try not to get mad at yourself when it is difficult to delay the worry. Encouraging yourself when you have success will be more beneficial than criticizing yourself when it is difficult.

Remember, the purpose of this technique is to remove the associations between worry and many places you go in your life. Instead, we want only one location that is able to elicit the worry.

Try to use this technique every day for at least the four weeks!

Metacognitive Worry Scheduling Script

I'm going to introduce you to a technique called worry scheduling. The rationale for this treatment is that a lot of people who experience chronic worry or anxiety believe that they have no control over how much they worry and that worrying is dangerous for them. When someone believes that they cannot control their worry, that causes them stress, and then they begin to worry about how much they worry. Obviously, this just creates more worry and anxiety.

For example, let's say that someone used to only worry for a few minutes each day. However, after a while, they start to worry a little more. Once they notice this increase in worry, they begin to believe they cannot stop worrying. As well, when they notice the irritability, poor sleep, racing thoughts, or muscle tension that comes with worrying, they start to believe that the worry is damaging their body or mind. As you might expect, believing that you cannot stop worrying, or that worrying is dangerous, is likely to lead to someone worrying about their worry even more.

Sometimes, people worry about how much they worry, or worry about the dangers of worrying, without even realizing it. The belief may be inside your mind, without you even realizing it.

Does this make sense? Do you ever find yourself worrying about how much you worry? Do you believe that worry can be dangerous to your health or mind?

The good news is that worry itself is in no way damaging or uncontrollable, even though it may feel like it. Further, psychologists have developed a way for you to experience more control over your worries, and discover that they are not dangerous to your health or mind. What they've developed is called worry scheduling. The goal of worry scheduling is to limit the amount of worry that occurs throughout the day by training people to do all of their worrying in a specific location and at a specific time.

Specifically, I want you to identify a 30-minute period each day to engage in worry. It is recommended you chose a period in the evening, but not too close to bed time. Remember - this "worry period" will occur at the same time every day and in the same location. This is important, because as I just said, I want you to experience control over your worries. During your 30-minute worry period, you should worry as you normally do, but try to make it as intense as possible. By making the worrying intense, and doing this repeatedly, that your body and mind will discover that worrying is not dangerous. Over time, worrying will cause you less anxiety, tension, and stress, because you won't be seeing the worry as dangerous. You might think about writing things down or making lists if you are worried about something in particular. Just make sure that you do all of this worrying in the same location, at the same time of day, and that you worry intensely for the entire 30 minutes, if possible.

At other times during the day, or if your worry continues beyond the 30 minute period, if you begin to worry, try to just observe your thoughts, without reacting to them. Rather than trying to stop the worrying, or trying to argue against the worries, or trying to problem solve for every possible worry, I want you to simply observe how your mind works. When people step back, and casually observe their worries, the worrying tends to be shorter and less stressful. For

example, if you begin to worry about your finances, just watch your thoughts, and after a couple of minutes, your thoughts will automatically shift to different topics. Again, try not to try to fight the worries, but rather just see them as a string of words in your mind. Doing this will lead to you worrying less, and finding the worries you do experience to be less stressful.

It is important to also remember that this technique takes time to master, so please try to use it every day for the next four weeks. It may take a few days or weeks to become effective, but if you continue to use the technique, it will help to decrease your stress, anxiety, and how often you worry.

Does all of this make sense? Do you understand what the purpose of the treatment is? Just to make sure we are on the same page, can you explain the purpose of this treatment in your own words? If you begin to worry outside of the worry period, what will you do? Do you have any questions?

Metacognitive Worry Scheduling Handout

Worry Scheduling

Some tips to get the most out of this treatment:

For the worry period:

- Worry at the same place, at the same time, every day.
- Try to choose a comfortable chair to sit in while you worry.
- Do not purposefully worry in bed, as this may make it difficult to sleep later.
- Try to worry in the evening, after supper, but an hour or two before bed.
- Try to worry as intensely as possible.
- If you live with other people, ask that they do not disturb you during your worry period.
- If you cannot be at home in time for your worry period, wait until the next day, rather than worrying at a different location.
- You may write things down or create lists if it helps you worry.
- Try to worry for the entire 30 minutes. If you start thinking about other topics, try to bring your mind back to the worries.

If worries occur outside of the worry period:

- Simply observe the worrying process.
- Become an independent observer of how your mind works.
- Do not try to control the worries, argue with the worries, or problem solve every worry.
- Allow your mind to casually move away from the worries to other topics.
- If helpful, write your worry down on a piece of paper, so that you will remember to worry about it later.

Remember, the purpose of this technique is to become aware that worrying is not dangerous, and that you can control how much you worry.

Try to use this technique every day for at least the four weeks!

Appendix L

Treatment Adherence Checklists

CAWS Adherence Checklist

The therapist DID:

- Discuss how worry becomes ASSOCIATED with places, times, situations: _____
- Discuss how the association comes to ELICIT SPONTANEOUS worries: _____
- Give at least one EXAMPLE of how worry can become associated: _____
- Emphasize how the TRAINING makes worry associated with ONE location: _____
- Emphasize worrying in ONE LOCATION AT ONE TIME EVERY DAY: _____
- Emphasize worrying in the EVENING, but before bed time: _____
- Emphasize worrying as INTENSELY as possible: _____
- Emphasize trying to DELAY worries outside of the worry period: _____
- Emphasize focusing OUTSIDE OF THE BODY/BEING PRESENT IN THE MOMENT when worrying during the day: _____
- Give at least one EXAMPLE of how to focus outside of the body/being present: _____
- Emphasize SELF-PRAISE/SELF-COACHING: _____
- Give at least one EXAMPLE of self-praise/self-coaching: _____
- Encourage using the technique for at least the next FOUR weeks: _____

The therapist DID NOT:

- Discuss how people believe that WORRY IS UNCONTROLLABLE and DANGEROUS: _____
- Discuss how these beliefs lead to MORE WORRY AND ANXIETY: _____
- Give any EXAMPLES of how these beliefs increase worry: _____
- Emphasize how the TRAINING helps GAIN CONTROL over worries and discover that WORRIES ARE NOT DANGEROUS : _____
- Emphasize trying to NON-JUDEGEMENTALLY OBSERVE worries outside of the worry period: _____
- Emphasize SIMPLY WATCHING worries that occur during the day: _____
- Give any EXAMPLES of simply observing the thought process: _____

MWS Adherence Checklist

The therapist DID:

- Discuss how people believe that WORRY IS UNCONTROLLABLE and DANGEROUS: _____
- Discuss how these beliefs lead to MORE WORRY AND ANXIETY: _____
- Give at least one EXAMPLE of how these beliefs increase worry: _____
- Emphasize how the TRAINING helps GAIN CONTROL over worries and discover that WORRIES ARE NOT DANGEROUS : _____
- Emphasize worrying in ONE LOCATION AT ONE TIME EVERY DAY: _____
- Emphasize worrying in the EVENING, but before bed time: _____
- Emphasize worrying as INTENSELY as possible: _____
- Emphasize trying to NON-JUDGMENTALLY OBSERVE worries outside of the worry period: _____
- Emphasize SIMPLY WATCHING worries that occur during the day: _____
- Give at least one EXAMPLE of simply observing the thought process: _____
- Encourage using the technique for at least the next FOUR weeks: _____

The therapist DID NOT:

- Discuss how worry becomes ASSOCIATED with places, times, situations: _____
- Discuss how the association comes to ELICIT SPONTANEOUS worries: _____
- Give at least one EXAMPLE of how worry can become associated: _____
- Emphasize how the TRAINING makes worry associated with ONE location: _____
- Emphasize trying to DELAY worries outside of the worry period: _____
- Emphasize focusing OUTSIDE OF THE BODY/BEING PRESENT IN THE MOMENT when worrying during the day: _____
- Give at least one EXAMPLE of how to focus outside of the body/being present: _____
- Emphasize SELF-PRAISE/SELF-COACHING: _____
- Give at least one EXAMPLE of self-praise/self-coaching: _____