

Expanding Our Conceptualization of Excessive Worry and GAD: The Role of Fear and
Avoidance of Emotional Experiences

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ABSTRACT

Expanding Our Conceptualization of Excessive Worry and GAD: The Role of Fear and
Avoidance of Emotional Experiences

Kristin Buhr, Ph.D.
Concordia University, 2007

Fear of emotional responding and experiential avoidance may play an important role in excessive worry and generalized anxiety disorder (GAD). The goal of the first study was to replicate previous research findings by investigating the role of fear and avoidance of emotional experiences in problematic worry and GAD. Moreover, the study served as an extension of previous research by contrasting the relationship between fear and avoidance of emotional responding and excessive worry with constructs already linked to worry and GAD, such as intolerance of uncertainty. Findings from a nonclinical sample indicated that fear of emotions, in particular fear of anxiety, and experiential avoidance were significantly related to excessive worry, which is the defining feature of GAD. Worry was also highly associated with intolerance of uncertainty. Additional analyses revealed that fear of anxiety, experiential avoidance, and intolerance of uncertainty, all made significant and unique contributions to the prediction of worry. Finally, the results suggested that the tendency to fear and avoid emotional experiences was related to GAD diagnostic criteria.

The goal of the second study was to clarify the role of fear of anxiety in worry by assessing whether the experimental manipulation of fear of anxiety affected worry level. The study also assessed the combined effects of fear of anxious responding and intolerance of uncertainty on level of worry by grouping participants according to their

tolerance for uncertainty. The results indicated that participants whose fear of anxiety was increased showed higher levels of worry compared to participants whose fear of anxiety was decreased. This finding provides preliminary support for the causal role of fear of anxiety in worry. Moreover, the results showed that increased fear of anxiety in combination with an intolerance for uncertainty led to the highest levels of worry, which suggests that these constructs have an additive effect on worry. The findings from the present research lend support to the integration of new conceptualizations of psychopathology with existing models of excessive worry, which could ultimately increase treatment efficacy for GAD.

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CONTRIBUTIONS OF AUTHORS

The following thesis is comprised of two manuscripts, which will be submitted for publication within the year:

Buhr, K., & Dugas, M. J. (2007). The role of fear of emotional responding and experiential avoidance in excessive worry and generalized anxiety disorder (GAD). Manuscript under review for submission.

Buhr, K., & Dugas, M. J. (2007). The role of fear of anxiety and intolerance of uncertainty in worry: An experimental manipulation. Manuscript under review for submission.

In terms of contributions, I suggested the focus of my research, which was an extension of some preliminary research being conducted in the Dugas Laboratory on the role of fear and avoidance of emotional experiences in pathological worry. I was responsible for designing study 1, with the help of my research supervisor, Dr. Michel Dugas. I collected and entered the data, with the help of research assistants. In addition, I conducted the statistical analyses and wrote the manuscript. Finally, I was responsible for revising the manuscript based on suggestions from Dr. Dugas.

For study 2, I proposed the idea of experimentally manipulating fear of anxiety and I was responsible for developing the protocol for the study. Moreover, I designed the manipulation stimuli, developed some of the questionnaires, and tested all of the participants. Dr. Dugas and his research team assisted with the refinement of the stimuli and questionnaires, as well as the design of the study. My committee members, Drs. Adam Radomsky and William Bukowski, provided ideas and suggestions for improving

the study. More specifically, Dr. Radomsky identified potential confounds in the study, while Dr. Bukowski suggested investigating additional factors such as gender and helped conduct a power analysis for the study. Again, I was responsible for entering data and conducting the statistical analyses, as well as writing and revising the manuscript based on suggestions from Dr. Michel Dugas. For both studies, Dr. Dugas was available for consultation and provided direction at all stages of the research.

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CHAPTER 1

INTRODUCTION

Generalized anxiety disorder (GAD) is a relatively common disorder, which affects between 2 and 4% of the population at any given time (Blazer, Hughs, George, Schwartz, & Boyer, 1991; Hunt, Issakidis, & Andrews, 2002; Wittchen, Zhao, Kessler, & Eaton, 1994). According to the DSM-IV (American Psychiatric Association, 1994), GAD involves excessive and uncontrollable worry about a number of topics. The worry is associated with three or more of the following symptoms: muscle tension, restlessness/feeling keyed up or on edge, difficulty concentrating/mind going blank, fatigue, irritability, and sleep difficulties. The worry and associated symptoms result in considerable distress and functional impairment (Maier et al., 2000), which subsequently leads to significant personal, social and financial costs (see Koerner et al., 2004, for a review). Unfortunately, GAD is considered a chronic condition, which is unlikely to spontaneously remit (Yonkers, Warshaw, Massion, & Keller, 1996).

Over the past two decades, tremendous progress has been made in our understanding of GAD. These advancements have resulted in a number of theoretically driven conceptualizations of GAD, which have led to the generation of various treatment approaches for GAD. Since the early 1990s, our research group has been developing and evaluating a model and treatment paradigm for excessive worry and GAD. Our cognitive-behavioural model of GAD has four main components: intolerance of uncertainty, positive beliefs about worry, negative problem orientation, and cognitive avoidance. We propose that these components play a significant role in the maintenance or exacerbation of excessive worry, which is the cardinal feature of GAD. Although they

may also be involved in the etiology of problematic worry and GAD, this remains to be empirically established.

Intolerance of uncertainty, which is considered the central feature of the model, can be defined as a dispositional characteristic resulting from a set of negative beliefs about uncertainty and its implications (Dugas & Robichaud, 2007). Specifically, individuals who are intolerant of uncertainty tend to find uncertainty stressful and upsetting, believe uncertainty is negative and should be avoided, and have difficulty taking action in the face of uncertainty (Buhr & Dugas, 2002). These individuals require absolute certainty that feared outcomes will not occur or that they will be able to cope effectively. They feel particularly threatened by uncertain situations or events and go to great lengths to try and eliminate uncertainty from their lives. Unfortunately, these individuals are likely to find many aspects of life intolerable given that uncertainty is inherent in everyday living.

There is a growing body of research specifically linking intolerance of uncertainty to excessive worry and GAD. Research has consistently demonstrated that intolerance of uncertainty and worry are strongly associated (Dugas, Freeston, & Ladouceur, 1997; Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994). In terms of specificity, intolerance of uncertainty is more highly related to worry than to obsessions, panic symptoms, or depression (Dugas, Gosselin, & Ladouceur, 2001; Dugas, Schwartz, & Francis, 2004) and worry shares a stronger relationship with intolerance of uncertainty than with other cognitive processes, such as perfectionism and perceived control (Buhr & Dugas, 2006). GAD patients report higher levels of intolerance of uncertainty than individuals from the general population and patients with other anxiety disorders (Dugas,

Gagnon, Ladouceur, & Freeston, 1998; Dugas, Marchand, & Ladouceur, 2005; Ladouceur et al., 1999). Research has shown that experimentally manipulating tolerance for uncertainty leads to changes in worry level, with increased intolerance of uncertainty leading to elevated levels of worry (Ladouceur, Gosselin, & Dugas, 2000). Furthermore, changes in level of tolerance for uncertainty tend to precede changes in worry during the course of cognitive-behavioural therapy (Dugas & Ladouceur, 2000; Dugas, Langlois, Rhéaume, & Ladouceur, 1998).

Intolerance of uncertainty is considered a higher order process that may lead to worry directly, as well as indirectly, via the other cognitive processes in the model. Intolerance of uncertainty may serve as a filter through which individuals view the world. More specifically, individuals who are intolerant of uncertainty may have a cognitive bias to the extent that they are hypervigilant to uncertainty and tend to negatively interpret ambiguous situations and events. Consistent with this proposition, research has shown that individuals with GAD tend to make threatening interpretations of ambiguous information (e.g., Eysenck, Mogg, May, Richards, & Mathews, 1991; Mogg, Bradley, Miller, & Potts, 1994). Thus, when faced with an uncertainty-inducing situation, individuals who are intolerant of uncertainty tend to conclude that a negative outcome will occur. The tendency to make negative interpretations of ambiguous information is likely to lead to heightened levels of worry and anxiety.

Positive beliefs about worry represent the second component of our model. Research has shown that individuals diagnosed with GAD hold a number of beliefs about the function of worry (Borkovec & Roemer, 1995; Cartwright-Hatton & Wells, 1997; Davey, Tallis, & Capuzzo, 1996). Our own research suggests that worry and GAD are

associated with the following beliefs: worry helps solve problems and increase motivation; worry helps minimize negative emotional reactions to feared future outcomes; worry in and of itself can prevent bad outcomes (a form of “magical” or superstitious thinking), and worry is a positive personality trait (Francis & Dugas, 2004; Holowka, Dugas, Francis, & Laugesen, 2000). Individuals with heightened levels of worry tend to endorse positive beliefs about worry to a greater extent than individuals with low to moderate levels of worry (Holowka et al., 2000). Similarly, GAD patients report higher levels of positive beliefs about worry than individuals from the general population (Dugas, Gagnon, Ladouceur, & Freeston, 1998). Finally, interventions that specifically target positive beliefs about worry result in a reduction in those beliefs, as well as GAD symptoms, and the degree of belief change predicts treatment outcome (Lalberge, Dugas, & Ladouceur, 2000).

Worry and positive beliefs about the function of worry appear to be maintained by both positive and negative reinforcement. For instance, the belief that worry helps problem solving and increases motivation is positively reinforced when the individual successfully resolves problems. Furthermore, the belief that worry superstitiously enables individuals to avoid feared outcomes is negatively reinforced when feared outcomes do not occur, as worriers tend to fear unlikely outcomes (Borkovec & Roemer, 1995). It may be that intolerance of uncertainty contributes to the development of positive beliefs about worry, which provide the individual with a sense of certainty in the short term (“worrying can prevent bad things from happening”) but ultimately lead to high levels of worry and anxiety in the longer term.

Negative problem orientation is the third component of our model. Problem orientation refers to an individual's cognitive set when faced with a problem. A negative problem orientation involves seeing problems as threats, lacking confidence in one's abilities to resolve problems, becoming frustrated when attempting to solve problems, and having a pessimistic attitude about potential problem-solving outcomes (D'Zurilla, Nezu, & Maydeu-Olivares, 1998). Problem orientation is distinct from problem solving skills and it is important to note that individuals with GAD do not necessarily have deficits in their actual abilities to solve problems (Ladouceur, Blais, Freeston, & Dugas, 1998). Research has demonstrated that GAD patients tend to have a more negative problem orientation than individuals from the general population, as well as individuals diagnosed with other anxiety disorders (Dugas, Gagnon et al., 1998; Ladouceur et al., 1999). Given that everyday life is filled with problems and that problem situations typically contain some level of uncertainty, being intolerant of uncertainty, in addition to viewing problems as threats, will likely lead to heightened distress and worry. Moreover, having a negative attitude towards problems likely prevents individuals from approaching and resolving them, thus leading to additional worry regarding ever mounting problems.

The final component of the model is cognitive avoidance, which involves the tendency to avoid threatening cognitive content. According to Borkovec, worry is primarily verbal-linguistic in nature (Borkovec & Inz, 1990). Mental images of threatening materials are associated with stronger emotional reactions than verbal-linguistic thoughts (Vrana, Cuthbert, & Lang, 1986). Thus, the act of worrying allows individuals to avoid upsetting mental imagery and potentially dampen physiological reactions when thinking about negative future outcomes (see Borkovec, Alcaine, &

Behar, 2004, for a review of the research supporting this proposition). Research suggests that there are several cognitive avoidance strategies, which include suppressing worrisome thoughts, substituting neutral or positive thoughts for worries, and using distraction to avoid concentrating on worries. Findings indicate that these cognitive avoidance strategies are related to pathological worry (Gosselin et al., 2002; Sexton, Dugas, & Hedayati, 2004). Research has also shown that the tendency to engage in cognitive avoidance strategies differentiates GAD patients from individuals from the general population (Dugas, Gagnon, et al., 1998; Ladouceur et al., 1998, 1999). The tendency to engage in cognitive avoidance is likely to be reinforced as it leads to short-term reductions in distress. Unfortunately, cognitive avoidance may interfere with emotional processing of feared stimuli, which may lead to additional anxiety and worry in the long term.

Based on this model of excessive worry, our group developed a cognitive-behavioural treatment (CBT) package for GAD that targets the four components. More specifically, the treatment approach helps individuals develop a greater tolerance for uncertainty, re-evaluate beliefs about the usefulness of worry, improve problem orientation, and expose themselves to feared outcomes (rather than engaging in cognitive avoidance). Our research suggests that this treatment approach results in positive outcomes for approximately two thirds of patients (Dugas, et al., 2003; Dugas, Savard, et al., 2004; Ladouceur, Dugas, et al., 2000). Remission rates range from 60 to 77% and between 62 and 65% of patients attain high endstate functioning (which was defined as having scores within the nonclinical range on at least two thirds of outcome measures, which included GAD severity, pathological worry, GAD somatic symptoms, associated

anxiety, and depression). Moreover, the results suggest that this treatment paradigm is superior to a waitlist condition and helps approximately 20% more patients attain diagnostic remission compared to standard anxiety reduction techniques such as applied relaxation. Treatment gains in terms of diagnostic remission, GAD symptoms, associated anxiety and depression are typically maintained for at least one year following the termination of therapy. Although these results are promising, a significant number of individuals continue to be symptomatic following treatment. Thus, it is important to consider other factors that may be involved in excessive worry and GAD as this may enhance our understanding of this disorder and enable us to refine our current treatment.

Roemer and colleagues (2002, 2005) have proposed that fear of emotional responding and experiential avoidance may play an important role in excessive worry and GAD. In recent years, there has been a growing body of research supporting this proposition. Fear of emotions, which refers to the tendency to view one's emotional experiences as threatening, and experiential avoidance, which involves the unwillingness to remain in contact with unwanted internal experiences (such as thoughts, emotions, and sensations), have been shown to be significantly related to worry and GAD symptomatology (Roemer et al., 2005). Although fear of emotional experiences, such as anxiety, anger, depression, and positive affect, are all related to worry, fear of anxiety is most highly related to worry level (Mennin, Heimberg, Turk, & Fresco, 2005; Roemer et al., 2005). Compared to nonclinical controls, individuals diagnosed with GAD endorse higher levels of fear of anxiety (Mennin et al., 2005; Roemer et al., 2005) and experiential avoidance (Roemer et al., 2005), while individuals meeting criteria for GAD based on self-report responses endorse negative beliefs about the consequences of

emotions and the need to control their emotional experiences (Mennin et al., 2005; Turk, Heimberg, Luterek, Mennin, & Fresco, 2005). Taken together, these findings suggest a significant association between fear and avoidance of internal experiences and excessive worry and GAD. Thus, the potential role of fear and avoidance of emotional experiences in pathological worry and GAD appears to be a promising avenue of research.

The goals of the current studies were to replicate and extend previous research by investigating the role of fear and avoidance of emotional experiences in worry and GAD. The first study assessed the relationship between fear and avoidance of emotional experiences, and worry and GAD symptomatology. Moreover, the study served as an extension of previous research by contrasting the relationship between fear and avoidance of emotional responding and excessive worry with constructs already linked to worry and GAD, such as intolerance of uncertainty. Based on previous findings, it was expected that fear of emotion, in particular fear of anxiety, experiential avoidance, and intolerance of uncertainty would be highly related to both level of worry and GAD diagnostic criteria. Moreover, it was proposed that fear of anxiety, experiential avoidance, and intolerance of uncertainty, would all make significant and unique contributions to the prediction of worry.

The goal of the second study was to clarify the role of fear of anxiety in worry by assessing whether the experimental manipulation of fear of anxiety leads to changes in worry level. The study also examined the combined effects of fear of anxious responding and intolerance of uncertainty on level of worry by grouping participants according to their level of tolerance for uncertainty (high or low). Based on the findings from the first study, which suggested that both fear of anxiety and intolerance of

uncertainty share a significant and unique relationship with worry, it was hypothesized that these constructs would have an additive effect on level of worry. This research could potentially help us refine our current model of worry and GAD, and ultimately lead to more efficacious treatments.

Abstract

The Role of Fear of Emotional Responding and Experiential Avoidance In Excessive Worry and Generalized Anxiety Disorder (GAD)

The current study sought to replicate previous research findings by investigating the role of fear and avoidance of emotional experiences in problematic worry and generalized anxiety disorder (GAD). Moreover, the study served as an extension of previous research by contrasting the relationship between fear and avoidance of emotional responding and excessive worry with constructs already linked to worry and GAD, such as intolerance of uncertainty. Findings from a nonclinical sample indicated that fear of emotions, in particular fear of anxiety, and experiential avoidance were significantly related to excessive worry, which is the defining feature of GAD. Worry was also highly associated with intolerance of uncertainty. Additional analyses revealed that fear of anxiety, experiential avoidance, and intolerance of uncertainty, all made significant and unique contributions to the prediction of worry. Finally, the results suggested that the tendency to fear and avoid emotional experiences was related to GAD diagnostic criteria. These findings add to a growing body of research, which suggests that fear of emotions and experiential avoidance may play a role in problematic worry and GAD.

Worry, which has been recognized as the defining feature of generalized anxiety disorder (GAD; American Psychiatric Association, 1994), has received considerable research attention over the past decade. As a result, a number of theories have been developed that outline the role of worry in GAD and identify factors that may be involved in the etiology and subsequent maintenance of problematic worry. This has led to the development of a number of cognitive-behavioural treatment paradigms for GAD (Borkovec, 1999; Brown, O’Leary, & Barlow, 2001; Craske, 1999; Ladouceur et al., 2000; Wells, 1999). Although current treatments have yielded positive outcomes, GAD continues to be the least successfully treated anxiety disorder (Gould, Safren, O’Neill Washington, & Otto, 2004). In fact, a substantial number of GAD patients continue to experience significant impairments following the termination of treatment. This suggests that we may need to further refine our understanding of worry and GAD, which may ultimately lead to more efficacious interventions.

Roemer and Orsillo (2002) recently proposed that experiential avoidance might play a role in excessive worry and GAD. This proposal is based on Borkovec’s conceptualization of worry as a form of avoidance (1994; Borkovec et al., 2004). This theory is supported by research that shows that worriers believe that the act of worrying in and of itself prevents future negative events from occurring (e.g., Borkovec, Hazlett-Stevens, & Diaz, 1999). The belief that worry reduces the likelihood of feared future events materializing enables worriers to superstitiously avoid feared outcomes. Given that worriers tend to fear outcomes that are unlikely to occur, the non-occurrence of such outcomes reinforces the act of worrying. Similarly, worry may serve to decrease internal distress enabling individuals to avoid unpleasant internal experiences. According to

Borkovec and colleagues (1990, 1993), worry is characterized by thoughts as opposed to images. Research findings have shown that thinking about emotional material, rather than visualizing it, results in less physiological reactions (Vrana et al., 1986). Worriers have also been shown to avoid an increase in their heart rate during an anxiety-provoking situation compared to controls (Borkovec & Hu, 1990) and worrying after viewing upsetting material is associated with less anxiety compared to engaging in imaginal rehearsal of the material (Wells & Papegeorgio, 1995). Worry also appears to be associated with a general restriction in the range of autonomic responses (Connor & Davidson, 1998) and GAD has been shown to be associated with restricted variability on measures of heart rate and skin conductance (Hoehn-Saric & McLeod, 1988; Hoehn-Saric, McLeod, & Zimmerli, 1989). Decreased physiological arousal likely results in the negative reinforcement of worry.

Borkovec's (1994; Borkovec et al., 2004) conceptualization of worry as avoidant in nature can be linked to Hayes and colleagues' (1996) proposal that experiential avoidance, which involves the unwillingness to remain in contact with unwanted internal experiences, such as thoughts, emotions, and sensations, is a core feature of mental disorders. According to Hayes and colleagues (1996, 1999), psychopathology stems from failed attempts to control or reduce unpleasant internal experiences. This conceptualization is based on research examining rule-governed behaviour that has demonstrated that humans have a unique ability to learn bidirectional relationships between stimuli (see Hayes et al., 1999). More specifically, once individuals pair an external stimulus with an internal response, they can have the same emotional reaction to thoughts about the external stimulus. Eventually, thoughts about the external stimulus

and the emotional reaction become cues in and of themselves that trigger efforts to avoid them.

Unfortunately, attempts to avoid internal experiences may have a paradoxical effect. For example, individuals asked to suppress specific thoughts, reported a subsequent increase in those thoughts (Wegner, 1994). Similarly, worry has been linked to a number of long-term negative effects. For instance, although worry decreases heart rate in the short term, it appears to interfere with the habituation of feared imagery over time (Borkovec & Hu, 1990). Moreover, following exposure to upsetting material, worry leads to a reduction in initial anxiety levels, but results in an increase in intrusive thoughts about the material over the following days (Wells & Papageorgio, 1995). Borkovec (1994) proposed that worry, similar to experiential avoidance, interferes with emotional processing. Internal experiences, such as emotions, provide important informational cues about experiences that alert individuals about the potential relevance of that experience. When individuals engage in experiential avoidance this information is not successfully processed and the threatening meanings associated with those experiences are maintained. Although Borkovec's (1994; Borkovec et al., 2004) conceptualization of worry as avoidant in nature appears consistent with Hayes' et al. (1996) theory of experiential avoidance, this connection remains to be clearly established.

Apart from establishing the potential link between worry and experiential avoidance, it will be important to determine what drives individuals to engage in strategies aimed at avoiding internal experiences. According to Hayes et al. (1999), experiential avoidance results from associating threat with internal experiences. This corresponds with Borkovec's (1999) proposition that worriers find their reactions to

situations and events distressing, which subsequently results in additional distress.

Researchers have already begun to assess the extent to which individuals react negatively to anxiety symptoms. Fear of fear (Goldstein & Chambless, 1978) and anxiety sensitivity (Reiss & McNally, 1985), which both refer to the tendency to view one's anxiety symptoms as threatening, have already been linked to anxiety disorders such as panic disorder (See Taylor, 1999 for a review). Less is known about the connection between GAD and fear of emotional responding, although elevated levels of anxiety sensitivity have been identified in individuals diagnosed with GAD (Taylor, Koch, & McNally, 1992).

Mennin and colleagues (2002, 2004) have proposed an emotion dysregulation model of GAD that suggests that individuals with GAD experience more intense emotional reactions, have difficulty identifying and understanding emotions, interpret their internal experiences as aversive, and have deficits in their abilities to effectively regulate their emotions. Research has demonstrated that individuals meeting the criteria for GAD based on self-report responses experience more intense emotional reactions and have greater difficulty identifying and accepting their emotional experiences compared to controls (Mennin et al., 2002; Turk et al., 2005). Furthermore, the worry that characterizes GAD is associated with difficulties repairing a negative mood state (Mennin et al., 2005). Given the potential intensification of emotional reactions, difficulty identifying emotions, and deficits in emotion regulation skills, it is not surprising that worriers would be more fearful of their emotions.

The recent proposed role of fear of emotional responding and experiential avoidance in excessive worry and GAD has prompted a number of recent investigations.

Roemer, Salters, Raffa and Orsillo (2005) examined the role of fear of emotional responding and experiential avoidance in GAD in both clinical and nonclinical samples. Results revealed that experiential avoidance was significantly correlated with worry and GAD symptomatology in the nonclinical sample. Similarly, fear of emotional experiences, including anxiety, depression, anger, and positive affect, was significantly associated with worry and GAD. However, fear of anxiety and fear of depression were more strongly related to worry and GAD than fear of anger and positive affect. Moreover, fear of anxiety emerged as the only significant predictor of GAD. In the clinical sample, GAD clients reported heightened levels of fear of anxiety and experiential avoidance compared to nonclinical controls, which supports the proposed role of fear and avoidance of emotional experiences in GAD.

Mennin and colleagues (2005; Turk et al., 2005) completed a series of studies that revealed that individuals meeting criteria for GAD based on self-report responses endorsed negative beliefs about the consequences of emotions and the need to control their emotional experiences. Compared to controls, they reported greater levels of negative reactivity to various emotions including anxiety, depression, and anger, as well as fear of positive emotions. The findings also revealed that the tendency to fear emotions was significantly related to worry; however, fear of anxiety was most highly associated with worry level (Mennin et al., 2005). Mennin and associates (2005) also found that individuals diagnosed with GAD reported greater fear of emotional experiences, including anxiety, depression, anger and positive affect, compared to nonclinical controls. Again, fear of emotion, in particular fear of anxiety, was significantly related to worry level. Taken together, these findings suggest a significant

association between fear and avoidance of internal experiences and excessive worry and GAD. The current study will attempt to replicate these previous findings in order to provide additional evidence of the connection between reactions to internal experiences and the symptoms of GAD.

The current study will also extend previous research by exploring the role of fear and avoidance of internal experiences in problematic worry in relation to other constructs already linked to problematic worry. Recent theories have postulated that worry may stem from an intolerance of uncertainty, which is defined as a dispositional characteristic stemming from a set of negative beliefs about uncertainty and its implications (Dugas & Robichaud, 2007). Research has demonstrated that intolerance of uncertainty makes a significant and unique contribution to the prediction of worry (e.g., Buhr & Dugas, 2002; Dugas et al., 1997), and that experimentally manipulating intolerance of uncertainty leads to changes in worry level (Ladouceur et al., 2000). Moreover, targeting intolerance of uncertainty has been shown to be an effective strategy for treating pathological worry (Dugas & Ladouceur, 2000; Dugas et al., 2003; Ladouceur et al., 2000).

The goal of the present study was to further examine the role of fear of emotional responding and experiential avoidance in excessive worry and GAD. More specifically, the study contrasted the association between worry and fear of emotion, experiential avoidance and intolerance of uncertainty. Based on previous findings, it was expected that fear of emotion, in particular fear of anxiety, experiential avoidance, and intolerance of uncertainty would be highly related to both level of worry and GAD diagnostic criteria. Moreover, it was proposed that fear of anxiety, experiential avoidance, and

intolerance of uncertainty, would all make a significant and unique contribution to the prediction of worry.

Method

Participants

A total of two hundred and fifty-one ($N = 251$) participants were recruited for the present study, through various undergraduate courses at Concordia University. The sample consisted of 160 (63.7%) females and 91 (36.3%) males, with a mean age of 25.63 ($SD = 7.09$). Concerning ethnicity, 56.6% of the sample identified themselves as Caucasian, 15.7% as Asian, 9.6% as African American, 2.4% as Hispanic, and 15.7% as other ethnic origins, which included Aboriginal, Middle Eastern, and multi-racial. In addition, 30.8% of the sample was enrolled in their third year of university, 27.1% in their second year, 22.3% in their first year, and 19.8% in their fourth year. Finally, 12.4% the sample identified their field of study as psychology.

Instruments

Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990). The PSWQ consists of 16 items that assess excessive and uncontrollable worry (See Appendix C). Participants rate items on a 5-point Likert scale ranging from 1 = “*not at all typical*” to 5 = “*very typical*.” Items include “My worries overwhelm me” and “Once I start worrying, I can't stop.” High scores reflect high levels of worry. Research has demonstrated that the PSWQ is a reliable and valid instrument for assessing worry in both clinical and nonclinical populations (Brown, Antony, & Barlow, 1992; Davey, 1993; Meyer et al., 1990). The PSWQ is a unifactorial measure (Molina & Borkovec, 1994), although recent studies suggest the presence of a second method factor composed of the

five reverse-scored items (Brown, 2003; Hazlett-Stevens, Ullman, & Craske, 2004), with excellent internal consistency ($\alpha = .86$ to $.95$) and test-retest reliability over periods of two to ten weeks ($r = .74$ to $.93$; Molina & Borkovec, 1994). The questionnaire has been shown to have substantial convergent and divergent validity, demonstrating greater correlations with measures of worry than with measures of anxiety and depression (Molina & Borkovec, 1994; see Turk, Heimberg, & Mennin, 2004, for a detailed review of the psychometric properties of the PSWQ).

Worry and Anxiety Questionnaire (WAQ; Dugas, Freeston, et al., 2001). The WAQ includes 11 items that assess the DSM-IV diagnostic criteria for generalized anxiety disorder (GAD; See Appendix C). The measure examines both the cognitive criteria, which include excessive and uncontrollable worry, and the somatic criteria, which include physiological symptoms such as muscle tension. The WAQ can be used to identify whether individuals meet all, some, or none of the criteria for GAD by questionnaire. The WAQ has been shown to have good test-retest reliability after a four-week period ($r = .76$; Beaudoin et al., 1997) and excellent criterion related validity. Specifically, the measure was found to discriminate between nonclinical participants with high, moderate, and low levels of worry, and between GAD patients and matched nonclinical controls (Dugas, Freeston, et al., 2001).

Intolerance of Uncertainty Scale (IUS; original French version: Freeston et al., 1994; English translation: Buhr & Dugas, 2002). The IUS includes 27 items relating to the idea that uncertainty is stressful and upsetting, uncertainty leads to the inability to act, uncertain events are negative and should be avoided, and being uncertain is unfair (See Appendix C). Participants rate items on a 5-point Likert scale ranging from 1 = “not at

all characteristic of me” to 5 = “*entirely characteristic of me.*” Examples of items include “Uncertainty makes me uneasy, anxious, or stressed” and “My mind can't be relaxed if I don't know what will happen tomorrow.” Elevated scores suggest greater intolerance of uncertainty. The IUS has been shown to have excellent internal consistency ($\alpha = .94$) and good test-retest reliability over a five-week period ($r = .74$; Buhr & Dugas, 2002). Moreover, research has demonstrated that the measure shows evidence of convergent and divergent validity when assessed with symptom measures of worry, depression, and anxiety (Buhr & Dugas, 2002).

Affective Control Scale (ACS; Williams, Chambless, & Ahrens, 1997). The ACS includes 42 items that measure fear of emotional arousal and the loss of control over the experience of emotion (See Appendix C). The measure has four subscales: fear of anxiety (ACS-Anxiety), fear of depression (ACS-Depression), fear of anger (ACS-Anger), and fear of positive affect (ACS-Positive). Items are rated on a 7-point Likert scale ranging from 1 = “*very strongly disagree*” to 7 = “*very strongly agree.*” Examples of items include “It scares me that I feel shaky” (anxiety), “I am concerned that I will say things I'll regret when I get angry” (anger), “When I start feeling down, I think I might let the sadness go too far” (depression), and “I can get too carried away when I am really happy” (positive affect). Mean scores are calculated and elevated scores are indicative of high levels of fear of emotion. The ACS has excellent internal consistency ($\alpha = .92$ for full scale; $\alpha = .72$ to $.91$ for subscales) and good test-retest reliability over a two-week period ($r = .77$; Williams et al., 1997). Moreover, the measure has shown evidence of convergent and divergent validity (Williams et al., 1997).

Acceptance and Action Questionnaire (AAQ; Hayes et al., 2002). The AAQ is a 9-item questionnaire that assesses experiential avoidance, negative evaluations of emotions, psychological acceptance, and the ability to take action when emotionally distressed (See Appendix C). Participants rate each item on a 7-point Likert scale ranging from 1 = “*never true*” to 7 = “*always true*.” Examples of items include “If I could magically remove all the painful experiences I’ve had in my life, I would do so” and “Anxiety is bad.” Higher scores suggest heightened levels of experiential avoidance. Preliminary findings indicate that the instrument is reliable and valid (Hayes et al., 2002). Specifically, the AAQ is correlated with measures of psychopathology and related constructs, such as thought control and avoidant coping styles (Hayes et al., 2002).

Procedure

Students were invited to participate at the start of regularly scheduled undergraduate classes and were informed that the purpose of the study was to assess the relationship between worry and various emotional and cognitive constructs. Participation was voluntary and participants were free to discontinue the study at any time. Testing was completed during one 30-minute testing period and groups of approximately 30 to 40 participants were run on several separate occasions. Participants signed an informed consent form and were asked to provide demographic information and complete the following questionnaires: the Penn State Worry Questionnaire (PSWQ), the Worry and Anxiety Questionnaire (WAQ), the Intolerance of Uncertainty Scale (IUS), the Affective Control Scale (ACS), and the Acceptance and Action Questionnaire (AAQ). Ordering of questionnaires was counter-balanced. Information on the IUS was not collected for the first 75 participants.

Results

Preliminary Data Analyses

Prior to conducting the main statistical analyses, the data were screened to establish whether the statistical assumptions were met and to determine whether the data were appropriate for further analyses (see Tabachnick & Fidell, 1996). The assumptions of normality, linearity, homogeneity of variance, as well as multicollinearity and singularity, were met for all measures. Cases with missing values were excluded from analyses on a pairwise basis.

Descriptive Statistics and Gender Differences

Descriptive statistics are presented in Table 2.1. Given that previous research has demonstrated that gender differences typically emerge on measures of worry (e.g., Meyer et al., 1990), independent t-tests, using gender as the grouping variable, were conducted on all study measures, with the exception of the WAQ, to assess the presence of gender differences in the current sample. Gender differences were observed for the PSWQ [$t(249) = 3.49, p < .01$], ACS-Anxiety [$t(241) = 2.09, p < .05$], and ACS-Depression [$t(241) = 2.06, p < .05$], with women scoring higher than men on all three measures. A chi-square test of independence was used to determine whether gender and WAQ category were significantly related. The results revealed a significant relationship [$\chi^2(2, N = 239) = 13.87, p < .01$]. Specifically, women were more likely to meet all or some of the criteria for GAD compared to men. Therefore, gender was statistically controlled in subsequent analyses.

Table 2.1

Means and Standard Deviations for Study Measures (N = 251)

Variable	Mean	Standard Deviation
PSWQ	47.39	12.24
IUS ^a	61.44	18.48
ACS-Anxiety	3.49	.98
ACS-Depression	3.33	1.17
ACS-Anger	3.55	1.01
ACS-Positive Affect	3.17	.84
AAQ	33.31	7.10

Note. PSWQ = Penn State Worry Questionnaire; IUS = Intolerance of Uncertainty Scale; ACS-Anxiety = Affective Control Scale: Fear of Anxiety Subscale; ACS-Depression = Affective Control Scale: Fear of Depression Subscale; ACS-Anger = Affective Control Scale: Fear of Anger Subscale; ACS-Positive = Affective Control Scale: Fear of Positive Affect Subscale; and AAQ = Acceptance and Action Questionnaire.

^a *N* = 176.

Correlations

Partial-correlation coefficients between study variables, controlling for gender, are presented in Table 2.2. Although worry was significantly correlated with all study measures, it was most highly related to fear of anxiety, intolerance of uncertainty, and experiential avoidance. Tests for differences between nonindependent correlations, using Fisher's r to z transformations, indicated that these correlations did not differ significantly from each other; however, they were significantly larger than the correlations between worry and fear of depression, fear of anger, and fear of positive affect.

Further partial correlations revealed that after controlling for all other study measures, including gender, worry continued to be significantly related to intolerance of uncertainty ($r = .31, p < .001$), fear of anxiety ($r = .28, p < .001$), and experiential avoidance ($r = .18, p < .01$). Again, tests for differences between nonindependent correlations, using Fisher's r to z transformations, indicated that these correlations did not differ significantly from each other.

Regression Analyses

In order to determine the amount of variance in worry scores predicted by the study measures, a hierarchical multiple regression, predicting worry, was performed. Demographic information (gender and age) was entered in step 1 and accounted for 5% of the variance in worry scores [$F(2, 170) = 4.49, p < .05$]. Although age was unrelated to all study measures, it was nonetheless included in the first step of the regression in order to more fully account for basic demographic information before entering the

Table 2.2

Partial Correlations (Controlling for Gender) among Study Measures (N = 251)

Variable	PSWQ	IUS ^a	ACS-Anxiety	ACS-Depression	ACS-Anger	ACS-Positive	AAQ
PSWQ	-	.62***	.62***	.47***	.35***	.36***	.59***
IUS ^a		-	.64***	.52***	.56***	.47***	.64***
ACS-Anxiety			-	.62***	.56***	.56***	.68***
ACS-Depression				-	.40***	.48***	.58***
ACS-Anger					-	.62***	.51***
ACS-Positive						-	.52***
AAQ							-

Note. PSWQ = Penn State Worry Questionnaire; IUS = Intolerance of Uncertainty Scale; ACS-Anxiety = Affective Control Scale: Fear of Anxiety Subscale; ACS-Depression = Affective Control Scale: Fear of Depression Subscale; ACS-Anger = Affective Control Scale: Fear of Anger Subscale; ACS-Positive = Affective Control Scale: Fear of Positive Affect Subscale; and AAQ = Acceptance and Action Questionnaire.

Gender has been partialled out of all correlations.

^a N = 176.

*** $p < .001$.

independent variables in the following step. Intolerance of uncertainty, fear of emotion (which includes anxiety, depression, anger, and positive affect) and experiential avoidance were entered in the final step and accounted for an additional 47% of the variance [$F(6, 164) = 26.92, p < .001$]. Beta coefficients revealed that intolerance of uncertainty, fear of anxiety, experiential avoidance, and gender were significant predictors of worry; however, intolerance of uncertainty and fear of anxiety emerged as the strongest predictors. The results of the hierarchical regression are presented in Table 2.3. The beta coefficients presented in the table were derived from the final regression model.

Given the significant contribution of intolerance of uncertainty, fear of anxiety, and experiential avoidance to the prediction of worry, an additional hierarchical multiple regression was performed in order to assess potential interactions between these variables. Worry was entered as the criterion variable, while intolerance of uncertainty, fear of anxiety, and experiential avoidance, as well as their interaction terms were entered as predictors. The analysis was conducted after centering the data (subtracting the mean from each score), which controls for the potential problems associated with regression equations containing interaction terms (see Aiken & West, 1996). The results revealed no significant interaction effects.

Table 2.3

Summary of Hierarchical Multiple Regression Analysis for Variables Predicting Scores on the PSWQ

Variables	R^2	Adjusted R^2	ΔR^2	B	$SE B$	β	
Step 1	.05	.04	.05				
Age				-.07	.095	-.04	
Gender ^a				-3.99	1.42	-.16	**
Step 2	.52	.50	.47				
IUS				.22	.05	.33	***
ACS-Anxiety				4.11	1.09	.33	***
ACS-Depression				.47	.77	.05	
ACS-Anger				-1.40	.92	-.12	
ACS-Positive				-.52	1.09	-.04	
AAQ				.32	.14	.18	*

Note. PSWQ = Penn State Worry Questionnaire; IUS = Intolerance of Uncertainty Scale; ACS-Anxiety = Affective Control Scale: Fear of Anxiety Subscale; ACS-Depression = Affective Control Scale: Fear of Depression Subscale; ACS-Anger = Affective Control Scale: Fear of Anger Subscale; ACS-Positive = Affective Control Scale: Fear of Positive Affect Subscale; and AAQ = Acceptance and Action Questionnaire.

^aGender coding: 0 = Female; 1 = Male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Group Differences

Participants were grouped according to their responses on the WAQ. Participants who reported excessive and uncontrollable worry as well as heightened somatic symptoms were classified as meeting the full criteria for GAD. Individuals who endorsed heightened somatic symptoms in the absence of excessive and uncontrollable worry were classified as meeting only the somatic criteria for GAD. Finally, participants who did not report excessive and uncontrollable worry or heightened somatic symptoms were classified as meeting none of the criteria for GAD. Consistent with previous research (e.g., Freeston et al., 1994), very few participants ($n = 8$) met only the cognitive criteria (i.e., excessive and uncontrollable worry in the absence of heightened somatic symptoms); therefore, only the three previously described groups were retained. Three separate one-way ANCOVAs, controlling for gender, were performed to examine whether these groups could be distinguished from each other based on level of intolerance of uncertainty, fear of anxiety, and experiential avoidance, using scores on the IUS, ACS-Anxiety, and AAQ, respectively.

Results indicated that the groups differed significantly on the IUS [$F(2, 166) = 20.42, p < .001$], ACS-Anxiety [$F(2, 228) = 32.12, p < .001$], and AAQ [$F(2, 222) = 34.98, p < .001$]. Effect size indices suggest that overall group differences were fairly consistent across the IUS ($\eta^2 = .20$), ACS-Anxiety ($\eta^2 = .22$), and AAQ ($\eta^2 = .24$). Pairwise group comparisons, using Bonferroni correction, indicated that individuals meeting the criteria for GAD reported significantly higher scores on the IUS, ACS-Anxiety, and AAQ, than those individuals meeting only the somatic criteria or none of the criteria. Furthermore, participants meeting only the somatic criteria scored

significantly higher on the IUS, ACS-Anxiety, and AAQ, than participants meeting none of the criteria.

Discussion

Overall, the hypotheses of the present study were confirmed and the findings provide additional support for the relationship between excessive worry and fear and avoidance of emotional experiences. As expected, worry was significantly related to fear of emotional responding and the tendency to avoid internal experiences. These findings are consistent with previous research findings demonstrating that the tendency to fear and avoid internal experiences is associated with worry and GAD in both nonclinical and clinical samples (Mennin et al., 2005; Roemer et al., 2005; Turk et al., 2005). Worry was also highly associated with intolerance of uncertainty, which is in line with prior research underscoring the role of this construct in problematic worry and GAD (e.g., Buhr & Dugas, 2002; Dugas et al., 1997; Freeston et al., 1994).

Although worry was related to fear of other emotional experiences such as depression, anger, and positive affect, the relationship between worry and fear of anxiety was significantly stronger. Moreover, partial correlations indicate a unique relationship between fear of anxiety and worry that goes beyond the shared variance with fear of other emotional experiences, as well as intolerance of uncertainty and experiential avoidance. In addition, the results of the regression analysis indicated that in terms of fear of emotions, fear of anxiety emerged as the only significant predictor of worry, along with intolerance of uncertainty and experiential avoidance. Overall, these findings suggest that excessive worry is not related to an overall tendency to fear emotional responding

and a loss of control over the experience of emotion. Rather, worry is associated with a specific fear of the experience of anxiety.

Experiential avoidance also showed a significant association with worry. This relationship remained significant after intolerance of uncertainty and fear of emotional experiences, including anxiety, depression, anger, and positive affect, were statistically controlled. However, the strength of the association decreased considerably. This pattern of findings may be due to the underlying dimensions of the instrument used to measure experiential avoidance (AAQ: Hayes et al., 2002). Specifically, in addition to assessing experiential avoidance or reversely psychological acceptance, the instrument also taps judgments of internal experiences and the tendency to act despite emotional distress. These latter dimensions appear to overlap with fear of anxiety and intolerance of uncertainty, respectively. For example, the measure of experiential avoidance includes items assessing an individual's fear of his/her feelings and whether emotions such as anxiety are "bad," which appear to be consistent with items measuring fear of anxiety. In addition, the instrument includes items assessing an individual's ability to take action in the face of uncertainty, which is consistent with one of the factors underlying intolerance of uncertainty. Experiential avoidance, at least in terms of how it is assessed in the present study, appears to be a very broad concept overlapping with aspects of fear of anxiety and intolerance of uncertainty. Thus, it does not appear to make as strong a unique contribution to the prediction of worry.

As predicted, intolerance of uncertainty shared a significant and unique relationship with worry. Specifically, their relationship remained significant when shared variance with fear of various emotions and experiential avoidance were statistically

removed. This last finding suggests that although intolerance of uncertainty overlaps with other constructs assessed in the current study, it also offers something unique to the understanding of worry. These results add to a growing body of research demonstrating that intolerance of uncertainty plays an important role in problematic worry.

Finally, the results indicate that fear of anxiety, experiential avoidance, and intolerance of uncertainty, were all able to distinguish between groups of participants meeting the criteria for GAD, those meeting only the somatic criteria, and those meeting none of the criteria for GAD as assessed by self-report questionnaire. More specifically, participants who met criteria for GAD by questionnaire reported significantly higher levels of fear of anxiety, experiential avoidance, and intolerance of uncertainty than those meeting only the somatic criteria or none of the criteria. Furthermore, participants meeting only the somatic criteria endorsed significantly higher levels of fear of anxiety, experiential avoidance, and intolerance of uncertainty than participants meeting none of the criteria. These findings suggest that all three constructs could potentially play a role in the assessment of GAD.

Although the current findings provide additional support for the role of fear of emotional responding and experiential avoidance in excessive worry, there are several limitations that should be considered when interpreting the results. First, the majority of the participants were female and preliminary analyses revealed gender differences on a number of the study measures. Although gender was statistically controlled, the discrepancy in the number of male and female participants may have affected the results and should be considered when interpreting the findings. Further, the sample was composed of undergraduate students, which limits the generalizability of the findings (as

does the skewed gender distribution). Future research should strive to replicate the findings using an alternative sample composed of an equal distribution of men and women from the general population. Furthermore, the study relied on self-report instruments, which assess an individual's perceptions, rather than their actual reactions or behaviours. For example, self-reports measure the extent to which individuals believe that they fear or avoid internal experiences, rather than their actual reactions to emotional experiences.

Finally, the findings are correlational and do not provide information about the causal nature of the constructs measured in this study. Future research should examine whether fear of emotional responding and experiential avoidance play a role in the etiology or maintenance of excessive worry and GAD. Examining whether the experimental manipulation of fear of anxiety or experiential avoidance affects worry level would help delineate the role of these constructs in problematic worry. This avenue of research could enhance current conceptualizations of excessive worry and potentially lead to more efficacious treatments for GAD. More specifically, if further research indicates that fear and avoidance of internal experiences plays a role in maintaining problematic worry, the cardinal feature of GAD, then treatment interventions may be enhanced by incorporating strategies aimed at decreasing people's fear of emotional responses and helping them learn to tolerate and accept their emotional experiences rather than avoid them. Mennin (2004) has already developed and begun testing a new treatment paradigm for GAD based on his emotion dysregulation theory of GAD, which includes strategies aimed at increasing acceptance of, and comfort with, emotional experiences.

Subsequent studies might also investigate the specificity of fear of anxiety and experiential avoidance. Although the research to date suggests that these constructs are associated with excessive worry and GAD, it is important to examine the extent to which these constructs are specific to GAD (or whether they are equally relevant to other anxiety disorders). Based on Hayes et al. (1996) model, experiential avoidance is not unique to GAD; rather, it plays a nonspecific role in psychopathology. However, it would be helpful to explore and contrast the role of experiential avoidance in other anxiety disorders and examine its relation to other processes involved in these disorders.

Fear of anxiety has been linked to various anxiety disorders. For example, a considerable body of research supports the role fear of anxiety, alternatively called fear of fear (Goldstein & Chambless, 1978) or anxiety sensitivity (Reiss, 1991), in panic disorder (see Taylor, 1995 for a review). Furthermore, higher levels of anxiety sensitivity have been demonstrated in posttraumatic stress disorder (PTSD), social anxiety disorder, obsessive-compulsive disorder (OCD), and GAD, compared to nonanxious controls (Cox, Borger, & Enns, 1999; Taylor et al., 1992). Research has also shown that individuals with panic disorder display significantly higher levels of anxiety sensitivity compared to individuals diagnosed with other anxiety disorders, with the exception of PTSD (Taylor et al., 1992). Unfortunately, less is known about differences in fear of anxiety amongst the other anxiety disorders. Therefore, it may be helpful to contrast the role of fear of anxiety in various anxiety disorders as well as to investigate whether fear of different emotions plays a differential role in specific anxiety disorders. For example, previous research has shown that fear of anxiety is associated with both GAD and social anxiety disorder; however, fear of depression showed a stronger relationship with GAD than with

social anxiety (Turk et al., 2005). The findings from the current study suggest that although fear of depression is related to worry, it does not make a unique contribution to the prediction of worry once shared variance with fear of anxiety, intolerance of uncertainty, and experiential avoidance is removed.

Moreover, different facets of fear of anxiety may play a greater role in specific anxiety disorders. For instance, concerns about observable responses of anxiety (e.g., blushing) may be more related to social anxiety, while catastrophic concerns about the physiological reactions of anxiety (e.g., increased heart rate) may be more closely associated with panic disorder. It would be interesting to assess which aspects of fear of anxiety are specifically related to GAD. It may be that certain dimensions of fear of emotional responding in combination with specific constructs such as intolerance of uncertainty are specifically related to problematic worry and GAD. A greater understanding of the underlying dimensions of fear of anxiety that are specifically linked to GAD may help with differential diagnosis and may be used to further refine treatment strategies.

In summary, the current study provides support for the relationship between fear and avoidance of emotional experiences and worry, which is the central cognitive feature of GAD. The results also suggest that these constructs add something unique to the understanding of worry above and beyond intolerance of uncertainty, which has been shown to be a key feature of GAD. Although additional research is needed, the current findings add to a growing body of research suggesting that fear and avoidance of emotional responding may play a role in problematic worry and GAD. This avenue of

research may help refine our understanding of GAD and may ultimately lead to more efficacious interventions.

Abstract

The Role of Fear of Anxiety and Intolerance of Uncertainty in Worry: An Experimental
Manipulation

The tendency to fear emotional experiences, such as anxiety, may be an important factor in the maintenance of excessive worry, which is the central feature of generalized anxiety disorder (GAD). The goal of the present study was to clarify the role of fear of anxiety in worry by assessing whether the experimental manipulation of fear of anxiety affects worry level. The study also assessed the combined effects of fear of anxious responding and intolerance of uncertainty (a factor already linked to pathological worry) on level of worry by grouping participants according to their tolerance for uncertainty. The results indicated that participants whose fear of anxiety was increased showed higher levels of worry compared to participants whose fear of anxiety was decreased. This finding provides preliminary support for the causal role of fear of anxiety in worry. Moreover, the results showed that increased fear of anxiety in combination with an intolerance for uncertainty led to the highest levels of worry, which suggests that these constructs have an additive effect on worry. The findings lend support to the integration of new conceptualizations of psychopathology with existing models of excessive worry, which could ultimately increase treatment efficacy for GAD.

Great advances have been made in the understanding and treatment of generalized anxiety disorder (GAD) over the past two decades. Specifically, research investigating the nature of GAD has led to the generation of numerous theoretical models and subsequent treatment paradigms for GAD. An examination of treatment outcome studies suggests that cognitive-behavioural approaches for GAD produce significant symptom change that is maintained, or even increased, at follow-up (see Borkovec & Ruscio, 2001). While cognitive-behavioural treatments have been shown to be efficacious, GAD remains the most treatment-resistant anxiety disorder (Gould et al., 2004). In fact, following the completion of treatment, a significant proportion of individuals fail to attain full symptom remission (Borkovec, Newman, & Castonguay, 2003). These findings suggest that researchers may need to consider other factors that may be involved in the development and maintenance of GAD. By re-evaluating and potentially expanding current models of GAD, we may be able to refine our interventions and increase treatment efficacy.

One avenue of research that has generated recent interest involves the potential role of fear and avoidance of emotional experiences in GAD. According to Roemer and colleagues (2005), GAD may be characterized by experiential avoidance. This proposition is based on the link between Borkovec's (1994) conceptualization of worry, which is the cardinal feature of GAD, as a form of avoidance, and Hayes et al.'s (1996) proposal that experiential avoidance is the underlying process of psychopathology.

Borkovec and colleagues (1994, 2004) have conceptualized worry as a cognitive process that serves an avoidant function. More specifically, worry may be utilized as a strategy to avoid or reduce internal distress. Numerous investigations have demonstrated

that worry is primarily comprised of thoughts rather than images (e.g., Borkovec & Inz, 1990; Borkovec & Lyonfields 1993; Freeston, Dugas, & Ladouceur, 1996). Mental images of feared outcomes tend to be viewed as more subjectively aversive and are associated with greater autonomic arousal (Vrana et al., 1986). Thus, worrying may enable individuals to avoid unpleasant emotions and dampen physiological responses (see Borkovec et al., 2004, for a review of the research supporting this proposition). Moreover, high worriers report using worry as a means of distracting themselves from more distressing issues or topics (Borkovec & Roemer, 1995; Freeston et al., 1994). It is likely that worry is negatively reinforced, as it allows individuals to prevent or diminish distressing internal experiences.

Borkovec's (1994; Borkovec et al., 2004) avoidance model of worry can be linked to Hayes and colleagues' (1996) proposal that experiential avoidance, which involves the unwillingness to remain in contact with unwanted internal experiences, such as thoughts, emotions, and sensations, is the central feature of psychological disorders. According to Hayes et al. (1996, 1999), individuals come to associate specific cognitive and emotional responses with aversive stimuli. Once this association has been established, these internal experiences become threats in and of themselves, which prompt efforts to avoid them. Hayes and colleagues (1996, 1999) suggest that psychopathology stems from failed attempts to control or reduce unpleasant internal experiences.

Although avoidance may prove beneficial in the short term as individuals experience an initial reduction in distressing internal experiences, attempts at experiential control appear to be counterproductive. For instance, avoidance of unpleasant thoughts and feelings has been linked to a subsequent increase in the frequency and intensity of

those cognitive and emotional experiences (e.g., Clark, Ball, & Pape, 1991; Wegner, 1994; Wells & Papageorgio, 1995). Moreover, avoidance of internal experiences may impede emotional processing (see Foa & Kozak, 1986, for a review of the emotional processing theory). Internal experiences, such as emotions, provide important information about life events that signify the potential relevance of those events (Greenberg & Safran, 1987). According to Borkovec (1994), worry prevents this information from being successfully processed and thus the threatening meanings associated with those experiences remain and continue to result in distress.

Although worry appears to play an avoidant function, it is not clear why internal experiences, such as emotions, are considered so distressing that they prompt efforts to avoid them. Mennin and colleagues (2002, 2004, 2005) have proposed that individuals with GAD find their emotional experiences aversive due to deficits in emotion regulation. According to their emotional dysregulation theory, GAD is characterized by emotional sensitivity, lack of emotional awareness, and inadequate emotion regulation skills. Thus, it is not surprising that individuals with GAD experience their emotions as aversive and subsequently utilize strategies, such as worry, to control or suppress internal responses. Unfortunately, worry appears to be an ineffective strategy for managing emotional experiences.

Recently, researchers have begun investigating the proposed role of fear of emotional responding and experiential avoidance in excessive worry and GAD. For instance, Roemer and colleagues (2005) found that experiential avoidance and fear of emotional responses, in particular fear of anxiety, were significantly associated with worry and GAD symptomatology in both nonclinical and clinical samples. Similarly,

Mennin and colleagues (2005; Turk et al., 2005) completed a set of studies that revealed that individuals meeting criteria for GAD based on self-report responses endorsed greater negative reactivity to emotional experiences (such as anxiety, depression, anger, and positive affect) compared to controls. Moreover, the tendency to fear emotions was significantly related to worry; however, fear of anxiety was most highly associated with worry level (Mennin et al., 2005). Mennin and associates (2005) also demonstrated that individuals diagnosed with GAD reported greater fear of emotional experiences than nonclinical controls.

In an effort to replicate previous findings, we investigated the role of fear and avoidance of emotional experiences in excessive worry and GAD in a nonclinical sample (Buhr & Dugas, 2007). Findings indicated that fear of emotions and experiential avoidance were significantly related to excessive worry and GAD diagnostic criteria; however, fear of anxiety emerged as the strongest predictor of worry. As an extension of previous research, we also contrasted the relationship between fear and avoidance of emotional responding and excessive worry with constructs already linked to worry and GAD, such as intolerance of uncertainty. Findings revealed that fear of anxiety, experiential avoidance, and intolerance of uncertainty all made significant and unique contributions to the prediction of worry.

Taken together, the findings suggest a significant association between fear and avoidance of internal experiences, and excessive worry and GAD. Unfortunately, the current body of research provides little information about the nature of this relationship. Given the strength of the connection between fear of anxiety and worry established in previous investigations, the present study extended earlier research by attempting to

clarify whether fear of anxiety might be a causal risk factor for excessive worry (see Kramer et al., 1997 for a review of the conditions necessary for establishing “causal risk factors”).

In an effort to integrate new models of psychopathology with established conceptualizations of GAD, the current study also investigated the combined effects of fear of anxiety and intolerance of uncertainty on worry level. Research has shown that intolerance of uncertainty is a fundamental cognitive process involved in excessive worry and GAD. Intolerance of uncertainty can be viewed as a dispositional characteristic that results from a set of negative beliefs about uncertainty and its implications (Dugas & Robichaud, 2007) and involves the tendency to react negatively on an emotional, cognitive, and behavioural level to uncertain situations and events (Dugas, Buhr, & Ladouceur, 2004). More specifically, individuals who are intolerant of uncertainty find uncertainty stressful and upsetting, believe that uncertainty is negative and should be avoided, and experience difficulties functioning in uncertainty-inducing situations (Buhr & Dugas, 2002). These individuals find many aspects of life difficult to tolerate given the inherent uncertainties of daily living. They tend to feel threatened in the face of uncertainty and engage in futile attempts to control or eliminate uncertainty.

There is strong empirical support for the link between intolerance of uncertainty and worry/GAD. For example, previous research has established a significant connection between intolerance of uncertainty and worry, which cannot be explained by other factors related to worry, such as anxiety and depression (Buhr & Dugas, 2002; Dugas et al., 1997; Freeston et al., 1994). Research has also supported the specificity of intolerance of uncertainty by demonstrating that it is more highly related to worry than to obsessions,

depression, and panic sensations (Dugas, Gosselin, et al., 2001; Dugas, Schwartz, et al., 2004). Moreover, worry is more highly associated with intolerance of uncertainty than with other processes known to be linked to worry, such as perfectionism and perceived control (Buhr & Dugas, 2006). Clinical research has shown that patients with GAD report less tolerance towards uncertainty than patients diagnosed with panic disorder (Dugas et al., 2005), patients with various other anxiety disorders (Ladouceur et al., 1999) and nonclinical controls (Dugas, Langlois, et al., 1998). Furthermore, individuals with more severe forms of GAD have greater difficulty tolerating uncertainty than those with less severe GAD (Dugas et al., in press).

In order to examine the potential causal nature of intolerance of uncertainty, researchers experimentally manipulated tolerance for uncertainty and subsequently assessed worry levels in a nonclinical sample (Ladouceur, Gosselin, et al., 2000). Results revealed that individuals in the increased intolerance of uncertainty group reported heightened levels of worry compared to those in the decreased group. Finally, treatment approaches that include interventions intended to increase tolerance for uncertainty have been shown to lead to reductions in worry (Dugas & Ladouceur, 2000; Dugas et al., 2003; Ladouceur, Dugas, et al., 2000) and changes in level of tolerance towards uncertainty typically precede changes in worry over the course of treatment (Dugas & Ladouceur, 2000; Dugas, et al., 1998). Thus, the extant research suggests that intolerance of uncertainty is fundamental process involved in worry and may play a role in the development and subsequent maintenance of excessive worry and GAD.

Given the significant and unique relationship between fear of anxiety and worry demonstrated in previous research, the goal of the current study was to examine whether

fear of anxiety might play a causal role in worry. More specifically, the present study assessed whether the experimental manipulation of fear of anxiety affects worry level. This study also examined the combined effects of fear of anxiety and intolerance of uncertainty on level of worry, by grouping participants according to their level of intolerance for uncertainty (high versus low). Based on earlier findings suggesting that both fear of anxiety and intolerance of uncertainty share a significant and unique relationship with worry, it was hypothesized that these constructs would have an additive effect on level of worry. Specifically, it was predicted that following the experimental manipulation of fear of anxiety, participants in the increased fear of anxiety condition, who are also high on intolerance of uncertainty, would report higher levels of worry compared to participants in the same condition with low levels of intolerance of uncertainty and individuals in the decreased fear of anxiety condition, regardless of their level of intolerance of uncertainty. Moreover, it was believed that individuals in the increased fear of anxiety condition who are low on intolerance of uncertainty, as well as individuals in the decreased fear of anxiety condition who are high on intolerance of uncertainty would endorse higher levels of worry than individuals in the decreased fear of anxiety condition with low levels of intolerance of uncertainty. Finally, the study also examined the impact of gender, in combination with fear of anxiety and intolerance of uncertainty, on worry level. Given that gender differences have emerged in the worry literature (e.g., Meyer et al., 1990), it was predicted that women would score significantly higher on worry than men.

Method

Participants

One hundred and thirty-nine ($N = 139$) participants were recruited for the present study. There were 74 (53.2%) female and 65 (46.8%) male participants, with a mean age of 26.41 ($SD = 7.02$). Concerning the ethnicity of the sample, 45.3% of participants identified themselves as Caucasian, 27.7% as Asian, 7.3% as Middle Eastern, 6.6% as African American, 3.6% Hispanic, and 9.5% as other ethnic origins. In addition, 27.7% of the sample was enrolled in their fourth year of university or greater, 26.3% in their third year, 24.8% in their second, and 16.1% in their first year, while 5.1% indicated that they were not currently enrolled in university. Finally, 47.4% of participants indicated that their field of study was the pure or applied sciences, 22.5% the social sciences, 11.6% the humanities, and 4.5% fine arts, while 13.9% of participants were not currently enrolled in university or did not specify their field study.

Procedure

Two methods of recruitment were utilized. The first method involved recruiting participants from various undergraduate level courses at Concordia University. A letter was sent to professors within the university, requesting permission to recruit participants from their courses. Once permission was granted, a research assistant attended the class and briefly described the study and invited students to participate. Individual participation forms were distributed to students and those interested in participating were asked to provide their contact information. The second method of recruitment involved poster advertisements located throughout the university.

Given the nature of the study, which involved the manipulation of fear of anxiety, participants with pathological levels of anxiety or depression, or prior knowledge of anxiety-related information were excluded from the study. This included individuals diagnosed with an anxiety or mood disorder, currently taking psychoactive medications, currently receiving or having previously received psychosocial therapy, or majoring in psychology. Participation was voluntary and participants were financially compensated for their time (\$10).

Participants were invited to a one-hour individual meeting and were informed that the aim of the study was to investigate the impact of mood and personality factors on memory. None of the participants was informed beforehand of the true nature of the study, which involved the manipulation of fear of anxiety and the examination of the combined impact of fear of anxiety and intolerance of uncertainty on worry level. Initially, participants were asked to sign a consent form, and complete two questionnaire packages. The first questionnaire package included a demographic form, the Intolerance of Uncertainty Scale (IUS), the state version of State-Trait Anxiety Inventory (STAI Form Y-1), and the Center for Epidemiological Studies Depression Scale (CES-D). Upon completion of the first package, participants were given a second questionnaire package, which included the trait version of State-Trait Anxiety Inventory (STAI Form Y-2) and the Fear of Anxiety Baseline Questionnaire. Information from the questionnaire packages was used to identify participants as high or low on intolerance of uncertainty using a predetermined cut-off score,¹ and to determine participant eligibility.

¹ Analysis of previous data collected in our laboratory revealed a median raw score of 55 on the Intolerance of Uncertainty Scale, which was used to classify participants as high or low on intolerance of uncertainty.

Participants scoring in the clinical range on the STAI or CES-D were excluded from the study and did not undergo the experimental manipulation.²

Following the completion of the questionnaires, participants completed three memory tasks, which included a verbal and visual memory sub-test from the Wechsler Memory Scale, Revised (WMS-R) and the Digit-Span sub-scale from the Wechsler Adult Intelligence Scale, 3rd Edition (WAIS-III). The memory tasks were included to ensure that participants were unaware of the true nature of the study. Following each memory task, participants completed a visual-analogue scale assessing their current level of anxiety. Then, participants were informed that they would be viewing an excerpt from a psychology lecture, which would outline the information currently available on anxiety, and following the presentation the researcher would be testing their memory of the material. The information was presented using PowerPoint® (Microsoft Corporation) on a PC desktop computer, and included visual slides and an audio recording. The participants were randomly assigned to one of two experimental conditions (increased or decreased fear of anxiety).

Experimental Manipulation

Increased Fear of Anxiety. Participants in this group received information intended to increase their fear of anxiety. Specifically, participants watched a psychology lecture in which they were told that heightened levels of anxiety are harmful, impair functioning, and result in negative social evaluations. This information is consistent with commonly held beliefs about anxiety (Clark, 1999) and research findings that suggest that anxiety can have a negative impact on health and functioning (Schonfeld et al.,

² Participants scoring in the clinical range on the screening instruments were provided with resources, including the contact information for the Applied Psychology Centre, a counseling service provided through the Department of Psychology at Concordia University.

1997). [However, the research indicates that only pathological levels of chronic anxiety are problematic (Schonfeld et al., 1997), while mild to moderate levels of anxiety, over the short term, are normal and manageable (Krauss & Krauss, 1994), and result in minimal social consequences (Purdon, Antony, & Monteiro, 2001)]. Increasing participants' fear of anxiety is comparable to procedures currently used in clinical research to experimentally induce anxiety. These procedures have proven effective for inducing anxiety in the short term, but have no long-term effects on participants (e.g., Harrigon, Lucic, & Rosenthal, 1991; Sturges, Logan, Semenchuck, & Goetsch, 1996). See Appendix E for an outline of the information provided to participants in this condition.

Decreased Fear of Anxiety. Participants in this group received information intended to decrease their fear of anxiety. Specifically, participants were informed that anxiety is normal, harmless, enhances functioning in specific situations, and leads to minimal negative social consequences. This information is based on research that shows that mild to moderate levels of anxiety, over the short term, are normal and manageable (see Krauss & Krauss, 1994) and have negligible social implications (Purdon et al., 2001). See Appendix E for an outline of the information provided to participants in this condition.

Anxiety-Provoking Experimental Task

Immediately following the experimental manipulation of fear of anxiety, participants were asked to rate their current anxiety level on a visual-analogue scale. They were then advised that they would be giving a brief oral presentation of the material presented to them in order for the researchers to assess their memory. Participants were

informed that they would be presenting in front of a small panel consisting of several graduate students and a faculty member, who would rate their memory capabilities, as well as their ability to present the material in a coherent and organized manner. In addition, participants were told that the presentation would be videotaped. The prospect of giving a speech is a common and valid paradigm for eliciting anxiety in the short term (e.g., Kirschbaum, Pirke, & Hellhammer, 1993; Sturges et al., 1996). Participants were then asked to wait 5 minutes while the researcher prepared for their presentation. Prior to the speech, participants were told that the researchers were interested in assessing their attitudes and feelings pertaining to their speech; therefore, participants were asked to complete a package, which included questionnaires assessing fear of anxiety (manipulation check), worry (dependent variable), and potential confounds (extent to which they understood the material presented during the manipulation, accuracy of the information presented, and consistency of the material in terms of their own view anxiety).

Following the completion of the final questionnaire package, participants were informed that they did not have to give a presentation and were debriefed on the true nature of the study. In addition, participants in the increased fear of anxiety group were provided with information intended to decrease their fear of anxiety. Specifically, they were shown a debriefing presentation that included the same information presented to participants in the decreased fear of anxiety condition. After the debriefing, participants were asked to complete an additional consent form, which outlined the true nature of the study. Participants were free to withdraw from the study at anytime.

Instruments

Screening Instruments

Depression. The *Center for Epidemiological Studies-Depression Scale* (CES-D; Radloff, 1977) is a 20-item measure that was designed to assess the presence of depressive symptoms during the past week in nonclinical samples (See Appendix D). Items are rated on 4-point Likert scale, ranging from 0 = “rarely or none of the time (less than one day a week)” to 3 = “most or all of the time (5-7 days a week).” Examples of items include “I felt depressed” and “I felt that everything I did was an effort.” Research has demonstrated that the instrument has excellent internal consistency ($\alpha = .85$) and moderate test-retest reliability over two and eight week intervals ($r = .51$ to $.57$; Radloff, 1977).

Anxiety. The *State-Trait Anxiety Inventory, Form Y* (STAI-Y; Spielberger, 1983) consists of two 20-item questionnaires that measure state and trait levels of anxiety (See Appendix D). The state version assesses current anxiety level, whereas the trait version measures the stable propensity to experience anxiety and the tendency to interpret stressful situations as threatening. Participants rate items on a 4-point Likert scale ranging from 1 = “not at all” to 4 = “very much so” on the state version, and 1 = “almost never” to 4 = “almost always” on the trait version. Examples of items from the state version include “I feel nervous” and “I feel frightened,” while examples from the trait version include “I feel nervous and restless” and “I feel that difficulties are piling up so that I cannot overcome them.” The measure has been shown to have excellent internal consistency ($\alpha = .86$ to $.95$) and high test-retest reliability ($r = .71$ to $.85$), as well as convergent validity (Spielberger, 1983).

Independent Variables

Intolerance of Uncertainty. The *Intolerance of Uncertainty Scale* (IUS; original French version: Freeston et al., 1994; English translation: Buhr & Dugas, 2002) includes 27 items relating to the idea that uncertainty is stressful and upsetting, uncertainty leads to the inability to act, uncertain events are negative and should be avoided, and being uncertain is unfair (See Appendix D). Participants rate items on a 5-point Likert scale ranging from 1 = “*not at all characteristic of me*” to 5 = “*entirely characteristic of me*.” Examples of items include “Uncertainty makes me uneasy, anxious, or stressed” and “My mind can't be relaxed if I don't know what will happen tomorrow.” The IUS has been shown to have excellent internal consistency ($\alpha = .94$), and good test-retest reliability over a five-week period ($r = .74$; Buhr & Dugas, 2002). Moreover, research has demonstrated that the measure shows evidence of convergent and divergent validity when assessed with symptom measures of worry, depression, and anxiety (Buhr & Dugas, 2002).

Fear of Anxiety: Baseline. In order to assess baseline levels of fear of anxiety, participants completed items from the *Affective Control Scale: Anxiety Subscale* (ACS-Anxiety; Williams et al., 1997). The ACS measures fear of emotional arousal and the loss of control over emotional experiences, while the anxiety subscale specifically assesses a person's fear of anxiety (Refer to Table 3.1). Items are rated on a 7-point Likert scale ranging from 1 = “*strongly disagree*” to 7 = “*strongly agree*.” The anxiety subscale of the ACS has very good internal consistency ($\alpha = .89$) and the measure has good test-retest reliability over a two-week period ($r = .77$; Williams et al., 1997). Furthermore, research has supported the convergent and divergent validity of the measure

(Williams et al., 1997). Again, in order to ensure that participants were unaware of the true nature of the study (impact of fear of anxiety on worry level), a number of filler questions, based on the neuroticism subscale of the NEO Personality Inventory - Five Factor Inventory (NEO-FFI; Costa & McCrae, 1989) were included (See Appendix D).

Fear of Anxiety: Manipulation Check. A measure was developed to assess participants' fear of anxiety following the manipulation of fear of anxiety (Refer to Table 3.2). Questions were based on items from the *Affective Control Scale: Anxiety Subscale* (ACS-Anxiety; Williams et al., 1997). Some of the items were slightly modified to assess participants' current concerns related to anxiety, rather than their typical reactions to anxiety. In order to conceal the true nature of the study, participants were also asked to respond to a number of filler questions, which tapped self-efficacy, confidence, perfectionism, attitude, and perceived memory capabilities (See Appendix D). Items were rated on a 7-point Likert scale ranging from 1 = "*strongly disagree*" to 7 = "*strongly agree*."

Dependent Variable

Worry. The measure of the dependent variable included five questions, which were designed to evaluate participants' worry level after the introduction of an anxiety-provoking situation (prospect of giving an oral presentation). The questions, which are presented in Table 3.3, were based on items from the *Penn State Worry Questionnaire* (PSWQ; Meyer et al., 1990). In addition, participants were asked to respond to a number of filler questions, which were related to self-efficacy, confidence, perfectionism, attitude, and perceived memory capabilities (See Appendix D). These items were included to prevent participants from becoming aware of the variable of interest (worry

level). Participants were asked to rate the items on a 7-point Likert scale ranging from 1 = “strongly disagree” to 7 = “strongly agree.”

Confounds

Participants completed three questions pertaining to the material presented to them during the manipulation of fear of anxiety. More specifically, participants were asked to rate the extent to which they understood the material, the accuracy of the information presented, and the consistency of the material in terms of their own view anxiety (See Appendix D).

Visual-Analogue Scales

In order to assess anxiety level, participants were asked to rate their current level of anxiety on a 100-millimeter visual-analogue scale, ranging from “calm/relaxed” to “nervous/tense” (See Appendix D).

Memory Tasks

Three memory tasks were included to ensure that participants were unaware of true nature of the study. Participants completed both a verbal and visual memory sub-test from the Wechsler Memory Scale, Revised (WMS-R; Wechsler, 1987), as well as the Digit-Span sub-scale from the Wechsler Adult Intelligence Scale, 3rd Edition (WAIS-III; Wechsler, 1997). All three memory tasks have high face validity.

Table 3.1

Questions Assessing Baseline Fear of Anxiety Prior to the Manipulation

Items
There is nothing I can do to stop my anxiety once it has started.
Once I get nervous, I think that my anxiety might get out of hand.
It scares me when I feel “shaky” (trembling).

Table 3.2

Questions Assessing Fear of Anxiety Following the Manipulation

Items
I feel comfortable that I can manage my anxiety. (reverse scored)
I don't mind feeling nervous, I know that it will pass. (reverse scored)
It would scare me if I felt nervous.
Being nervous isn't pleasant, but I can handle it. (reverse scored)
I am afraid that I will act foolishly as a result of my anxiety.

Table 3.3

Questions Assessing Worry

Items
The majority of my thoughts are about the upcoming presentation.
I am not worried about making a mistake. (reverse scored)
I am worried about how I will be rated.
I am not worried about my performance. (reverse scored)
I find it easy to dismiss my worrisome thoughts. (reverse scored)

Results

Manipulation Check

In order to verify the manipulation of fear of anxiety, an analysis of covariance (ANCOVA) was performed on fear of anxiety scores, controlling for baseline levels of fear of anxiety. The results revealed a significant difference between the two experimental groups on level of fear of anxiety [$F(1, 134) = 5.91, p < .05$]. A comparison of the estimated group means showed that the increased fear of anxiety group ($M = 16.25, SE = .55$) reported a significantly higher level of fear of anxiety compared to the decreased fear of anxiety group ($M = 14.44, SE = .50$), which suggests that the manipulation of fear of anxiety was successful.

An additional analysis was conducted to determine whether the manipulation of fear of anxiety led to differing levels of anxiety, prior to the introduction of an anxiety-provoking situation. This was important to assess as the manipulation was intended to increase individuals' *fear* of anxiety, not their actual anxiety level, which if impacted could account for differences in worry level. An independent samples t-test was performed on scores from a visual-analogue scale, which assessed participants' anxiety level immediately after the manipulation. The results showed that the two experimental groups, which included the decreased fear of anxiety group ($M = 28.63, SD = 20.18$) and the increased fear of anxiety group ($M = 27.48, SD = 20.57$), did not differ on anxiety level [$t(135) = .33, p = .744$] prior to the introduction of the anxiety-provoking task.

Dependent variable

A 2 x 2 x 2 between-subjects analysis of covariance (ANCOVA) was conducted on worry level. Independent variables included gender (male and female), fear of

anxiety (increased and decreased), and intolerance of uncertainty (high and low). Covariates included baseline fear of anxiety scores (obtained prior to the manipulation), as well as the extent to which participants understood the information presented to them during the manipulation, the accuracy of that material, and the consistency of the information in terms of their own view of anxiety. Analyses were performed weighting cells by their sample size to adjust for unequal cell sizes.

After adjusting for the covariates, the analyses revealed no significant interactions or main effects of gender, but significant main effects of intolerance of uncertainty [$F(1, 125) = 4.57, p < .05$, partial $\eta^2 = .04$] and fear of anxiety [$F(1, 125) = 3.96, p < .05$, partial $\eta^2 = .03$]. Baseline fear of anxiety scores uniquely adjusted the dependent variable [$F(1, 125) = 7.19, p < .01$], while participants' understanding of the material presented during the manipulation was marginally significant [$F(1, 125) = 3.89, p < .10$]. Findings from the ANCOVA are presented in Table 3.4.

Additional analyses, controlling for covariates, revealed that participants in the increased fear of anxiety group who reported high levels of intolerance of uncertainty experienced significantly higher levels of worry compared to participants in the decreased fear of anxiety group with high levels of intolerance of uncertainty [$F(1, 129) = 4.39, p < .05$], participants in the increased fear of anxiety group with low levels of intolerance of uncertainty [$F(1, 129) = 5.52, p < .05$], and participants in the decreased fear of anxiety group with low levels of intolerance of uncertainty [$F(1, 129) = 8.25, p = .01$]. However, participants in the decreased fear of anxiety group with high levels of intolerance of uncertainty [$F(1, 129) = .575, p = .45$] and participants in the increased fear of anxiety group with low levels of intolerance of uncertainty [$F(1, 128) = .296, p =$

Table 3.4

*Summary of Analysis of Covariance**Dependent Variable: Worry (PSWQ)*

Source of Variance	Type III Sums of Squares	df	Mean Square	F	Sig.
PRE-FA	227.05	1	227.05	7.19	.008 **
UNDERSTAND	122.80	1	122.80	3.89	.051
ACCURATE	54.47	1	54.47	1.72	.192
CONSISTENT	16.33	1	16.33	.52	.474
Gender	2.12	1	2.12	.07	.796
FA	125.12	1	125.12	3.96	.049 *
IU	144.37	1	144.37	4.57	.034 *
Gender*FA	20.86	1	20.86	.66	.418
Gender*IU	20.20	1	20.20	.64	.425
FA*IU	59.14	1	59.14	1.87	.174
Gender*FA*IU	8.61	1	8.61	.27	.603
Error	3949.26	125	31.59		

Note. PWSQ = Penn State Worry Questionnaire; PRE-FA = baseline fear of anxiety; UNDERSTAND = extent to which participants understood the material presented; ACCURATE = participants' rating of the accuracy of the material presented; CONSISTENT = extent to which the information presented was consistent with participants' own view of anxiety; FA = Fear of anxiety condition; IU = Level of intolerance of uncertainty; * $p < .05$. ** $p < .01$.

.59] did not experience significantly higher levels of worry compared to participants in the decreased fear of anxiety group with low levels of intolerance of uncertainty. Refer to Figure 3.1.

Discussion

The goal of the present study was to clarify the role of fear of anxiety in worry and to examine the combined effects of fear of anxiety and intolerance of uncertainty on worry level. The results suggest that fear of anxiety was successfully manipulated, as participants in the increased fear of anxiety condition reported being more fearful of anxious responding than participants in the decreased fear of anxiety condition. The experimental manipulation of fear of anxiety did not lead to greater levels of anxiety prior to the introduction of an anxiety-provoking situation. This suggests that the manipulation increased people's *fear* of anxiety, not their actual anxiety level, which if impacted could account for changes in worry level. The successful manipulation of fear of anxiety allows us to gain a better understanding of the nature of the relationship between fear of anxiety and worry.

The hypotheses of the study were partially supported. More specifically, the results indicate that following the manipulation of fear of anxiety, participants in the increased fear of anxiety condition reported a greater level of worry than those in the decreased fear of anxiety condition. This suggests that elevated levels of fear of anxiety are linked to heightened levels of worry. This finding is consistent with previous investigations that have demonstrated a strong association between fear of anxiety and worry (Buhr & Dugas, 2007; Mennin et al., 2005; Roemer et al., 2005; Turk et al., 2005).

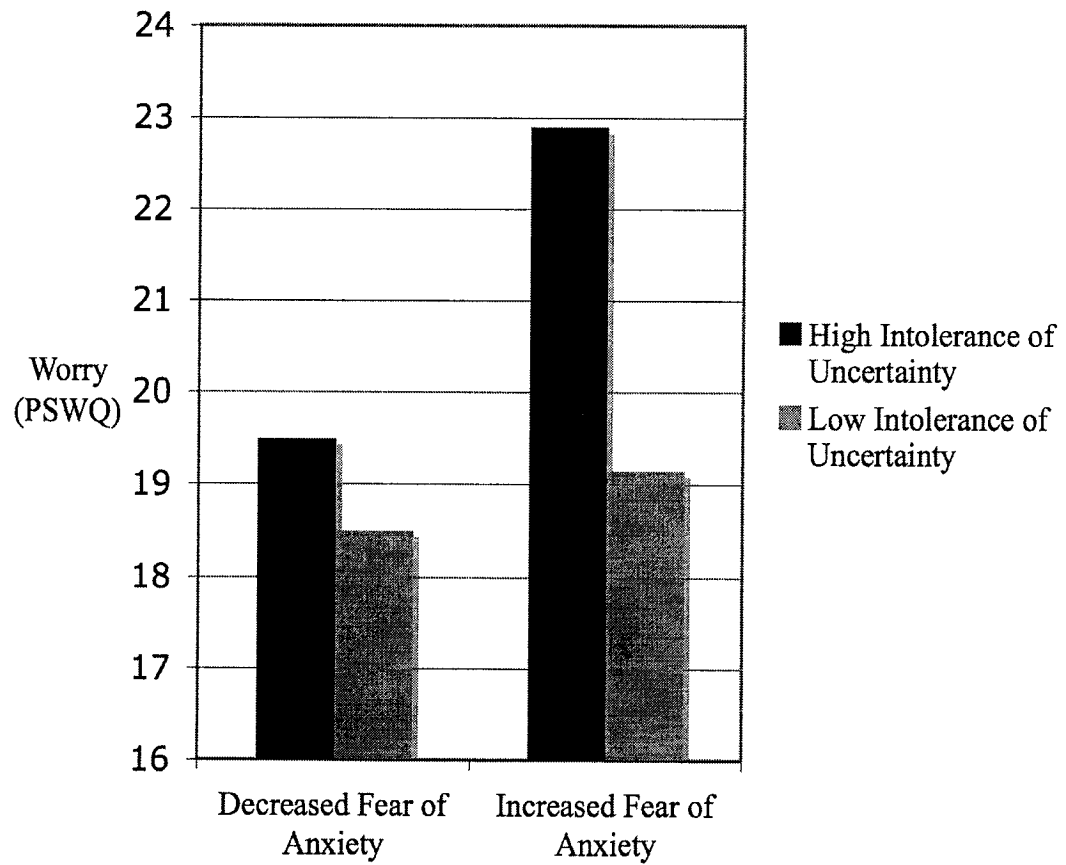


Figure 3.1. Estimated mean worry scores (PSWQ) for participants assigned to the increased or decreased fear of anxiety condition and grouped as high or low on intolerance of uncertainty (IUS).

Similarly, individuals endorsing higher levels of intolerance of uncertainty engaged in more worry than individuals who reported being more tolerant of uncertainty. This finding is not surprising given the abundance of research underscoring the role of this construct in problematic worry and GAD (e.g., Buhr & Dugas, 2002; Dugas et al., 1997; Freeston et al., 1994). Gender did not appear to affect worry level in the current study. This result is not particularly surprising given that there have been mixed findings in the literature. Although some studies have shown that women report greater levels of worry than men (e.g., Dugas et al., 1997; Dugas, Gosselin, et al., 2001; Meyer et al., 1990, Studies 2 and 4), others have failed to demonstrate such gender differences (e.g., Borkovec et al., 1983; Brown et al., 1992; Meyer et al., 1990, Studies 5 and 6; Tallis, Davey, & Bond, 1994).

The current study provides preliminary support for the causal role of fear of anxiety in worry. The findings show that an increase in fear of anxiety was associated with the development of new worries about a fictitious situation (having to give a presentation) that was unbeknownst to the participants at the start of the study. Although the current research findings by no means establish a causal relationship between fear of anxiety and worry (although they are consistent with this prospect), they do demonstrate that level of fear of anxiety can be manipulated and lay the foundation for future research endeavours aimed at delineating the specific role of fear of anxiety in excessive worry and GAD.

The results did not reveal an overall significant interaction effect for fear of anxiety and intolerance of uncertainty on worry level. However, the results showed that individuals in the increased fear of anxiety condition, who also identified themselves as

being highly intolerant of uncertainty, experienced significantly higher levels of worry than individuals in the same condition with low levels of intolerance of uncertainty and those in the decreased fear of anxiety condition, regardless of their level of intolerance of uncertainty. There were no significant differences in worry level between the other groups. This finding is particularly informative as it underscores the importance of examining the combined role of various constructs in emotional disorders, such as GAD, rather than investigating constructs in isolation.

This is the first study to suggest that being intolerant of uncertainty in combination with being fearful of the experience of anxiety is more likely to result in worry than either one in isolation. This is consistent with the conceptualization that excessive worry is the result of conflicting cognitive-motivational states that become increasingly difficult for an individual to manage (Dugas & Koerner, 2005; Koerner & Dugas, 2006). More specifically, pathological worry may be the result of vacillating between approach and avoidance strategies. Intolerance of uncertainty may prompt individuals to attempt to attain a greater sense of certainty through approach behaviours. For instance, worriers tend to engage in checking and reassurance-seeking behaviours (e.g., Schut, Castonguay, & Borkovec, 2001; Townsend, Weissbecker, & Barbee, 1999), which may serve to increase their certainty around feared outcomes. Moreover, they utilize worry as a means to superstitiously avoid negative outcomes and thus attain greater certainty (e.g., Francis & Dugas, 2004; Holowka et al., 2000). However, given that uncertainty is perceived as stressful and upsetting, and thus something to be avoided (Buhr & Dugas, 2002), attempts to attain certainty will likely lead to heightened anxiety.

Alternatively, fear of anxiety promotes the use of avoidance strategies to inhibit the experience of anxious arousal. Worriers may avoid dealing with problem situations, as it may elicit distress, and may utilize cognitive avoidance strategies to avoid experiencing upsetting thoughts or mental images. In fact, worry may be used as a means to decrease unpleasant internal experiences, such as physiological arousal and distressing mental images (see Borkovec et al., 2004 for a review of the research supporting this proposition). Oscillating between approach and avoidance behaviours may become increasingly demanding, which in turn would lead to elevated levels of worry and anxiety. Over time, this would likely lead to exhaustion and demoralization, which is characteristic of individuals with GAD.

According to Koerner and Dugas (2006), an individual can become caught in the following dilemma: to stop engaging in approach behaviours could result in a reduction in certainty; however, to continue to approach in order to attain certainty is likely to lead to more emotional distress. One can imagine how individuals who are intolerant of uncertainty, as well as fearful of anxious responding, are more likely to become caught in this dilemma than individuals who present with either one alone. Although individuals who are less tolerant of uncertainty will still engage in strategies aimed at reducing uncertainty, the tendency to utilize avoidance strategies will not be as great if they do not also fear their emotional reactions. Thus, these individuals will be less likely to become caught in this struggle between opposing motivational states, which may be underlying pathological worry.

Despite the encouraging findings from the present study, there are a number of limitations that should be considered when interpreting the results. First, the study was

conducted with a student sample, which limits the generalizability of the findings.

Although student populations offer a cost-effective means for testing novel ideas, future research should strive to replicate the findings using an alternative sample. Second, the study relied on self-report measures, which assume that participants are fully aware of their internal experiences and ensuing reactions. Subsequent investigations should utilize more objective approaches that tap both explicit and implicit processes.

Future research endeavours should attempt to replicate the current findings in an effort to substantiate the role of fear of anxiety in the development of excessive worry. In addition, it will be important to further delineate the role of experiential avoidance in worry and GAD, and examine the specificity and unique contribution of these constructs. Our group recently conducted a series of studies in an effort to better understand the connection between fear and avoidance of emotional responding and worry (Bergevin, Koerner, & Dugas, 2003; Otis, Buhr, & Dugas, 2003). The results revealed that fear of anxiety and experiential avoidance shared a stronger relationship with worry than with symptoms of other anxiety and mood disorders. Moreover, fear of anxiety and experiential avoidance both made significant contributions to the prediction of worry above and beyond other cognitive processes believed to be involved in GAD (i.e., intolerance of uncertainty, positive beliefs about worry, negative problem orientation, and cognitive avoidance).

The present findings add to a growing body of research, which could potentially lead to the enhancement of current conceptualizations of worry and more efficacious treatments for GAD. Specifically, if there is sufficient empirical support for the proposed role of fear and avoidance of internal experiences in the maintenance of problematic

worry, the cardinal feature of GAD, then treatment interventions may be enhanced by incorporating strategies aimed at helping individuals learn to tolerate and accept their emotional experiences. The current study demonstrated that level of fear of anxiety can be manipulated, which suggests that negative beliefs about anxious responding are amenable to intervention. Numerous researchers have already proposed the integration of alternative approaches, including acceptance-based, mindfulness-oriented or emotion-focused therapies, with existing cognitive-behavioural approaches, in an effort to address fear and avoidance of emotional experiences (e.g., Mennin, 2004; Mennin et al., 2002; Roemer & Orsillo, 2002). In fact, Mennin (2004) has recently developed and begun testing a new treatment approach for GAD, which emphasizes experiencing and accepting emotions, rather than avoiding them.

In sum, the present study provides additional evidence for the relationship between fear of anxious responding and worry. Furthermore, the findings provide preliminary support for the causal role of fear of anxiety in worry. The results also suggest that being intolerant of uncertainty in combination with being fearful of the experience of anxiety is more likely to result in worry than either one in isolation. Although future research should strive to further clarify the nature of the relationship between fear of anxiety and worry, the research to date lends support to the integration of new conceptualizations of psychopathology with existing models of excessive worry and GAD in an effort to increase treatment efficacy.

DISCUSSION

The present research had a number of goals. The first goal was to replicate previous findings by investigating the role of fear and avoidance of emotional experiences in excessive worry and GAD. Second, the present research attempted to extend prior research by contrasting the relationship between worry and fear of emotion, experiential avoidance and intolerance of uncertainty, a construct already linked to problematic worry and GAD. The third goal was to clarify the role of fear of anxiety in worry by assessing whether the experimental manipulation of fear of anxiety affects worry level. Finally, the current studies aimed to examine the combined effects of fear of anxious responding and intolerance of uncertainty on worry.

Summary of Findings

The findings from Study 1 provide support for the relationship between fear and avoidance of emotional experiences and worry. More specifically, the results showed that fear of emotions, in particular fear of anxiety, and experiential avoidance were significantly related to excessive worry, which is the defining feature of GAD. Worry was also highly associated with intolerance of uncertainty. Moreover, fear of anxiety, experiential avoidance, and intolerance of uncertainty, all made significant and unique contributions to the prediction of worry, and the tendency to fear and avoid emotional experiences was related to GAD diagnostic criteria.

The results of Study 2 revealed that after the successful manipulation of fear of anxiety, participants whose fear of anxiety was increased showed higher levels of worry than participants whose fear of anxiety was decreased. This finding provides preliminary

support for the causal role of fear of anxiety in worry. Moreover, the results showed that individuals in the increased fear of anxiety condition, who also identified themselves as being highly intolerant of uncertainty, experienced significantly greater levels of worry than individuals in the same condition with low levels of intolerance of uncertainty and individuals in the decreased fear of anxiety condition, regardless of their level of intolerance of uncertainty. However, there were no significant differences in worry level between the three other groups. This finding is particularly informative as it underscores the importance of examining the combined role of various constructs in emotional disorders such as GAD, rather than investigating constructs in isolation.

Fear and Avoidance of Emotional Experiences and Excessive Worry/GAD

The current research adds to the extant research that suggests that fear of emotions, in particular fear of anxiety, and experiential avoidance play a role in excessive worry and GAD. Although additional research is needed to determine the exact role of these factors in GAD, it is possible to speculate on potential pathways that might lead from fear of anxiety and experiential avoidance to excessive worry. Individuals who are fearful of anxious responding may employ strategies such as worry to avoid experiencing anxiety (recall that worry leads to reductions in anxious arousal). Unfortunately, experiential avoidance may prevent an individual from learning that they can tolerate and effectively cope with anxiety. Moreover, efforts to avoid or control unpleasant internal experiences may paradoxically result in an increase in the frequency and intensity of those experiences or may interfere with confronting and processing fears. As a result, threatening meanings are maintained, and these meanings may subsequently lead to increased fear and additional distress. Thus, efforts at experiential avoidance, which

likely derive from fears about anxiety, impede emotional processing and reinforce negative beliefs about anxiety. This cycle of fear and avoidance of emotional experiences could contribute to the development and maintenance of problematic worry and GAD.

It is not clear, however, how negative beliefs about anxiety initially develop. As mentioned previously, Mennin and colleagues (2002, 2004) have proposed that individuals with GAD experience more intense emotions, suggesting that they may have an innate sensitivity. Mennin and colleagues also propose that individuals with GAD lack effective strategies for soothing themselves, which may result from early life experiences. For instance, they may not have received accurate information about emotional experiences or been taught how to effectively regulate emotions. A potential biological vulnerability combined with early life experiences may put individuals at risk for developing fears around emotional responding.

Intolerance of Uncertainty and Fear of Anxiety: Opposing Motivational States

According to the current findings, fear of anxiety may exacerbate worry in individuals who are already intolerant of uncertainty. The combined impact of fear of anxiety and intolerance of uncertainty on worry level highlights the potential opposing motivational states underlying excessive worry. As discussed earlier, worry may be conceptualized as an “approach-avoidance dilemma” (Dugas & Koerner, 2005; Koerner & Dugas, 2006). This formulation enables us to make sense of apparently opposing processes that underlie pathological worry and GAD. Individuals with GAD seek to gain certainty by using a variety of approach behaviours (e.g., reassurance seeking, excessive planning and checking). However, given that these individuals tend to perceive

uncertainty as stressful and upsetting (Buhr & Dugas, 2002), attempts to approach uncertainty-inducing situations will likely lead to heightened distress. Fear of anxiety may then promote the use of avoidance strategies to inhibit the experience of anxious arousal. Ultimately, worry may be used as a means to decrease unpleasant internal experiences (see Borkovec et al., 2004 for a review). Vacillating between approach and avoidance behaviours may become increasingly demanding, which in turn could lead to even greater levels of worry and anxiety. Clearly, individuals who are both intolerant of uncertainty and fearful of anxious responding are at greatest risk for becoming caught in this “approach-avoidance dilemma.”

Future Directions

Future research endeavours should attempt to replicate the current findings and further delineate the role of fear of anxiety and experiential avoidance in excessive worry and GAD. Although the research thus far indicates that fear and avoidance of emotional experiences play a role in worry and GAD, additional research is needed to better understand the relationship between fear of emotional arousal and experiential avoidance, as well as the mechanisms underlying these constructs. Moreover, longitudinal studies are necessary to determine how fear and avoidance of emotional experiences affect the development of pathological worry/GAD over time.

Adopting an “approach-avoidance” conceptualization of problematic worry provides a framework for understanding the various processes that appear to underlie GAD. As discussed previously, intolerance of uncertainty and fear of anxiety appear to fit nicely into this formulation. However, the relationship between intolerance of uncertainty and fear of anxiety is likely to be a complex one and additional research is

needed to appropriately assess the relationship between these constructs. Moreover, a closer examination of the contributions of fear and avoidance of emotional experiences in combination with various other processes involved in worry and GAD appears necessary.

In terms of our own model of excessive worry, we recently contrasted the relationship between excessive worry and fear and avoidance of emotional responding, and the four cognitive processes (intolerance of uncertainty, positive beliefs about worry, negative problem orientation, and cognitive avoidance) in our model (Otis, Buhr, & Dugas, 2003). As described previously, the results showed that fear of anxiety and experiential avoidance made significant contributions to the prediction of worry above and beyond the four processes in our current model. It will be interesting to investigate the potential pathways between the various processes and the extent to which they influence each other and ultimately contribute to pathological worry and GAD.

Although additional research is needed to more fully understand the role of fear of anxiety and experiential avoidance in worry and GAD, the research thus far suggests that these factors should be considered in current conceptualizations of excessive worry and GAD. Accordingly, treatment efficacy may be improved by incorporating acceptance-based, mindfulness-oriented or emotion-focused approaches, which focus on the acceptance of emotional experiences (e.g., Greenberg, 2002; Hayes et al., 1999; Kabat-Zinn, 2003; Segal, Williams, & Teasdale, 2002). Recently, a number of researchers have developed and begun testing new treatment approaches for GAD, which underscore the importance of experiencing and accepting emotions, rather than attempting to avoid or reduce them (e.g., Mennin et al., 2004; Roemer & Orsillo, 2002). Interestingly, the

notion of acceptance is implicit in many current treatments for GAD, which often emphasize “letting go” of worry, control, and certainty (e.g., Borkovec et al., 2004; Dugas & Robichaud, 2007; Leahy, 2004). It will be useful to determine whether including explicit strategies aimed at accepting emotional experiences actually enhances the efficacy of established treatment approaches.

Conclusion

In sum, the current research suggests that fear of emotional experiences, in particular fear of anxiety, and experiential avoidance add something unique to our understanding of excessive worry and GAD. Furthermore, the findings provide preliminary support for the causal role of fear of anxiety in worry. The results also suggest that being intolerant of uncertainty in combination with being fearful of the experience of anxiety is more likely to result in worry than either one in isolation. Although future research should strive to further clarify the nature of the relationship between fear and avoidance of emotional experiences and pathological worry/GAD, the research to date lends support to the integration of new conceptualizations of psychopathology with existing models of excessive worry and GAD. By re-evaluating and potentially expanding our current model of GAD, we may be able to refine our interventions and ultimately increase treatment efficacy.

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Appendix A:
Consent Forms

Consent Form to Participate in Research (Study 1)

This is to state that I, _____, agree to participate in a program of research conducted by Kristin Buhr under the supervision of Dr. Michel J. Dugas in partial fulfilment of the requirements for the degree of Ph.D. in Psychology.

A. PURPOSE

I have been informed that the purpose of the research is to examine different aspects of worry.

B. PROCEDURE

I have been informed that the study involves the following procedures: I will be asked to fill out five (5) questionnaires assessing different aspects of worry and coping styles. There is no deception in the experiment and I will not be required to do any task other than that described above. Any general information I give will not be associated with my data in the experiment. The signed consent form will not be kept with the responses to the questionnaires; all these documents will be kept under lock and key. I understand that my participation in the experiment, and the information and data I provide, will be kept strictly confidential.

CONDITIONS OF PARTICIPATION

- I understand that I am free to decline to participate in the experiment without negative consequences.
- I understand that I am free to withdraw my consent and discontinue my participation at any time without negative consequences.
- I understand that my participation in this study is confidential (i.e. the researcher will know, but will not disclose my identity).
- I understand that the data from this study may be published.
- I understand the purpose of this study and know that there is no hidden motive of which I have not been fully informed.

I HAVE REVIEWED THE ABOVE INFORMATION AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

SIGNATURE _____

WITNESS SIGNATURE _____

DATE _____

Consent Form to Participate in Research (Study 2 – Initial Consent Form)

This is to state that I, _____, agree to participate in a program of research conducted by Kristin Buhr under the supervision of Dr. Michel J. Dugas in partial fulfillment of the requirements for the degree of Ph.D. in Psychology.

A. PURPOSE

I have been informed that the purpose of the research is to examine the impact of visual media aids on learning and memory.

B. PROCEDURE

I have been informed that I will be asked to complete 5 memory and learning tasks, which assess visual and auditory memory, as well as working memory and associated learning. In addition, I will be asked to complete 6 questionnaires assessing factors that may impact learning and memory, such as mood and various personality characteristics. I will not be required to do any tasks other than that described above. Any general information I provide will not be associated with my data in the experiment. The signed consent form will not be kept with my questionnaire package, and all information will be kept under lock and key. I understand that my participation in the experiment, and the information and data I provide, will be kept strictly confidential.

CONDITIONS OF PARTICIPATION

- I understand that I am free to decline to participate in the experiment without negative consequences.
- I understand that I am free to withdraw my consent and discontinue my participation at any time without negative consequences.
- I understand that my participation in this study is confidential (i.e. the researcher will know, but will not disclose my identity).
- I understand that the data from this study may be published.

I HAVE REVIEWED THE ABOVE INFORMATION AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

SIGNATURE _____

WITNESS SIGNATURE _____

DATE _____

Consent Form to Participate in Research (Study 2 - Increase Fear of Anxiety Condition)

This is to state that I, _____, agree to participate in a program of research conducted by Kristin Buhr under the supervision of Dr. Michel J. Dugas in partial fulfillment of the requirements for the degree of Ph.D. in Psychology.

PURPOSE

I have been informed that the true purpose of this research study is to examine the impact of the manipulation of fear of anxiety on worry level and to investigate the combined effect of fear of anxiety and intolerance of uncertainty on worry. More specifically, the researchers are interested in understanding how level of fear of anxiety and intolerance of uncertainty affect the tendency to worry.

I have been informed that the material presented to me concerning anxiety was intended to increase my fear of anxiety symptoms. This information was based on common misconceptions of anxiety and on research assessing pathological levels of anxiety in clinical population, and is not consistent with typical levels of anxiety. Finally, I have been told that the researchers increased my level of concern over the experience of anxiety in order to determine whether fear of anxiety, and intolerance of uncertainty, affect worry level when confronted with an anxiety-eliciting situation (prospect of giving a speech).

Any identifying information I provided will not be associated with my data in the experiment. The signed consent forms will not be kept with my questionnaire package, and all information will be kept under lock and key. I understand that my participation in the experiment, and the information and data I provide, will be kept strictly confidential. Moreover, I understand that I am free to discontinue the study at this time, without any negative consequence, and if I choose to do so my information will not be included in the analyses.

CONDITIONS OF PARTICIPATION

- I understand that I am free to decline to participate in the experiment without negative consequences.
- I understand that I am free to withdraw my consent and discontinue my participation at any time without negative consequences.
- I understand that my participation in this study is confidential (i.e. the researcher will know, but will not disclose my identity).
- I understand that the data from this study may be published.
- I have been informed of the purpose of the study and know that there is no hidden motive of which I have not been fully informed.

I HAVE REVIEWED THE ABOVE INFORMATION AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

SIGNATURE _____

WITNESS SIGNATURE _____

DATE _____

Consent Form to Participate in Research (Study 2 - Decrease Fear of Anxiety Condition)

This is to state that I, _____, agree to participate in a program of research conducted by Kristin Buhr under the supervision of Dr. Michel J. Dugas in partial fulfillment of the requirements for the degree of Ph.D. in Psychology.

PURPOSE

I have been informed that the true purpose of this research study is to examine the impact of the manipulation of fear of anxiety on worry level and to investigate the combined effect of fear of anxiety and intolerance of uncertainty on worry. More specifically, the researchers are interested in understanding how level of fear of anxiety and intolerance of uncertainty affect the tendency to worry.

I have been informed that the material presented to me concerning anxiety was intended to decrease my fear of anxiety symptoms. This information is an accurate reflection of research findings that indicate that mild to moderate levels of anxiety are normal and manageable. Furthermore, I have been told that the researchers decreased my level of concern over the experience of anxiety in order to determine whether level of fear of anxiety, in addition to level of intolerance of uncertainty, affect the tendency to worry when confronted with an anxiety-eliciting situation (prospect of giving a speech).

Any identifying information I provided will not be associated with my data in the experiment. The signed consent forms will not be kept with my questionnaire package, and all information will be kept under lock and key. I understand that my participation in the experiment, and the information and data I provide, will be kept strictly confidential. Moreover, I understand that I am free to discontinue the study at this time, without any negative consequence, and if I choose to do so my information will not be included in the analyses.

CONDITIONS OF PARTICIPATION

- I understand that I am free to decline to participate in the experiment without negative consequences.
- I understand that I am free to withdraw my consent and discontinue my participation at any time without negative consequences.
- I understand that my participation in this study is confidential (i.e. the researcher will know, but will not disclose my identity).
- I understand that the data from this study may be published.
- I have been informed of the purpose of the study and know that there is no hidden motive of which I have not been fully informed.

I HAVE REVIEWED THE ABOVE INFORMATION AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

SIGNATURE _____

WITNESS SIGNATURE _____

DATE _____

Appendix B:
General Information Sheet

General Information Sheet (Study 1 and 2)

Age: _____

Sex: Male _____ Female _____

Education:

University year: 1 _____ 2 _____ 3 _____ other _____

Field of study: Psychology _____

Other (Please specify) _____

Status: Full-time _____ Part-time _____

First Language: English _____

French _____

Other (please specify) _____

Race/ Ethnicity (check one)

African-American / Black / Caribbean Origin _____

Asian-American / Asian Origin / Pacific Islander _____

Latino-a / Hispanic _____

American Indian / Alaska Native / Aboriginal Canadian _____

European Origin (e.g., Italian, Russian, Portuguese, Greek) / White _____

Bi-racial / Multi-racial _____

Appendix C:
Study One Questionnaires

Penn State Worry Questionnaire (PSWQ)

Please write the corresponding number (1 to 5) that best describes how typical or characteristic each item is of you.

- | | 1 | 2 | 3 | 4 | 5 |
|-----|---|---|---------------------|---|-----------------|
| | Not at all
typical | | Somewhat
typical | | Very
typical |
| ___ | 1. If I don't have enough time to do everything, I don't worry about it. | | | | |
| ___ | 2. My worries overwhelm me. | | | | |
| ___ | 3. I don't tend to worry about things. | | | | |
| ___ | 4. Many situations make me worry. | | | | |
| ___ | 5. I know I shouldn't worry about things, but I just can't help it. | | | | |
| ___ | 6. When I'm under pressure, I worry a lot. | | | | |
| ___ | 7. I am always worrying about something. | | | | |
| ___ | 8. I find it easy to dismiss worrisome thoughts. | | | | |
| ___ | 9. As soon as I finish one task, I start to worry about everything else I have to do. | | | | |
| ___ | 10. I never worry about anything. | | | | |
| ___ | 11. When there is nothing more that I can do about a concern, I don't worry about it anymore. | | | | |
| ___ | 12. I've been a worrier all my life. | | | | |
| ___ | 13. I notice that I have been worrying about things. | | | | |
| ___ | 14. Once I start worrying, I can't stop. | | | | |
| ___ | 15. I worry all the time. | | | | |
| ___ | 16. I worry about projects until they are done. | | | | |

Worry and Anxiety Questionnaire (WAQ)

1. Do your worries seem excessive or exaggerated?

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

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

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

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

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

4. 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 to 8).

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

___ a) Restlessness or feeling keyed up or on edge

___ b) Being easily fatigued

___ c) Difficulty concentrating or mind going blank

___ d) Irritability

___ e) Muscle tension

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

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

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

Intolerance of Uncertainty Scale (IUS)

You will find below a series of statements which describe how people may react to the uncertainties of life. Please use the scale below to describe to what extent each item is characteristic of you. For each statement, please write a number (1 to 5) that describes you best.

- | | 1 | 2 | 3 | 4 | 5 |
|-----|---------------------------------------|---|--|---|-------------------------------------|
| | Not at all
characteristic
of me | | Somewhat
characteristic
of me | | Entirely
characteristic
of me |
| ___ | 1. | | Uncertainty stops me from having a firm opinion. | | |
| ___ | 2. | | Being uncertain means that a person is disorganized. | | |
| ___ | 3. | | Uncertainty makes life intolerable. | | |
| ___ | 4. | | It's unfair not having any guarantees in life. | | |
| ___ | 5. | | My mind can't be relaxed if I don't know what will happen tomorrow. | | |
| ___ | 6. | | Uncertainty makes me uneasy, anxious, or stressed. | | |
| ___ | 7. | | Unforeseen events upset me greatly. | | |
| ___ | 8. | | It frustrates me not having all the information I need. | | |
| ___ | 9. | | Uncertainty keeps me from living a full life. | | |
| ___ | 10. | | One should always look ahead so as to avoid surprises. | | |
| ___ | 11. | | A small unforeseen event can spoil everything, even with the best of planning. | | |
| ___ | 12. | | When it's time to act, uncertainty paralyzes me. | | |
| ___ | 13. | | Being uncertain means that I am not first rate. | | |
| ___ | 14. | | When I am uncertain, I can't go forward. | | |
| ___ | 15. | | When I am uncertain, I can't function very well. | | |
| ___ | 16. | | Unlike me, others always seem to know where they are going with their lives. | | |

- ___ 17. Uncertainty makes me vulnerable, unhappy, or sad.
- ___ 18. I always want to know what the future has in store for me.
- ___ 19. I can't stand being taken by surprise.
- ___ 20. The smallest doubt can stop me from acting.
- ___ 21. I should be able to organize everything in advance.
- ___ 22. Being uncertain means that I lack confidence.
- ___ 23. I think it's unfair that other people seem sure about their future.
- ___ 24. Uncertainty keeps me from sleeping soundly.
- ___ 25. I must get away from all uncertain situations.
- ___ 26. The ambiguities in life stress me.
- ___ 27. I can't stand being undecided about my future.

Affective Control Scale (ACS)

Please rate the extent of your agreement with each of the statements below by indicating the appropriate number (1 to 7) beside the statement.

	Very strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Very strongly agree
	1	2	3	4	5	6	7
___	1.	I am concerned that I will say things I'll regret when I get angry.					
___	2.	I can get too carried away when I am really happy.					
___	3.	Depression could really take me over, so it is important to fight off sad feelings.					
___	4.	If I get depressed, I am quite sure that I'll bounce right back.					
___	5.	I get so rattled when I am nervous that I cannot think clearly.					
___	6.	Being filled with joy sounds great, but I am concerned that I could lose control over my actions if I get too excited.					
___	7.	It scares me when I feel "shaky" (trembling).					
___	8.	I am afraid that I will hurt someone if I get really furious.					
___	9.	I feel comfortable that I can control my level of anxiety.					
___	10.	Having an orgasm is scary for me because I am afraid of losing control.					
___	11.	If people were to find out how angry I sometimes feel, the consequences might be very bad.					
___	12.	When I feel good, I let myself go and enjoy it to the fullest.					
___	13.	I am afraid that I could go into a depression that would wipe me out.					
___	14.	When I feel happy, I go overboard, so I don't like getting overly ecstatic.					
___	15.	When I get nervous, I think that I am going crazy.					

- ___ 16. I feel very uncomfortable in expressing my angry feelings.
- ___ 17. I am able to prevent myself from becoming overly anxious.
- ___ 18. No matter how happy I become, I keep my feet firmly on the ground.
- ___ 19. I am afraid I might try to hurt myself if I get too depressed.
- ___ 20. It scares me when I am nervous.
- ___ 21. Being nervous isn't pleasant, but I can handle it.
- ___ 22. I love feeling excited – it's a great feeling.
- ___ 23. I worry about losing self-control when I am on cloud nine.
- ___ 24. There is nothing I can do to stop anxiety once it has started.
- ___ 25. When I start feeling "down," I think I might let the sadness go too far.
- ___ 26. Once I get nervous, I think that my anxiety might get out of hand.
- ___ 27. Being depressed is not so bad because I know it will soon pass.
- ___ 28. I would be embarrassed to death if I lost my temper in front of other people.
- ___ 29. When I get "the blues," I worry that they will pull me down too far.
- ___ 30. When I get angry, I don't particularly worry about losing my temper.
- ___ 31. Whether I am happy or not my self-control stays about the same.
- ___ 32. When I get really excited about something, I worry that my enthusiasm will get out of hand.
- ___ 33. When I get nervous, I feel as if I am going to scream.
- ___ 34. I get nervous about being angry because I am afraid that I will go too far and I'll regret it later.
- ___ 35. I am afraid that I will babble or talk funny when I am nervous.

- ___ 36. Getting really ecstatic about something is a problem for me because sometimes being too happy clouds my judgment.
- ___ 37. Depression is scary to me – I am afraid that I could get depressed and never recover.
- ___ 38. I don't really mind feeling nervous; I know it's just a passing thing.
- ___ 39. I am afraid that letting myself feel really angry about something could lead me into an unending rage.
- ___ 40. When I get nervous, I am afraid that I will act foolish.
- ___ 41. I am afraid that I'll do something dumb if I get carried away with my happiness.
- ___ 42. I think my judgment suffers when I get really happy.

Acceptance and Action Questionnaire (AAQ)

Please read the below statements carefully and select one of the numbers (1 to 7) that indicates to what extent it applies to you. Consider yourself as you typically think and feel these days, not the way you might have felt in the past. Please be as honest as you can throughout. There is no right or wrong answer.

- | | Never
true | Very
seldom
true | Seldom
true | Sometimes
true | Frequently
true | Almost
always
true | Always
true |
|-----|---------------|--|----------------|-------------------|--------------------|--------------------------|----------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| ___ | 1. | I am able to take action on a problem even if I am uncertain what is the right thing to do. | | | | | |
| ___ | 2. | I often catch myself daydreaming about things I've done and what I would do differently next time. | | | | | |
| ___ | 3. | When I feel depressed or anxious, I am unable to take care of my responsibilities. | | | | | |
| ___ | 4. | I rarely worry about getting my anxieties, worries, and feelings under control. | | | | | |
| ___ | 5. | I'm not afraid of my feelings. | | | | | |
| ___ | 6. | When I evaluate something negatively, I usually recognize that this is just a reaction, not an objective fact. | | | | | |
| ___ | 7. | When I compare myself to other people, it seems that most of them are handling their lives better than I do. | | | | | |
| ___ | 8. | Anxiety is bad. | | | | | |
| ___ | 9. | If I could magically remove all the painful experiences I've had in my life, I would do so. | | | | | |

Appendix D:
Study Two Questionnaires

Centre for Epidemiological Studies – Depression Scale (CES-D)

Below is a list of ways that you might have felt or behaved. Please read each statement carefully and, using the scale below, write a number (0 to 3) beside each statement to indicate **how often** you have felt this way **during the past week**.

	0 Rarely or none of the time (less than 1 day)	1 Some or a little of the time (1-2 days)	2 Occasionally or a moderate amount of the time (3-4 days)	3 Most or all of the time (5-7 days)
___ 1.	I was bothered by things that usually don't bother me.			
___ 2.	I did not feel like eating; my appetite was poor.			
___ 3.	I felt that I could not shake off the blues even with help from my family or friends.			
___ 4.	I felt that I was just as good as other people.			
___ 5.	I had trouble keeping my mind on what I was doing.			
___ 6.	I felt depressed.			
___ 7.	I felt that everything I did was an effort.			
___ 8.	I felt hopeful about the future.			
___ 9.	I thought my life has been a failure.			
___ 10.	I felt fearful.			
___ 11.	My sleep was restless.			
___ 12.	I was happy.			
___ 13.	I talked less than usual.			
___ 14.	I felt lonely.			
___ 15.	People were unfriendly.			
___ 16.	I enjoyed life.			

- ___ 17. I had crying spells.
- ___ 18. I felt sad.
- ___ 19. I felt that people disliked me.
- ___ 20. I could not get going.

State-Trait Anxiety Inventory (STAI) - State Anxiety Form

Directions: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	Not at All	Somewhat	Moderately	Very Much
			So	So
1. I feel calm.	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel confused	1	2	3	4
19. I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4

State-Trait Anxiety Inventory (STAI) – Trait Anxiety Form

Directions: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you generally feel.

	Not at All	Somewhat	Moderately	Very Much
			So	So
21. I feel pleasant.	1	2	3	4
22. I feel nervous and restless	1	2	3	4
23. I feel satisfied with myself	1	2	3	4
24. I wish I could be as happy as others seem to be	1	2	3	4
25. I feel like a failure	1	2	3	4
26. I feel rested	1	2	3	4
27. I am "calm, cool and collected"	1	2	3	4
28. I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
29. I worry too much over something that doesn't really matter	1	2	3	4
30. I am happy	1	2	3	4
31. I have disturbing thoughts	1	2	3	4
32. I lack self-confidence	1	2	3	4
33. I feel secure	1	2	3	4
34. I make decisions easily	1	2	3	4
35. I feel inadequate	1	2	3	4
36. I am content	1	2	3	4
37. Some unimportant thought runs through my mind and bothers me	1	2	3	4
38. I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
39. I am a steady person	1	2	3	4
40. I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

Intolerance of Uncertainty Scale (IUS)

You will find below a series of statements which describe how people may react to the uncertainties of life. Please use the scale below to describe to what extent each item is characteristic of you. For each statement, please write a number (1 to 5) that describes you best.

- | 1 | 2 | 3 | 4 | 5 |
|---------------------------------------|-----|--|---|-------------------------------------|
| Not at all
characteristic
of me | | Somewhat
characteristic
of me | | Entirely
characteristic
of me |
| ___ | 1. | Uncertainty stops me from having a firm opinion. | | |
| ___ | 2. | Being uncertain means that a person is disorganized. | | |
| ___ | 3. | Uncertainty makes life intolerable. | | |
| ___ | 4. | It's unfair not having any guarantees in life. | | |
| ___ | 5. | My mind can't be relaxed if I don't know what will happen tomorrow. | | |
| ___ | 6. | Uncertainty makes me uneasy, anxious, or stressed. | | |
| ___ | 7. | Unforeseen events upset me greatly. | | |
| ___ | 8. | It frustrates me not having all the information I need. | | |
| ___ | 9. | Uncertainty keeps me from living a full life. | | |
| ___ | 10. | One should always look ahead so as to avoid surprises. | | |
| ___ | 11. | A small unforeseen event can spoil everything, even with the best of planning. | | |
| ___ | 12. | When it's time to act, uncertainty paralyzes me. | | |
| ___ | 13. | Being uncertain means that I am not first rate. | | |
| ___ | 14. | When I am uncertain, I can't go forward. | | |
| ___ | 15. | When I am uncertain, I can't function very well. | | |
| ___ | 16. | Unlike me, others always seem to know where they are going with their lives. | | |

- ___ 17. Uncertainty makes me vulnerable, unhappy, or sad.
- ___ 18. I always want to know what the future has in store for me.
- ___ 19. I can't stand being taken by surprise.
- ___ 20. The smallest doubt can stop me from acting.
- ___ 21. I should be able to organize everything in advance.
- ___ 22. Being uncertain means that I lack confidence.
- ___ 23. I think it's unfair that other people seem sure about their future.
- ___ 24. Uncertainty keeps me from sleeping soundly.
- ___ 25. I must get away from all uncertain situations.
- ___ 26. The ambiguities in life stress me.
- ___ 27. I can't stand being undecided about my future.

Fear of Anxiety: Baseline Questionnaire (Filler Questions from NEO-FFI)

Please answer the following questions about yourself. For each of the statements, indicate the extent of your agreement by writing the appropriate number (1 to 5) next to each statement. Try not to let your response to one question influence your response to other questions.

- | 1 | 2 | 3 | 4 | 5 |
|--------------------------|-----|---|---|-------------------------|
| Not at all
true of me | | True of me to
some extent | | Very Much
true of me |
| ___ | 1. | I am not a worrier. | | |
| ___ | 2. | I often feel inferior to others. | | |
| ___ | 3. | When I'm under a great deal of stress, sometimes I feel like I'm going to pieces. | | |
| ___ | 4. | I rarely feel lonely or blue. | | |
| ___ | 5. | There is nothing I can do to stop my anxiety once it has started. | | |
| ___ | 6. | I often feel tense and jittery. | | |
| ___ | 7. | Sometimes I feel completely worthless. | | |
| ___ | 8. | I rarely feel fearful or anxious. | | |
| ___ | 9. | Once I get nervous, I think that my anxiety might get out of hand. | | |
| ___ | 10. | I often get angry at the way people treat me. | | |
| ___ | 11. | Too often, when things go wrong, I get discouraged and feel like giving up. | | |
| ___ | 12. | I am seldom sad or depressed. | | |
| ___ | 13. | I often feel helpless and want someone else to solve my problems. | | |
| ___ | 14. | At times I have been so ashamed I just wanted to hide. | | |
| ___ | 15. | It scares me when I feel "shaky". | | |

Worry Measure and Manipulation Check (Including Filler Items)

The following is a set of statements that relate to feelings or thoughts you may have about your upcoming presentation. Please read the following items over carefully and rate the extent of your agreement with each of statements by indicating the appropriate number (1 to 7) beside each statement

	Very strongly disagree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Very strongly agree	
	1	2	3	4	5	6	7	
___ 1.								I expect to do well on the presentation.
___ 2.								I am trying not to think about the presentation.
___ 3.								If I make a mistake, I will feel embarrassed.
___ 4.								I am expecting the worst.
___ 5.								If I set my mind to it, I can do well.
___ 6.								I am feeling optimistic.
___ 7.								I will not be disappointed in myself if I don't do well.
___ 8.								I am feeling frustrated.
___ 9.								I don't mind feeling nervous, I know it will pass.
___ 10.								The majority of my thoughts are about the upcoming presentation.
___ 11.								Even if I try hard, I will not do well.
___ 12.								I think that I may forget an important point.
___ 13.								I am expecting a lot from myself.
___ 14.								I am not worried about making a mistake.
___ 15.								I think that my performance will be average.
___ 16.								I am thinking about this presentation as a challenge.
___ 17.								I will try to do my best.

- ___ 18. I am having difficulty identifying what I am feeling.
- ___ 19. I don't expect things to go well for me.
- ___ 20. I feel comfortable that I can manage anxiety.
- ___ 21. I think that I will remember everything that was presented to me.
- ___ 22. I am worried about how I will be rated.
- ___ 23. I know everything will turn out okay.
- ___ 24. I am not worried about my performance.
- ___ 25. I am feeling pessimistic.
- ___ 26. It would scare me if I felt nervous.
- ___ 27. I am not placing high demands on myself to do well.
- ___ 28. I do not care how well I perform.
- ___ 29. Even if I make a mistake, I won't give up.
- ___ 30. Being nervous isn't pleasant but I can handle it.
- ___ 31. I think that I won't remember the material well.
- ___ 32. I am striving for perfection.
- ___ 33. I am not feeling confident.
- ___ 34. I would feel uneasy, if I made a mistake.
- ___ 35. My present thoughts are unclear.
- ___ 36. If something can go wrong, it will.
- ___ 37. I think that I have the necessary skills and abilities to do well.
- ___ 38. I am afraid that I will act foolishly as a result of my anxiety.
- ___ 39. I'm feeling positive.
- ___ 40. I find it easy to dismiss my worrisome thoughts.

Anxiety Visual Analogue Scale

Please mark the point on the bar, which best represents how you **currently** feel.



Calm/Relaxed Nervous/Tense

Measurement of Potential Confounds

The following is a set of statements that relates to the information that was presented to you earlier. Please read the following items over carefully and respond to each statement below by circling the appropriate number (1 to 7).

	Not at all			Moderat ely well			Extremel y well
	1	2	3	4	5	6	7
1. To what extent did you understand the material presented to you?							

	Not at all			Moderat ely accurate			Very accurate
	1	2	3	4	5	6	7
2. How accurate was the material presented to you?							

	Not at all			Moderat ely so			Very much so
	1	2	3	4	5	6	7
3. To what extent was the material presented to you consistent with the way you view anxiety?							

Appendix E:
Outline of Manipulation Stimuli

*Manipulation of Fear of Anxiety: Increase Fear Condition
Outline*

Abnormal

- Although anxiety is a common reaction to stressful situations, it is atypical to experience high levels of anxiety especially in everyday situations.
- Anxiety should not continue for an extended period of time.
- It is abnormal to experience anxiety for no apparent reason.
- Anxiety can act as a red flag indicating that there is a potential problem.

Dangerous

- Anxiety is stressful on the body.
- Once anxiety begins it is often difficult to control and it can continue to escalate.

Negative Aspects

- Anxiety can interfere with an individual's ability to perform.
- Feeling anxious can be a sign that one is not performing well.
- Anxiety can interfere with an individual's social and occupational functioning.

Negative Social Perceptions

- Anxiety tends to be viewed by others in a negative way.
- Symptoms of anxiety are often perceived by others as a sign of weakness, incompetence, or mental instability.

*Manipulation of Fear of Anxiety: Decrease Fear Condition
Outline*

Normal

- Anxiety is a normal human experience.
- Anxiety is the body's normal response to threatening situations.
- Anxiety functions in predictable ways.
- Anxiety is the body's natural reaction to thoughts or events that may have some significance for the person.
- Anxiety only becomes problematic when people become too concerned about feeling anxious.

Not Dangerous

- Anxiety is not harmful and does not place any undue stress on the body.
- Anxiety has a ceiling, is time-limited, and naturally decreases over time.
- People do not lose control when anxious.

Positive Aspects

- Anxiety can be productive and act as a motivating force potentially enhancing an individual's performance.

Social Perceptions

- Anxiety is generally not perceived by others in a negative way.
- Symptoms of anxiety tend not to be noticed by others.