No Worries – It’s just not that easy!
Investigation and Treatment of Worry and Generalised
Anxiety Disorder in Children.

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ABSTRACT

Generalised Anxiety Disorder (GAD) is a highly prevalent, chronic and costly mental disorder in children, that is characterised by excessive and uncontrollable worry about numerous topics, that occurs more days than not for a period of at least six months (APA, 2013). Our knowledge and understanding of worry and GAD in children remains a neglected area of empirical enquiry. Given the dearth of research conducted with children in this area, much of what is currently known about childhood GAD is derived from empirical studies conducted with adults. Within the adult literature, research has demonstrated that cognitive factors such as intolerance of uncertainty (IU), positive and negative beliefs about worry (PBW and NBW), negative problem orientation (NPO) and cognitive avoidance (CA) are particularly important in the development and maintenance of pathological worry and GAD, and these variables therefore constitute the basis of treatment for adult GAD. Treatment programs for child GAD, unlike those for adults, are almost uniformly transdiagnostic in nature and do not specifically target the cognitive variables demonstrated to be involved in the aetiology and maintenance of the disorder.

This thesis investigated the cognitive variables of IU, NBW, PBW, NPO, and CA with respect to worry and GAD in children through a series of four studies, which have all been submitted for publication. The first study examined the cognitive variables of IU, NBW, PBW, NPO, and CA in a community sample of 114 children, aged 8 to 12 years. It was found that all child cognitive variables were significantly and positively related to child worry, and that parent worry, IU and CA were significantly and positively related to child worry. It was also found that the relationship between parent IU, NPO and CA and child worry was mediated by child IU, NPO and CA respectively.

The second study examined whether levels of IU, NBW, PBW, NPO and CA differed between children diagnosed with GAD (n=25) and non-anxious children
It also examined whether levels of IU, NBW, PBW, NPO and CA differed between parents of children diagnosed with GAD \( (n=25) \) and parents of children without an anxiety disorder \( (n=25) \). Overall, with the exception of PBW, children with GAD endorsed significantly higher levels of worry, IU, NBW, NPO and CA compared to non-anxious children. Parents of children with GAD were not found to differ from parents of non-anxious children on worry or any of the five cognitive variables.

Based on the results of Study 1 and 2, the third study described the development of a disorder-specific treatment program for child GAD (the “No Worries! program”) that aimed to target the cognitive variables and symptoms associated with GAD. It provided a detailed discussion of the strategies taught to children and highlighted some of the challenges involved. A case study was presented to demonstrate the feasibility of achieving successful outcomes with a complex presentation.

The final study provided a preliminary examination of the efficacy of the No Worries! program through a randomised controlled trial (RCT). Forty-two children with a primary diagnosis of GAD, aged between seven and 12 years, and their parents, were randomly assigned to either a treatment (TX) or waitlist (WLC) condition. At post-treatment, 52.9% of children in the TX group compared to 0% of children in the WLC group were free of their primary GAD diagnosis. At post-treatment, compared to the WLC children, TX children demonstrated a greater reduction in clinical severity, greater improvement in overall functioning, and held fewer clinical diagnoses. By 3-month follow-up, 100% of children in the TX group were free of their GAD diagnosis and 50% were free of all diagnoses, and all other gains made at post-treatment were either maintained or enhanced at this time point.

In summary, this thesis makes an important and valuable contribution to our growing knowledge base regarding the development and maintenance of excessive worry and GAD in young children. Together, the studies provide preliminary evidence
that the cognitive factors present in adult models of worry are applicable to children, especially children with GAD, and that a disorder-specific treatment program for children with GAD is effective in treating this chronic and disabling disorder.
STATEMENT OF ORIGINALITY

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Monique Colette Holmes

Date: 2nd April, 2014
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<th>Abbreviation</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>ADHD</td>
<td>Attention Deficit Hyperactivity Disorder</td>
</tr>
<tr>
<td>ADIS</td>
<td>Anxiety Disorder Interview Schedule</td>
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<tr>
<td>ADIS-C</td>
<td>Anxiety Disorder Interview Schedule - Child Version</td>
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<tr>
<td>ADIS-P</td>
<td>Anxiety Disorder Interview Schedule - Parent Version</td>
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<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<tr>
<td>AR</td>
<td>Applied Relaxation</td>
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<tr>
<td>BI</td>
<td>Behavioural Inhibition</td>
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<tr>
<td>CAPS</td>
<td>Child and Adolescent Perfectionism Scale</td>
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<tr>
<td>CA</td>
<td>Cognitive Avoidance</td>
</tr>
<tr>
<td>CAQ</td>
<td>Cognitive Avoidance Questionnaire</td>
</tr>
<tr>
<td>CBCL</td>
<td>Child Behaviour Checklist</td>
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<tr>
<td>CBT</td>
<td>Cognitive-Behaviour Therapy</td>
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<tr>
<td>CGAS</td>
<td>Children's Global Assessment Scale</td>
</tr>
<tr>
<td>CSR</td>
<td>Clinician Severity Rating</td>
</tr>
<tr>
<td>DASS-21</td>
<td>Depression, Anxiety Stress Scale - Short Version</td>
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<tr>
<td>DSM-III</td>
<td>Diagnostic and Statistical Manual of Mental Disorders - Third Edition</td>
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<tr>
<td>DSM-III-R</td>
<td>Diagnostic and Statistical Manual of Mental Disorders - Third Edition - Revised</td>
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<tr>
<td>DSM-IV</td>
<td>Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition</td>
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<td>DSM-IV-TR</td>
<td>Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition - Text Revision</td>
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<tr>
<td>DSM-5</td>
<td>Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition</td>
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<tr>
<td>GAD</td>
<td>Generalised Anxiety Disorder</td>
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<td>GAD-TX</td>
<td>Generalised Anxiety Disorder Treatment Group</td>
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<tr>
<td>IU</td>
<td>Intolerance of Uncertainty</td>
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<td>IUS</td>
<td>Intolerance of Uncertainty Scale</td>
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<td>IUS-C</td>
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<td>Metacognitive Therapy</td>
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<td>MCQ-30</td>
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<td>MCQ-A</td>
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<tr>
<td>NBW</td>
<td>Negative beliefs about worry</td>
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<td>NPO</td>
<td>Negative problem orientation</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>OAD</td>
<td>Overanxious Disorder</td>
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<td>ODD</td>
<td>Oppositional Defiant Disorder</td>
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<td>PAM</td>
<td>Parental Anxiety Management</td>
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<td>PBW</td>
<td>Positive beliefs about worry</td>
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<tr>
<td>PPO</td>
<td>Positive problem orientation</td>
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<td>PSWQ</td>
<td>Penn State Worry Questionnaire</td>
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<td>PTSD</td>
<td>Post-Traumatic Stress Disorder</td>
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<td>RCI</td>
<td>Reliable Change Index</td>
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<td>RCT</td>
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<td>SAD</td>
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<td>White Bear Suppression Inventory</td>
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<td>WLC</td>
<td>Waitlist Control</td>
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<td>QoL</td>
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LIST OF PUBLICATIONS

Included in this thesis are papers that have been submitted for publication in Chapters 4, 5, 6, 7, which are co-authored with other researchers. My contribution to each co-authored paper is outlined at the front of the relevant chapter.


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Ms. Monique Holmes                          Date  Dr. Caroline Donovan                          Date

__________________________________
Dr. Lara Farrell                          Date  Dr. Sonja March                          Date

__________________________________
Mrs. Catherine Hearn                          Date
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I would also like to thank Griffith University for the provision of a post-graduate research and completion scholarship which helped to financially support my living expenses during this project.

Finally I would like to thank my fellow PhD and Masters buddies (you know who you are). Thank-you for the distraction, advice, entertainment, and encouragement over the years. We have finally made it. Now the party begins!!

This thesis is dedicated to my grandparents

~ Theodore and Colette Comeliau ~
Preamble

Generalised Anxiety Disorder (GAD) is a disorder that has changed over time with respect to its name, criteria and believed presence/absence in children. Our knowledge and understanding of the aetiology, maintenance and treatment of GAD remains a neglected area of empirical enquiry, especially in children. This thesis sought to fill gaps in the literature by conducting a series of research studies aimed at gaining a more sophisticated understanding of excessive worry and GAD in young children. Of particular interest is the role that cognitive factors play in the aetiology and treatment of worry and GAD in children.

This thesis is broken down into three sections. Section 1 (Chapters 1 to 3) reviews the literature on anxiety, worry and GAD, particularly as it manifests in children. Specifically, Chapter 1 provides a description of childhood anxiety disorders including information regarding prevalence, course, and psychosocial impact. It broadly discusses risk factors of child anxiety and reviews current efficacious treatments for child anxiety disorders. Chapter 2 provides a detailed overview of GAD including a discussion of normal and pathological worry, the history and development of GAD as a disorder, and a review of the current theoretical models and treatment of GAD in adults. Chapter 3 focuses on GAD as it manifests in children and discusses its phenomenology, prevalence, course, comorbidity and treatment in this population.

Section 2 (Chapters 4 to 7) consists of four research studies that have been submitted for publication. Study 1 investigates the relationship between child worry and the child cognitive factors of intolerance of uncertainty (IU), negative beliefs about worry (NBW), positive beliefs about worry (PBW), negative problem orientation (NPO) and cognitive avoidance (CA). Study 1 also investigates the influence of parents in child worry. Study 2 compares children with a diagnosis of GAD to a group of non-anxious children on worry, IU, NBW, PBW, NPO and CA to determine whether children with
GAD demonstrate higher levels of these cognitive constructs. Study 2 also examines whether levels of IU, NBW, PBW, NPO and CA differ between parents of children diagnosed with GAD and parents of children without an anxiety disorder. Study 3 describes the development of a disorder-specific treatment program for childhood GAD (the No Worries! program), that specifically targets the cognitive variables and symptoms associated with the GAD. Study 4 presents the results of a randomised control trial (RCT) of the No Worries! program, for children aged 7 to 12 years.

Section 3 (Chapter 8) provides a general discussion of the overall research findings of the four studies, highlighting their strengths and limitations, and overviewing the clinical implications and the directions for future research.
SECTION 1 – LITERATURE REVIEW

Chapter 1 – Anxiety Disorders in Children

Chapter 2 – Generalised Anxiety Disorder

Chapter 3 – Generalised Anxiety Disorder in Children
CHAPTER 1

ANXIETY DISORDERS IN CHILDHOOD
Anxiety is a core human emotion that acts as a warning system when there is a source of threat or danger to our well-being. Historically, mental health conditions, such as anxiety, depression and substance use disorders, were not considered a global health priority especially when compared with medical conditions such as cancer or cardiovascular disease (Whiteford et al., 2013). Indeed, prior to the 1980's, the general consensus among health professionals and the wider community was that anxiety disorders were relatively uncommon, perhaps even rare in childhood (Rapee, Schniering, & Hudson, 2009). However, since that time, we have witnessed a burgeoning of research into the epidemiology of childhood anxiety disorders which unequivocally demonstrates that anxiety disorders are among the most common, if not the most common, psychiatric disorders of childhood (E. Costello, Egger, & Angold, 2005a; Silverman, Pina, & Viswesvaran, 2008). Furthermore, childhood anxiety disorders are associated with significant short- and long-term deleterious consequences such as school refusal, poor peer relationships, poor social skills, low-self-esteem, academic problems, immaturity and low social-competence (Albano & Hack, 2004). If left untreated, childhood anxiety disorders are unlikely to spontaneously remit and therefore are predictive of adult mental health difficulties and other childhood sequelae including suicide attempts, hospitalisations and substance use problems (Kendall et al., 2010).

According to Lang's (1968) tripartite model, anxiety is best understood as a multidimensional construct with three core components including physiological symptoms (e.g., butterflies in stomach, headaches, sweating, trembling, elevated heart rate), behavioural signs (e.g., avoidance of a feared situation, crying, clinging, and reassurance seeking) and cognitive components (e.g., thoughts, beliefs, and thinking styles). Most people will experience some degree of anxiety or fear during the course of their normal development that is age appropriate, transitory and adaptive for functioning
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(Ollendick, King, & Muris, 2002). However, some people will experience anxiety that persists over a long period of time, is disproportionate to the actual situational threat, and results in significant avoidance of the feared object/situation (Ollendick et al., 2002). It is on this basis that we distinguish between normal and pathological anxiety.

As children get older, it appears that their fears and anxieties follow a predictable course. In her extensive review of the literature exploring fears across the developmental stages, Gullone (2000) found that during the infant years (0-12 months), children’s fears typically centre on strangers, unexpected environmental changes and loud noises. During the toddler years (2-4 years), common fears include separation from primary caregivers, darkness, imaginary creatures, insects and being left alone. From age four to six, fears centre on burglars, kidnappers, ghosts and wild animals. From age six through to nine, fears focus on failure, criticism, injury to self, and death. When children become older (10-12 years), their fear and anxiety becomes more abstract, centering on social concerns, and worry about physical danger, physical appearance, schoolwork, and global, economic and political issues (Gullone, 2000; Muris, 2007). Thus, despite early misconceptions, children can and do experience clinical levels of anxiety that are excessive and disproportionate to the actual threat/danger, and which interfere significantly with their lives.

**Description of DSM-5 Anxiety Disorders**

The Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition (DSM-5), is one of the most widely used categorical classification systems for diagnosing anxiety disorders in clinical, educational and research settings (APA, 2013). Each disorder in the DSM-5 is systematically described, and before a diagnosis can be given, a minimum number of symptoms and/or criteria must be met. According to the DSM-5, children may be diagnosed with the following anxiety disorders: social anxiety disorder, separation anxiety disorder, generalised anxiety disorder, specific phobia,
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Panic disorder and agoraphobia (APA, 2013). Obsessive-compulsive disorder and posttraumatic stress disorder, previously considered under the umbrella of ‘anxiety disorders’ in the fourth edition of the DSM, have now been placed in alternative sections within DSM-5. However, they will be included in the detailed discussion of anxiety disorders provided below, due to the recency of these changes. The essential diagnostic features of the abovementioned disorders are provided in Table 1.

Social Anxiety Disorder

Social Anxiety Disorder (SAnD), is characterised by marked and persistent fear of one or more social and/or performance situations, in which there is the potential for scrutiny by others (APA, 2013). Children with SAnD typically fear that they will appear foolish, and in order to gain a diagnosis, the fear/anxiety must be considered out of proportion to the social situation, must persist for six months, and must interfere with everyday functioning or cause clinically significant distress. In children, the fear/anxiety must occur in both peer settings and in interactions with adults. Children with SAnD are often perceived as being excessively shy and they typically fear and/or avoid a wide range of social activities including public speaking, social gatherings, starting or joining conversations, answering/asking questions in a classroom context, and meeting new people (APA, 2013). Although some research has found SAnD to emerge in children as young as three years of age, SAnD has typically been found to emerge around the age of nine (J. Costello, Egger, Copeland, Erkanli, & Angold, 2011).

Separation Anxiety Disorder

Separation Anxiety Disorder (SAD) is defined by excessive worry and anxiety about separation, or anticipated separation, from a major attachment figure (such as a parent) or from home (APA, 2013). An important feature of SAD is that the anxiety/worry is age-inappropriate and is present for a period of at least four weeks. Children with SAD often become tearful when separating from parents, and may
display temper tantrums or clinging tightly to a parent’s arm/leg in an attempt to avoid separation. Children with SAD may also present with school refusal, and may avoid school camps and sleepovers due to difficulties separating from primary caregivers. SAD is often one of the first anxiety disorders to emerge in children, with an average age of onset around 6.5 years (APA, 2013).

**Specific Phobia**

Specific Phobia (SP) is defined as a marked and persistent fear of particular objects and/or situations (APA, 2013). Commonly feared objects in childhood include needles, spiders, darkness, heights and thunderstorms, while situational phobias may include public transportation, elevators and enclosed spaces (APA, 2013). Exposure to these objects and/or situations almost invariably produces an excessive anxiety response from children that is deemed age-inappropriate. Phobias commonly co-occur with each other in young children and are usually accompanied by anxious behaviours (e.g., crying, screaming, clinging), somatic symptoms (e.g., increased heart rate, sweating) and marked avoidance of the feared stimuli. Phobic disorders typically emerge early in life, around seven years of age, and are one of the most common anxiety disorders in children (J. Costello et al., 2011).

**Generalised Anxiety Disorder**

Generalised Anxiety Disorder (GAD) is predominately a cognitive disorder, characterised by excessive and uncontrollable worry about numerous topics (such as school and work performance), that occurs more days than not for a period of at least six months (APA, 2013). Children with GAD typically worry about everyday topics such as worldly events (i.e., crime and war), school work, family finances and making mistakes. The worry experienced by individuals with GAD is often associated with numerous somatic symptoms including headaches, stomach aches, restlessness, fatigue, feeling keyed up or on edge, and irritability (APA, 2013). The typical age of onset of
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GAD in children appears to be around eight to 10 years of age (Last, Perrin, Hersen, & Kazdin, 1992; Masi, Mucci, Favilla, Romano, & Poli, 1999).

**Panic Disorder**

A diagnosis of Panic Disorder (PD) requires recurrent and unexpected panic attacks as well as persistent fear/concern about having another attack for a period of approximately one month (APA, 2013). Individuals with PD may also avoid certain activities and/or behaviours that might increase the likelihood of them experiencing another panic attack (e.g., exercise or unfamiliar situations). A panic attack (which is not a diagnosable mental disorder in and of itself) involves the sudden onset of intense fear or discomfort, as well as a feeling of impending doom or danger. Panic attacks are generally accompanied by a variety of somatic symptoms including increased heart rate, chest pain, sweating, trembling, dizziness and nausea, and can occur in the context of any of the anxiety disorders described in this section (APA, 2013). PD tends to be less common in young children, with an onset usually in mid- to late-adolescence (J. Costello et al., 2011).

**Agoraphobia**

The cardinal feature of Agoraphobia is anxiety or fear about being in a situation or event where escape might be difficult or help may be unavailable, in the event of a panic attack. As a result, individuals typically avoid situations or activities in which a panic attack might occur, such as cinemas, crowded shopping centres, classrooms and public transport.

**Obsessive-Compulsive Disorder**

As highlighted above, although considered an anxiety disorder in DSM-IV-TR, Obsessive-Compulsive Disorder (OCD) is no longer considered under the umbrella of anxiety disorders in DSM-5 (APA, 2000, 2013). It now exists under ‘obsessive-compulsive and related disorders’ and includes a subset of new disorders including
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hoarding disorder, excoriation (skin-picking) disorder, and trichotillomania. OCD is characterised by recurrent obsessions and/or compulsions that cause significant distress and/or impairment to a child and his/her family, and are time consuming (APA, 2013). Obsessions are almost exclusively mental events whereas compulsions can be either mental or behavioural events. Obsessions consist of repetitive thoughts, images, or impulses that are intrusive and cause distress to the child. Some common obsessions in children involve contamination, arranging, religious impulses, aggressive impulses and self-doubt (Barrett, Healy-Farrell, Piacentini, & March, 2004). Compulsions, on the other hand, are overt (i.e., behavioural) or covert (i.e., mental) actions a child engages in to circumvent disturbing obsessions (APA, 2013). The underlying goal of a compulsion is the reduction/prevention of anxiety or distress. Common behavioural compulsions include checking, hand washing, touching, ordering, and hoarding, whilst common mental acts include silently counting or repeating words. The average age of onset for OCD tends to be between eight and 11 years (Allsopp & Verduyn, 1990).

Posttraumatic Stress Disorder

Like OCD, Posttraumatic Stress Disorder (PTSD) is no longer included in the anxiety disorders section of the DSM-5, but instead appears under ‘trauma- and stress-related disorders’. PTSD is characterised by a set of symptoms that may develop following exposure to actual or threatened death, serious injury, or sexual violence (APA, 2013). For a diagnosis to be made, an individual must have experienced or witnessed a traumatic event, or learned that a traumatic event has happened to a primary caregiver, close friend, or relative (APA, 2013). A number of intrusive symptoms (present for at least one month) are also required for a diagnosis to be made including: recurrent intrusive memories, dissociative reactions (flashbacks), severe anxiety/distress when reminded of the trauma, nightmares, repetitive play (for children), avoidance of stimuli/cues that remind the person of the trauma, increased negative emotions (fear,
guilt, shame), and decreased interest/participation in previously enjoyed activities (APA, 2013). Fortunately, not all children exposed to potentially traumatic events will go on to develop PTSD, with community prevalence rates found to range between 0.4% and 1.6% (Essau, Conradt, & Petermann, 2000a).

Table 1

_Essential features of DSM-5 Anxiety Disorders, and Obsessive-Compulsive Disorder and Posttraumatic Stress Disorder._

<table>
<thead>
<tr>
<th>Anxiety Disorder</th>
<th>Essential Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Anxiety Disorder</td>
<td>Fear/anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others. * For children, anxiety must occur in peer settings and in interactions with adults. The individual must fear that they will be negatively evaluated by others. The social situation almost always produces fear/anxiety. * In children, this may be expressed by crying, tantrums, freezing etc. Consequently, the social situations are either avoided or endured with significant distress. The fear/anxiety is out of proportion to the actual threat posed, is persistent, and typically lasts for six months or more.</td>
</tr>
<tr>
<td>Separation Anxiety Disorder</td>
<td>Developmentally inappropriate and excessive fear and anxiety concerning separation from major attachment figures, as evidenced by several associated symptoms such as recurrent/excessive distress when anticipating/experiencing separation; persistent and excessive worry about losing a major attachment figure or experiencing an untoward event; persistent reluctance or refusal to go out, away from home, school, work, or going to sleep away from home; repeated nightmares and complaints of physical symptoms. * In children the symptoms must be present for at least four weeks, and six months in adults.</td>
</tr>
<tr>
<td>Specific Anxiety Disorder</td>
<td>Marked fear or anxiety about a specific object/situation. * In children, this may be</td>
</tr>
</tbody>
</table>
### Phobia
- Expressed by crying, tantrums, freezing etc. The phobic object almost always produces immediate fear/anxiety, and is actively avoided/endured with distress. The fear or anxiety must be out of proportion to the actual danger posed by the situation or object and must be present for at least six months.

### Generalised Anxiety Disorder
- Excessive anxiety/worry occurring more days than not for at least six months, about a number of events/activities. The individual finds it difficult to control the worry, and the worry/anxiety must be associated with a number of somatic complaints such as restlessness or feeling keyed up or on edge, being easily fatigued etc. * Only one somatic complaint is required in children, whereas three or more are required for adults.

### Panic Disorder
- Recurrent unexpected panic attacks. A panic attack is an abrupt surge of intense fear or intense discomfort that reaches a peak within minutes, during which there must be numerous physiological complaints such as sweating, trembling, shaking etc. At least one of the panic attacks must be accompanied by one month of either persistent concern about having additional panic attacks, or a maladaptive change in behaviour related to the attacks.

### Agoraphobia
- Marked fear or anxiety about several of the following: using public transport, being in open spaces or enclosed spaces, standing in line, or being outside of home. The individual must fear/avoid these situations because of thoughts that escape might be difficult or help might not be available. The feared situations almost always produce fear/anxiety, and are actively avoided, and the fear or anxiety experienced is persistent and out of proportion to the actual danger posed by the situation. The fear/anxiety must persist for at least 6 months.

### Obsessive-Compulsive Disorder
- Presence of obsessions, compulsions, or both. Obsessions are recurrent and persistent thoughts, urges or images that are experienced as intrusive and unwanted, and that cause marked anxiety or distress for the sufferer. The individual attempts to...
ignore/suppress the obsessions or neutralise them with other thought or actions. Compulsions are repetitive behaviours that an individual feels driven to perform in response to an obsession or according to rules that must be rigidly applied. The behaviours or mental acts are performed to prevent or reduce anxiety or prevent some dreaded event or situation. * Children may not be able to articulate the aims of their behaviours or mental acts. The obsessions or compulsions must be time consuming, taking longer than one hour per day, and must cause clinically significant distress.

Posttraumatic Stress Disorder Exposure to actual/threatened death, serious injury, or sexual violence. Following exposure, the individual experiences several associated intrusive symptoms such as recurrent, involuntary and intrusive memories or dreams of the traumatic event, dissociative reactions, marked physiological reactions and intense or prolonged psychological distress. * In children, repetitive play may be present through which the child attempts to re-enact the trauma. There is persistent avoidance of stimuli associated with the trauma and there are negative alterations in cognitions and mood associated with the traumatic event. There are also marked alterations in arousal and reactivity associated with the traumatic event, and the disturbance is present for at least one month.

Note. Criteria specific to children have been marked with an asterisk (*) (APA, 2013).

Epidemiology

Anxiety disorders are among the most common and functionally debilitating psychological conditions affecting children, adolescents and adults (Baxter, Scott, Vos, & Whiteford, 2013). ‘Prevalence’ refers to the proportion of individuals in a specific population who have a particular disorder at a given time. In a recent meta-analytic review, Baxter et al., (2013) found that at any given time around the world, one in every 14 people will suffer from an anxiety disorder, and one in every nine will suffer from an
anxiety disorder in any given year. Looking more specifically at prevalence rates in children, prevalence estimates currently range from 2% to 27%, with a median estimate of around 12.3% (E. Costello et al., 2005a; J. Costello et al., 2011; Masi et al., 1999; Merikangas, Nakamura, & Kessler, 2009; Rapee et al., 2009). Of the anxiety disorders, specific phobias are the most common, closely followed by generalised anxiety disorder, social anxiety disorder and separation anxiety disorder (J. Costello et al., 2011; Kessler, Ruscio, Shear, & Wittchen, 2010a). Although few studies report prevalence rates separately for males and females in children, the available clinical data suggests that females are more likely to suffer from an anxiety disorder than males (J. Costello et al., 2011).

On the whole, it appears that a precise estimate of the true prevalence of anxiety disorders in children is difficult because of numerous methodological issues across the empirical studies that have been conducted to date, including variations in the age of children studied, different assessment instruments and diagnostic systems employed, the variety of information source used (i.e., self-report, parent report) and differences in the method of data aggregation employed (Beesdo, Knappe, & Pine, 2009; Ford, Goodman, & Meltzer, 2003). Hence, the abovementioned prevalence estimates should be considered with caution. Despite the methodological issues in calculating precise prevalence estimates however, there is a wealth of data to suggest that anxiety disorders are one of the most common psychological conditions affecting children around the world.

According to Angold, Costello and Erkanli (1999), ‘comorbidity’ refers to the co-occurrence of two (or more) different disorders or diseases at a given point in time. In general, anxiety disorders in children rarely occur in isolation, with evidence indicating that between 40% to 60% of children who meet diagnostic criteria for one anxiety disorder, also meet criteria for another (Benjamin, Costello, & Warren, 1990;
Anxiety disorders are also highly comorbid with externalising disorders (e.g., attention deficit hyperactivity disorder, conduct disorder, oppositional defiant disorder) and depressive disorders (E. Costello et al., 2005a; E. Costello, Egger, & Angold, 2005b; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993).

Although there is evidence to suggest that some children with an anxiety diagnosis may spontaneously remit, or ‘out-grow’ their problems, the majority of researchers agree that childhood anxiety disorders follow a chronic and unremitting course if left untreated (Cantwell & Baker, 1989; J. Costello et al., 2011; Kessler, Ruscio, Shear, & Wittchen, 2010b). Indeed, research has found that early-onset anxiety disorders are powerful predictors of anxiety disorders later in adulthood. In their study, Dadds et al., (1999) found that approximately 50% of their control group who met diagnostic criteria for an anxiety disorder at a moderate to severe level at intake, continued to meet diagnosis for an anxiety disorder two years later. Similarly, in their prospective longitudinal study, Gregory et al., (2007) found that a staggering 64% of adults in their sample who were diagnosed with an anxiety disorder at age 32, also reported a diagnosis of an anxiety disorder before age 18.

Not only do childhood anxiety disorders predict anxiety disorders in adulthood, but there are a number of deleterious short- and long-term social, emotional, academic, vocational and economic consequences both for the child and his/her family. In the short term, children diagnosed with an anxiety disorder have been shown to have poor self-esteem and self-worth, distorted thinking patterns, increased levels of depression, poor academic achievement, impaired peer relationships, and frequent somatic complaints (e.g., headaches, muscle tension and nausea) (Bittner et al., 2007; Donovan & Spence, 2000; Endicott, Spitzer, Fleiss, & Cohen, 1976; Essau et al., 2000a; Farrell & Barrett, 2007; Ginsburg, La Greca, & Silverman, 1998; Kashani & Orvaschel, 1990;
Pine, Cohen, Gurley, Brook, & Ma, 1998). Children with anxiety disorders also experience significant difficulties in routine daily activities such as attending school or completing school or homework tasks (Essau et al., 2000a). In the long-term, anxiety disorders have been associated with unemployment, days lost from work, hospitalisations, increased use of medication and psychiatric service, pension payments, substance use and/or abuse problems, suicidal ideation and attempts, and difficulties living independently (Begg et al., 2007; Caspi, Moffitt, Newman, & Silva, 1996; DuPont et al., 1996; Keller et al., 1992; Kessler, Foster, Saunders, & Stang, 1995; Last, Hansen, & Franco, 1997; Lyneham & Rapee, 2005). Overall then, childhood anxiety disorders are common, problematic and stable psychological problems that, if left untreated, can lead to numerous detrimental short- and long-term consequences.

**Risk Factors for Childhood Anxiety**

According to Dadds and Barrett (2001, p. 1001), ‘risk factors’ are "...variables that, if present for a particular individual, increase the likelihood that the individual will develop the disorder, and are present before the disorder develops". A review of the literature over the last few decades illustrates that there is an array of biological, psychological and environmental risk factors for childhood anxiety disorders including genetics, parenting behaviours (including modelling, parenting style and attachment style), childhood temperament, cognitive factors, and traumatic, negative and stressful life events (Vasey & Dadds, 2001). It appears therefore, that there is no unitary pathway in the development of an anxiety disorder, but rather, anxiety disorders are the result of a complex interplay of a number of risk factors. A brief review of childhood risk factors for anxiety is presented below. For an extensive discussion, consult Muris (2007), Vasey and Dadds (2001), Craske (1997) and Rapee et al., (2009).

**Genetics and environmental factors.** There is a substantial amount of evidence suggesting that children are at increased risk of developing an anxiety disorder if there
is a family history of anxiety (Beidel & Turner, 1997; Craske, 1997; Turner, Beidel, & Costello, 1987). Simply stated, anxiety disorders run in families (Muris, 2007). In comparison to their non-anxious peers, anxious children are more likely to have anxious parents, and similarly, anxious parents are more likely to have anxious children (Last, Hersen, et al., 1987; Last, Hersen, Kazdin, Orvaschel, & Perrin, 1991). Support for the genetic contribution to anxiety has been obtained from a significant number of twin and family-based studies. Indeed, children are seven times more likely to develop an anxiety disorder if one or more of their parents have an anxiety disorder, with genetics accounting for 50% of the variation (Beidel & Turner, 1997; Eley et al., 2003; Gregory et al., 2007; Turner et al., 1987).

Despite the strong genetic influence on the development of anxiety disorders/symptoms in children, heritability alone does not account for 100% of the variance in the development and/or maintenance of anxiety disorders in children. Family factors such as parental behaviours and the environment a child is brought up in, may also be important. Specifically, there is considerable evidence demonstrating that parents of anxious children are more likely to behave in ways that increase the likelihood that their child will behave/react in an anxious manner (Barrett, Rapee, Dadds, & Ryan, 1996; Breinholst, Esbjørn, Reinholdt-Dunne, & Stallard, 2012; Craske, 1997; Last et al., 1991; Spence, 2001). Spence (1996) has found that parents of anxious children tend to model, prompt and reinforce anxious behaviours, which consequently result in avoidance of, and distress whilst in, anxiety provoking situations. Parents of anxious children are also more likely than parents of non-anxious children, to endorse and support avoidant coping strategies, provide excessive amounts of reassurance, and to become over-protective or aggressive with their child (Barrett, Rapee, et al., 1996). Furthermore, an insecure parent-child relationship, lack of parental warmth, as well as over-controlling parenting behaviours have also been linked with the development and
maintenance of childhood anxiety disorders (Bögels & Brechman-Toussaint, 2006; Muris, 2007). Krohne and Hock (1991) have argued that these particular parental styles/behaviours convey a message of threat and danger, which consequently inhibit the child’s opportunity to interact with his/her surroundings, and prevent them from developing adaptive coping mechanisms.

**Temperament.** Behavioural inhibition (BI), a childhood temperament style, has been postulated as another probable risk factor in the development of childhood anxiety (Robinson, Kagan, Reznick, & Corley, 1992). BI is characterised by timidity and shyness as well as emotional restraint/withdrawal when exposed to unfamiliar people or objects, unfamiliar places, or stressful situations. Kagan and Snidman (1999) have argued that BI appears to be a relatively stable temperament style and have found that, children who are highly reactive to unfamiliar social and non-social events (i.e., behaviourally inhibited) as infants, are much more likely to display similar tendencies many years later. Furthermore, it has been found that children with BI are more likely to develop an anxiety disorder, especially social anxiety disorder, and that there is a genetic basis to behavioural inhibition (Kagan & Snidman, 1999; Robinson et al., 1992).

**Traumatic, negative, stressful life events.** Traumatic, negative and stressful life circumstances (e.g., road traffic accidents, natural disasters, bushfires, physical/sexual abuse) may also be related to the development and maintenance of pathological anxiety in children. A number of epidemiological studies have shown that a proportion of children who are exposed to early adverse experiences develop PTSD and are at an increased risk for developing other anxiety disorders (Cortes et al., 2005; Goodyer & Altham, 1991; Muris, 2007; Stallard, Velleman, & Baldwin, 1998; Yule & Williams, 1990). Fortunately, not all children exposed to these negative life events develop PTSD. Indeed, the type, number and severity of traumatic events play a
significant role in the development of the disorder (P. Smith, Perrin, & Yule, 2011). Specifically, research has shown that children exposed to rape, physical assault, or the violent death of a loved one, are more likely to develop PTSD than children who witness or learn about unpleasant events happening to others (Elklit, 2002; P. Smith et al., 2011). With respect to demographic vulnerability factors, studies have identified numerous factors that increase a child’s chances of developing PTSD following exposure to a traumatic event. Being a young adolescent female, coming from an impoverished or poorly educated home, having a prior history of mental health difficulties, and having a mother with PTSD or depression and family drug/alcohol problems, all place a child at a greater risk (P. Smith et al., 2011).

**Cognitive Factors.** Cognitive factors (such as information-processing biases) have also been implicated in the development of pathological anxiety in children (Rapee et al., 2009). From an early age, it appears that children with anxiety disorders demonstrate a bias towards threat and have a tendency to interpret ambiguous situations as dangerous. For instance, in their study, Barrett et al., (1996) found that anxious children were more likely to interpret ambiguous situations as threatening, compared to non-anxious children. Such biases are similar to the information-processing biases found in adults with anxiety disorders (Field & Lester, 2010; Rapee et al., 2009). However, there are numerous methodological problems associated with research studies conducted to date in this area, and the evidence overall appears to be mixed as to whether information-processing biases actually increase a child’s vulnerability to developing an anxiety disorder or not (Field, Hadwin, & Lester, 2011; Rapee et al., 2009; Waters, Lipp, & Spence, 2004; Waters, Mogg, Bradley, & Pine, 2008). Thus, more research is required in this area before firm conclusions can be drawn.
Summary

Given the above evidence, it is apparent that a number of intrinsic and extrinsic risk factors are involved in the development and maintenance of anxiety disorders in children. Genetic predisposition, parenting behaviours, early adverse experiences and cognitive factors have all been implicated. Although common and debilitating, there is a vast body of research suggesting that we can effectively treat anxiety disorders. The next section will focus on a discussion of the research to date examining treatments for child anxiety.

Treatment of Childhood Anxiety

Given that anxiety disorders are highly prevalent, chronic and debilitating, it is imperative that children are treated in order to prevent problematic future trajectories. Fortunately, there is a substantial amount of evidence to demonstrate that we can treat anxiety disorders in children (James, Soler, & Weatherall, 2007, 2013; Silverman et al., 2008). At the forefront of efficacious treatment is Cognitive Behaviour Therapy (CBT); a short-term, focused approach that aims to bring about changes in an individual's thoughts, feelings and behaviours. The majority of CBT interventions for childhood anxiety are ‘transdiagnostic’ in their approach, whereby children with a variety of anxiety diagnoses are treated with the same program. Transdiagnostic anxiety programs generally include emotional education, coping skills training, cognitive restructuring and graded in-vivo exposure. The rationale for a transdiagnostic approach to treating childhood anxiety disorders is that there are a number of cognitive and/or behavioural maintenance processes that are shared across the various anxiety disorders (Mansell, Harvey, Watkins, & Shafran, 2009). Because of these shared processes, and the high comorbidity between the anxiety disorders, transdiagnostic programs may be more time and cost efficient.
Research over the years has shown that transdiagnostic CBT interventions delivered in a group or individual format, with or without parental involvement, are effective in treating children and adolescents across a range of anxiety disorders (James et al., 2007, 2013; Silverman et al., 2008). Collectively, studies have found that between 50% to 80% of youths receiving CBT show clinical levels of improvement (Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004; Hudson, 2005; Ishikawa, Okajima, Matsuoka, & Sakano, 2007; James et al., 2007; March, Spence, & Donovan, 2009). Some of the more prominent and empirically supported transdiagnostic CBT programs will now be discussed.

Transdiagnostic CBT Programs

The Coping Cat program. Kendall was one of the first researchers to develop, and rigorously test, the efficacy of a CBT program for children and adolescents (aged 9 to 13 years) with anxiety disorders (Kendall, 1990, 1994, 2000; Kendall, Kane, Howard, & Siqueland, 1990). The Coping Cat program is a time-limited, child-focused, CBT intervention, consisting of approximately 14 to 18 sessions. The program focuses on teaching children coping skills (e.g., recognising and reframing negative thoughts) and providing them with practical experiences to develop a sense of coping and mastery (Kendall, 1990; Kendall et al., 1990). There exists a large body of evidence supporting the efficacy of Coping Cat with a variety of anxiety and autism spectrum disorders (Kendall et al., 1997; Kendall, Safford, Flannery-Schroeder, & Webb, 2004; Kendall & Southam-Gerow, 1996; McNally Keehn, Lincoln, Brown, & Chavira, 2013). In the first randomised controlled trial (RCT) of the Coping Cat program, Kendall (1994), found that compared to children in the waitlist control condition, 66% of children in the active treatment condition no longer met criteria for their primary anxiety disorder following treatment, and that these treatment gains were maintained at 12-month follow-up. In the second RCT, Kendall and Colleagues (Kendall et al., 1997) found that by post-
treatment, 71% of children who received individual CBT had lost their primary anxiety diagnosis, and 53% had lost all clinical diagnoses. Following the seminal work of Kendall and colleagues, Coping Cat has formed the basis of the majority of transdiagnostic treatments for childhood anxiety (some of which will be discussed below).

**The Coping Koala program.** Barrett and colleagues adapted Kendall’s (1990) Coping Cat program for an Australian population (Barrett, Dadds, & Rapee, 1991). In contrast to the Coping Cat program, Coping Koala is delivered in a group format with an added family-intervention component (Barrett, Dadds, & Rapee, 1996). The parent component of Coping Koala is aimed at educating parents about child development and risk and protective factors for childhood anxiety, as well as helping parents to deal with their own anxiety (Barrett & Turner, 2004). In testing the efficacy of Coping Koala, Barrett (1998) found that at post-treatment, across both active treatment groups (i.e., group CBT with or without family management), 64.8% of children no longer met criteria for an anxiety diagnosis, compared to 25.2% of children in the waitlist control group. At 12-month follow-up, 64.5% of children in the group-CBT treatment group and 84.8% of children in the group-CBT treatment group with family management, were diagnosis free.

Using a slightly modified version of Coping Koala, Cobham, Dadds and Spence (1998) investigated the role of parental involvement and parental anxiety in the treatment of child anxiety. Based on the level of parental anxiety, children were allocated to one of four treatment conditions; 1) child-focused CBT; 2) child-focused CBT with parental anxiety management (PAM); 3) child- and parent-focused CBT; and 4) child- and parent-focused CBT with PAM. PAM involved psychoeducation about the aetiology of childhood anxiety, cognitive restructuring, relaxation training and contingency management. Overall, results indicated that children with anxious parents
generally responded less favourably to treatment than children with non-anxious parents, and that the PAM component enhanced treatment outcome only when children had an anxious parent. More specifically, at post-treatment, 82% of children in the child-focused CBT condition, 80% of children in the child-focused CBT with PAM condition, 39% of children in the child- and parent-focused CBT condition, and 77% of children in the child- and parent-focused CBT with PAM, no longer met criteria for an anxiety diagnosis. Although there was some deterioration over time, improvements were generally maintained in each group.

The BRAVE program. The BRAVE program is another transdiagnostic CBT intervention developed to assist young people with a range of anxiety disorders (Spence, Holmes, & March, 2001). It incorporates both a parent and a child program, and is available as a clinic-based (The BRAVE program) and an online program (BRAVE-ONLINE) (March et al., 2009; Spence et al., 2008; Spence, Holmes, March, & Lipp, 2006). Two different versions of BRAVE are available; one for children aged 8 to 12 years (BRAVE-Children) and another for teenagers aged 13 to 17 years (BRAVE-Teenagers). BRAVE is an acronym describing the CBT strategies covered throughout the program. Specifically, B stands for Body Signs; R stands for Relaxation; A stands for Activate helpful Thoughts; V stands for Victory over Fears; and E stands for Enjoy! Reward Yourself. The BRAVE program consists of 10 child sessions, and six parent sessions, as well as two booster sessions conducted one and three months after completion of the program. There is sound evidence surrounding the efficacy of the BRAVE program in treating a wide range of anxiety disorders in both the short- and long-term, for both clinic-based and online versions, with between 75% and 89% of children being free of all diagnoses by follow-up (Holmes, March, & Spence, 2009; March et al., 2009; Spence et al., 2008).
The Cool Kids program. The Cool Kids program, adapted from Coping Cat and Coping Koala, was originally developed in 2003 to target a variety of anxiety disorders in children (Lyneham, Abbott, Wignall, & Rapee, 2003). The group-based program includes emotion recognition, cognitive restructuring, social skills training, parental management of child behaviours, and graded exposure (Hudson et al., 2009). When compared to an active control group (consisting of psychoeducation and a brief description of CBT techniques, with minimal therapist involvement), Cool Kids was found to be superior at post-treatment and at 6-month follow-up. Specifically, at post-treatment, 45.1% of children in the Cool Kids group compared to 29.6% of children in the control group were free of their primary anxiety diagnosis (Hudson et al., 2009). At 6-month follow-up, 68.6% of children in Cool Kids and 45.5% of children in the active control group were free of their primary anxiety diagnosis.

FRIENDS for Life program. Barrett and colleagues developed the FRIENDS for Life Program; a community-orientated, developmentally tailored CBT intervention that is effective both as a psychological treatment for youth anxiety and as a school-based prevention program for anxiety and friendship issues (Barrett, Lock, & Farrell, 2005; Barrett, Lowry-Webster, & Turner, 2000a, 2000b; Barrett & Turner, 2004). The FRIENDS for Life program promotes self-development and was developed around the acronym FRIENDS to help children remember the skills and strategies taught to them (Barrett & Turner, 2004). Specifically, F stands for Feelings; R stands for Relax and Feel Good; I stands for Inner Helpful Thoughts; E stands for Explore Plans; N stands for Nice Work, Reward Yourself; D stands for Don’t Forget to Practice; and S stands for Stay Calm. The FRIENDS for Life program is time-limited and consists of ten, group-delivered child sessions, as well as four parent sessions, each of approximately 60 minutes duration (Barrett et al., 2000a, 2000b). There are currently two version of the FRIENDS for Life program; FRIENDS for Children aged 7 to 11 years, and FRIENDS
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for Youths aged 12 to 16 years (Barrett et al., 2000a, 2000b). Since its development, the FRIENDS for Life program has been tested in over 14 different empirical studies around the world including Australia, Canada, England, Scotland and the United States, with results generally finding that it is a promising intervention for the treatment and prevention of child anxiety and friendship issues in school-based settings (Barrett, Farrell, Ollendick, & Dadds, 2006; Barrett, Lock, et al., 2005; Barrett & Turner, 2004; Briesch, Hagermoser Sanetti, & Briesch, 2010).

The Facing your Fears and Do as I Do program. The Facing your Fears program is an individually delivered, child-focused CBT program for childhood anxiety disorders (Cobham, 2006b), whilst the Do as I Do program (Cobham, 2006a) is an individually delivered, parent-based CBT program. Both programs consist of six sessions that are conducted weekly, and the Do as I Do program is completed prior to the Facing your Fears program. Facing your Fears is based on a two-step plan to help children overcome their anxiety; 1) Helpful Thoughts (i.e., learning to identify unhelpful thoughts, and implement more helpful thoughts); and 2) Brave Behaviours (i.e., explaining the role of avoidance in the maintenance of anxiety, and exposure as a means of overcoming anxiety in a gradual fashion) (Cobham, 2006b). Do as I Do focusses on psychoeducation about the development and maintenance of anxiety, and teaches parents practical skills to help manage their child’s anxiety.

In a recent investigation of its efficacy, Cobham (2012) compared children allocated to one of three groups: 1) individual face-to-face therapy (Facing your Fears and Do as I Do); 2) therapist-supported bibliotherapy (i.e., parents acting as therapist administering both Facing your Fears and Do as I Do, with fortnightly telephone calls to the researcher); and 3) a waitlist control group (WLC). At post-treatment, both active treatment conditions were superior to the WLC group, with 95% of children in the therapist-supported bibliotherapy group, 78.3% in the individual face-to-face therapy
group, and 0% in the WLC being free of all anxiety diagnoses. There were no significant differences between the active treatment conditions with respect to diagnostic status, suggesting that both treatments were comparable in terms of efficiency. Treatment gains were maintained at 6- and 12-month follow-up (Cobham, 2012).

**The Take Action program.** The Take Action program is another transdiagnostic CBT intervention developed to assist young people aged four to 18 years with a range of anxiety disorders (Waters, Wharton, Zimmer-Gembeck, & Craske, 2008). The program includes both a parent and a child program, each of which comprise 10 weekly group sessions. ACTION is an acronym describing the CBT strategies covered throughout the program. Specifically, A stands for Be Aware; C stands for Keep Calm; T stands for Think Strong Thoughts; I stands for Initiate Action; O stands for Options; and N stands for Never Stop Taking Action. In a large scale study, Waters et al., (2009) compared children allocated to one of three groups: 1) Take Action parent and child program; 2) Take Action parent-only program; and 3) waitlist control group (WLC). At post-treatment, both active treatment conditions were superior to the WLC group, with 55.3% of children in the parent-only program and 54.8% in the parent and child program no longer meeting criteria for their primary anxiety diagnosis. Consistent with many of the programs discussed above, there were no significant differences between the two active treatment conditions, suggesting that both treatments were comparable in terms of their efficiency. Treatment gains were maintained at 6- and 12-month follow-up.

**Disorder-Specific Treatments**

In addition to transdiagnostic CBT programs designed to treat a variety of anxiety disorders with the same protocol, a number of treatment programs have also been designed to be disorder-specific. That is, they are designed for a particular disorder
and are thus able to address symptoms and maintaining factors that are specific to the disorder of interest. Disorder-specific CBT programs have been developed for separation anxiety disorder (Schneider et al., 2011), social anxiety disorder (e.g., Beidel, Turner, & Morris, 2000; Beidel et al., 2007; Beidel, Turner, & Young, 2006; Hayward et al., 2000; Melfsen et al., 2011; Spence, Donovan, & Brechman-Toussaint, 2000), specific phobias (e.g., Ollendick et al., 2009; Öst, Svensson, Hellstrom, & Lindwall, 2001), obsessive-compulsive disorder (e.g., Barrett, Farrell, Dadds, & Boulter, 2005; Barrett, Healy-Farrell, & March, 2004; Farrell, Schlup, & Boschen, 2010; Freeman et al., 2007; Gillihan, Williams, Malcoun, Yadin, & Foa, 2012) and posttraumatic stress disorder (e.g., Cohen, Deblinger, Mannarino, & Steer, 2004; Deblinger, Mannarino, Cohen, & Steer, 2006; Dowd & McGuire, 2011; P. Smith et al., 2007). Looking at the efficacy of these disorder-specific treatments, it is evident that they are equally, if not more efficacious than transdiagnostic CBT interventions, with remission rates ranging between 33% and 92% (Bacow, May, Brody, & Pincus, 2010; Barrett, Farrell, et al., 2005; Barrett, Healy-Farrell, & March, 2004; Beidel et al., 2000; Beidel et al., 2006; Deblinger et al., 2006; Dowd & McGuire, 2011; Farrell et al., 2010; Freeman et al., 2007; Gillihan et al., 2012; Hayward et al., 2000; Melfsen et al., 2011; Ollendick et al., 2009; Öst et al., 2001; Schneider et al., 2011). In the majority of treatment studies, treatment gains were also maintained or enhanced over time (Freeman et al., 2007; Melfsen et al., 2011; Ollendick et al., 2009; Payne, Bolton, & Perrin, 2011; Schneider et al., 2011; P. Smith et al., 2007).

Although disorder-specific treatment programs have been developed for a number of child anxiety disorders, it is evident that research investigating GAD-specific treatment programs for children lags significantly behind that of the other anxiety disorders, with few programs developed and tested to date (Leger, Ladouceur, Dugas, & Freeston, 2003; Payne et al., 2011). Indeed, only five studies have investigated the
treatment of GAD in children specifically, and only two of these studies employ a GAD-specific rather than a transdiagnostic approach. The studies that have been conducted will be discussed in detail in Chapter 3, where the focus is on childhood GAD.

Chapter Summary

This chapter has outlined the nature of childhood anxiety disorders, including a discussion of their prevalence, course, psychosocial impact and current efficacious treatments. Evident from Chapter 1 is that anxiety disorders are one of the most prevalent and functionally debilitating conditions in childhood, affecting around 12% of children. If left untreated, anxiety disorders rarely remit and can lead to numerous deleterious social, academic, and emotional consequences, both in the short- and long-term. Risk factors for child anxiety include genetics, environmental factors, parenting factors, temperament, traumatic, negative, or stressful life events, and cognitive factors. Fortunately, we can successfully treat anxiety disorders in children, with research suggesting that both transdiagnostic and disorder-specific treatments are beneficial. The next chapter focusses specifically on GAD, a somewhat under-researched and poorly understood disorder, even in the adult literature. Chapter 2 discusses the history of GAD, as well as the theoretical models and treatments for the disorder in adults. Chapter 3 will then discuss GAD as it applies to children.
CHAPTER 2

GENERALISED ANXIETY DISORDER
A review of research publications over the last 25 years reveals that in comparison to other anxiety disorders, generalised anxiety disorder (GAD) has received only modest research attention (Boschen, 2008; Dugas, Anderson, Deschenes, & Donegan, 2010). Yet, GAD is a highly prevalent, disabling and costly mental disorder, worthy of more exhaustive empirical research (Boschen, 2008; Dugas, Anderson, et al., 2010; Rapee, 1991; Wittchen, Essau, & Krieg, 1991). This chapter aims to broadly discuss GAD and worry, as well as its history in the Diagnostic and Statistical Manual of Mental Disorders (DSM; APA, 1980, 1987, 1994, 2000, 2013). It will then review several theoretical models put forward by prominent researchers in the area that have contributed to our understanding of GAD in adults, and will discuss current efficacious treatments for adult GAD.

**Normal versus Pathological Worry**

As discussed in Chapter 1, GAD is characterised by excessive and uncontrollable worry about numerous topics (APA, 2013). The worry experienced by people with GAD is often difficult to control and is accompanied by a number of somatic complaints including an inability to relax and unwind, muscle aches, fatigue, restlessness and irritability (APA, 2013). Although worry is a normal phenomenon commonly experienced by adults and children in response to daily stressors, *excessive* and *uncontrollable* worry is the cardinal feature of GAD (APA, 2013). There are two definitions of worry in the literature that succinctly capture its nature and process. In his early work, Borkovec (1983, p. 10), described worry as a "...chain of thoughts and images, negatively affect-laden and relatively uncontrollable". From Borkovec's perspective, worrying is essentially an attempt to mentally problem-solve an issue. In a similar vein, Vasey (1993, p. 9), defines worry as a "...cognitive process involving thoughts and images related to possible negative or threatening outcomes". Taken
together, worry is primarily an anticipatory process, and the content of worry is usually self-referent (Vasey, 1993).

When we consider that everyone experiences worry, what is it that distinguishes 'normal worry' from 'pathological worry'? A significant amount of research has been conducted on this issue and has demonstrated that normal worry and pathological worry do not differ in terms of content, but rather, differ in terms of the severity and pervasiveness of the worry experienced by an individual (Dugas & Robichaud, 2007; Mennin, Heimberg, & Turk, 2004). Pathological worry tends to be more intense, more frequent and less controllable than the worry reported by non-anxious individuals or individuals suffering with other anxiety disorders (Dugas & Robichaud, 2007). Thus, rather than viewing normal worry and pathological worry as distinct categories, it is helpful for clinicians to instead view them as opposite ends of the same continuum or spectrum (Wilkinson, Meares, & Freeston, 2011).

Looking broadly at worry content in adults, Dugas et al., (1998) found that adults with a primary diagnosis of GAD tended to worry more about highly remote events (e.g., their child suddenly developing cancer) and the future, compared to non-GAD adults, and adults with a secondary diagnosis of GAD. In another study investigating the worry content of adults and children, it was found that adults tended to worry more about social threats (such as being scrutinised by others), whereas children tended to worry more about physical threats (such as crime, war and natural disasters) (Szabó, 2009). Regardless of the content of the worry however, it seems to be the case that adults and children who have a propensity to excessively worry, generally overestimate the likelihood of their worry occurring and catastrophise their worry.

**History of Generalised Anxiety Disorder**

As highlighted above, we know much less about the epidemiology and treatment of GAD than we do about other anxiety disorders (Masi et al., 2004). One explanation
for the paucity of research on GAD relates to the changes in nomenclature in the DSM over the last 40 years, where GAD has progressed from a misunderstood and maligned diagnostic category in early editions, to its current, more reliable form in the DSM-5. Indeed, the clinical diagnosis of GAD has been subjected to a rollercoaster of revisions, presenting significant challenges to our understanding and conceptualisation of this disorder, as well as the research conducted upon it (Mennin et al., 2004). The refinements that have been made however, have been imperative to our current knowledge and conceptualisation of GAD, as well as our ability to effectively treat it.

**DSM-III**

GAD was first considered as a disorder in its own right with the publication of the third edition of the DSM (APA, 1980). At this time, GAD was essentially viewed as a 'residual disorder' because a separate diagnosis of GAD could not be made if symptoms of other anxiety disorders were present (Dugas & Robichaud, 2007). The essential features of GAD at this time were recurrent anxiety with several associated symptoms such as motor tension, autonomic hyperactivity and apprehensive expectation. Although children could be diagnosed with GAD if they met diagnostic criteria, a separate category labelled "Overanxious Disorder" or OAD, was included in DSM-III for generalised anxiety in children (APA, 1980). Many argued that the considerable overlap between OAD and GAD, together with the poor definitional criteria for these very similar disorders, resulted in unreliable and unstable diagnostic categories (Albano & Hack, 2004). As Barlow (1988, p. 567) noted, "... the category of GAD in DSM-III produced so much confusion that few clinicians or investigators could agree on individuals who would meet this definition...". Thus, although appearing as a separate diagnosis in DSM-III, GAD and OAD were not considered stand-alone disorders, as they were diagnoses given when all other anxiety disorders had been ruled out.
DSM-III-R

As a result of the broad and vague nature of GAD as a DSM-III disorder, several important revisions were made with the advent of DSM-III-R (APA, 1987). It was in this revision that GAD was no longer viewed as a residual disorder and could now be diagnosed in the presence of another mental disorder (Dugas & Robichaud, 2007; Mennin et al., 2004). At this time, children could still be diagnosed with OAD, despite the problems highlighted in DSM-III. Furthermore, the central feature of GAD shifted from persistent anxiety to excessive and unrealistic worry; the duration of worry required for diagnosis increased from one to six months and; the worry and anxiety experienced by the individual must have occurred across two or more life circumstances (APA, 1987; Dugas & Robichaud, 2007; Mennin et al., 2004). Thus, DSM-III-R saw the largest change to the diagnosis of GAD, as it was now considered a separate diagnostic entity and could be diagnosed in the presence of other psychiatric conditions.

DSM-IV and DSM-IV-TR

The structure of GAD underwent significant modifications with the introduction of DSM-IV in 1994 (APA, 1994), where OAD and GAD were merged into a unitary disorder. DSM-IV also discarded many of the somatic symptoms required for the DSM-III-R diagnosis such as autonomic hyperactivity, motor tension and vigilance/scanning. Although excessive worry and anxiety remained cardinal features of GAD, research conducted since DSM-III had found that GAD patients were more likely to have difficulty controlling their worry compared to non-anxious controls (Craske, Rapee, Jackel, & Barlow, 1989). Hence, terminology was modified in DSM-IV from 'excessive and unrealistic' worry and anxiety to 'difficult to control' worry and anxiety. The DSM-IV was further updated and revised in 2000, with the publication of DSM-IV-TR, although no further changes were made to the diagnostic criteria of GAD.
DSM-5

In the lead up to the publication of the DSM-5 (APA, 2013), it was rumoured that extensive changes would be made to the GAD diagnostic category that would more accurately reflect the behavioural disturbance often seen to accompany this disorder (such as marked avoidance of situations where a negative outcome might occur, procrastination and excessive reassurance seeking). However, when DSM-5 was released, it was evident that these large-scale changes had not been implemented, and that only minor wording changes were made with respect to criterion D, E and F to reflect the advent of new disorders in the manual. The primary criteria (i.e., A, B and C) have thus remained unchanged from DSM-IV-TR to DSM-5 (APA, 2013). See Table 1 for full DSM-5 diagnostic criteria for GAD (APA, 2013).
Table 2

*Diagnostic Criteria for 300.02 (F41.1) Generalized Anxiety Disorder according to the Diagnostic and Statistical Mental Disorders –Fifth Edition (APA, 2013).*

A. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance);

B. The individual finds it difficult to control the worry;

C. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms present for more days than not for the past 6 months). **Note:** Only one item is required in children;

   (1) restlessness or feeling keyed up or on edge;

   (2) being easily fatigued;

   (3) difficulty concentrating or mind going blank;

   (4) irritability;

   (5) muscle tension;

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

D. The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning;

E. The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition (e.g., hyperthyroidism);

F. The disturbance is not better explained by another mental disorder (e.g., anxiety or worry about having panic attacks in panic disorder, negative evaluation in social anxiety disorder (social phobia), contamination or other obsession in obsessive-compulsive disorder, separation from attachment figures in separation anxiety disorder, reminders of traumatic events in posttraumatic stress disorder, gaining weight in anorexia nervosa, physical complaints in somatic symptom disorder, perceived appearance flaws in body dysmorphic disorder, having a serious illness in illness anxiety disorder, or the content of delusional beliefs in schizophrenia or delusional disorder).
Models of Generalised Anxiety Disorder

Despite the relatively high prevalence and deleterious consequences associated with GAD in childhood discussed in Chapter 1, conceptual models of GAD in children have not yet been put forward, nor have the adult models (discussed below) been tested entirely with a paediatric population. Below is a description of four conceptual models that have been put forward to explain the aetiology and maintenance of GAD in adults. These models are important as their cognitive constituents form the basis of treatment programs for GAD in adults. The cognitive components of these models are also the focus of the four studies comprising this thesis (Chapters 4 to 7).

Borkovec’s ‘Avoidance Theory’ of Worry (Borkovec, Alcaine, & Behar, 2004)

One theory that has contributed to our knowledge and understanding of the aetiology and maintenance of GAD in adults, is Borkovec’s ‘avoidance theory’ of worry (Borkovec et al., 2004). According to this theory, worry is a mental activity that focuses on predicting and avoiding future dangers. From an evolutionary perspective, if an individual anticipates a threat, he/she is likely to be motivated to avoid, solve, or remove that threat (Borkovec et al., 2004). Worry thus serves an avoidance function for individuals with GAD, as it allows them to process unpleasant emotional content at an abstract, superficial level. Using worry as a coping strategy is negatively reinforcing because in the short-term, the somatic reactions produced by exposure to the feared mental content are reduced, and in the longer-term, the individual has potentially avoided encountering the feared outcome (Borkovec et al., 2004). However, as Borkovec (2004) points out, worry (or cognitive avoidance) precludes emotional processing, which consequently inhibits extinction of the feared stimulus, feelings, and anticipated outcomes. Thus, the more an individual attempts to avoid unpleasant thoughts, the more in fact they think about them, which perpetuates the worry cycle.
Overall, avoidance of unpleasant mental content is at the heart of Borkovec’s model, and is an ineffective method for managing worry.

**Mennin’s ‘Emotion Dysregulation’ Model (Mennin, 2004; Mennin, Heimberg, Turk, & Fresco, 2002)**

Mennin and colleagues emphasise the importance of emotions in their ‘emotion dysregulation’ model of GAD (Mennin, 2004; Mennin et al., 2002; Mennin, Heimberg, Turk, & Fresco, 2005). According to Mennin and colleagues, individuals with GAD have pervasive emotion regulation deficits, such that they experience emotions (especially negative emotions) more intensely and quickly than other individuals (Mennin, 2004; Mennin et al., 2002, 2005). For individuals with GAD, strong negative emotions are often elicited by situations that are seemingly benign to most people. They also spend excessive amounts of time trying to control and/or suppress unwanted emotional experiences, usually through worry. Because these individuals are unable to modulate and regulate their emotions, and have difficulty understanding and describing them, they experience emotions as aversive, dangerous or overwhelming, and they usually become hyper-vigilant for threatening information in every situation they encounter. This then affects their self-esteem, well-being and overall behavioural performance (Mennin et al., 2002), as they are only temporarily able to avoid intense emotions. Consistent with Borkovec’s avoidance theory, the more a person tries to control their emotions, the more often they experience them (Borkovec et al., 2004). Thus, Mennin (2004; 2002) emphasises the detrimental impact that attempts to avoid and control thoughts can have on the experience of worry and unpleasant emotions.

**Wells’ Meta-Cognitive Model of Worry (Wells, 1995)**

One of the most prominent and empirically researched cognitive models to date is that put forward by Wells (1995). According to Wells (1995), several metacognitive processes are crucial to our understanding of GAD. In the model put forward by Wells
Worry and Generalised Anxiety Disorder in Children (1995) (see Figure 1), individuals with GAD use worry as a coping strategy in response to a threat-related trigger. Meta-cognitive beliefs and plans for coping are subsequently activated from these triggers, and individuals with GAD typically experience tacit positive beliefs about worrying such as "worrying helps me to solve problems" (Wells, 1995). That is, individuals use worry to reason-out a problem or to prevent a catastrophe. Type 1 worry is consequently implemented as a result of the selection of worry as a coping strategy. Type 1 worry refers to worry about external daily events (e.g., safety of a spouse) and non-cognitive internal events (e.g., concerns about bodily sensations) (Wells, 1995). During the course of Type 1 worry, individuals with GAD also endorse numerous negative beliefs about worry (such as "I could go crazy with worrying") which lead them to negatively appraise their worrying. This is known as Type 2 worry or ‘worry about worrying’ (Wells, 1995). According to Wells (1995), Type 2 worry distinguishes clinical worriers (or individuals with GAD) from non-clinical worriers (Wells, 1997). Once Type 2 worry is established, Wells (1995) argues that three factors are involved in the maintenance of worry including behaviours (e.g., reassurance seeking and avoidance), thought control strategies (e.g., suppression of thoughts, distraction), and emotions (e.g., increasing anxiety). Essentially, individuals with GAD are said to be in a state of meta-cognitive dissonance, whereby positive beliefs about worrying and negative beliefs about worrying co-exist (Wells, 1995). Overall, worry serves to distract individuals from experiencing unpleasant strong emotion and becomes rewarding because individuals do not experience (at least temporarily), the unwanted emotional distress.
Another very prominent model in the area of GAD is that put forward by Dugas and colleagues (Dugas, Gagnon, et al., 1998; Dugas & Robichaud, 2007), who delineate four cognitive factors in the aetiology and maintenance of GAD: intolerance of uncertainty, positive beliefs about worry, negative problem orientation and cognitive avoidance. Intolerance of uncertainty is defined as a dispositional characteristic an individual possesses that originates from a set of negative beliefs about uncertainty and
its consequences. Individuals with high intolerance of uncertainty feel very anxious in situations where they cannot know things “for sure”. With respect to positive beliefs about worry, the concept is essentially the same as that proposed by Wells (1995, 1997). Those who hold positive beliefs about worry view worry as an effective coping strategy that helps them cope and be ready for whatever may come their way. Negative problem orientation is a different construct that has not been put forward in the other models. It refers to an individual's dysfunctional attitude towards solving problems, whereby the individual sees problems as insurmountable, frightening and things to be feared and avoided. Finally cognitive avoidance is similar to the constructs put forward by Borkovec et al., (2004), Mennin et al., (2004; 2004; 2002), and Wells (1995, 1997) and refers to an individual's effort to avoid and/or suppress unwanted thoughts.

According to Dugas and Robichaud (2007), although behavioural and emotional factors may play a role in the aetiology and maintenance of GAD, the abovementioned cognitive factors play a more central role (see Figure 2). Of these four cognitive variables, intolerance of uncertainty is proposed to be at the heart of GAD, and is viewed as a higher order process that contributes in numerous ways to the other three components of the model. According to the model, intolerance of uncertainty often exacerbates an initial “what if” question (e.g., “what if my child gets sick?”). As a result of these questions, an individual with GAD begins to worry and believes that worrying will help him/her cope with the feared situation or prevent bad things from happening (Dugas & Robichaud, 2007). These positive beliefs about worry, and the subsequent feelings of anxiety, then lead an individual with GAD to cognitively avoid distressing/threatening cognitive and emotional stimuli and to develop a negative orientation to problems. As a result of cognitive avoidance and a negative problem orientation, worry is maintained and the cycle begins again. It is important to note that
each of the components of Dugas and Robichaud's (2007) model are not mutually exclusive, but instead, interact in complex ways.

Figure 2. Dugas’ Cognitive Model of GAD (see; Dugas, Gagnon, et al., 1998).

Summary

It is evident from the discussion above that four prominent theories have contributed to our knowledge, understanding and conceptualisation of GAD in adults. Each of these models was developed based on empirical evidence regarding the role of worry in the development of GAD, and although they each have a slightly different focus, they all emphasise the importance of various cognitive processes in the onset, and maintenance of the disorder. Although each of the cognitive factors identified in the adult models of worry have been introduced briefly above, it is important to discuss them now in detail as they are the primary focus of this thesis in a variety of ways.
Below, intolerance of uncertainty, positive and negative beliefs about worry, negative problem orientation and cognitive avoidance are described in more detail and the research conducted to date on each will be reviewed.

**Cognitive factors associated with GAD in adults**

**Intolerance of Uncertainty**

Based on their most recent empirical research with GAD, Dugas and Robichaud (2007) define Intolerance of Uncertainty (IU) as a dispositional characteristic an individual possesses that originates from a set of negative beliefs about uncertainty and its consequences. When confronted with uncertain situations or events, individuals who are intolerant of uncertainty tend to react negatively on an emotional, cognitive and behavioural level (Dugas, Buhr, & Ladouceur, 2004; Dugas & Robichaud, 2007). More specifically, these individuals find ambiguity stressful and upsetting which, consequently, impacts upon their ability to adapt and cope in situations that are uncertain. Furthermore, these individuals assert that uncertainty is "negative and should be avoided" (Dugas & Robichaud, 2007, p. 24). Dugas and Robichaud (2007) suggest that in order not to worry, individuals who are intolerant of uncertainty require 100% certainty that a particular event/situation will not happen or that they will be able to successfully cope with the situation/event. Thus, people with high levels of IU generally like to know things “for sure” and often become quite distressed when they do not. Daily life is therefore difficult, because there are many aspects and situations in a person’s life that are uncertain and unpredictable.

A rich body of research suggests that IU is very important in the development and maintenance of adult worry. Specifically, research in clinical and non-clinical samples of adults has consistently shown a strong, positive correlation between IU and worry ranging between $r = 0.56$ and $r = 0.70$ (Buhr & Dugas, 2006; Dugas, Freeston, & Ladouceur, 1997; Dugas, Gagnon, et al., 1998; Dugas, Gosselin, & Ladouceur, 2001;
Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994; Robichaud, Dugas, & Conway, 2003). Similarly, empirical research has further investigated the relationship between IU and worry in adults to establish whether or not it can be better accounted for by other variables (Dugas & Robichaud, 2007). In addressing this question, Buhr and Dugas (2006) conducted research to examine the specificity of the relationship between IU, intolerance of ambiguity, perfectionism and perceived need for control in a non-clinical sample of undergraduate university students. Although IU was shown to be related to perfectionism and need for control, it was found to be most strongly related to worry (Buhr & Dugas, 2006). Furthermore, the relationship between IU and worry appeared to be largely independent, in contrast to the relationship found between worry and perfectionism which was largely accounted for by IU.

Another avenue of research in this area has investigated whether IU is specific to worry/GAD, or whether it is also involved in symptoms of other psychopathologies, and/or anxiety disorders. In clinically anxious samples of adults, Dugas, Gosselin and Ladouceur (2001), have found IU to be highly correlated with worry ($r = 0.70$), only moderately associated with obsessions and compulsions ($r = 0.48$) and weakly associated with panic sensations ($r = 0.12$). Similarly, Dugas, Schwartz and Francis (2004) also found that IU was more highly correlated with worry ($r = 0.57$), than with depression ($r = 0.48$), or dysfunctional attitudes ($r = 0.43$), although the differences were not statistically significant. With respect to anxiety disorders specifically, Ladouceur et al., (1999) investigated whether IU discriminated between four different groups of adults including adults with a primary diagnosis of GAD, adults with a secondary diagnosis of GAD, adults with a primary diagnosis of any anxiety disorder (excluding GAD), and a group of non-clinical control adults. It was found that IU successfully discriminated between adults with GAD and adults with other anxiety disorders (e.g., obsessive-compulsive disorder and panic disorder). Furthermore, adults
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with a primary or a secondary diagnosis of GAD were found to display the highest levels of IU in comparison to non-clinical controls and other anxiety disorders (Ladouceur et al., 1999). Similarly, Dugas, Marchand and Ladouceur (2005) found that compared to adults with panic disorder, adults with GAD endorsed significantly higher levels of IU and worry, providing some evidence of diagnostic specificity.

Taken together, the results of the studies reviewed above provide support that IU is important to worry in both clinical and non-clinical samples, and that there may be at least some level of specificity involved.

Positive and Negative Beliefs about Worry

As noted above, positive and negative beliefs about worry have been implicated in the development of worry and GAD (Wells, 1997, 1999). According to Wells (1994, 1997) both positive and negative beliefs about worry play an important role in the development and maintenance of chronic worry and GAD. Positive beliefs about worry (PBW) centre around the utility of worry as a coping strategy (Wells, 1997). Individuals who hold these beliefs generally believe that worry helps them to cope; helps to circumvent bad things from happening; and enables them to be prepared for whatever comes their way (Wells, 1997). For example, "If I worry, I'll be thorough and won't miss anything" (Wells, 2004, p. 170). In contrast, negative beliefs about worry (NBW) centre around the mental and physical impact of uncontrollable worry (Wells, 1997). Individuals who hold these beliefs may see their worry as uncontrollable and harmful, and/or may believe that worry has the capacity to make them go crazy. For example, "If I do not control my worrying, people will reject me" (Wells, 2004, p. 170). Wells (1995) has described adults with GAD as being in a state of cognitive dissonance because they concurrently hold competing beliefs about the utility and negative impact of worry. PBW and NBW have also been investigated empirically. Researchers have found that non-clinical, adult, excessive worriers believe that worrying can prepare
them for potential negative outcomes; can prevent potential harm from occurring; can minimize the harm from potential negative outcomes and can serve as a useful distraction from more emotional topics (Freeston et al., 1994). Non-clinical adults have been found to report using worry to motivate themselves or to facilitate preparatory or analytic thinking (Borkovec & Roemer, 1995; Davey, Tallis, & Capuzzo, 1996; Tallis, Davey, & Capuzzo, 1994). It comes as no surprise then, that non-clinical, adult, high-level worriers have been found to believe that worrying is more useful than their moderate or low worrying counterparts (Freeston et al., 1994; Ladouceur, Blais, Freeston, & Dugas, 1998). In addition to holding numerous PBW, individuals who have a propensity to worry excessively, also have been found to have beliefs around the negative nature and consequences of their worry (Wells, 2005).

Research has demonstrated that PBW and NBW are related to an individual's tendency to worry (Cartwright-Hatton & Wells, 1997; Davey et al., 1996; Sexton & Dugas, 2008; Wells, 2005; Wells & Carter, 1999, 2001; Wells & Papageorgiou, 1998). A number of studies have suggested that non-clinical individuals endorsed a range of PBW and NBW, and that both types of beliefs are significantly and positively related to an individual's general tendency to worry as well as to a range of psychopathology measures (Davey et al., 1996; Meyer, Miller, Metzger, & Borkovec, 1990; Wells & Papageorgiou, 1998). These results have been replicated by Cartwright-Hatton and Wells (1997) who developed the Meta-Cognitions Questionnaire (MCQ) to specifically assess a variety of PBW and NBW in adults. After conducting a series of factor analyses across various studies and samples, the MCQ demonstrated five empirically distinct subscales/categories including PBW (e.g., "Worrying helps me cope"), NBW (e.g., "Worrying is dangerous for me"), cognitive confidence (e.g., "I have poor memory"), negative beliefs about thoughts in general (including themes of superstition, punishment and danger; e.g., "If I could not control my thoughts I could go crazy") and
cognitive self-consciousness (e.g., "I think a lot about my thoughts"). Cartwright-Hatton and Wells (1997) found that all five subscales of the MCQ were significantly and positively correlated with worry proneness and anxiety proneness in a sample of undergraduate and graduate university students. Furthermore, in a non-clinical sample of university students, Wells and Carter (1999) found that excessive, high-level worry was significantly and positively related to NBW, even when trait-anxiety was held constant. Furthermore, research has shown a temporal progression of PBW and NBW such that that PBW tends to precede the development of NBW in adult worriers (Borkovec, 1994; Cartwright-Hatton & Wells, 1997; Davey et al., 1996).

The relationship between PBW and NBW and worry has also been investigated in clinically anxious adult samples. Dugas, Gagnon et al., (1998) compared the metacognitive beliefs of individuals suffering from GAD with those of non-clinical controls. They found evidence to suggest that GAD patients held a greater number of PBW and NBW compared to non-clinical controls, suggesting some degree of specificity (Dugas, Gagnon, et al., 1998). With respect to whether PBW and NBW are able to differentiate between those with GAD and those with other anxiety disorders, the evidence is mixed. Wells and Carter (2001) found that adults with GAD reported significantly more NBW than individuals with other anxiety disorders. However, three other studies have failed to find significant differences in PBW and NBW between GAD patients and patients with other anxiety disorders (Dugas et al., 2005; Ladouceur et al., 1998; Wells & Carter, 2001). Further research is clearly required in this area before any conclusions can be reached regarding the specificity of NBW and PBW to GAD.

**Negative Problem Orientation**

Broadly speaking, social problem-solving refers to an individual's attempt to overcome everyday problems (D'Zurilla, Nezu, & Maydeu-Olivares, Unpublished
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Manuscript). More specifically, it refers to problem-solving as it occurs in the real world and can be defined as “…the self-directed cognitive-behavioural process by which a person attempts to identify or discover effective or adaptive solutions for specific problems encountered in everyday living...” (D’Zurilla & Nezu, 1999, p. 10).

According to D’Zurilla and Nezu (1999), the outcomes of social problem-solving are determined by two processes; problem orientation and problem-solving proper.

Problem-solving proper refers to the use of four problem solving skills (i.e., problem definition and formulation; generation of alternative solutions; decision making and solution implementation and verification) an individual employs when attempting to find the best solution for a specific problem (D’Zurilla & Nezu, 1999). On the other hand, problem orientation is a motivational process, and refers to the behavioural, cognitive and emotional variables that characterise an individual's knowledge and appraisal of beliefs about, and expectancies relating to, the occurrence of problems and his or her ability to solve them (D’Zurilla & Nezu, 1999). A positive problem orientation (PPO) generates positive outcomes and approach tendencies that keep attention focused on constructive problem-solving activities. In contrast, a negative problem orientation (NPO) produces negative outcomes and avoidance tendencies that inhibit adaptive problem-solving (D’Zurilla & Nezu, 1999). Individuals with a NPO do not lack the ability to solve problems, but rather lack confidence in their ability to do so because they see problems as difficult and threatening. Such individuals may get so caught up in negative self-talk (e.g., “I won’t be able to work this out”, “It’s too hard”, “It will all take too long”) that they either avoid solving problems altogether, or take an excessively long time to solve them.

In addition to being intolerant of uncertainty and holding both positive and negative beliefs about worry, it appears that excessive worriers also have a counterproductive general response set when it comes to effectively solving everyday
problems. A study conducted by Davey (1994) was one of the first to highlight that worriers have a poorer orientation to solving problems than non-worriers. In a sample of university students aged 21 to 68 years, Davey (1994) found no relationship, either positive or negative, between worrying and problem-solving ability at high or low levels of worrying. However, it was found that non-clinical high worriers lacked confidence in their ability to solve problems and had poor perceived control over the actual process of problem solving compared to non-worriers (Davey, 1994). That is, they were found to have a NPO. A number of subsequent studies have supported these findings with correlations between NPO and excessive worry being found to range between $r = 0.55$ and $r = 0.63$ ($p = .001$) (Dugas et al., 1997; Robichaud & Dugas, 2005; Robichaud et al., 2003), and excessive worry being found to be unrelated to an individual's actual knowledge of problem-solving skills (Dugas et al., 1997; Dugas, Letarte, Rhéaume, Freeston, & Ladouceur, 1995).

Several studies have investigated whether the relationship between NPO and worry is due to extraneous variables. Dugas et al., (1995) and Dugas et al., (1997) found that the relationship between NPO and excessive worry remained significant when statistically controlling for the variance accounted for by gender, age, anxiety, depression, and IU. Similarly, Robichaud and Dugas (2005) found that the relationship between NPO and worry was independent of several personality characteristics including pessimism, low self-mastery, and neuroticism. Thus, it would seem that the relationship between NPO and worry is not due to other confounding factors, or at least not those investigated in these studies.

The findings summarised above have been replicated to some extent in clinical samples of adults. Specifically, in comparing GAD individuals with non-clinical controls, Dugas, Gagnon et al., (1998) found that whilst all individuals had a similar knowledge of problem-solving skills, GAD individuals had a greater NPO. Another
study compared three groups of participants: a) moderate worriers (i.e., non-clinical participants presenting with a moderate level of worry); b) GAD by questionnaire (i.e., non-clinical participants who met criteria for GAD on a particular questionnaire) and; c) GAD (i.e., participants meeting diagnostic criteria for GAD and who were referred to the study by a clinician) (Ladouceur et al., 1998). Although no differences between the three groups were found with respect to knowledge of problem-solving skills, the two clinical groups (i.e., GAD by questionnaire and GAD) demonstrated a greater NPO than the moderate worriers group (Ladouceur et al., 1998). Similarly, Dugas et al., (2007) found that individuals with moderate and severe levels of GAD (as determined by their scores on three different measures) scored significantly higher than individuals with mild GAD with respect to NPO, although the moderate and severe level GAD sufferers were not found to be different from each other.

Researchers have also been interested in examining whether individuals with GAD have a stronger NPO than individuals with other anxiety disorders. In the study conducted by Ladouceur et al., (1999) discussed above in relation to IU and worry, the authors found some evidence for the specificity of NPO to individuals with GAD. As the reader may recall, Ladouceur et al., (1999), compared four different groups: a) individuals with a primary diagnosis of GAD; b) individuals with a secondary diagnosis of GAD (primary diagnosis of panic disorder, obsessive-compulsive disorder or social phobia); c) individuals with a primary diagnosis of an anxiety disorder (who did not have a diagnosis of GAD in their profile) and; d) non-clinical control individuals. It was found that all clinical groups demonstrated poorer problem orientation than the non-clinical group, and that GAD patients (i.e., those individuals with a primary or secondary diagnosis of GAD) had poorer problem orientation than patients who did not have GAD in their profile. However, there were no differences between patients with primary versus secondary GAD with respect to NPO (Ladouceur et al., 1999). In
contrast, Dugas et al., (2005) found no differences between individuals with a primary diagnosis of panic disorder with agoraphobia and those with a primary diagnosis of GAD in terms of NPO. Thus, it would seem that the evidence regarding specificity of NPO to those with GAD compared to those with other anxiety disorders is mixed and requires further empirical investigation.

**Cognitive Avoidance**

Cognitive avoidance (CA) is implicated as being important to the aetiology and maintenance of excessive worry and GAD in of all the models of GAD outlined above. According to Dugas and Robichaud (2007, p. 41), CA refers to "...a variety of strategies that lead to the avoidance of threatening cognitive and emotional content". Based on research by Borkovec and colleagues and Wells and colleagues, it appears that CA can be conceptualised into two broad categories: implicit or automatic strategies and; explicit or voluntary strategies. In terms of being an implicit strategy, CA has been conceptualised by Borkovec (1994) as being an automatic process that an individual engages in to avoid threatening mental images. On the other hand, Wells (1995) proposes that CA is an effortful strategy an individual employs to suppress unwanted thoughts.

When a person experiences anxiety provoking or unpleasant thoughts, perhaps the most intuitive strategy for managing them is to “try not think about them” or to “try to put the thoughts out of their mind”. However, CA is not a successful strategy, as the more an individual avoids thinking about their thoughts, the more they in fact think about them. As Wegner and Zanakos (1994) highlight, there are two problems associated with suppressing one's thoughts. First, the more someone attempts not to think about a particular thought, the more likely they are to think about it. Second, whilst a thought is supposedly suppressed in the short term, it is likely to be enhanced in
the long term, a phenomenon known as the "Rebound Effect" (Wegner & Zanakos, 1994).

Non-clinical worriers have been found to report active attempts to suppress unwanted thoughts (Wells, 1995) although research in this area is particularly limited. Robichaud et al., (2003) and Sexton and Dugas (2009) have found that the suppression of unwanted thoughts is positively and significantly related to an individual's tendency to excessively worry. Interestingly, Robichaud et al., (2003) also found that women endorsed higher levels of thought suppression than men.

CA in the form of thought suppression has also been investigated in clinical samples. Dugas, Gagnon et al., (1998) found that whilst IU was the most salient predictor of excessive worry, thought suppression effectively discriminated between individuals with GAD and non-clinical controls. However, Dugas et al., (2007) failed to find evidence of a relationship between CA and the tendency to excessively worry in their sample of treatment seeking GAD patients. With respect to whether or not CA is specific to individuals with GAD compared to individuals with other anxiety disorders, Ladouceur et al., (1999) found that compared to non-clinical controls, clinical patients with a diagnosis of GAD, social anxiety disorder, panic disorder, obsessive-compulsive disorder, posttraumatic stress disorder or specific phobia, scored higher on thought suppression. However, the GAD patients did not score significantly higher on thought suppression than patients with other anxiety disorders, suggesting that thought suppression may not be specific to those with GAD (Ladouceur et al., 1999). Although it appears that CA and thought suppression is present in clinical and non-clinical samples of adult worriers, it seems that more research is needed before firm conclusions can be drawn.
Summary

From the discussion above, it is evident that IU, PBW, NBW, NPO and CA have all been shown to be related to adult worry, although the evidence with respect to their specificity to GAD is mixed. As noted above, investigation of cognitive factors is important as the outcomes have implications for treatment. The discussion now turns to an overview of the treatments that are currently available for adult GAD.

Treatment of GAD in adults

Transdiagnostic CBT has long been used in the treatment of GAD in adults (Hunot, Churchill, TiexeiRA, & Silva, 2007). As the reader may recall from Chapter 1, transdiagnostic CBT interventions assume that there are a number of cognitive and/or behavioural maintenance processes that are shared across the various anxiety disorders, and therefore individuals with a variety of anxiety diagnoses are treated with the same treatment program. Transdiagnostic anxiety programs generally include emotional education, coping skills training, cognitive restructuring and graded in-vivo exposure.

In a review of empirically supported psychological interventions for adults with a variety of mental health conditions, Chambless and Ollendick (2001) concluded that transdiagnostic CBT was an empirically validated treatment for adults with GAD, although its use for a geriatric population was questionable. Similarly, the results from a number of meta-analyses reveal that, compared to control groups, transdiagnostic CBT programs are effective in treating adult GAD, both in the short- and long-term, producing medium to large effect sizes (ES =0.72-1.2) (Borkovec & Ruscio, 2001; Gould, Otto, Pollack, & Yap, 1997; Gould, Safren, Washington, & Otto, 2004; Westen & Morrison, 2001a). Weston and Morrison (2001b) reported that at post-treatment, on average, 52% of GAD patients treated with transdiagnostic CBT were free of their GAD diagnosis. Furthermore, CBT as a combined treatment approach seems to be more effective than cognitive therapy alone (CT, ES=0.59) or behaviour therapy alone (BT;
ES=\sim 0.51\right)\) (Gould et al., 1997; Gould et al., 2004). In an interesting meta-analysis that examined evidence for transdiagnostic CBT’s ability to reduce worry specifically (rather than ‘anxiety symptoms’), it was found that, compared to control groups, CBT was effective in reducing worry from pre-treatment to follow-up (Covin, Ouimet, Seeds, & Dozois, 2008). Furthermore, it seems to be the case that younger adults respond better to CBT than older adults, and that individual therapy is more effective than group therapy, especially in the short-term (Covin et al., 2008).

A number of other studies have investigated the efficacy of disorder-specific treatments for GAD based on the cognitive variables discussed above. There appears to be two prominent research camps; that of Dugas and colleagues, and the other by Wells and colleagues. Turing first to the research conducted by Dugas and colleagues. In their study of 26 adults with a primary diagnosis of GAD, Ladouceur et al., (2000) investigated the efficacy of a group-based program (herein referred to as GAD-TX) that included worry awareness training (to identify those problems amenable to problem-solving), uncertainty recognition (to understand that uncertainty is inevitable in daily life, and that one has to learn to cope with uncertainty), re-evaluation of the usefulness of worry (for problematic positive beliefs about worry), problem solving training (for problems that are amenable to problem solving), and cognitive exposure (for those problems that cannot be solved, but rather must be tolerated because of their uncertainty, and to counteract cognitive avoidance). At post-treatment, compared to adults in the waitlist group, adults in the GAD-TX group reported significantly greater reductions in GAD severity, worry, and general anxiety and depressive symptoms. At post-treatment and follow-up, 77% of adults were free of their GAD diagnosis.

Similarly, in their investigation of 52 adults with a primary diagnosis of GAD, Dugas et al., (2003) found that adults in the GAD-TX group reported significantly greater reductions in GAD severity, worry, and general anxiety and depressive
symptoms. More specifically, 60% of participants were GAD free at post-treatment, 88% were free at 6-month follow-up, 83% were free at 12-month follow-up and 95% were free at 24-month follow-up. Finally, in a more recent study, Dugas, Brillion et al., (2010) compared the same GAD-TX program with applied relaxation (AR) and a waitlist group. At post-treatment, only the GAD-TX group was found to be superior to the waitlist group. Interestingly, when the GAD-TX group and AR group were compared with respect to treatment outcome and remission rates, the GAD-TX was superior to the AR group only on global clinical improvement. Both treatments produced comparable outcomes with respect to all other outcome variables including levels of worry, depression and somatic symptoms.

Turning now to those studies conducted by Wells and colleagues. Wells and King (2006) sought to test the efficacy of an individually-delivered, metacognitive therapy (MCT) program with a sample of 10 adults who had a primary diagnosis of GAD. MCT focusses on psychoeducation about the metacognitive model of pathological worry, discussion and modification of PBW, NBW and CA, and relapse prevention. At post-treatment, 87.5% of adults were free of their GAD diagnosis, with 75% remaining GAD-free at 6- and 12-months. Wells et al., (2010) then sought to more rigorously test the efficacy of MCT compared to an active treatment condition (AR) in a randomised controlled trial (RCT). In their sample of 20 adults with a primary diagnosis of GAD, it was found that at post-treatment, 100% of adults in the MCT group had lost their primary diagnosis of GAD, compared to 50% of adults in the AR group. At 12 month follow-up, 90% remained free of their GAD diagnosis in the MCT group, compared to 50% in the AR group. Overall therefore, MCT seems to be particularly effective in treating adults with GAD.

A very interesting recent study by van der Heiden, Muris, and van der Molen (2012) compared Wells’ MCT, Dugas’ GAD-TX and a WLC group, in a sample of 126
adults with a primary diagnosis of GAD. At post-treatment, 91% of adults in the MCT group, 80% of adults in the GAD-TX group, and 5% of adults in the WLC group, were free of their GAD-diagnosis. At 6-month follow-up, 93% of adults in the MCT group, compared to 90% of adults in the GAD-TX group remained free of their GAD diagnosis. Furthermore, the MCT and GAD-TX groups were not found to differ with respect to treatment response at either follow-up point.

In summary, it is evident from the literature reviewed above that transdiagnostic CBT programs and disorder-specific treatment programs for GAD that target the cognitive variables associated with the disorder (i.e., MCT and GAD-TX), are effective treatments for adult GAD. Although studies directly comparing transdiagnostic and disorder-specific treatment programs for GAD are yet to be conducted, it would seem that disorder-specific programs show particularly strong remission rates.

Chapter Summary

This chapter discussed normal versus pathological worry, the history of GAD as a diagnosis in the DSM, as well as current theoretical models and efficacious treatments for GAD in adults. From this chapter, it is evident that GAD is essentially a disorder of worry that has undergone numerous changes in diagnostic criteria from DSM-III to DSM-5. A number of theoretical models of worry and GAD have contributed to our conceptualisation of GAD in adults including: Borkovec’s avoidance theory of worry and GAD (Borkovec et al., 2004); Mennin’s emotion dysregulation model (Mennin, 2004; Mennin et al., 2002); Wells’ metacognitive model of GAD; and Dugas’ cognitive model of GAD (Dugas, Gagnon, et al., 1998; Dugas & Robichaud, 2007). Treatments based around these models, and particularly those proposed by Dugas and colleagues and Wells and colleagues, have been shown to be particularly effective in alleviating GAD in adults. The next chapter extends upon Chapter 2, by examining GAD, the cognitive factors associated with worry, and treatments for GAD within a child
population. As will become evident from Chapter 3, research examining GAD in children is in its infancy, and therefore offers numerous avenues for future research.
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CHAPTER 3

GENERALISED ANXIETY DISORDER IN CHILDREN
Despite the relatively large literature base devoted to Generalised Anxiety Disorder (GAD) in adults, research investigating GAD in children lags significantly behind. One explanation for the dearth of research on GAD in children may be past beliefs that children do not worry in the same way that adults do. Indeed, it was once thought that children did not possess the cognitive capacity for worry. Whilst the development of certain abilities is necessary in order for a child to worry, empirical work has since demonstrated that children (as young as seven years of age) are cognitively capable of worrying because they can imagine and anticipate (to some degree), future events and elaborate on catastrophic possibilities (Bacow, Pincus, Ehrenreich, & Brody, 2009; Ellis & Hudson, 2010; Farrell & Barrett, 2006; Laugesen, Dugas, & Bukowski, 2003; Vasey, 1993; Vasey, Crnic, & Carter, 1994; Vasey & Daleiden, 1994).

This chapter will overview the epidemiology and phenomenology of GAD and worry in children. It will also review the research conducted to date on intolerance of uncertainty (IU), positive and negative beliefs about worry (PBW and NBW), negative problem orientation (NPO) and cognitive avoidance (CA) as they occur in children. Finally, this chapter will overview the current state of the field with respect to the treatment of GAD in children.

**Worry in Children**

A review of the literature demonstrates that worry is a common phenomenon among children and adolescents. Indeed, various studies have reported that between 38% and 70% of children aged four to 13 years experience worrisome thoughts about a wide range of topics including school, their own health, the health of significant others, dying, and broad social issues such as homelessness (Muris, Meesters, Merckelbach, Sermon, & Zwakhalen, 1998; Muris, Merckelbach, Gadet, & Moulaert, 2000; Tallis et al., 1994). As highlighted above, certain cognitive abilities are necessary for the
manifestation of worry in children (Muris, 2007). In order to 'worry', children must be cognitively capable of predicting future events and elaborating on catastrophic possibilities beyond what is directly observable. These cognitive abilities become increasingly more complex and sophisticated with age and maturity. As they get older, children are also more capable of inferring physical cause-effect relationships and are able to anticipate potentially negative outcomes (Vasey, 1993). Although research is sparse, evidence is accumulating that a child's level of cognitive development is linked to worry (Muris et al., 2000; Vasey et al., 1994; Vasey & Daleiden, 1994). In their study investigating worry in a community sample of children aged five to 12 years, Vasey, Crnic and Carter (1994) found that whilst worrisome thoughts were present across all age groups, worry appeared to be more common and prominent in children over the age of seven. Although children as young as five years of age were able to describe worrisome thoughts, the thoughts were more elaborate and varied in older children (Kertz & Woodruff-Borden, 2011). These results have been replicated by Muris and his colleagues (2000) who found that the prevalence of worry was significantly greater in children aged seven to 12 years in comparison to children aged four to six years.

Children suffering from GAD consistently report significantly greater levels of worry compared to children diagnosed with other anxiety disorders, and positive correlations have been found between childhood worry and anxiety in both community and clinical populations of children (Brown, Antony, & Barlow, 1992; Chorpita, Tracey, Brown, Collica, & Barlow, 1997; Muris et al., 1998; Perrin & Last, 1997; Silverman, La Greca, & Wasserstein, 1995; Weems, Silverman, & La Greca, 2000). Parents of children diagnosed with GAD often describe their children as "worry warts", "little adults" or "pseudo-mature" because of the excessive adult-like nature of the child’s worries (Layne, Bernat, Victor, & Bernstein, 2009). GAD worries are often expressed in the form of "what if" questions such as "...What if I didn't lock the gate at
home?..."; and typically involve all-or-nothing thinking, catastrophising, probability overestimation and disqualification of the positive in a situation (Albano & Hack, 2004). Children and adolescents diagnosed with GAD typically worry about a wide range of issues including their safety (e.g., "What if a robber breaks into our house?"), the future (e.g., "What if I don't get into university?"), family issues (e.g., family finances, parental separation), the health of themselves and significant others, performance based activities (e.g., sporting activities and musical events) and school work (Albano & Hack, 2004; Dugas & Robichaud, 2007). Thus, it is evident that children can and do worry, and that children, like adults can also suffer with GAD.

**Epidemiology of GAD in children**

Prevalence estimates for GAD have been very difficult to ascertain and have varied widely across different epidemiological studies. This variation is in part due to the changing nomenclature of GAD and OAD discussed in Chapter 2 and to date, little data exists on the true prevalence of GAD in young children and adolescents. Prevalence rates for GAD and worry also appear to vary as a function of age, such that older children report significantly more worries than younger children, primarily because of their increased cognitive capacity (Kertz & Woodruff-Borden, 2011). Available research has demonstrated OAD/GAD point prevalence rates of 0.47% to 5.9% (Anderson, Williams, McGee, & Silva, 1987; Benjamin et al., 1990; Bowen, Offord, & Boyle, 1990; Ford et al., 2003; Lewinsohn et al., 1993; McGee et al., 1990), six month prevalence rates of approximately 2.8% (Breton et al., 1999), and lifetime prevalence rates of 0.4% to 5.7% (Essau, Conradt, & Petermann, 2000b; Kessler et al., 2005; Lewinsohn et al., 1993; Wittchen, Zhao, Kessler, & Eaton, 1994). With respect to gender differences, the evidence is mixed. Some research has found that boys and girls aged between 9 and 13 years are equally affected by GAD (Last, Strauss, & Francis,
Worry and Generalised Anxiety Disorder in Children, while other studies suggest that young girls report more worry than boys (Chorpita et al., 1997; Muris, Meesters, & Gobel, 2001).

The prevalence rates reported above are likely to be somewhat conservative due to the sweeping diagnostic changes that have occurred over the years that have made it difficult to gather accurate long term data on the true prevalence of this disorder in children. Furthermore, despite improved criteria in DSM-IV-TR and DSM-5, research has shown that GAD still has the lowest diagnostic reliability of all the anxiety disorders (Brown, Di Nardo, Lehman, & Campbell, 2001). Therefore, despite its prevalence and chronicity, it appears that clinicians and researchers continue to have difficulty identifying and diagnosing patients with GAD (Roemer, Orsillo, & Barlow, 2002). Thus prevalence rates reported for GAD in children should be taken with caution and are likely to underestimate the actual number of children affected with the disorder.

In general, anxiety disorders in children rarely occur in isolation, with evidence that GAD is no exception (Benjamin et al., 1990; Kashani & Orvaschel, 1990; Last, Hersen, et al., 1987). Several empirical studies have found that GAD is the sole diagnosis in only 7% to 14% of children who hold a GAD diagnosis (Layne et al., 2009; Masi et al., 2004; Masi et al., 1999). The majority of children (53% to 93%) present with one or more comorbid anxiety diagnoses and/or depressive disorders (Bacow et al., 2010; Layne et al., 2009; Masi et al., 2004; Masi et al., 1999).

The average age of onset for GAD has also been difficult to assess and there is little consensus in the literature because most sufferers often report a slow, yet insidious onset, thus blurring the age at which it first emerged (Rapee, 2001). Some studies report the average age of GAD onset to be between eight and 10 years of age (Last et al., 1992; Masi et al., 1999), whereas other studies report a bimodal distribution, with an onset of GAD early in life (around 11 years of age) and an onset in middle adulthood (Dugas & Robichaud, 2007; Wittchen et al., 1994).
To date, little research has been conducted on the developmental course and long term consequences of GAD in children (Albano & Hack, 2004). However, most researchers agree that whilst some symptoms may wax and wane over time, GAD generally follows a chronic and unremitting course which persists for many years. Indeed, according to Bernstein and Borchardt (1991), of all the anxiety disorders, GAD has potentially the lowest spontaneous recovery rate and is viewed by many clinicians as the hardest disorder to treat (Newman, Llera, Erickson, Przeworski, & Castonguay, 2013).

Dugas and Robichaud (2007) have observed that some clinicians and researchers continue to view GAD as a relatively mild disorder, probably due to the fact that, unlike those with other disorders, individuals with GAD typically do not engage in behaviours that visibly demonstrate its impairment or interference. Often, symptoms of GAD go unnoticed by parents and school teachers because children with GAD are often well-behaved, eager to please and are not disruptive in the classroom (Kendall, Pimentel, Rynn, Angelosante, & Webb, 2004). These children generally set extremely high and unachievable academic goals, are overly perfectionistic in all aspects of their work, are plagued by high levels of self-doubt and often worry about failing a test or assignment despite a lack of evidence supporting their fears (Albano & Hack, 2004). Although interference and impairment experienced by individuals with GAD may be more subtle and not as obvious to others in some instances, it is no less detrimental and distressing to the affected individual. Subtle difficulties plague many aspects of the GAD sufferer's life and there are commonly countless hours of non-verbal worrying that are engaged in.

Although the effects of GAD are more subtle in some situations, research has suggested that there are a number of more obvious problematic short- and long-term consequences of childhood GAD. Children with GAD often have difficulty concentrating at school (due to intrusive and uncontrollable worry thoughts), evidence
nervous habits (such as nail biting or skin picking), and demonstrate academic difficulties (Albano & Hack, 2004). They can also fall into a pattern of escalating avoidance, leading to school refusal and social withdrawal due to decreased self-confidence and ostracism from peer groups (Albano & Hack, 2004). Indeed, childhood OAD/GAD has been found to predict a 2- to 3-fold increase in risk for adulthood anxiety/depression (Pine et al., 1998).

Sleep-related difficulties and perfectionism are also very common among children with GAD (Alfano, Ginsburg, & Kingery, 2007; Alfano, Pina, Zerr, & Villalta, 2010; Alfano, Reynolds, Scott, Dahl, & Mellman, 2013). The majority experience sleep-related problems including insomnia, difficulty initiating/maintaining sleep, and reduced latency to rapid eye movement (Alfano et al., 2013). Indeed, of all the anxiety disorders, Alfano et al., (2007) found that sleep related problems were most common among children with GAD, of which insomnia was the most common complaint. Similarly, although perfectionism is commonly reported by children suffering with other forms of anxiety, there is some evidence to suggest that children with GAD hold stronger perfectionistic beliefs than children with other anxiety disorders (Robin et al., 2006). Children with GAD often dread making mistakes (no matter how small they appear), and they are usually extremely motivated and dedicated to completing all school- and performance-based tasks to ‘perfection’. As a result of these sometimes rigid and inflexible beliefs, and due to fears that they will behave incorrectly, children with GAD may experience difficulties socialising with their peers (Robin et al., 2006). In some extreme cases, severe perfectionism may even lead to school refusal due to a fear of not being able to meet the expectations of others (Robin et al., 2006).

From the discussion above, it is evident that GAD is a prevalent, chronic and disabling condition for child sufferers. Furthermore, despite early misconceptions,
children can and do worry at clinical levels, in much the same way that adults do, and there are many deleterious consequences associated with it.

**Aetiology of GAD in children**

With an understanding of the phenomenology of worry and GAD in children, it is important to consider the risk factors underlying the development of the disorder. Although GAD is a chronic and prevalent disorder, surprisingly little is known about the specific factors underpinning its development (Kertz & Woodruff-Borden, 2011). Most of what we know comes from generic models of developmental psychopathology and anxiety. As discussed in Chapter 1, anxiety disorders (including GAD) are the result of a complex interplay of biological, psychological and environmental risk factors (Vasey & Dadds, 2001). However, there is some evidence from twin studies that GAD is heritable (Kertz & Woodruff-Borden, 2011), and that there is an association between the diagnosis of GAD and serotonin genes and monoamine oxidase A (MAO-A) (Gregory, Lau, & Eley, 2008). There is also emerging evidence that the temperamental trait of harm avoidance is linked with a diagnosis of GAD in children (Rettew, Doyle, Kwan, Stanger, & Hudziak, 2006). According to Smith, Duffy, Stewart, Muir, and Blackwood (2005, p. 84), harm avoidance is defined as a “…a tendency to respond intensely to signals of aversive stimuli, thereby learning to avoid punishment and novelty”. The researchers conclude however, that although a strong relationship was found, harm avoidance was neither necessary nor sufficient to determine diagnostic status (Rettew et al., 2006). Thus, research examining the risk factors for GAD specifically is sparse and requires further investigation.

Based on the broad risk factors discussed in Chapter 1, the specific risk factors identified above, and the adult cognitive models of worry outlined in Chapter 2, Kertz and Woodruff-Borden (2011) have proposed their own model of the developmental psychopathology of worry in children (see Figure 3). Like the development of anxiety
disorders generally, they agree that there is no unitary pathway to the development of worry (and GAD). Instead, they suggest it is a complex interaction between several biological, psychological and environmental factors. However, the precise ways in which each component develops and the various components interact, remain an area for future empirical enquiry (Kertz & Woodruff-Borden, 2011). Nevertheless, the model may be useful and requires discussion.

Kertz and Woodruff-Borden (2011) hypothesise that certain vulnerability factors (i.e., genetics and temperament) are present for children who worry and that these factors subsequently play a large role in the development of worry. These biological vulnerability factors interact with parental factors (i.e., parental anxiety and modelling behaviours), and a child’s ability to regulate his/her emotions, which consequently interact with cognitive vulnerability factors including intolerance of uncertainty, problem orientation, beliefs about worry and information processing biases. However, as can be seen in this model, each vulnerability factor interacts with several other factors and there is no clearly established pathway to the development of worry. The cognitive vulnerability factors, also inherent to adult models of GAD, are at the centre of this model, will now be discussed in detail below.
**Figure 3.** Kertz and Woodruff-Borden’s (2011) developmental psychopathology of worry.

**Cognitive factors associated with GAD in children**

From the discussion thus far, a number of important points have become evident. First, GAD is a largely cognitive disorder that is cognitively and emotionally disturbing/disabling for the sufferer. Second, a number of prominent models of GAD, including those of Wells (1995) and Dugas and Robichaud (2007), have been put forward to explain the development and maintenance of the disorder in adults. Third, children can and do suffer with GAD, with children as young as seven years of age being cognitively capable of worry. Finally, the research investigating GAD in children lags significantly behind that of adults.

Recently, theorists such as Kertz and Woodruff-Borden (2011), and empirical researchers have turned their attention to the cognitive factors of IU, PBW, NBW, NPO...
and CA and their possible role in the aetiology and maintenance of GAD in children.

The discussion will now turn to a review of our knowledge with respect to these cognitive variables in children, which, while sparse at present, represents an exciting avenue of research.

**Intolerance of Uncertainty**

Children and adolescents with high levels of worry have been shown to demonstrate IU (Fialko, Bolton, & Perrin, 2012), which manifests itself as reassurance seeking from primary care givers in an attempt to gain certainty. For example, children with high levels of IU may ask a series of “what if” or “will” questions such as “Will I fail my maths test?”; “Will there be another flood?”; “What if you forget to pick me up from school?”.

There is accumulating evidence for an association between IU and worry in adolescents, with correlations ranging between $r = 0.56$ and $r = 0.56$ (Boelen, Vrinssen, & van Tulder, 2010; Comer et al., 2009; Fialko et al., 2012). It has also been shown that adolescents experience and can report beliefs concerning IU, and that adolescents with an anxiety disorder report greater IU than non-anxious adolescents (Boelen et al., 2010; Comer et al., 2009; Fialko et al., 2012). Furthermore, although levels of worry have been found to be related to symptoms of anxiety and depression, IU emerges as the best predictor of worry in an adolescent population (Laugesen, 2000; Laugesen et al., 2003).

To the author's knowledge, there are only three published studies investigating the association between IU and worry with primary-school aged children. Comer et al., (2009) hypothesised that the lack of research investigating IU with young children, was due to the lack of a developmentally sensitive, psychometrically sound measure of this construct. They therefore developed and tested the psychometric properties of their newly developed Intolerance of Uncertainty Scale for Children (IUS-C) with a sample of anxious children diagnosed with a variety of anxiety disorders (including GAD,
SoPh, SAD, OCD and PD), and compared their responses with a sample of non-referred community children aged 7 to 17 years. It was found that although all children endorsed IU, anxious children endorsed higher levels of IU compared to community children. Interestingly, age was found to have a significant effect, such that IU was able to discriminate between anxious and community children aged between 9 and 15 years, but not between anxious and community children aged 7 to 8 years, or 16 to 17 years (Comer et al., 2009). Similarly, Fialko et al., (2012) found that although all children in their community sample of children aged 7 to 19 years endorsed IU and worry to some extent, younger children (aged 7 to 10 years) reported significantly higher levels of IU and worry than older children (aged 11 to 19 years). Finally, in the only other study to investigate the relationship between IU and worry in a community sample of primary school aged children, Kertz and Woodruff-Borden (2013) found evidence that IU was significantly and positively associated with high levels of worry.

Collectively, the studies reviewed above provide evidence that primary school age children are able to report on IU, and that it may be associated with worry in community samples. However, investigation of IU with children diagnosed with GAD is yet to be conducted. It is hoped that the current thesis will go some way towards bridging this important gap in the literature.

Positive and Negative Beliefs about Worry

With respect to PBW and NBW in young people, at best it can be said that the literature is sparse. Empirical research to date has demonstrated that like adults, children and adolescents endorse a range of PBW and NBW (Bacow et al., 2010; Bacow et al., 2009; Barahmand, 2008; Cartwright-Hatton, Mather, et al., 2004; Gosselin et al., 2007; Laugesen et al., 2003). Indeed, Bacow et al., (2009) found that both clinical (including children with a primary diagnosis of GAD, obsessive-compulsive disorder, social anxiety disorder and separation anxiety disorder), and non-clinical samples of children
aged 7 to 12 years endorsed a range of PBW and NBW. Interestingly, Cartwright-Hatton et al., (2004) found that endorsement of metacognitive beliefs did not increase from age 13 to age 17, suggesting that by the age of 13, a young person’s metacognitive beliefs are relatively mature and almost fully formed. They also found that male and female adolescents endorsed equivalent numbers of metacognitive beliefs. These results have been replicated by Wilson et al., (2011) who investigated the role of metacognitions and parenting in adolescents aged 11 to 16 years and found that there were no significant gender or age differences with respect to the endorsement of PBW or NBW. In contrast to the above studies however, Barahmand (2008) found that females (aged 16 to 19 years) endorsed more PBW than males and that PBW peaked at the age of 16 and again at the age of 19. Thus, the results of studies investigating the importance of age and gender on beliefs about worry are mixed.

With respect to the relationship between PBW, NBW and worry in young people, only a handful of research studies with child and adolescent samples have been conducted. Using different instruments and different samples of non-clinical children and adolescents, a number of studies have found an association between PBW, NBW and worry, with correlations ranging between \( r = 0.21 \) and \( r = 0.49 \) for PBW (Bacow et al., 2009; Barahmand, 2008; Gosselin et al., 2007; Laugesen et al., 2003; Wilson et al., 2011) and between \( r = 0.43 \) and \( r = 0.55 \) for NBW (Bacow et al., 2009; Gosselin et al., 2007; Kertz & Woodruff-Borden, 2013). Interesting, there is some evidence suggesting that NBW might be more important than PBW with respect to worry in children (Kertz & Woodruff-Borden, 2013). In their study, Kertz and Woodruff-Borden (2013) found that although PBW and NBW were both related to child worry, NBW was the only unique predictor of worry in young children aged 8 to 12 years.

The relationship between PBW, NBW and worry has also been investigated to some extent in clinically anxious samples of children and adolescents. As discussed
above, although Bacow et al., (2009) found that both clinical and non-clinical samples of children endorsed a range of PBW and NBW, interestingly and unexpectedly, they also found that the clinically anxious group of children scored lower than the non-clinical children on PBW (Bacow et al., 2009). Furthermore, in a more recent study, Bacow and colleagues (2010) found that clinically anxious children and adolescents did not differ from non-clinical children with respect to the endorsement of PBW and NBW (Bacow et al., 2010; Bacow et al., 2009). Contrary to the results found by Bacow (2010; 2009) however, Smith and Hudson (2013) found evidence that a group of anxious children aged 7 to 12 years with a variety of anxiety diagnoses (including GAD, SoPh, OCD, SAD, PTSD and specific phobia), reported significantly higher levels of PBW and NBW than a group of non-anxious children. Thus, the specificity of PBW and NBW with respect to GAD or even anxiety disorders in general, remains uncertain and requires more research.

**Negative Problem Orientation**

Some empirical work has been conducted with adolescents to assess the relationship between NPO and pathological worry in this population. Several studies have found significant positive correlations between NPO and the tendency to excessively worry in young people (Barahmand, 2008; Laugesen, 2000; Laugesen et al., 2003; Zlomke, 2008), with correlations ranging between $r = 0.20$ to $r = 0.61$ for non-clinical samples of adolescents aged 12 to 24 years (Barahmand, 2008; Laugesen, 2000; Laugesen et al., 2003; Zlomke, 2008). Furthermore, NPO has been found to predict adolescent worry scores when age, gender and somatic anxiety have been statistically controlled (Laugesen, 2000; Laugesen et al., 2003; Zlomke, 2008).

To date, only two studies have investigated the relationship between NPO and worry in younger children (under the age of 12 years). Parkinson and Creswell (2011) found that high child worriers reported lower problem-solving confidence and greater
negative problem-solving beliefs than low worriers. Similarly, Kertz and Woodruff-Borden (2013) found that NPO was significantly and positively correlated with worry \( (r = 0.53) \) in a sample of children aged 8 to 12 years. Thus, although only two studies with young children have been conducted to date, they are consistent in suggesting a relationship between NPO and worry in this population. Research is yet to be conducted examining NPO in a GAD population of children, and whether NPO may or may not be specific to GAD. This thesis seeks to address this gap in the literature.

**Cognitive Avoidance**

In addition to being intolerant of uncertainty, holding a variety of positive and negative beliefs about worry, and having a counterproductive response set when it comes to solving everyday problems, it appears that primary school aged children and children with OCD, also employ CA strategies in response to daily stressors (Brodzinsky et al., 1992; Farrell & Barrett, 2006). To date, the relationship between CA and worry in primary school aged children has not yet been investigated. However, there has been some research conducted with adolescents. Specifically, significant positive correlations have been found between the tendency to excessively worry and thought suppression/CA in adolescents and young adults aged 12 to 24 years (Laugesen, 2000; Laugesen et al., 2003; Zlomke, 2008), with correlations ranging between \( r = 0.25 \) to \( r = 0.49 \). There is also evidence that thought suppression predicts worry scores when gender and somatic anxiety are statistically controlled in adolescents aged 14 to 18 years (Laugesen, 2000; Laugesen et al., 2003). Attempts to determine whether thought suppression is able to discriminate between high and moderate level adolescent worriers has produced mixed results. Although Laugesen (2000) and Laugesen et al., (2003) found that thought suppression was not able to discriminate between moderate and severe adolescent worriers, Gosselin et al., (2007) found that adolescent high worriers employed significantly more avoidance strategies than adolescent moderate worriers.
To the author's knowledge, the role of CA in the aetiology and maintenance of worry and GAD has not yet been investigated in children under the age of 12 years. Indeed, it would seem that CA has not been investigated at all within this younger population. Research is clearly needed in this area, and is one of the foci of the present thesis.

Summary

Bringing together the literature reviewed above, it appears there is a clear need for more research to be conducted with clinical and non-clinical samples of children under the age of 12 with respect to worry, GAD and the potential importance of IU, PBW, NBW, NPO and CA. Given the high prevalence rates, deleterious consequences and unremitting nature of GAD in children, further enquiry into this area is extremely important. Research investigating the cognitive factors associated with worry in particular, have the potential to inform and improve treatment programs for GAD. The discussion now turns to the state of the field with respect to current available treatments for childhood GAD.

Treatment of GAD in children

As discussed in Chapter 2, IU, NBW, PBW NPO and CA have been found to be integral in the development and/or maintenance of GAD in adults, and furthermore, disorder-specific treatment programs targeting these variables seem to be particularly efficacious in terms of their ability to treat GAD in adults. From this chapter, there is preliminary yet accumulating evidence, that children and adolescents who have a tendency to excessively worry, may also have difficulty tolerating uncertainty, have a negative problem orientation, attempt to avoid threatening cognitive stimuli and hold negative beliefs about worry (Barahmand, 2008; Fialko et al., 2012; Fisak, Mentuccia, & Przeworski, 2013; Kertz & Woodruff-Borden, 2013; Laugesen et al., 2003; Parkinson & Creswell, 2011; Payne et al., 2011). However, GAD in children is rarely treated with
disorder-specific programs that target these cognitive variables. Rather, it seems to be the case that treatment programs for child GAD, are almost uniformly transdiagnostic in nature. In fact, research investigating the treatment of GAD in children, whether it be transdiagnostic or disorder-specific, is particularly sparse. To date, only five studies have examined children with GAD specifically, and only two of these studies involved programs that were disorder-specific and targeted worry and the cognitive variables associated with it. The other three studies involving children with GAD, involved transdiagnostic programs.

Turning first to the three studies employing a transdiagnostic treatment approach. Using a case series design \((n=4)\), two studies by Eisen and Silverman (1993, 1998) investigated the effectiveness of prescriptive treatments (i.e., psychoeducation, cognitive restructuring and graded exposure) versus non-prescriptive treatments (i.e., relaxation training focusing on a somatic conceptualisation of anxiety) with children diagnosed with Overanxious Disorder, aged 6 to 15 years. Although children improved in both treatment conditions, participants generally reported greater improvements in the prescriptive condition compared to the non-prescriptive condition. In another case series design of four adolescent females (aged 14 and 16 years), Waters et al., (2008) developed an intervention that incorporated psychoeducation about worry and anxiety, breathing and relaxation, cognitive restructuring, graded exposure to worry-provoking situations and interpersonal skills training (Waters, Donaldson, et al., 2008). Overall, it was found that treatment was effective, with gains being maintained at 3-month follow-up (Waters, Donaldson, et al., 2008).

To date, only two studies investigating children with a primary diagnosis of GAD have tested treatment programs designed to target the cognitive variables implicated in the aetiology and maintenance of the disorder. Both Payne et al., (2011) and Leger et al., (2003) developed CBT programs based on the Dugas model of worry
that included worry awareness training, planned exposure to uncertainty, modification of dysfunctional beliefs about worry, modified problem-solving training, imaginal exposure to unpleasant images/worries, and relapse prevention. The young children in both studies received individual therapy and there were no designated number of sessions. In their case series design of seven adolescents (aged between 16 and 18 years), Leger and colleagues (2003) found that at post-treatment, three participants lost their GAD diagnosis, two experienced moderate reductions in the severity of their GAD diagnosis (but still met clinical criteria), and one participant remained unchanged. At 12-month follow-up, treatment gains were maintained for children who had lost their diagnosis at post, and were partially maintained for those who demonstrated a reduction in GAD severity. Payne and colleagues (2011) sought to replicate the findings produced by Leger et al., (2003) in a case series study of 16 young people aged 7 to 17 years, whereby therapy was terminated when the young person displayed significant improvements in their GAD symptoms or when they had completed 15 sessions (whichever came first). Overall, it was found that the treatment program was effective, with 81% of their sample losing their GAD diagnosis from pre- to post-treatment and 59% losing their co-morbid anxiety diagnoses from pre- to post-treatment. Longer-term follow-up was not conducted.

The Payne et al., (2011) and Leger et al., (2003) studies provide preliminary support for the efficacy of disorder-specific interventions for youth GAD that focus on the cognitive variables associated with the aetiology and maintenance of the disorder. However, further research is certainly required. Only the Payne et al., (2011) study involved children under the age of 12 years, and both the Payne et al., (2011) and Leger et al., (2003) studies used a case series design which has limited validity, reliability and generalisability. Furthermore, despite being based on the Dugas model of worry, neither
study measured the cognitive constructs they purported to target in order to determine whether there was change in these variables following treatment. Finally, the treatment protocols used in these two studies were not standardised, and there were no set number of sessions completed by participants. Thus, there are numerous ways that future research might improve upon these two preliminary studies, to better determine the efficacy of a disorder-specific approach to the treatment of child GAD. Chapters 6 and 7 of this thesis address this somewhat substantial gap in the literature.

Chapter Summary

This chapter discussed the epidemiology and phenomenology of GAD and worry in children, reviewed research on the cognitive variables of IU, NBW, PBW, NPO and CA as they occur in children, and described the current treatments available for children with GAD. It is evident from this chapter that GAD is a prevalent, chronic and disabling condition for its child sufferers and is associated with many adverse short- and long-term consequences. Although the adult literature outlined in Chapter 2 highlighted the importance of IU, NBW, PBW, NPO and CA in the development and maintenance of GAD in adults, and that targeting these cognitive variables in treatment leads to impressive remission rates, similar research in children is lacking. There is a dearth of research examining IU, NBW, PBW, NPO and CA in primary school aged children, particularly as they relate to worry and their specificity to GAD. Similarly, only two case series design studies, have been conducted to date to test whether treatment programs targeting these cognitive variables are effective. Thus, further empirical enquiry is clearly required in the paediatric population. This thesis seeks to explore the significant gaps in the literature by investigating worry, IU, NBW, PBW, NPO and CA in children through a series of four studies that will now be presented in Section 2.
SECTION 2 – A SERIES OF RESEARCH STUDIES

- Chapter 4 (Study 1) - Investigation of the cognitive components of worry in a community sample of young children aged 8 to 12 years.

- Chapter 5 (Study 2) - Understanding the cognitive components of worry in children with Generalised Anxiety Disorder aged 7 to 12 years.

- Chapter 6 (Study 3) - A disorder-specific, cognitively-focused treatment program for childhood GAD: Development and case illustration of the No Worries! program.

- Chapter 7 (Study 4) - The efficacy of a group-based, disorder-specific treatment program for childhood GAD – A randomized controlled trial.
Preamble

When considering the literature reviewed in Section 1, it is evident that children as young as seven years of age are cognitively capable of worrying at levels that significantly impact on many aspects of their lives. Although we have come a long way towards understanding the epidemiology and phenomenology of childhood anxiety disorders, we are yet to fully understand why worry becomes pathological for some children (Cartwright-Hatton, McNicol, & Doubleday, 2006). Empirical work conducted by Wells and Dugas together with their colleagues (Dugas & Robichaud, 2007; Wells, 1995, 1997, 1999) have identified a number of cognitive variables important in the aetiology and maintenance of worry in adults. Specifically, intolerance of uncertainty (IU), positive and negative beliefs about worry (PBW and NBW), cognitive avoidance (CA) and negative problem orientation (NPO) have all been implicated. There have preliminary efforts to explore whether some of the variables found to be associated with adult worry are relevant to adolescents by using a downward-adaptation of the models put forward (Laugesen, 2000; Laugesen et al., 2003). With the exception of PBW, there is some evidence to suggest IU, NBW, NPO and CA is related worry in non-clinical samples of children (Bacow et al., 2010; Bacow et al., 2009; Fialko et al., 2012). However, it may be presumptuous to assume that similar relationships exist in young children, as adult models may miss key developmental and systemic aspects of childhood worry.

Section 2 of this thesis presents a series of four research studies (which have been submitted for publication), aimed at addressing this gap in the literature. Study 1 investigates the relationship between worry and the cognitive variables of IU, NBW, PBW, NPO and CA in a community sample of young children, to determine whether the same relationships exist with children as they do for adolescents and adults. Study 1 also examined the potential influence of parents on child worry, by examining the
relationships between parental cognitive factors, child cognitive factors, and child worry.

Building upon the results of Study 1, Study 2 compares children with a diagnosis of GAD to a group of non-anxious children on these same cognitive variables. Given that GAD is largely a disorder of worry, and IU, NBW, PBW, NPO and CA are thought to be associated with worry, it was hypothesised that children with GAD would report higher levels of these cognitive constructs compared to children without an anxiety diagnosis. Similarly, as parents influence their children through various genetic and environmental pathways, and anxiety disorders tend to run in families, Study 2 also investigated whether parents of children with GAD differed from parents of non-anxious children on these same cognitive variables.

Based on the results of Studies 1 and 2, Study 3 describes the development of a disorder-specific treatment program for child GAD (the No Worries! program), that aims to target GAD-specific symptoms and the cognitive variables shown in Studies 1 and 2 to be important to pathological worry. It provides a detailed discussion of the strategies taught to children and highlights some of the challenges involved in developing such a treatment. A case study is also presented to demonstrate the feasibility of achieving successful outcomes with complex a presentation.

Finally, Study 4 presents the results of a randomised control trial (RCT) aimed at assessing the efficacy of the No Worries! program, for young children aged 7 to 12 years. It was hypothesised that compared to children in the waitlist control (WLC) group, children in the active treatment group (TX) would demonstrate significantly greater improvements in diagnostic status and a range of anxiety related-related measures, as well as greater improvement in intolerance of uncertainty, negative beliefs about worry, cognitive avoidance, and negative problem orientation. It was further
hypothesised that gains made by the TX group at post-treatment would be maintained or enhanced at 3-month follow-up.
STUDY 1 ~ CHAPTER 4

INVESTIGATION OF THE COGNITIVE COMPONENTS OF WORRY IN A COMMUNITY SAMPLE OF CHILDREN AGED 8 TO 12 YEARS

The following Appendices are relevant to Chapter 4, but have not been referred in text as it has been submitted for publication.

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This chapter includes a co-authored paper which is currently “Under Review”. The bibliographic details of the paper are:


Investigation of the cognitive components of worry in a community sample of young children aged 8 to 12 years. *Behavior Therapy.*

My contribution to the paper involved: initial concept and review design; literature search and review of relevant research; data collection and data analysis; and manuscript preparation.

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Abstract

Objective. Our knowledge and understanding of worry in children remains a neglected area of empirical enquiry, especially in children. This study had two aims. The first was to investigate whether the cognitive variables found to be associated with worry in adults (i.e., intolerance of uncertainty (IU), positive beliefs about worry (PBW), negative beliefs about worry (NBW), negative problem orientation (NPO) and cognitive avoidance (CA)) are associated with worry in children. The second was to investigate the influence of parents in child worry. Specifically, it was of interest to determine a) the relationship between child cognitive variables and child worry; b) the relationship between parent worry and cognitive variables with child worry; c) the mediating role of child cognitive variables in the relationship between parent worry and child worry; and the mediating role of child cognitive variables in the relationship between parent cognitive variables and child worry. Method. Participants were 114 community children, aged 8 to 12 years, plus one of their parents. Parents and children completed questionnaires aimed at assessing each of the five cognitive variables and worry. Results. It was found that all child cognitive variables were significantly and positively related to child worry. However, when entered into a regression equation together, only NBW and CA were significant predictors of child worry, with NBW being the strongest unique predictor. Parent worry, IU and CA were significantly and positively related to child worry. The relationship between parent IU, NPO and CA and child worry was mediated by child IU, NPO and CA respectively. Finally, when the child cognitive variables were entered simultaneously (i.e., IU, NPO, NBW and CA), the relationship between parent worry and child worry was mediated by child NBW and CA only. Conclusions. The results of this study are novel and highlight the important role that parent worry and cognitive variables might play in the development of child worry.

KEYWORDS: Worry, Children; Cognitive Variables, Parental Influence.
Generalized Anxiety Disorder (GAD) is a chronic and pervasive condition characterised by excessive and uncontrollable worry about numerous topics (American Psychiatric Association, 2000). Unfortunately, children are not exempt from being affected with GAD. Indeed, GAD is relatively prevalent in youth with point prevalence rates of 0.47% to 5.9% (Ford, Goodman, & Meltzer, 2003), six month prevalence rates of approximately 2.8% (Breton et al., 1999), and lifetime prevalence rates of 0.4% to 5.7% (Kessler et al., 2005). Furthermore, GAD has been associated with a number of problematic consequences for children including difficulty concentrating at school, disrupted sleeping patterns, nervous habits (such as nail biting or skin picking), academic difficulties, and school refusal / social withdrawal due to lowered self-confidence and being ostracised from peer groups (Albano & Hack, 2004).

Despite the relatively high prevalence and deleterious consequences associated with GAD in childhood, there has been surprisingly little research conducted on youth affected with the disorder. This may in part be due to past assumptions that children do not experience pathological worry in the same way that adults do. According to Vasey (1993), children as young as seven are cognitively capable of worrying due to their ability to imagine and anticipate future events and elaborate on catastrophic possibilities. With increasing age, cognitive abilities become more complex and sophisticated and therefore, children are able to infer physical cause-effect relationships and anticipate potential negative outcomes (Beidel & Turner, 2005; Vasey, 1993).

Within the adult literature, empirical work conducted by Dugas and colleagues (Dugas, Gagnon, Ladouceur, & Freeston, 1998) has investigated the role of various cognitive factors in clinical and non-clinical worry. In particular, cognitive factors such as intolerance of uncertainty, positive and negative beliefs about worry, negative problem orientation and cognitive avoidance have been found to be important in the development and maintenance of worry and GAD in adults (Dugas et al., 1998; Dugas
& Robichaud, 2007). Furthermore, these cognitive variables have subsequently been targeted in psychological treatment for GAD in adults (Dugas et al., 2010; Dugas & Koerner, 2005; Dugas & Robichaud, 2007; Gould, Otto, Pollack, & Yap, 1997; Hunot, Churchill, Tiexeira, & Silva, 2007).

Despite the relatively large literature base devoted to GAD, worry, and the cognitive variables associated with them in adults, research investigating worry in children lags significantly behind. Although research investigating these cognitive variables has gained some recent momentum in the adolescent literature, our knowledge, understanding and treatment of worry and GAD in younger children remains a relatively unexplored phenomenon, particularly with respect to the cognitive variables found to be so important in the adult cognitive models of GAD.

**Intolerance of Uncertainty**

Based on their most recent empirical research on worry and GAD, Dugas and Robichaud (2007) define intolerance of uncertainty (IU) as a dispositional characteristic an individual possesses that originates from a set of negative beliefs about uncertainty and its consequences. When confronted with uncertain situations or events, individuals who are intolerant of uncertainty tend to react negatively on an emotional, cognitive and behavioural level (Dugas, Buhr, & Ladouceur, 2004; Dugas & Robichaud, 2007). These individuals find ambiguity stressful and upsetting, which consequently impacts upon their ability to adapt and cope in situations that are uncertain.

A rich body of research suggests that IU is very important in the development and maintenance of adult worry. Indeed, strong, positive correlations between IU and worry has been found in multiple studies (Buhr & Dugas, 2006; Dugas, Freeston, & Ladouceur, 1997; Dugas et al., 1998; Dugas, Gosselin, & Ladouceur, 2001; Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994; Robichaud, Dugas, & Conway, 2003), and moreover, IU has consistently been found to be the strongest predictor of worry in
adults (Buhr & Dugas, 2006; Dugas et al., 1997; Dugas et al., 1998). Furthermore, IU has been found to successfully discriminate between adults with GAD and other anxiety disorders (Dugas, Marchand, & Ladouceur, 2005; Ladouceur et al., 1999). With respect to adolescents, there is accumulating evidence that adolescents experience and can report beliefs concerning IU, and that adolescents with an anxiety disorder report greater IU than non-anxious adolescents (Comer et al., 2009; Fialko, Bolton, & Perrin, 2012). To the author’s knowledge, only one study to date has investigated the association between IU and worry in primary-school aged children. Fialko et al., (2012) found that, consistent with the adult literature, IU was a strong, significant predictor of worry in children aged seven to 12 years. Replication and extension of this study is clearly needed in order to better examine the role of IU in child worry.

**Beliefs about Worry**

The beliefs’ a person holds in relation to their worry has also been investigated in the adult literature and are proposed to play a role in maintaining pathological worry. Positive beliefs about worry (PBW) centre around beliefs regarding the utility of worry as a coping strategy (Wells, 1997). Individuals who hold PBW generally believe that worrying helps them to cope; helps to circumvent bad things from happening; and enables them to be prepared for whatever comes their way (Wells, 1997). Individuals with GAD may also hold a number of negative beliefs about worry (NBW) which centre around perceptions of the detrimental mental and physical impact of uncontrollable worry (Wells, 1997). For instance, those with NBW may believe that their worries are uncontrollable, harmful, or could lead to insanity.

Researchers have found that both clinical and non-clinical samples of adults endorse NBW (Freeston et al., 1994) and PBW (Borkovec & Roemer, 1995; Davey, Tallis, & Capuzzo, 1996; Tallis, Davey, & Capuzzo, 1994), and both types of beliefs are strongly associated with worry (Dugas et al., 2005; Freeston et al., 1994; Ladouceur,
Blais, Freeston, & Dugas, 1998; Wells & Carter, 2001). With respect to children and adolescents, the literature is somewhat sparse. Like adults, both clinical and non-clinical samples of adolescents endorse a variety of PBW and NBW and both types of beliefs are associated with a tendency to worry (Bacow, May, Brody, & Pincus, 2010; Bacow, Pincus, Ehrenreich, & Brody, 2009; Barahmand, 2008; Fisak, Mentuccia, & Przeworski, 2013; Gosselin et al., 2007). Similar findings have also been found in young children (Bacow et al., 2010; Bacow et al., 2009; Fialko et al., 2012). Recent evidence has emerged however, suggesting that NBW might be more important to worry than PBW in children (Kertz & Woodruff-Borden, 2013). In their study, Kertz et al., (2013) found that although PBW and NBW were both related to child worry, NBW was the only unique predictor of worry in young children aged eight to 12 years. Given that limited research has been conducted with younger children, further empirical enquiry is needed before firm conclusions can be made about the relative roles of PBW and NBW in maintaining child worry.

Negative Problem Orientation

Another cognitive construct found to be associated with worry in the adult literature is negative problem orientation (NPO). Problem orientation is a motivational process, and refers to the behavioural, cognitive and emotional variables that characterise an individual's knowledge and appraisal of beliefs about, and expectancies relating to, the occurrence of problems and one’s ability to solve them (D'Zurilla & Nezu, 1999). A positive problem orientation (PPO) generates positive outcomes and approach tendencies that keep attention focused on constructive problem-solving activities. In contrast, a negative problem orientation (NPO) produces negative outcomes and avoidance tendencies that inhibit adaptive problem-solving (D'Zurilla & Nezu, 1999). If an individual has a NPO it becomes extremely difficult for them to solve problems, even small ones (Koerner & Dugas, 2008). The more a person avoids
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their problems, the less confidence they have in their ability to solve them, which in turn may lead to an increase in worry and anxiety.

Empirical research conducted with adults has found strong evidence for a relationship between NPO and excessive worry in non-clinical samples (Dugas et al., 1997; Dugas, Letarte, Rhéaume, Freeston, & Ladouceur, 1995; Robichaud & Dugas, 2005; Robichaud et al., 2003) clinical samples (Dugas et al., 1998; Ladouceur et al., 1999). Similarly, several studies have found significant positive correlations between NPO and the tendency to excessively worry in adolescents (Barahmand, 2008; Laugesen, 2000; Laugesen, Dugas, & Bukowski, 2003; Zlomke, 2008). To date however, the relationship between NPO and worry in children aged eight to 12 years has not been investigated.

**Cognitive Avoidance**

Cognitive avoidance has likewise been found to be associated with GAD and worry in adults. According to Dugas and Robichaud (2007, p. 41), cognitive avoidance (CA) refers to "...a variety of strategies that lead to the avoidance of threatening cognitive and emotional content". Research has consistently shown that CA is an ineffective strategy for managing worry, given that it tends to result in the opposite desired effect (Koerner & Dugas, 2008), whereby, the more an individual tries to avoid or suppress their worrisome thoughts, the more they in fact think about them.

Empirical research conducted with adults has found CA to be significantly and positively related to worry in both clinical and non-clinical samples, and that CA effectively discriminates between individuals with and without GAD (Ladouceur et al., 1999; Robichaud et al., 2003). Similarly, significant positive correlations have been found between the tendency to excessively worry and CA in adolescents and young adults aged 12 to 24 years (Laugesen, 2000; Laugesen et al., 2003; Zlomke, 2008). However, while some researchers have found that CA discriminates between moderate
and high level adolescent worriers (Laugesen, 2000; Laugesen et al., 2003), others have not been able to demonstrate this effect (Gosselin et al., 2007). To the author's knowledge, the relationship between CA and worry is yet to be investigated with children under the age of 12 years (Dugas et al., 2005; Ladouceur et al., 1998; Ladouceur et al., 1999) and thus constitute an important area of empirical enquiry.

The Current Study

It is widely agreed that cognitive processes and specific belief domains play an important role in the development and maintenance of excessive worry in adults. More recent research has provided preliminary evidence that these cognitive models of GAD might also be relevant for adolescents, and may even be implicated in the development of worry in younger children. Given the prevalence, persistence and impairment associated with worry in children, it is not only important to investigate the nature of worry and the cognitive variables associated with it more fully in this population, but also to investigate their potential aetiology. It is possible that one pathway through which children may develop worry, is through parental transmission of worry and dysfunctional approaches to thinking. We know that parents are important to a child’s emotional, cognitive, and social development. We also know that children are at in increased risk of developing an anxiety disorder if there is a family history of anxiety (Beidel & Turner, 1997; Craske, 1997; Turner, Beidel, & Costello, 1987), with both genetic and environmental factors implicated (Muris, 2007). It is therefore possible that worry and the cognitive variables associated with it, may also be passed on from parent to offspring.

In addition to the possibility that worry, IU, CA, NPO, PBW and NBW are genetically passed down by parents, environmental factors are also likely to be involved. Parents may inadvertently model, prompt, and reinforce worry and its accompanying cognitive variables. For example, a parent might say “I am worried about
a project at work – I just need to not worry about it”. Over time, a child may internalise similar approaches for managing worries or problems as those modelled repeatedly by their parents. These behaviours may then be inadvertently reinforced if a parent praises their child for coping in a similar way. For example “well done for trying not to think about your worry”. Thus, it seems plausible that worry and the cognitive variables associated with it may be transmitted from parent to child via a number of pathways.

Given the paucity of research conducted to date on child worry and the cognitive variables associated with it, as well as the potential influence that parents impart on the development of child worry and child beliefs about worry, this study has two primary aims. The first is to examine whether the cognitive variables (i.e., IU, PBW, NBW, NPO and CA) known to be associated with worry in adults are associated with worry in a community sample of children aged eight to 12 years. It is therefore hypothesised that higher child IU, PBW, NBW, NPO and CA will be associated with greater child worry.

The second aim is to investigate the influence of parents on child worry in several ways. First, this study seeks to examine whether parent worry and parent cognitive variables are related to child worry. It is hypothesised that higher parental worry, IU, PBW, NBW, NPO and CA will be associated with greater child worry. Second, it seeks to determine whether child cognitive variables mediate the relationship between parent worry and child worry. It is hypothesised that the relationship between parent worry and child worry will be mediated by child IU, PBW, NBW, NPO and CA, such that higher levels of parental worry will lead to higher levels of child IU, NBW, PBW, NPO and CA, which will in turn lead to greater child worry. Finally, it is of interest in this study to investigate whether there is specificity with respect to the intergenerational transmission of these cognitive variables. It is hypothesised that the relationship between parental IU, PBW, NBW, NPO and CA and child worry will be mediated by child IU, PBW, NBW, NPO and CA, such that higher parental IU, PBW,
NBW, NPO and CA will lead to higher child IU, PBW, NBW, NPO and CA, which will in turn lead to greater child worry.

Method

Participants

Participants were 114 community children (56 males and 58 females), aged 8 to 12 years \( M = 9.87, SD = 1.30 \), plus one or more of their parents (11 fathers, 102 mothers, 1 unidentified). Ninety-two percent of children were born in Australia, and the majority of children (80%) lived with both biological parents. Table 1 provides an overview of the sociodemographic information of participants included in the study.

Insert Table 1 here

Given the age of participants in this study, information regarding parental occupation was used to determine socioeconomic status (SES). SES was coded using the Australian and New Zealand Standard Classification of Occupations (ANZSCO) and was determined using the higher of the two parental occupations (if applicable) (Australia Bureau of Statistics, 2006). The ANZSCO divides occupations into nine categories ranging from 1 (highest SES) through to 9 (lowest SES), with two additional categories being added for homemakers and deceased persons. The average SES for the sample was calculated to be 2.94 \( (SD = 2.07) \), indicating a moderate to high SES for the sample.

Measures – Children

**Demographic information.** Children were required to provide demographic information about themselves including their name, gender, age, date of birth, country of birth, who they lived with at home, and the occupation of their primary caregiver.

**Penn State Worry Questionnaire for Children (PSWQ-C, Chorpita, Tracey, Brown, Collica, & Barlow, 1997).** The Penn State Worry Questionnaire for Children (PSWQ-C) was used to measure trait worry in children (Chorpita et al., 1997). The
revised PSWQ-C contains 11 items and requires children to indicate how true each statement is for them on a 4-point Likert scale ranging from 0 (Not at all true) to 3 (Always true). The original 14-item scale included three reversed scored items that were subsequently discarded by Chorpita et al., (1997) due to unfavourable and unsatisfactory item-total correlations. A total score is yielded by summing responses on the 11 items. Scores may range from zero to 33, with higher scores indicating a greater tendency to worry. The 11-item version of the PSWQ-C has been shown to yield a Cronbach's coefficient alpha of 0.89 for children aged eight to 12 years (Muris, Meesters, & Gobel, 2001). Internal consistency ratings for each measure for the current sample are presented in the results section, within Table 2.

Social Problem-Solving Inventory Revised Short-Form (SPSI-R-SF, D'Zurilla, Nezu, & Maydeu-Olivares, 2002). Negative Problem Orientation (NPO) was assessed using the NPO subscale of the Social Problem-Solving Inventory-Revised Short Form (SPSI-R-SF; D'Zurilla et al., 2002). The NPO subscale contains five items to which participants are asked to rate how true each item is for them on a 5-point Likert Scale ranging from 0 (Not at all true of me) to 4 (Extremely true of me). Scores on the NPO subscale may range from zero to 20, with higher scores indicating a more negative problem orientation. As the SPSI-R-SF has only been used with adults and adolescents, minor wording modifications were made to two items to suit a younger population. For example, “When I am faced with a difficult problem, I doubt that I will be able to solve it on my own no matter how hard I try” was modified to read “When I am faced with a difficult problem, I don't believe I can solve it no matter how hard I try”. The NPO subscale has demonstrated sound internal reliability with young adults, with a Cronbach's alpha level of 0.83-0.86 and good test-retest reliability (over a three week period) of 0.79 (D'Zurilla et al., 2002; Hawkins, Sofronoff, & Sheffield, 2009).
Meta-Cognitions Questionnaire for Children (MCQ-C, Bacow et al., 2009). The Positive and Negative Beliefs about Worry (PBW and NBW) subscales of the Meta-Cognitions Questionnaire for Children (MCQ-C) were used to assess children's positive and negative beliefs about worry (Bacow et al., 2009). Both subscales of the MCQ-C contain six items and require children to indicate the degree to which they agree with each statement on a 4-point Likert scale ranging from 1 (Do not agree) to 4 (Agree very much). Scores on the PBW and NBW subscales may range from six to 24, with higher scores indicative of greater PBW and NBW respectively. Cronbach's alphas have been found to range between 0.60 to 0.89 for the PBW subscale and between 0.74 to 0.76 for the NBW subscale (Bacow et al., 2009).

White Bear Suppression Inventory (WBSI, Wegner & Zanakos, 1994). The degree to which children attempt to suppress and control intrusive thoughts was assessed using the White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994). The WBSI is a 15-item self-report inventory comprising statements to which individuals indicate their agreement on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Scores on the WBSI may range from 15 to 75, with higher scores indicating greater thought suppression.

Minor wording modifications were made to three items of the WBSI to suit a younger population. For example, "There are images that come to mind that I cannot erase" was modified to read "There are pictures that come to mind that I cannot get rid of". Farrell and Barrett (2006) used a modified version of the WBSI with children aged six to 17 years and yielded comparable internal consistency estimates to the original WBSI (Cronbach's alpha of 0.93 for children and 0.91 for adolescents).

Intolerance of Uncertainty Scale for Children (IUS-C, Comer et al., 2009). Children's difficulty with tolerating uncertainty was assessed using the Intolerance of Uncertainty Scale for Children (IUS-C; Comer et al., 2009). The IUS-C is a 27-item
self-report inventory that requires children to rate the degree to which they agree with each statement on a 5-point Likert scale ranging from 1 (Not at all) to 5 (Very much). Scores on the IUS-C may range from 27 to 135, with higher scores indicating greater intolerance of uncertainty. The IUS-C has been found to reliably measure intolerance of uncertainty in children, with excellent internal consistencies being found for both a community sample ($\alpha = 0.91$) and an anxiety-disordered sample ($\alpha =0.94$) of youth aged 7 to 17 years (Comer et al., 2009).

Measures – Parents

Demographic Information. Parents were required to provide demographic information about themselves (i.e., name, age, date of birth, gender, country and town of birth, occupation, income and living arrangements) and their child (i.e., name, age, date of birth, gender, country and town of birth).

Penn State Worry Questionnaire (PSWQ, Meyer, Miller, Metzger, & Borkovec, 1990). The Penn State Worry Questionnaire (PSWQ) developed by Meyer et al., (1990), was used to measure trait worry in parents. The PSWQ is a 16-item self-report inventory that requires participants to indicate how typical each item is for them on a 5-point Likert scale ranging from 1 (Not at all typical) to 5 (Very typical). A total score on the PSWQ is yielded by summing all items, and may subsequently range from 16 to 80, with higher scores indicating higher levels of worry. The psychometric properties of the PSWQ are well established, with Cronbach’s alphas ranging from 0.80 to 0.95 in both clinical and non-clinical samples (Beck, Stanley, & Zebb, 1995; Davey, 1993; Fresco, Heimberg, Mennin, & Turk, 2002; Meyer et al., 1990; Stöber, 1998). The PSWQ has also been shown to be very stable over time, with test-retest reliabilities ranging from 0.74 to 0.93 over time periods varying from two to 10 weeks (Meyer et al., 1990).
Social Problem-Solving Inventory Revised Short Form (SPSI-R-SF, D'Zurilla et al., 2002). Negative Problem Orientation (NPO) in parents was assessed using the NPO-P subscales of the Social Problem Solving Inventory-Revised Short Form (SPSI-R-SF; D'Zurilla et al., 2002). The NPO subscale contains 5-items to which participants are asked to rate how true each item is for them on a 5-point Likert Scale ranging from 0 (Not at all true of me) to 4 (Extremely true of me). Scores on the NPO subscale may range from zero to 20, with higher scores indicating a more negative problem orientation. The NPO and overall score on the SPSI-R-SF have demonstrated good internal reliability with both middle-aged and elderly adults, with Cronbach's alphas ranging from 0.69 to 0.93 (Kant, D'Zurilla, & Maydeu-Olivares, 1997).

Meta-Cognitions Questionnaire-30 (MCQ-P, Wells & Cartwright-Hatton, 2004). The positive and negative beliefs about worry (PBW and NBW) subscales of the Meta-Cognitions Questionnaire-30 (MCQ-30), which was derived from the original 65-item Meta-cognitions Questionnaire (Cartwright-Hatton & Wells, 1997), were used to assess positive and negative parental beliefs about worry (Wells & Cartwright-Hatton, 2004). The MCQ-30 is a 30-item self-report inventory that asks participants to rate the degree to which they agree with each statement on a 4-point Likert scale ranging from 1 (Do not agree) to 4 (Agree very much). The PBW and NBW subscales each contain six-items, and scores on each subscale may range from six to 24, with higher scores indicating more positive or negative beliefs about worry. Cronbach's coefficient alphas of 0.92 for the PBW subscale and 0.91 for the NBW subscale have been found (Wells & Cartwright-Hatton, 2004). Similarly, test-retest reliabilities have been found to be acceptable, ranging from 0.59 to 0.87 for the various subscales and total score of the MCQ-30 (Wells & Cartwright-Hatton, 2004).

Cognitive Avoidance Questionnaire (CAQ, Sexton & Dugas, 2008). Cognitive avoidance strategies employed by parents were assessed using the Cognitive
Avoidance Questionnaire (CAQ) English translation (Sexton & Dugas, 2008). The CAQ is a 25-item self-report inventory with five, five-item subscales assessing Thought Suppression, Thought Substitution, Distraction, Avoidance of Threatening Stimuli and Transformation of Images into Thoughts. For each item on the CAQ, individuals are asked to indicate how typical each statement is of them on a 5-point Likert scale ranging from 1 (Not at all typical) to 5 (Completely typical). The total score was used in the current study and may range from 25 to 125, with higher scores indicating a greater tendency to cognitively avoid threatening internal events. A Cronbach alpha of 0.95 has been found for the total score and test-retest reliability has been found to be 0.85 (Sexton & Dugas, 2008).

Intolerance of Uncertainty (IUS, Buhr & Dugas, 2002). The Intolerance of Uncertainty Scale (IUS) was used to assess parental intolerance of uncertainty (Buhr & Dugas, 2002). The IUS is a 27-item self-report inventory assessing the extent to which an individual has difficulty tolerating uncertainty. For each item on the IUS, individuals are asked to indicate the extent to which each statement is characteristic of them on a 5-point Likert scale ranging from 1 (Not at all characteristic of me) to 5 (Entirely characteristic of me) (Buhr & Dugas, 2002). Scores on the IUS may range from 27 to 135, with higher scores being indicative of a greater intolerance of uncertainty. The IUS has been found to have excellent internal reliability, with a Cronbach's alpha of 0.94 and a test-retest reliability of 0.74 over a five week period (Buhr & Dugas, 2002).

Procedure

Prior to commencement of this study, ethical approval was sought and obtained from the Griffith University Human Research Ethics Committee, as well as from Brisbane Catholic Education. Following approval, principals of local Brisbane schools were approached to participate in the study, were provided with an Information Pack regarding the study, and were required to provide formal consent for their school to
participate. At all consenting schools (N = 4 schools), an Information Sheet and Consent Form was sent home with each student in Grades 3 through 7 to gain parental consent. Only children aged between eight and 12 years, and whose parents provided their written informed consent, were permitted to participate in the study. Both parent and child were required to provide their written consent to participate in this study. The consent rate at each school was poor, with less than 10% of children in each grade consenting to participate in the study. Participation was voluntary and students/parents were entitled to withdraw at any stage without penalty. Data collection occurred en masse at each individual school. To ensure consistent delivery across schools, a standardised set of instructions was read aloud to the children by the primary researcher. The questionnaire packages took approximately one hour to complete. Parent questionnaire packages were sent home with students on the day of testing and were returned to the researcher by mail.

Results

Data Analytic Procedures

First, the data was screened and preliminary analyses were conducted to determine possible control variables. Second, bivariate correlations were conducted to determine the strength of the relationship between parent and child cognitive variables and worry. Third, for those child variables demonstrating significant bivariate correlations, a series of standard multiple regression analyses were run to determine which cognitive variables were significant predictors of child worry. Similarly, for those parent variables demonstrating significant bivariate correlations, a series of standard multiple regression analyses were run to determine which parent cognitive variables were significant predictors of child worry. Fourth, for those variables demonstrating significant bivariate correlations, the hypothesised mediation models were investigated using Preacher and Hayes’ (2008) bootstrapping procedure.
Mediation hypotheses allow researchers to determine how, or by what means, an independent variable affects the dependent variable through one or more intervening variables (or mediators). Bootstrapping, which is suitable for small to medium sample sizes, is a powerful and reasonable procedure that allows researchers to obtain confidence intervals for specific indirect effects. Bootstrapping involves repeatedly sampling from a data set (here 5000 times) and estimating the indirect effect in each resampled data set. If the confidence intervals do not contain zero, mediation is said to have occurred. Both simple and simultaneous mediation analyses were conducted in this study. Simple mediation analyses were run to investigate the indirect effect of parent worry on child worry through child IU, NBW, NPO and CA. Given that the relationships between these variables have yet to be explored, it was also of interest in this study to determine which child cognitive variables were the most important in the relationship between parent worry and child worry. Therefore, a simultaneous mediation analysis was run. Finally, simple mediation analyses were also run to investigate the indirect effect of parent IU, NPO and CA on child worry through child IU, NPO and CA.

**Screening Analyses**

Examination of the relevant statistics confirmed that the assumptions of linearity, homoscedasticity, and bivariate/multivariate normality and multicollinearity were satisfactorily met. Means (M), standard deviations (SD), and Cronbach’s alpha coefficients (α) for each of the above-mentioned child and parent measures are presented in Table 2. With the exception of child PBW, Cronbach’s coefficient alpha levels ranged from 0.72 to 0.94 for the child measures, indicating strong to excellent internal consistency. The PBW subscale indicated poor internal consistency (0.54). Cronbach’s coefficient alpha levels ranged from 0.85 to 0.95 for the parent measures, indicating excellent internal consistency for all measures.
**Preliminary Analyses**

Preliminary analyses were conducted to determine whether gender, age and SES should be controlled for in subsequent analyses. A standard multiple regression was performed in which gender, age and SES were entered simultaneously as predictors of child worry. The overall regression equation was not found to be significantly different from zero, $F(3,107) = 0.064$, $p = 0.98$, ns, with $R^2$ at 0.002. As neither gender, $\beta = .04$, $t(107) = .41$, age, $\beta = .01$, $t(107) = .07$, or parental SES, $\beta = -.003$, $t(107) = -.03$ were found to be significant predictors of child worry, they were not used as control variables in the analyses.

**The Relationship Between Child Cognitive Variables and Child Worry**

Bivariate correlations for each of the five child cognitive variables and child worry can be seen in Table 4. As is evident in Table 4, child worry was significantly and positively correlated with all cognitive variables (i.e., NPO, PBW, NBW, CA and IU). A standard multiple regression analysis was performed to determine the relative importance of the five cognitive variables in the prediction of child worry. The overall regression equation was found to be significantly different from zero, $F(5,107) = 32.90$, $p <.001$ with $R^2$ at .59. Together, the five cognitive variables accounted for 59\% of the variance in child worry, with NBW and CA being the only two significant unique predictors of child worry, accounting for 25\% and 14\% of the variance respectively.

**The Relationship Between Parent Variables and Child Variables**

Bivariate correlations for each of the five parent and child cognitive variables and worry can be seen in Table 4. As is evident from Table 4, there was a significant, positive correlation ($r = .30$) between parent worry and child worry. Child worry was also significantly and positively related to parent CA and IU. Parent worry was
significantly and positively related to child NBW, CA, NPO and IU. A standard multiple regression analysis was performed to determine the relative importance of the parent cognitive variables in the prediction of child worry. Only those variables with significant bivariate correlations were included in the analyses (here only parent IU and CA). Although the overall regression equation was found to be significantly different from zero, $F(2, 111) = 3.46, p = .04$, with $R^2$ at .06, neither parent IU nor CA were significant unique predictors of child worry.

*Insert Table 4 and 5 here.*

**Mediation of Parent Worry and Child Worry by Child Cognitive Variables**

A series of four bootstrapped mediations were conducted to investigate the indirect effect of parental worry on child worry through child IU, NBW, NPO and CA (see Figure 1). Given the absence of a bivariate correlation between parent worry and child PBW, this mediation analysis was not conducted.

*Insert Figure 1 here.*

Table 6 outlines the (a), (b), (c) and (c’) paths for the variables and the indirect effects of each independent variable (IV) on the dependent variable (DV) via the mediators (MV). As shown in Table 6, the indirect effects of parent worry on child worry through child IU, NBW, NPO and CA were significant. To determine the relative importance of the child cognitive variables as mediators in the relationship between parent and child worry, a simultaneous mediation analysis was performed (see Figure 2). Table 7 shows the (a), (b), (c) and (c’) paths for the child IU, NBW, NPO and CA and the indirect effects of each IV on the DV via the MV’s. As is evident from Table 7, the overall effect of the mediation model was significantly different from zero, $F(5,107) = 33.66, p = <.001, R^2 = .61$. Although an indirect effect of parent worry on child worry through child CA and NBW was found, no indirect paths were found through child IU,
or NPO. Thus, the relationship between parental worry and child worry was mediated by child NBW and CA.

**Insert Table 6 and 7 here; Insert Figure 2 here.**

**Mediation of the Relationship Between Parent Cognitive Variables and Child Worry by Child Cognitive Variables**

A series of three bootstrapped mediations were conducted to investigate the indirect effect of parent IU, CA and NPO through each of the corresponding child cognitive variables (i.e., child IU, CA and NPO) on child worry (see Figure 3). Given the absence of a bivariate correlation between parent and child NBW and parent and child PBW, these mediation analyses were not conducted. As shown in Table 8, the indirect effects of parent IU, NPO and CA on child worry through the respective child cognitive variables were significant.

**Insert Table 8 here; Insert Figure 3 here.**

**Discussion**

Despite considerable research investigating the role of intolerance of uncertainty (IU), positive beliefs about worry (PBW), negative beliefs about worry (NBW), negative problem orientation (NPO) and cognitive avoidance (CA) in adult worry, there is a dearth of such research conducted with young people under the age of 13 years. This study therefore sought to investigate these cognitive variables in younger children with two main aims. The first was to examine whether the cognitive variables (i.e., IU, PBW, NBW, NPO and CA) known to be associated with worry in adults were associated with worry in a community sample of children aged eight to 12 years. The second aim was to investigate the influence of parents on child worry by investigating a) the relationship between parent worry and child worry; b) the mediating role of child cognitive variables in the relationship between parent worry and child worry; and c) the
mediating role of child cognitive variables in the relationship between parent cognitive variables and child worry.

Results indicated that all of the child cognitive variables were significantly and positively correlated with child worry, although when entered together in the regression equation, only NBW and CA were found to be significant unique predictors of worry, with NBW being the more important of the two. With respect to parental influences on child worry, several outcomes were noteworthy. First, parent worry was significantly and positively related to child worry, IU, NBW, NPO, and CA. Second, although parent IU and CA were significantly and positively related to child worry when considered individually, neither were unique predictors of child worry when considered together.

Second, the relationship between parent worry and child worry was mediated by child NBW, CA, IU and NPO when entered separately into the mediation analysis, and by NBW and CA when entered simultaneously into the mediation analysis. Given the absence of bivariate correlations, child PBW was not included in any of these analyses. Finally, the relationship between parent IU and child worry was found to be mediated by child IU; the relationship between parent NPO and child worry was mediated by child NPO; and finally the relationship between parent CA and child worry was mediated by child CA.

The finding that each of the five cognitive variables were significantly and positively correlated with child worry mirrors what has been found in the adult and adolescent worry literature. Consistent with research in adults and adolescents, it appears that young children who have difficulty tolerating uncertainty, have a negative problem orientation, hold negative beliefs about worry and attempt to avoid threatening cognitive stimuli, tend to experience greater worry. Although child PBW was correlated with child worry, it was not found to be a unique predictor of child worry, as was child NPO and IU. The finding that child PBW was not a significant predictor of child worry
is consistent with research recently conducted by Fialko et al., (2012) and Bacow et al., (2009) who also failed to find a significant relationship. Given that researchers have found that adults and adolescents (as young as 14 years) endorse PBW and that these beliefs are implicated in the worry process, it might be that PBW represent higher-order cognitive processes that emerge once children reach a certain level of cognitive maturity (Dugas et al., 1998; Dugas et al., 2005; Laugesen et al., 2003). Determination of the age at which PBW emerge as an important predictor of worry will be an important and interesting area of empirical enquiry.

The finding that NBW and CA were the only unique predictors of worry when all variables were entered into the regression equation together is a very interesting finding and is in contrast with research conducted with adults and adolescents, suggesting that IU is most central in predicting worry (Dugas et al., 1998). Although inconsistent with the adult and adolescent literature however, the result for NBW is consistent with a recent study conducted with community children aged eight to 12 years which demonstrated that NBW was a robust predictor of worry in children (Kertz & Woodruff-Borden, 2013), more so than IU and NPO. The prominence of NBW and CA with respect to child worry does make sense from a developmental perspective where children are more likely to interpret their worry as ‘making them feel yukky’ (NBW) and therefore they ‘try not to think about it’ (CA) as a result. These two cognitive processes may represent somewhat lower order thinking styles compared to others, which children (as opposed to adults and adolescents) are more likely to understand, use and report on. Thus, it would seem that targeting NBW and CA in the treatment of worry and GAD in children, might be particularly important, and perhaps more important than addressing IU, NPO and PBW.

Perhaps the most interesting finding from this study pertains to the relationships between parent worry, child worry, the five cognitive variables and the possible
Worry and Generalised Anxiety Disorder in Children

intergenerational effects. That parent worry was related to child worry, suggests that there may be some intergenerational transmission. The subsequent finding that this relationship was mediated by child cognitive variables is somewhat exciting and gives us some clues about the potential mechanisms through which intergenerational effects might occur. In particular, it would seem that the more a parent tends to worry, the more negative beliefs about worry a child develops and the more cognitive avoidance strategies they tend to engage in, which in turn leads to increased worry.

The next set of interesting parental findings, pertain to the influence of parent cognitive variables on child worry. When looking at the parent cognitive variables individually, parent IU and CA were found to be associated with child worry, suggesting not only does parent worry influence child worry, but so too do some of the parental cognitive variables associated with it. It was interesting to note that although these parent cognitive variables were associated with child worry individually, when considered together, neither of them were significant unique predictors.

Drilling down further into the effect of the parent cognitive variables on child worry, there would seem to be evidence for specificity with respect to intergenerational transmission. In particular, it would seem that when a parent is intolerant of uncertainty, it leads to the child being intolerant of uncertainty, which in turn leads a child to worry. Similarly, when parents have a negative problem orientation, the child in turn develops a negative problem orientation, which then leads the child to worry. Finally, when parents use cognitive avoidance strategies, the child in turn tends to use them, which subsequently leads the child to worry. Thus, there would seem to be some transmission of specific cognitive processes from parent to offspring that may lead to increased vulnerability for worry.

In summary, the above results have important implications for both theoretical models of paediatric GAD, as well as for the treatment and subsequent prevention of
pathological worry in youth. Given that many of the cognitive processes found to be important in adult/adolescent worry and GAD are also present in children, one might argue there is emerging evidence for a developmental cognitive model of GAD in children. Furthermore, if these findings are replicated in clinical samples, than a cognitive approach to treatment for worry and GAD might be an effective approach. In particular, targeting children’s NBW and CA is likely to have a positive impact on the severity and intensity of their worry. The results found here also suggest that treatment of younger children with GAD need not involve strategies targeting PBW. This study has also highlighted that it might be important to consider and potentially target parental worry, IU, NPO, NBW and CA as these were all found to have an indirect effect on child worry through the child cognitive variables.

Strengths and limitations, and suggestions for future research

This study had a number of strengths. To the author’s knowledge, this was one of the first studies to investigate the relationships between cognitive variables and child worry in young children aged eight to 12 years. Furthermore, this study was the first to investigate the influence of parents on child worry, finding preliminary evidence for transgenerational associations across parent worry and related cognitive variables on child worry.

Despite its strengths however, this study was not without its limitations. The biggest limitation of the current study was its cross-sectional design. Although cross-sectional designs are necessary precursors to labour intensive longitudinal investigations, they prevent firm conclusions being drawn about causality. The current investigation would have benefited from a larger sample size with improved consent rates. Future research should employ longitudinal designs to assess the temporal relationship among the variables of interest and to investigate the developmental trajectory of cognitive processes across the lifespan. Finally, given that research into the
cognitive components of child worry is in its infancy, psychometrically sound self-report measures of cognitive avoidance and social problem solving in young children are yet to be developed. It is particularly noteworthy that poor internal consistency was found for PBW subscale of the MCQ-C measure with this age group. This result is consistent with research conducted by Smith and Hudson (2013). In a qualitative analysis of the MCQ-C, Smith and Hudson (2013) found that younger children (aged 7 and 8 years) had difficulty comprehending many items on this questionnaire. As suggested by Smith and Hudson (2013), future research should conduct a large-scale confirmatory factor analysis to analyse the factor structure and internal consistency of this important measure, to ascertain its applicability to younger children. Future research should also endeavour to develop psychometrically sound measures of cognitive avoidance and social problem solving.

The results of this study are novel and provide researchers and clinicians with a framework to better understand worry and its determinants among children. It is hoped that the results of this study, and future others that will extend and improve upon it, will contribute to the advancement of developmentally sensitive cognitive models for youth, as well as serve to inform empirically supported treatments for those children who experience pathological worry.
References


doi:http://dx.doi.org/10.1016/j.paid.200808.006.


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http://dx.doi.org/10.1016/S0005-7894(97)80048-2


doi:10.1017/S1352465812000641


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Worry and Generalised Anxiety Disorder in Children


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Chichester: John Wiley & Sons.


Table 1

**Sociodemographic Details for the Total Sample.**

<table>
<thead>
<tr>
<th>Total Sample (N = 114)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in Years (SD)</td>
</tr>
<tr>
<td>Gender (N): Male / Female</td>
</tr>
<tr>
<td>Country of Birth (%)</td>
</tr>
<tr>
<td>Australia</td>
</tr>
<tr>
<td>United Kingdom (UK)</td>
</tr>
<tr>
<td>New Zealand (NZ)</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>SES (SD)</td>
</tr>
<tr>
<td>Living Arrangements (%)</td>
</tr>
<tr>
<td>Mother/Father</td>
</tr>
<tr>
<td>Mother</td>
</tr>
<tr>
<td>Father</td>
</tr>
<tr>
<td>Mother/Step-Father</td>
</tr>
<tr>
<td>Parents/Grandparents</td>
</tr>
<tr>
<td>Mother/Grandmother</td>
</tr>
<tr>
<td>Grandparents only</td>
</tr>
<tr>
<td>Mother/Step-Father+Father/Step-Mother</td>
</tr>
</tbody>
</table>

*Note: SES – Socioeconomic Status; SD = Standard Deviation.*
Table 2

Means (M), Standard Deviations (SD), and Internal Consistencies (α) for Child and Parent Self-Report Measures of Worry, IU, PBW, NBW, NPO and CA.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Child self-report</th>
<th></th>
<th>Parent self-report</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Cronbach’s Alpha (α)</td>
<td>Mean (SD)</td>
<td>Cronbach’s Alpha (α)</td>
</tr>
<tr>
<td>Worry</td>
<td>11.18 (7.55)</td>
<td>α = .91</td>
<td>46.54 (14.03)</td>
<td>α = .94</td>
</tr>
<tr>
<td>NPO</td>
<td>7.86 (5.29)</td>
<td>α = .86</td>
<td>6.31 (4.22)</td>
<td>α = .85</td>
</tr>
<tr>
<td>PBW</td>
<td>7.94 (2.14)</td>
<td>α = .54</td>
<td>9.49 (3.77)</td>
<td>α = .90</td>
</tr>
<tr>
<td>NBW</td>
<td>13.22 (4.22)</td>
<td>α = .72</td>
<td>11.05 (4.90)</td>
<td>α = .93</td>
</tr>
<tr>
<td>CA</td>
<td>44.60 (13.16)</td>
<td>α = .92</td>
<td>52.22 (19.22)</td>
<td>α = .95</td>
</tr>
<tr>
<td>IU</td>
<td>59.35 (22.23)</td>
<td>α = .94</td>
<td>46.74 (16.22)</td>
<td>α = .95</td>
</tr>
</tbody>
</table>

*Note. NPO = Negative Problem Orientation; PBW = Positive Beliefs about Worry; NBW = Negative Beliefs about Worry; CA = Cognitive Avoidance; IU = Intolerance of Uncertainty.*
Table 3

Results of Standard Multiple Regression Analysis Investigating the Role of Child IU, PBW, NBW, NPO and CA on Child Worry.

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>Upper</th>
<th>Lower</th>
<th>β</th>
<th>t</th>
<th>sr²</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child IU</td>
<td>.07</td>
<td>.04</td>
<td>-.005</td>
<td>.15</td>
<td>.22</td>
<td>1.85</td>
<td>.11</td>
<td>.07</td>
</tr>
<tr>
<td>Child PBW</td>
<td>.12</td>
<td>.23</td>
<td>-.34</td>
<td>.55</td>
<td>.03</td>
<td>.47</td>
<td>.03</td>
<td>.64</td>
</tr>
<tr>
<td>Child NBW</td>
<td>.70</td>
<td>.17</td>
<td>.37</td>
<td>1.03</td>
<td>.39</td>
<td>4.17</td>
<td>.25</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Child CA</td>
<td>.12</td>
<td>.05</td>
<td>.01</td>
<td>.20</td>
<td>.19</td>
<td>2.87</td>
<td>.14</td>
<td>.02</td>
</tr>
<tr>
<td>Child NPO</td>
<td>.12</td>
<td>.15</td>
<td>-.18</td>
<td>.42</td>
<td>.09</td>
<td>.80</td>
<td>.05</td>
<td>.43</td>
</tr>
</tbody>
</table>

Note. NPO = Negative Problem Orientation; PBW = Positive Beliefs about Worry; NBW = Negative Beliefs about Worry; CA = Cognitive Avoidance; IU = Intolerance of Uncertainty; CI = Confidence Interval.
Table 4

Bivariate Correlations for Parent and Child Self-Report Measures of Worry, IU, PBW, NBW, NPO, and CA.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Child Worry</td>
<td>.22*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Child PBW</td>
<td>.72**</td>
<td>.20*</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Child NBW</td>
<td>.62**</td>
<td>.20*</td>
<td>.63**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Child CA</td>
<td>.63**</td>
<td>.16</td>
<td>.67**</td>
<td>.52*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Child NPO</td>
<td>.68**</td>
<td>.29**</td>
<td>.70**</td>
<td>.61*</td>
<td>.80**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Child IU</td>
<td>.30**</td>
<td>-.08</td>
<td>.23*</td>
<td>.25**</td>
<td>.28**</td>
<td>.27**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Parent Worry</td>
<td>-.12</td>
<td>.09</td>
<td>.05</td>
<td>.17</td>
<td>.14</td>
<td>.44**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Parent PBW</td>
<td>.07</td>
<td>-.13</td>
<td>.13</td>
<td>.22*</td>
<td>.25**</td>
<td>.23*</td>
<td>.79**</td>
<td>.63**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Parent NBW</td>
<td>.16</td>
<td>-.05</td>
<td>.13</td>
<td>.22*</td>
<td>.21*</td>
<td>.15</td>
<td>.51**</td>
<td>.20*</td>
<td>.61**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Parent CA</td>
<td>.22*</td>
<td>-.03</td>
<td>.08</td>
<td>.22*</td>
<td>.21*</td>
<td>.15</td>
<td>.51**</td>
<td>.20*</td>
<td>.61**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Parent NPO</td>
<td>.17</td>
<td>.03</td>
<td>.17</td>
<td>.23*</td>
<td>.23*</td>
<td>.67**</td>
<td>.14</td>
<td>.65**</td>
<td>.52**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Parent IU</td>
<td>.22*</td>
<td>-.05</td>
<td>.15</td>
<td>.23*</td>
<td>.31**</td>
<td>.25**</td>
<td>.66**</td>
<td>.42**</td>
<td>.67**</td>
<td>.60**</td>
<td>.70**</td>
</tr>
</tbody>
</table>

Note. * p < .05, ** p < .01, two-tailed. NPO = Negative Problem Orientation; PBW = Positive Beliefs about Worry; NBW = Negative Beliefs about Worry; CA = Cognitive Avoidance; IU = Intolerance of Uncertainty.
Table 5

*Results of a Standard Multiple Regression Analysis Investigating the Role of Parent IU and CA on Child Worry.*

<table>
<thead>
<tr>
<th></th>
<th>$95%$ CI of $B$</th>
<th>$β$</th>
<th>$t$</th>
<th>$sr^2$</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parent CA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B$</td>
<td>.052</td>
<td>.045</td>
<td>.14</td>
<td>.038</td>
<td>.038</td>
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<tr>
<td>$SE$</td>
<td>.045</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parent IU</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B$</td>
<td>.064</td>
<td>.054</td>
<td>.17</td>
<td>-.042</td>
<td>.042</td>
</tr>
<tr>
<td>$SE$</td>
<td>.054</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* CA = Cognitive Avoidance; IU = Intolerance of Uncertainty; CI = Confidence Interval.
### Table 6

*Four Simple Bootstrapped Mediations Showing the Indirect Effect of Parent Worry on Child worry Through Child IU, NBW, NPO and CA.*

<table>
<thead>
<tr>
<th>Mediators</th>
<th>Effect of IV on MV</th>
<th>Effect of MV on DV</th>
<th>Direct effect on DV</th>
<th>Total effect on DV</th>
<th>Indirect effect (ab)</th>
<th>SE</th>
<th>BCa 95% CI Lower</th>
<th>BCa 95% CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child IU</td>
<td>0.42**</td>
<td>0.22***</td>
<td>0.16**</td>
<td>0.07</td>
<td>0.09**</td>
<td>0.04</td>
<td>0.03</td>
<td>0.17</td>
</tr>
<tr>
<td>Child NBW</td>
<td>0.07*</td>
<td>1.24***</td>
<td>0.16**</td>
<td>0.07*</td>
<td>0.09*</td>
<td>0.03</td>
<td>0.17</td>
<td>0.15</td>
</tr>
<tr>
<td>Child NPO</td>
<td>0.11**</td>
<td>0.84***</td>
<td>0.16**</td>
<td>0.07</td>
<td>0.09**</td>
<td>0.03</td>
<td>0.04</td>
<td>0.16</td>
</tr>
<tr>
<td>Child CA</td>
<td>0.23**</td>
<td>0.33***</td>
<td>0.16**</td>
<td>0.09*</td>
<td>0.08*</td>
<td>0.03</td>
<td>0.03</td>
<td>0.14</td>
</tr>
</tbody>
</table>

*Note:* *p* < .05, ** *p* < .01, *** *p* < .001; IV = Independent Variable, MV = Mediator Variable; DV = Dependent Variable; NPO = Negative Problem Orientation; NBW = Negative Beliefs about Worry; CA = Cognitive Avoidance; IU = Intolerance of Uncertainty; BCa = Bias corrected and accelerated; CI = Confidence Interval.
Table 7

Multiple Mediation Showing Paths Between the Variables and Bootstrap Results for the Indirect Effects of Parental Worry on Child Worry Through Child IU, NBW, CA and NPO.

<table>
<thead>
<tr>
<th>Mediators</th>
<th>Effect of IV on MV</th>
<th>Effect of MV on DV</th>
<th>Direct effect</th>
<th>Total effect (c')</th>
<th>Indirect effect (ab)</th>
<th>SE</th>
<th>BCa 95% CI Lower</th>
<th>BCa 95% CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child IU</td>
<td>0.41**</td>
<td>0.07</td>
<td></td>
<td>0.02</td>
<td>0.0002</td>
<td>0.02</td>
<td>0.0002</td>
<td>0.10</td>
</tr>
<tr>
<td>Child NBW</td>
<td>0.07*</td>
<td>0.70***</td>
<td></td>
<td>0.02</td>
<td>0.01</td>
<td>0.02</td>
<td>0.01</td>
<td>0.11</td>
</tr>
<tr>
<td>Child NPO</td>
<td>0.11**</td>
<td>0.12</td>
<td></td>
<td>0.02</td>
<td>-0.02</td>
<td>0.02</td>
<td>-0.02</td>
<td>0.06</td>
</tr>
<tr>
<td>Child CA</td>
<td>0.23**</td>
<td>0.10*</td>
<td></td>
<td>0.01</td>
<td>0.003</td>
<td>0.01</td>
<td>0.003</td>
<td>0.06</td>
</tr>
<tr>
<td>Total</td>
<td>0.16**</td>
<td>0.05</td>
<td>0.11**</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.19</td>
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Note: * p<.05, ** p<.01, *** p<.001; IV = Independent Variable, MV = Mediator Variable; DV = Dependent Variable; NPO = Negative Problem Orientation; NBW = Negative Beliefs about Worry; CA = Cognitive Avoidance; IU = Intolerance of Uncertainty; BCa = Bias corrected and accelerated; CI = Confidence Interval.
### Table 8

*Three Simple Bootstrapped Mediations Showing the Indirect Effect of Parent IU, CA and NPO on Child Worry Through Child IU, CA and NPO.*

<table>
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<tr>
<th>Mediators</th>
<th>Effect of IV on MV (a)</th>
<th>Effect of MV on DV (b)</th>
<th>Direct effect (c)</th>
<th>Total effect (c')</th>
<th>Indirect effect (ab)</th>
<th>SE</th>
<th>BCa 95% CI Lower</th>
<th>BCa 95% CI Upper</th>
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<tr>
<td>Child IU</td>
<td>0.35**</td>
<td>0.23***</td>
<td>0.10*</td>
<td>0.02</td>
<td>0.08**</td>
<td>0.03</td>
<td>0.02</td>
<td>0.14</td>
</tr>
<tr>
<td>Child NPO</td>
<td>0.29*</td>
<td>0.88***</td>
<td>0.31</td>
<td>0.05</td>
<td>0.26*</td>
<td>0.12</td>
<td>0.03</td>
<td>0.51</td>
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<tr>
<td>Child CA</td>
<td>0.15*</td>
<td>0.34***</td>
<td>0.09*</td>
<td>0.03</td>
<td>0.05*</td>
<td>0.02</td>
<td>0.01</td>
<td>0.09</td>
</tr>
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</table>

*Note:* *p* < .05, **p** < .01, ***p*** < .001; IV = Independent Variable, MV = Mediator Variable; DV = Dependent Variable; NPO = Negative Problem Orientation; CA = Cognitive Avoidance; IU = Intolerance of Uncertainty; BCa = Bias corrected and accelerated; CI = Confidence Interval.
Figure 1. The hypothesised mediation relationship between parental worry and child worry through child IU, NPO, CA and NBW.
Figure 2. The hypothesised mediation relationship between parental worry and child worry through child IU, NBW, NPO and CA entered simultaneously.
Figure 3. The hypothesised mediation relationship between parent IU, NPO and CA and child worry through child IU, NPO and CA.
STUDY 2 ~ CHAPTER 5

UNDERSTANDING THE COGNITIVE

COMPONENTS OF WORRY IN CHILDREN WITH

GENERALISED ANXIETY DISORDER AGED 7 TO

12 YEARS

The following Appendices are relevant to this chapter, but have not been referred in text as it has been submitted for publication.

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This chapter includes a co-authored paper, which is currently “Under Review”. The bibliographic details of the paper are:


My contribution to the paper involved: initial concept and review design; literature search and review of relevant research; data collection and data analysis; and manuscript preparation.

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Abstract

**Objective.** The cognitive variables of intolerance of uncertainty (IU), negative beliefs about worry (NBW), positive beliefs about worry (PBW), negative problem orientation (NPO) and cognitive avoidance (CA) that have been found to be integral in the conceptualisation of Generalised Anxiety Disorder (GAD) in adults, have rarely been investigated in children with GAD. This study therefore had two aims. The first aim was to determine whether levels of IU, NBW, PBW, NPO and CA differ between children diagnosed with GAD and non-anxious children. The second aim was to examine whether levels of IU, NBW, PBW, NPO and CA differ between parents of children diagnosed with GAD and parents of children without an anxiety disorder.

**Method.** Participants were 50 children (aged seven to 12 years), plus one of their parents. Twenty-five of these children met criteria for a primary diagnosis of GAD. The remaining 25 children were non-anxious children matched to GAD children on age and gender. Parents and children completed face-to-face clinical diagnostic interviews, as well as a battery of questionnaires measuring worry, IU, NBW, PBW, NPO and CA.

**Results.** Overall, it was found that children with GAD endorsed significantly higher levels of worry, IU, NBW, NPO and CA compared to non-anxious children. However, no differences were found for PBW between these groups. Parents of children with GAD did not differ from parents of non-anxious children on worry or any of the five cognitive variables. **Conclusions.** This study provides preliminary evidence that, as has been found in adults, the cognitive variables of IU, NBW, NPO and CA may also be important in the conceptualisation of GAD in children. It would seem, however, that these cognitive variables are not evident in parent of children with GAD. Implications of the results are discussed as well as suggestions for future research.

KEYWORDS: Worry, generalised anxiety disorder, cognitive model of worry, children, parents.
Highlights

- The cognitive factors of IU, NBW, PBW, NPO and CA were examined in children.
- We examined whether GAD children and non-anxious children differ on cognitive factors.
- We examined whether parents of these children differ on the same cognitive factors.
- GAD children endorsed significantly higher levels on most cognitive factors.
- Parents of GAD children did not differ from parents of non-anxious children.
Although research on generalised anxiety disorder (GAD) in adults has steadily increased over the last 15 years, our knowledge, understanding and treatment of this disorder in children remains a relatively neglected area of empirical enquiry. Indeed, GAD in children is prevalent, chronic, and disabling and is therefore worthy of further research. GAD is a very cognitive disorder, characterised by excessive and uncontrollable worry about numerous topics, that occurs more days than not for a period of at least six months (APA, 2000). The typical age of onset of GAD appears to be between 8 years to 10 years of age (Last, Perrin, Hersen, & Kazdin, 1992; Masi, Mucci, Favilla, Romano, & Poli, 1999), and has been associated with a myriad of problematic consequences for children including difficulty concentrating at school, disrupted sleeping patterns, nervous habits (such as nail biting or skin picking), academic difficulties, and school refusal / social withdrawal due to decreased self-confidence and ostracism from peers (Albano & Hack, 2004).

Given the dearth of research conducted with children in this area, much of what is currently known about childhood GAD is derived from empirical studies conducted with adults. Within the adult literature, research has demonstrated that cognitive factors such as intolerance of uncertainty (IU), positive and negative beliefs about worry (PBW and NBW), negative problem orientation (NPO) and cognitive avoidance (CA) are particularly important in the development and maintenance of pathological worry and GAD (Dugas & Robichaud, 2007). Intolerance of Uncertainty (IU) is a dispositional characteristic that originates from a set of negative beliefs about uncertainty and its consequences (Dugas & Robichaud, 2007). Individuals with high IU find ambiguity stressful and upsetting which, consequently, impacts on their ability to adapt and effectively cope in situations that are uncertain. Problem orientation is a motivational process, and refers to the behavioural, cognitive and emotional variables that characterise an individual's knowledge and appraisal of beliefs their about, and
expectancies relating to, the occurrence of problems and his or her ability to solve them (D’Zurilla & Nezu, 1999). A negative problem orientation (NPO) produces negative outcomes and avoidance tendencies that inhibit adaptive problem-solving (D’Zurilla & Nezu, 1999). Individuals with a NPO tend to view problems as threatening and unsolvable, and usually become frustrated and upset when problems arise. Individuals who excessively worry may also hold a number of positive and/or negative beliefs about worry (PBW and NBW). NBW centre around the mental and physical impact of uncontrollable worry (Wells, 1997). Individuals who hold NBW generally believe that their worries are uncontrollable, harmful and could lead to insanity. On the other hand, PBW centre around the utility of worry as a coping strategy (Wells, 1997). Individuals who hold these beliefs generally believe that worrying helps them to cope; helps to prevent bad things from happening; and enables them to be prepared for whatever comes their way (Wells, 1997). Finally, cognitive avoidance (CA) refers to those strategies (whether automatic or purposeful) that lead to the avoidance and/or suppression of unwanted mental content.

Overall, investigations with anxious and non-anxious samples of adults have found that IU, NPO, PBW, NBW and CA are related to an individual’s tendency to worry (e.g., Borkovec & Roemer, 1995; Buhr & Dugas, 2006; Dugas, Freeston, & Ladouceur, 1997; Dugas, Freeston, et al., 1998; Dugas, Gagnon, Ladouceur, & Freeston, 1998; Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994; Koerner & Dugas, 2008; Robichaud, Dugas, & Conway, 2003; Wells & Papageorgiou, 1998). In the adult literature, research has also been conducted to determine whether IU, NPO, PBW, NBW and CA are specific to individuals with GAD, or whether they are common amongst non-anxious individuals or individuals with other anxiety diagnoses. The majority of studies have found that IU, NPO, NBW and CA effectively discriminate between adults with GAD and non-anxious adults (Dugas, Gagnon, et al., 1998; Dugas,
When compared to other adult anxiety disorders, there is some evidence of specificity with respect to IU and NBW, such that adults with GAD have been found to report significantly higher levels of IU and NBW than individuals with social phobia (SoPh), panic disorder (PD), post-traumatic stress disorder (PTSD), and depression (Dugas et al., 2005; Ladouceur et al., 1998; Ladouceur et al., 1999; Robichaud et al., 2003; Wells & Carter, 1999).

Researchers have only just begun to assess the cognitive constructs of IU, PBW, NBW, NPO and CA in children and adolescents. There is preliminary yet accumulating evidence, that non-clinical children and adolescents who have a tendency to excessively worry, also have difficulty tolerating uncertainty, have a negative problem orientation, attempt to avoid threatening cognitive stimuli and hold negative beliefs about worry (Barahmand, 2008; Fialko, Bolton, & Perrin, 2012; Fisak, Mentuccia, & Przeworski, 2013; Holmes, Donovan, Farrell, & Hearn, Under Review; Laugesen, Dugas, & Bukowski, 2003; Payne, Bolton, & Perrin, 2011). Unlike what has been found in the adult and adolescent literature however, it would seem from the very limited empirical evidence to date, that positive beliefs about worry are less related to worry in children (Bacow, May, Brody, & Pincus, 2010; Bacow, Pincus, Ehrenreich, & Brody, 2009; Dugas & Robichaud, 2007; Fialko et al., 2012). In addition, it has recently been found that NBW and CA, not IU as has been found in the adult and adolescent literature, are the strongest, unique predictors of worry in children (Holmes et al., Under Review). The findings presented above provide some evidence that the cognitive variables, known to be associated with worry in adults, (with the possible exception of PBW), may also be associated with worry in children.

Given that IU, NBW, NPO and CA have been found to be associated with worry in community samples of children, the next step is to ascertain whether children with
clinical levels of worry (i.e., GAD) do in fact endorse these cognitive variables to a greater extent than non-anxious children. To date, only four studies have been conducted in this area. PBW and NBW have been the most studied of the cognitive variables, although the results have been inconsistent. In their study, Bacow et al., (2009) sought to test the psychometric properties of their newly developed Metacognitions Questionnaire for Children (MCQ-C), with anxious and non-anxious samples of children, aged 7 to 17 years. The anxious sample comprised 78 children who met criteria for either GAD, SoPh, obsessive compulsive disorder (OCD) or separation anxiety disorder (SAD). The non-anxious sample comprised 20 children without an anxiety disorder. Overall, Bacow et al., (2009) found no evidence that the anxious group of children demonstrated higher levels of PBW or NBW, than the non-anxious group of children. Bacow et al., (2010) replicated these finding in another study in which they sought to determine whether there were differences in NBW and PBW between children with specific anxiety disorders and non-anxious children. They found no evidence that children (aged 7 to 17 years) with a diagnosis of either GAD, OCD, SoPh, or SAD, differed on NBW and PBW when compared to children who were non-anxious. Contrary to the results found by Bacow (2010; 2009) however, Smith and Hudson (2013) found evidence that a group of anxious children aged 7 to 12 years with a variety of anxiety diagnoses (including GAD, SoPh, OCD, SAD, PTSD and specific phobia), reported significantly higher levels of PBW and NBW than a group of non-anxious children. Thus, the limited evidence available to date, is mixed with respect to the presence of PBW and NBW in anxious children. 

In addition to the mixed findings for PBW and NBW, IU is the only other cognitive construct that has been investigated to date in children with GAD. Comer et al., (2009) sought to test the psychometric properties of their newly developed Intolerance of Uncertainty Scale for Children (IUS-C), with a sample of anxious
children diagnosed with a variety of anxiety disorders (including GAD, SoPh, SAD, OCD and PD), compared to a sample of community children, aged 7 to 17 years. Interestingly, age was found to have a significant effect, such that IU was able to discriminate between anxious and community children aged between 9 to 15 years, but not between anxious and community children aged 7 to 8 years, or 16 to 17 years.

It is evident from the four studies conducted to date examining the cognitive variables associated with GAD in children, that the results are inconsistent. This may in part be due to the fact that three of the studies included mixed samples of children with a variety of anxiety disorders, rather than those with a primary diagnosis of GAD. Worry does not play the same role in SoPh, SAD, OCD and specific phobias as it does in GAD. Thus, it might be expected that children with other anxiety disorders would not endorse these constructs any more than non-anxious children. Furthermore, despite the fact that each study included a non-anxious control condition, none of the studies matched the clinical children to the non-clinical children on important demographic characteristics such as age and gender. Indeed, in some studies, the non-anxious children were outnumbered by the anxious children and the studies were consequently under-powered. Finally, only NBW, PBW and IU have been investigated to date, with NPO and CA being neglected in the studies conducted thus far. The first aim of the current study therefore, was to compare children with a primary diagnosis of GAD to a matched group of non-anxious children on IU, PBW, NBW, NPO and CA.

The current study also had a second important aim. Given that anxious children tend to have anxious parents (Beidel & Turner, 1997; Craske, 1997; Muris, 2007; Turner, Beidel, & Costello, 1987) due to both genetic and environmental influences, it was of interest to this study to examine whether parents of children with GAD would endorse worry, IU, PBW, NBW, NPO and CA to a greater extent than parents of non-anxious children. A recent study by our group has found preliminary evidence that this
might well be the case (Holmes et al., Under Review) in a community sample. In this study, parental worry was significantly related to child worry, IU, NBW, NPO and CA (Holmes et al., Under Review), and the relationship between parent worry and child worry was mediated by child NBW and CA. Furthermore, the relationships between parental IU, NPO and CA and child worry were mediated by child IU, NPO and CA respectively (Holmes et al., Under Review). That is, higher parental IU was associated with higher child IU, which in turn was associated with greater child worry. Similarly, higher parental NPO was associated with higher child NPO, which in turn was associated with greater child worry. Finally, higher parental CA was associated with higher child CA, which in turn was associated with greater child worry (Holmes et al., Under Review). The results of this prior study therefore suggest that there might be transmission of specific cognitive processes from parent to offspring that may lead to an increased vulnerability for worry.

As noted above, this study had two aims. The first was to examine differences between children with GAD and non-anxious children with respect to worry, IU, PBW, NBW, NPO and CA. The second aim was to examine differences between the parents of these two groups of children on the same cognitive variables. Specifically, it was hypothesised that compared with non-anxious children, children with GAD would report greater worry, IU, NBW, NPO and CA. Secondly, it was hypothesised that compared to parents of non-anxious children, parents of children diagnosed with GAD would report greater worry, IU, NBW, NPO and CA. Given the mixed findings in the adult and child literature regarding PBW, differences between anxious and non-anxious groups on this variable will be investigated in an exploratory manner for both parents and children.
Method

Participants

Participants were 50 children (20 males, 30 females) aged between 7 and 12 years ($M = 9.92, SD = 1.52$), plus one of their parents (50 mothers). Twenty-five of these children met Diagnostic and Statistical Manual for Mental Disorders – Fourth Edition (DSM-IV-TR; APA, 2000) criteria for a primary diagnosis of GAD according to a semi-structured interview (see below). The remaining 25 children were non-anxious children (as determined by a semi-structured interview – see below) who were matched to the GAD children on age and gender. Eighty-six per cent of children were born in Australia, with the remainder born in New Zealand, South Africa, the United Kingdom and Japan. None of the children identified as being of Aboriginal or Torres Strait Islander origin. As assessed by combined household income, the majority of children (66%) came from middle- to high-income Australian families. Table 1 presents the sociodemographic information for the clinical participants, non-clinical participants, and the sample as a whole.

*Insert Table 1 here.*

To be eligible to participate in this study, the clinical sample of children were required to be aged between 7 and 12 years, have a minimum reading level of 7 years and meet DSM-IV-TR criteria (APA, 2000) for a primary diagnosis of GAD at a clinical severity rating (CSR) of 4 or more (on a scale of 0 to 8) according to the Anxiety Disorder Interview Schedule (ADIS; Silverman & Albano, 1996). Comorbidity with other anxiety disorders, depression, and externalising disorders was permissible, providing that GAD was considered to be the primary diagnosis. Although this study was conducted prior to the publication of the DSM-5, it is noteworthy that all clinical children diagnosed with GAD also met DSM-5 criteria for the disorder (APA, 2013). The matched, non-anxious sample of children were eligible to participate if they were aged between 7 and 12 years, had a minimum reading level of 7 years, and did not meet...
Worry and Generalised Anxiety Disorder in Children

DSM-IV-TR (APA, 2000) for any anxiety disorder, according to the ADIS. As noted above, children in the two groups were matched on age and gender.

Children were not permitted to participate in the study if they had been diagnosed with a pervasive developmental disorder, intellectual handicap or learning disability. Children were also excluded if they had a CSR of 5 or higher on depression or dysthymia according to the ADIS. Instead, these children were provided with referrals to appropriate mental health services. Families who contacted the researchers and who were experiencing psychological difficulties but did not meet inclusion criteria for the study, were also provided with a list of appropriate referral services.

Procedure

Prior to commencement of the study, ethical approval was sought and obtained from the Griffith University Human Research Ethics Committee as well as from Brisbane Catholic Education. Children were referred by parents, teachers, general practitioners, mental health professionals, school Guidance Officers, media publicity releases and information packages sent to schools throughout Brisbane. All referrals were screened by telephone using a standard screening interview in order to ascertain broad inclusion criteria (outlined above). Both parent and child were required to provide their written consent to participate in this study. Following informed consent, both parents and children completed a structured face-to-face clinical diagnostic interview to determine diagnostic status and a battery of online questionnaires (described below). All assessments were conducted by the primary author who was a provisionally registered psychologist at the time of data collection, and who had received extensive training and supervision in the clinical interviews by the second and third authors, who are experienced clinical psychologists and research academics.
Worry and Generalised Anxiety Disorder in Children

Diagnostic Status

Diagnostic status of children was assessed using the Anxiety Disorder Interview Schedule for Children (ADIS; Silverman & Albano, 1996). The ADIS is a semi-structured interview developed specifically for the diagnosis of anxiety and other related disorders in children and adolescents, and is organised according to the diagnostic categories of the DSM-IV-TR (Silverman & Albano, 1996). The ADIS includes a parent interview schedule (ADIS-P) and a child interview schedule (ADIS-C) and allows clinicians to establish a clinical severity rating (CSR) for each diagnosis ranging from 0 (no interference with daily functioning) to 8 (extreme interference with daily life) based upon a combined child and parent report (Silverman & Albano, 1996). CSR ratings of 4 and above indicate the presence of a clinical-level disorder according to the DSM-IV-TR (APA, 2000).

Measures - Children

Child Worry. Child worry was assessed using the revised, 11-item Penn State Worry Questionnaire for Children (PSWQ-C). Each item on the PSWQ-C requires children to indicate how true each statement is for them on a 4-point Likert scale ranging from 0 (Not at all true) to 3 (Always true). Scores may range from zero to 33, with higher scores indicating a greater tendency to worry. The PSWQ-C has been shown to yield a Cronbach’s coefficient alpha of 0.89 for young children (Muris, Meesters, & Gobel, 2001). Internal consistency ratings for each child measure for the current sample are presented in the results section in Table 3.

Child Negative Problem Orientation. Child Negative Problem Orientation (NPO) was measured using the 5-item NPO subscale of the Social Problem Solving Revised Short-Form (SPSI-R-SF; D’Zurilla, Nezu, & Maydeu-Olivares, 2002). Children are asked to rate how true each item is for them on a 5-point Likert Scale ranging from 0 (Not at all true of me) to 4 (Extremely true of me). Scores on the NPO subscale of the
SPSI-R-SF may range from zero to 20, with higher scores indicating a more negative problem orientation. Minor wording modifications were made to two items to suit a younger population. The NPO subscale has been shown to yield a Cronbach's alpha level of 0.83-0.86 and a good test-retest reliability of 0.79 over a three week period (D’Zurilla et al., 2002; Hawkins, Sofronoff, & Sheffield, 2009).

**Child Positive and Negative Beliefs about Worry.** Child Positive and Negative Beliefs about Worry (PBW and NBW) were measured using the PBW and NBW subscales of the Meta-Cognitions Questionnaire for Children (MCQ-C; Bacow et al., 2009). The PBW and NBW subscales of the MCQ-C each contain six items and require children to indicate the degree to which they agree with each statement on a 4-point Likert scale ranging from 1 (Do not agree) to 4 (Agree very much). Scores on the PBW and NBW subscales may range from six to 24, with higher scores indicating of greater PBW and NBW respectively. Cronbach's alphas have been found to range between 0.60 to 0.89 for the PBW subscale and between 0.74 to 0.76 for the NBW subscale (Bacow et al., 2009).

**Child Cognitive Avoidance.** The 15-item White Bear Suppression Inventory (WBSI) was used to measure child cognitive avoidance (Wegner & Zanakos, 1994). The WBSI comprises statements to which children indicate their agreement on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Scores on the WBSI may range from 15 to 75, with higher scores indicating greater cognitive avoidance. Minor wording modifications were made to three items to suit a younger population. Farrell and Barrett (2006) used a modified version of the WBSI with children aged six to 17 years, yielding comparable internal consistency estimates to the original WBSI (Cronbach's alpha of 0.93 for children and 0.91 for adolescents).

**Child Intolerance of Uncertainty.** The 27-item Intolerance of Uncertainty Scale for Children (IUS-C) was used to assess children’s intolerance of uncertainty.
Each item on the IUS-C requires children to rate the degree to which they agree with each statement on a 5-point Likert scale ranging from 1 (Not at all) to 5 (Very much). Scores on the IUS-C may range from 27 to 135, with higher scores indicating greater intolerance of uncertainty. Comer et al., (2009) found excellent internal consistency for both a community sample ($\alpha = 0.91$) and an anxiety-disordered sample ($\alpha = 0.94$) of youth aged seven to 17 years.

**Measures – Parents**

**Demographic Information.** Parents provided information about themselves (i.e., name, age, gender, country of birth, occupation, income and living arrangements) and their child (i.e., name, age, gender, and country of birth).

**Parental Worry.** The 16-item Penn State Worry Questionnaire (PSWQ) was used to measure trait worry in parents (Meyer, Miller, Metzger, & Borkovec, 1990). The PSWQ requires participants to indicate how typical each item is for them on a 5-point Likert scale ranging from 1 (Not at all typical) to 5 (Very typical). Scores on the PSWQ may range from 16 to 80, with higher scores indicating higher levels of worry. The psychometric properties of the PSWQ are well established, with Cronbach's alphas ranging from 0.80 to 0.95 for both clinical and non-clinical samples (Beck, Stanley, & Zebb, 1995; Davey, 1993; Fresco, Heimberg, Mennin, & Turk, 2002; Meyer et al., 1990; Stöber, 1998), and test-retest reliabilities ranging from 0.74 to 0.93 over time periods varying from two to 10 weeks (Meyer et al., 1990). Internal consistency ratings for each parent measure for the current sample are presented in the results section in Table 4.

**Parental Negative Problem Orientation.** Parental Negative Problem Orientation (NPO) was measured using the 5-item NPO subscale of the Social Problem Solving Revised Short-Form (SPSI-R-SF; D'Zurilla et al., 2002). Each item asks participants to rate how true each item is for them on a 5-point Likert Scale ranging
from 0 (Not at all true of me) to 4 (Extremely true of me). Scores on the NPO subscale of the SPSI-R-SF may range from zero to 20, with higher scores indicating a more negative problem orientation. The NPO subscale has demonstrated good internal reliability with both middle-aged and elderly adults, with Cronbach's alphas ranging from 0.69 to 0.93 (Kant, D'Zurilla, & Maydeu-Olivares, 1997).

**Parental Positive and Negative Beliefs about Worry.** The positive and negative beliefs about worry (PBW and NBW) subscales of the Meta-Cognitions Questionnaire (MCQ-30) were used to assess parent PBW and NBW (Wells & Cartwright-Hatton, 2004). The PBW and NBW subscales each contain six-items, and scores on each subscale may range from six to 24, with higher scores indicating more PBW or NBW. Cronbach's coefficient alphas for the MCQ-30 have been found to be 0.93 for the total score, 0.92 for the PBW subscale and 0.91 for the NBW subscale (Wells & Cartwright-Hatton, 2004). Similarly, test-retest reliabilities have been found to be acceptable, ranging from 0.59 to 0.87 for the various subscales and the total score.

**Parental Cognitive Avoidance.** Parent cognitive avoidance was measured using the 25-item Cognitive Avoidance Questionnaire (CAQ; Sexton & Dugas, 2008). The CAQ contains five, five-item subscales assessing an array of cognitive avoidance strategies including Thought Suppression, Thought Substitution, Distraction, Avoidance of Threatening Stimuli and Transformation of Images into Thoughts (Sexton & Dugas, 2008). For each item on the CAQ, individuals are asked to indicate how typical each statement is of them on a 5-point Likert scale ranging from 1 (Not at all typical) to 5 (Completely typical). Scores on the CAQ may range from 25 to 125, with higher scores indicating a greater tendency to cognitively avoid threatening internal events. Cronbach's alphas of 0.95 have been found for the total score on the CAQ and test-retest reliability has been found to be 0.85 (Sexton & Dugas, 2008).
**Parental Intolerance of Uncertainty.** The 27-item Intolerance of Uncertainty Scale (IUS) was used to assess parent intolerance of uncertainty (Buhr & Dugas, 2002). For each item on the IUS, individuals are asked to indicate the extent to which each statement is characteristic of them on a 5-point Likert scale ranging from 1 (*Not at all characteristic of me*) to 5 (*Entirely characteristic of me*). Scores on the IUS may range from 27 to 135, with higher scores being indicative of greater intolerance of uncertainty. Buhr and Dugas (2002) have found excellent internal reliability for the IUS, with a Cronbach's coefficient alpha of 0.94. Adequate test-retest reliability has also been found over a 5 week period (*r* = 0.74) (Buhr & Dugas, 2002).

**Results**

Prior to conducting the main statistical analyses, the data was screened and evaluated in line with the assumptions for multivariate analysis. Examination of the relevant statistics confirmed that the assumptions of linearity, homoscedasticity, and bivariate/multivariate normality and multicollinearity were satisfactorily met. Table 2 outlines the diagnostic profile of the clinical group. Children in the clinical group had on average 3.76 diagnoses (*SD*=1.59).

*Insert Table 2 here.*

In order to test the hypotheses that children with GAD would report greater worry, IU, PBW, NBW, NPO and CA than non-clinical children and that parents of children diagnosed with GAD would report greater worry IU, PBW, NBW, NPO and CA, a series of one-way between-group analysis of variances (ANOVAs) were conducted. Given the number of analyses conducted, the conservative criterion of *p* < .01 was used to determine clinical significance. When comparing the clinical and non-clinical groups of children, analyses indicated significant group differences for all measures in the predicted direction, with the exception of PBW (see Table 3). Specifically, compared to the non-clinical group of children, children with a diagnosis
of GAD demonstrated significantly higher levels of worry, IU, NPO, NBW, and CA, but not PBW. When comparing parents of GAD children to parents of non-clinical children, no significant differences were found on any of the five cognitive variables or worry (see Table 4).

*Insert Table 3 and Table 4 here*

**Discussion**

Although GAD is a chronic, pervasive and prevalent mental disorder, research investigating its development, maintenance and aetiology in children lags significantly behind that of adults. Currently, there is preliminary evidence to suggest that IU, NBW, NPO and CA are important to non-clinical child worry and that PBW may be less important. With respect to the influence of these variables in children with GAD specifically however, only NBW, PBW and IU have been investigated, with mixed results. This study predicted that children with a diagnosis of GAD would demonstrate higher levels of worry, IU, NBW, NPO, and CA compared to non-anxious children and investigated PBW in an exploratory manner due to the mixed results on this variable from previous research. The research reported here was therefore the first of its kind to investigate the specificity of CA and NPO to childhood GAD, and the first to investigate a variety of cognitive variables within the one study. Also of interest to this study, was the role of parental worry, IU, NBW, PBW, NPO and CA in childhood GAD. Because anxiety tends to run in families and because the authors’ previous work has shown that these parental cognitive variables are associated with non-clinical child worry, we predicted that parents of children with GAD would endorse higher levels of worry, IU, NBW, NPO and CA than parents of non-anxious children. Again, because of the inconsistent results of previous research with respect to PBW, our investigations of this construct were exploratory in nature.
Consistent with the first hypothesis, children with GAD were found to report greater worry, IU, NBW, NPO, and CA compared to their non-anxious peers. The two groups were not found to differ however, on PBW. The negative findings regarding PBW was not unexpected and is in line with past research. Past research has found that PBW is unrelated to child worry (Fialko et al., 2012; Holmes et al., Under Review), and that young children who excessively worry tend to endorse NBW, rather than PBW (Bacow et al., 2010; Bacow et al., 2009; Fialko et al., 2012). Furthermore, research conducted with adults has failed to find specificity with respect to PBW in GAD versus non-anxious adults, and Bacow et al., (2009) failed to find evidence for specificity for PBW, with ‘anxious’ children generally, and GAD children more specifically, compared to non-anxious children (Bacow et al., 2010). Only the study by Smith and Hudson (2013) found evidence suggesting that ‘anxious’ children endorse more PBW and NBW than non-anxious children. Having said that, there was certainly a trend toward enhanced PBW for clinical children relative to controls, therefore, replication with larger, more robust sample is necessary to explore the exact nature of PBW among children with GAD.

With respect to the results for IU, it would seem that they are consistent with the only study conducted in the child area by Comer et al., (2009), who found that ‘anxious’ children reported significantly higher levels of IU than non-anxious children. Extending upon the results of Comer et al., (2009), the current study is the first to provide preliminary evidence that, in addition to children with a variety of anxiety disorders, children with a primary diagnosis of GAD are more intolerant of uncertainty than non-anxious children. The results are also consistent with earlier studies in the child area that have shown IU to be strongly associated with child worry (Comer et al., 2009; Fialko et al., 2012; Holmes et al., Under Review).
In addition to the positive findings for IU and NBW, this study also found evidence that children with GAD have a poorer orientation to solving problems, and engage in more thought suppression strategies than non-anxious children. To the author’s knowledge, this study is the first to examine these variables in this way. The results are however, consistent with previous research suggesting the involvement of NPO and CA in non-clinical child worry (Fialko et al., 2012; Holmes et al., Under Review).

The second set of hypotheses, that parents of children with GAD would report greater worry, IU, NBW, NPO and CA than parents of non-anxious children was not supported for any of the variables. These results were somewhat unexpected given our previous research which found evidence for transgenerational associations across parent worry and related cognitive variables on child worry (Holmes et al., Under Review). One possible explanation for the null parent findings in the current study may be related to the fact that all parents in this study (regardless of group membership), were low-level worriers according to the Penn State Worry Questionnaire (PSWQ). If a parent does not endorse high levels of worry, they would not be expected to endorse high levels of IU, PBW, NBW, NPO and CA, given their known association. Thus, there may be a sampling effect. An alternative explanation is that parents of treatment-seeking, clinically anxious children, may under-report their own experience of anxiety or worry as a result of a social desirability, or in an attempt to deflect possible “blame” for their child’s worries. This study therefore needs replication before firm conclusions can be made about whether or not parental worry and cognitive variables are important to childhood GAD.

Future research in this area should not only replicate the research reported here, but should also endeavour to examine the specificity of IU, NBW, NPO and CA in children with GAD, compared to children with other anxiety disorders. It may well be
that these cognitive variables or a subset of them, are also important to other anxiety disorders. Understanding the specificity of cognitive belief domains related to different childhood anxiety disorders represents an important area for future research in the development of refined theories and treatments for these specific, and characteristically distinct disorders. Furthermore, given that children with GAD were found to endorse higher levels of IU, NPO, NBW, CA, and worry compared to their non-anxious peers, it might be important to target these cognitive processes in the treatment of this chronic, pervasive and disabling mental disorder. Future research should therefore aim to incorporate strategies targeting IU, NBW, NPO and CA and to test whether levels of these cognitive variables are reduced as a consequence of treatment. A final suggestion for extending this research is to investigate whether higher levels of IU, NBW, NPO and CA associated with greater GAD severity and whether these mechanisms are associated with response to treatment. Thus, this research opens up a number of new and exciting avenues for future research.

**Strengths and Limitations**

This study had several strengths. To the authors’ knowledge, this study was the first to investigate the role of such a large variety of GAD-specific cognitive variables (i.e., IU, NPO, PBW, NBW and CA) with a group of GAD children, within the one study, and the very first to investigate NPO and CA in young children. It was also the first study to investigate whether parents of children with GAD differ from parents of non-anxious children with respect to worry and the cognitive variables associated with it. A final strength of this study was that it used clinical diagnostic interviews (ADIS-C/P) to confirm group membership (i.e., clinical versus non-clinical).

Despite its strengths however, this study was not without its limitations. Given that research investigating the cognitive components of child worry is scant, psychometrically sound self-report measures of cognitive avoidance and social problem
solving in young children are not yet in existence. Thus, minor wording modifications were made to several items of these questionnaires to suit young children. In addition, as highlighted by Smith and Hudson (2013), the measurement of PBW (as assessed by the MCQ-C) is problematic. Smith and Hudson (2013) have recently found that young children (aged 7 and 8 years) have considerable difficulty comprehending many items on this scale. Thus, it is unclear as to what extent young children endorse these cognitive biases in the current study. Future research should endeavour to develop psychometrically sound, developmentally appropriate measures of these constructs.

This study also failed to measure general anxiety symptoms in parents in order to ascertain whether parents endorsed other anxiety symptoms not measured in the current study. As highlighted above, parents of clinical and non-clinical children did not endorse high levels of worry, or the associated cognitive variables. Future research should therefore aim to conduct a more comprehensive diagnostic assessment of parents to ascertain whether parents of GAD children in fact differ from parents of non-anxious children.

Another limitation related to demographics of the parent sample across both clinical and non-clinical groups. The current sample was of moderate to high socio-economic background and was comprised of mothers only. This, along with the lack of ethnic diversity evident in the sample, suggests that the participants may not have been representative of the general population and thus the results may not be generalisable to those individuals from lower socio-economic backgrounds or ethnically diverse populations. Future research should endeavour to gain a more ethnically diverse sample comprising a combination of mothers and fathers with varying socio-economic backgrounds.
Conclusion and Implications

Despite the limitations, the results of this research are important and present a first step towards understanding the applicability of current adult cognitive theories of GAD to children. It is important that clinicians and researchers gain a more comprehensive understanding of the roles that intolerance of uncertainty, positive and negative beliefs about worry, problem orientation, and suppression of one’s thoughts play in the development and maintenance of GAD in young children. The results also have implications for the treatment of GAD in children, suggesting that strategies designed to target IU, NPO, NBW and CA in the treatment of GAD may be beneficial in assisting children affected with this chronic and disabling disorder. An empirically-informed, cognitive-based treatment of GAD in children may be an effective alternative to the current transdiagnostic cognitive-behavioural approaches for child anxiety disorders.
Worry and Generalised Anxiety Disorder in Children

References


Worry and Generalised Anxiety Disorder in Children


Table 1

Sociodemographic Details for the Clinical Participants, Non-Clinical Participants and the Sample as a Whole.

<table>
<thead>
<tr>
<th></th>
<th>Total Sample ((N=50))</th>
<th>Clinical Group ((N=25))</th>
<th>Non-Clinical Group ((N=25))</th>
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<td></td>
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<tr>
<td>Children</td>
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<td>9.92 (1.47)</td>
<td>9.92 (1.47)</td>
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<tr>
<td>Mother</td>
<td>42.49 (3.82)</td>
<td>42.24 (4.25)</td>
<td>43.25 (1.98)</td>
</tr>
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<td>Father</td>
<td>43.51 (5.03)</td>
<td>43.48 (5.19)</td>
<td>43.63 (4.81)</td>
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<td></td>
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<tr>
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<td>10</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
<td>25</td>
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*Note.* SD = standard deviation.
Table 2

*Diagnostic Profile of Children in the Clinical Group.*

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<th>Diagnosis</th>
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<th>Third</th>
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<th>Sixth</th>
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<th>Eighth</th>
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<td>6</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>1</td>
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<td>Social Phobia</td>
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<tr>
<td>ODD</td>
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<td>2</td>
<td>0</td>
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<tr>
<td>None</td>
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<td>3</td>
<td>13</td>
<td>19</td>
<td>20</td>
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<td>24</td>
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*Note:* ADHD = Attention Deficit Hyperactivity Disorder; ODD = Oppositional Defiant Disorder.
Table 3.

Results of Univariate Analysis of Variance for Child Cognitive Variables and Worry.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Clinical Group</th>
<th>Non-Clinical</th>
<th>F</th>
<th>Cronbach’s α</th>
<th>p</th>
<th>ω²</th>
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<tr>
<td></td>
<td>Group</td>
<td></td>
<td></td>
<td>for total sample</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
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<tr>
<td>Child Worry</td>
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<td>5.64</td>
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<td>Child CA</td>
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<td>10.93</td>
<td>42.12</td>
<td>11.15</td>
<td>17.98</td>
<td>0.91</td>
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Note.

a) NPO = Negative Problem Orientation; PBW = Positive Beliefs about Worry; NBW = Negative Beliefs about Worry; CA = Cognitive Avoidance; IU = Intolerance of Uncertainty.

b) Cohen (1988) suggests the following interpretation of ω² effect sizes: small effect size (ω² = .01); Medium effect size (ω² = .06); Large effect size (ω² ≥ .14).
Table 4

*Results of Univariate Analysis of Variance for Parent Cognitive Variables and Worry.*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Parents of Clinical Group</th>
<th>Parents of Non-Clinical Group</th>
<th>Cronbach’s Alpha (α) for total sample</th>
<th>F</th>
<th>p</th>
<th>$\omega^2$</th>
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<tr>
<td>Parent Worry</td>
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<td>43.40</td>
<td>0.96</td>
<td>.003</td>
<td>.96</td>
<td>-.02</td>
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<td>Parent IU</td>
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<td>0.97</td>
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<td>4.8</td>
<td>0.88</td>
<td>1.63</td>
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<td>.01</td>
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<tr>
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<td>9.08</td>
<td>0.87</td>
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<td>Parent NBW</td>
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<td>0.95</td>
<td>.123</td>
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<tr>
<td>Parent CA</td>
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<td>37.76</td>
<td>0.95</td>
<td>1.82</td>
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</table>

*Note.*

a) NPO = Negative Problem Orientation; PBW = Positive Beliefs about Worry; NBW = Negative Beliefs about Worry; CA = Cognitive Avoidance; IU = Intolerance of Uncertainty.

b) Cohen (1988) suggests the following interpretation of $\omega^2$ effect sizes: small effect size ($\omega^2 = .01$); Medium effect size ($\omega^2 = .06$); Large effect size ($\omega^2 \geq .14$).
STUDY 3 ~ CHAPTER 6

A DISORDER-SPECIFIC, COGNITIVELY-FOCUSED, GROUP TREATMENT PROGRAM FOR CHILDHOOD GAD: DEVELOPMENT AND CASE ILLUSTRATION OF THE NO WORRIES! PROGRAM.

The following Appendices are relevant to this chapter, but have not been referred in text as it has been submitted for publication.

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<th>Appendix</th>
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<td>H</td>
<td>Study 4 – Information Sheet and Consent Form (Parent Version)</td>
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<td>White Bear Suppression Inventory (WBSI)</td>
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<td>Intolerance of Uncertainty Scale for Children (IUS-C)</td>
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<td>Child and Adolescent Perfectionism Scale (CAPS)</td>
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<td>Quality of Life (Child Version)</td>
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This chapter includes a co-authored paper, which is currently “Under Review”. The bibliographic details of the paper are:


My contribution to the paper involved: initial concept and review design; literature search and review of relevant research; data collection and data analysis; and manuscript preparation.
A Disorder-Specific, Cognitively-Focused, Group Treatment for Childhood GAD:

Development and Case Illustration of the No Worries! program.

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Abstract

Generalised Anxiety Disorder (GAD) is a highly prevalent, chronic and costly mental disorder in children, and there is currently a dearth of research in the area. Furthermore, treatment programs for child GAD, unlike those for adults, are almost uniformly transdiagnostic in nature and do not specifically target the cognitive variables (e.g., intolerance of uncertainty, negative beliefs about worry, cognitive avoidance and negative problem orientation) demonstrated to be involved in the aetiology and maintenance of the disorder. However, helping children to understand and address these rather complex cognitive factors is difficult. This paper describes the development of a disorder-specific, cognitively-focused group treatment program for child GAD (The No Worries! Program) that aims to target the cognitive variables and symptoms associated with the GAD. It provides a detailed discussion of the strategies taught to children and highlights some of the challenges involved. A case study is presented to demonstrate the feasibility of achieving successful outcomes with complex presentations.

KEYWORDS: Worry, Generalised Anxiety Disorder, cognitive variables, children, parents.
Highlights

- We developed a GAD-specific, cognitively-focused treatment program for children
- Treatment consists of 10 child sessions and 7 parent sessions, each 1.5 hours long
- Sessions focus on targeting cognitive processes known to contribute to GAD
- A detailed overview of treatment strategies is provided for clinicians
- A case-study is presented to demonstrate the application of the program
Generalised Anxiety Disorder (GAD) is a chronic and disabling disorder characterised by excessive and uncontrollable worry about numerous topics, for a period of at least six months (APA, 2000). Children and adolescents diagnosed with GAD typically worry about a wide range of issues including their safety, the future, family issues (e.g., finances, divorce), the health of themselves and significant others, performance-based activities, and school work (Albano & Hack, 2004; Dugas & Robichaud, 2007). Although prevalence estimates have been difficult to ascertain due to sweeping changes in nomenclature over the past decade, it appears that GAD is a relatively prevalent disorder in youth with point prevalence rates of 0.47% to 5.9% (Ford, Goodman, & Meltzer, 2003), six month prevalence rates of approximately 2.8% (Breton et al., 1999), and lifetime prevalence rates of 0.4% to 5.7% (Kessler et al., 2005). Furthermore, GAD has been associated with a number of deleterious short- and long-term consequences for children, including; difficulty concentrating at school, disrupted sleeping patterns, nervous habits (such as nail biting or skin picking), academic difficulties, school refusal, and social withdrawal (Albano & Hack, 2004).

A number of cognitive factors have been found to be important in the development and maintenance of pathological worry and GAD in adults and adolescents. Intolerance of uncertainty, positive and negative beliefs about worry, negative problem orientation, and cognitive avoidance have all been shown, particularly in the adult literature, to be important factors in the conceptualisation of GAD (Dugas & Robichaud, 2007). Recent research has now turned to investigating the role of these same cognitive variables in child worry and GAD (Fialko, Bolton, & Perrin, 2012; Holmes, Donovan, Farrell, & Hearn, Under Review; Kertz & Woodruff-Borden, 2013; Payne, Bolton, & Perrin, 2011).

*Intolerance of Uncertainty* (IU) is a dispositional characteristic that originates from a set of negative beliefs about uncertainty and its consequences (Dugas &
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Robichaud, 2007). When confronted with uncertain situations or events, individuals who are intolerant of uncertainty tend to react negatively on an emotional, cognitive and behavioural level (Dugas & Robichaud, 2007). Thus, people with high levels of IU generally like to know things “for sure” and often become quite distressed in the face of uncertainty. Children with high levels of worry have been shown to demonstrate IU (Fialko et al., 2012), which manifests itself as reassurance seeking from primary care givers in an attempt to gain certainty. For example, children with high levels of IU may ask a series of “what if” or “will” questions such as “Will I fail my maths test?”; “Will there be another flood?”; “What if you forget to pick me up from school?”.

Problem orientation is a motivational process, and refers to the behavioural, cognitive and emotional variables that characterise an individual's knowledge and appraisal of beliefs about, and expectancies relating to, the occurrence of problems and his or her ability to solve them (D'Zurilla & Nezu, 1999). A negative problem orientation (NPO) produces negative outcomes and avoidance tendencies that inhibit adaptive problem-solving (D'Zurilla & Nezu, 1999). Individuals with a NPO do not lack the ability to solve problems, but rather lack confidence in their ability to do so because they see problems as difficult and threatening. Children who worry excessively have been found to demonstrate a NPO (Holmes et al., Under Review). Such children may get so caught up in negative self-talk (e.g., “I won’t be able to work this out”, “It’s too hard”, “It will all take too long”) that they either avoid solving problems altogether, or take an excessively long time to solve them.

According to Dugas and Robichaud (2007, p. 41), cognitive avoidance (CA) refers to "a variety of strategies that lead to the avoidance of threatening cognitive and emotional content". When children experience anxiety provoking or unpleasant thoughts, the most intuitive strategy for managing them is to “try not think about them” or to try to put the thoughts out of their mind. However, cognitive avoidance is not a
successful strategy, as the more an individual avoids thinking about their thoughts, the more they in fact think about them. In our own research, we have found that children with high levels of worry engage in CA in an attempt to reduce the distress associated with it (Holmes et al., Under Review).

Finally, individuals hold beliefs about worry that can either be positive or negative. Negative beliefs about worry (NBW) centre around perceptions of the detrimental mental and physical impact of uncontrollable worry (Wells, 1997). Children who hold these beliefs may see their worries as uncontrollable and harmful, and/or may believe that their worries have the capacity to make them go crazy. On the other hand, positive beliefs about worry (PBW) centre around the utility of worry as a coping strategy (Wells, 1997). Individuals who hold these beliefs generally believe that worrying helps them to cope; helps to circumvent bad things from happening; and enables them to be prepared for whatever comes their way (Wells, 1997). Research evidence to date, suggests that high-level child worriers tend to hold NBW; however the evidence for PBW in children is less clear (Bacow, May, Brody, & Pincus, 2010; Bacow, Pincus, Ehrenreich, & Brody, 2009; Fialko et al., 2012). Thus, with the exception of PBW, there is accumulating evidence to suggest that IU, NPO, NBW, and CA might be important in the development and maintenance of child worry (Bacow et al., 2010; Bacow et al., 2009; Fialko et al., 2012; Holmes et al., Under Review; Payne et al., 2011). Drilling down further into these relationships, it has recently been found that NBW and CA are the strongest, unique predictors of worry in children (Holmes et al., Under Review).

Despite recent research suggesting that the cognitive variables of IU, NPO, NBW, and CA may play important roles in child worry, treatment of child GAD rarely targets these underlying cognitive processes. Indeed, the majority of treatments for child GAD are transdiagnostic in nature, where children with a variety of anxiety diagnoses
are treated with the same program. Transdiagnostic programs assume that there are a number of cognitive and/or behavioural maintenance processes that are shared across the different anxiety disorders (Mansell, Harvey, Watkins, & Shafran, 2009), and typically involve strategies such as awareness of the physical signs of anxiety, relaxation training, exposure, and cognitive restructuring. Although transdiagnostic approaches can be effective in treating children with GAD, a significant proportion continue to experience clinical levels of worry following transdiagnostic therapy (Compton, Burns, Egger, & Robertson, 2002). It may be argued that one reason for the less than perfect recovery rate is the failure of transdiagnostic approaches to target the underlying cognitive variables and GAD-specific symptoms. Indeed, transdiagnostic child anxiety programs do not typically target beliefs about worry, nor do they target GAD specific correlates such as perfectionism and sleep disturbance. An alternative treatment, and one that is consistent with contemporary approaches to the treatment of GAD in the adult literature, is a cognitive-focussed treatment aimed at targeting the cognitive variables and symptoms associated with GAD.

There are now a number of disorder-specific CBT programs for childhood anxiety disorders such as separation anxiety disorder (Schneider et al., 2011), social anxiety disorder (e.g., Beidel, Turner, & Morris, 2000; Beidel et al., 2007; Beidel, Turner, & Young, 2006; Hayward et al., 2000; Melfsen et al., 2011; Spence, Donovan, & Brechman-Toussaint, 2000), specific phobias (e.g., Ollendick et al., 2009; Öst, Svensson, Hellstrom, & Lindwall, 2001), obsessive-compulsive disorder (e.g., Barrett, Farrell, Dadds, & Boulter, 2005; Barrett, Healy-Farrell, & March, 2004; Farrell, Schlup, & Boschen, 2010; Freeman et al., 2007; Gillihan, Williams, Malcoun, Yadin, & Foa, 2012) and posttraumatic stress disorder (e.g., Cohen, Deblinger, Mannarino, & Steer, 2004; Deblinger, Mannarino, Cohen, & Steer, 2006; Dowd & McGuire, 2011; Smith et al., 2007). Taking a closer look at specific treatments for GAD however, it is evident
that research in this area lags significantly behind that of the other anxiety disorders, with few studies examining a disorder-specific treatment of GAD in children specifically.

Three of the five published studies where GAD children were the target population, used transdiagnostic CBT programs that were not designed to target any of the abovementioned cognitive variables or symptoms. In their study, Waters et al., (2008) developed an intervention that incorporated psychoeducation about worry and anxiety, breathing and relaxation training, cognitive restructuring, graded exposure to worry-provoking situations, and interpersonal skills training. Similarly, in two studies conducted by Eisen and Silverman (1993, 1998), the interventions employed incorporated identification and modification of dysfunctional thoughts and somatic symptoms, as well as in-vivo exposure to anxiety provoking situations.

Only two of the five studies specifically involving children with GAD have targeted at least some of the GAD specific symptoms and associated cognitive variables. Both Payne et al., (2011) and Leger et al., (2003) developed CBT programs based on the Dugas model of worry (Dugas, Gagnon, Ladouceur, & Freeston, 1998). The programs included worry awareness training, planned exposure to uncertainty, modification of dysfunctional beliefs about worry, modified problem solving training, imaginal exposure to unpleasant images/worries, and relapse prevention. Although positive results were found in both studies, neither described in detail how they actually targeted the GAD-specific constructs, making it difficult for clinicians to use the studies to inform their clinical practice.

The aim of this paper is to provide clinical ideas and examples of the ways we have attempted to target each of the GAD specific symptoms and cognitions with primary-school aged children in a recently developed cognitively-focused treatment of child GAD – the “No Worries!” Program (Holmes, Farrell, & Donovan, Unpublished).
The purpose of this paper therefore, is to provide clinicians with an overview of the No Worries! treatment program for young children (aged 7 to 12 years), with a particular focus on describing in detail, some of the clinical strategies employed.

There were important reasons for the development of a GAD-specific treatment program. Although children with GAD have not been found to respond less favourably to transdiagnostic CBT treatments than children with other anxiety disorders, a substantial proportion of children continue to show clinical levels of anxiety following treatment. This may be because transdiagnostic programs do not target important underlying mechanisms thought to underpin the specific disorder. Unlike the other anxiety disorders described above, a GAD-specific program is yet to be developed in children that is cognitive in nature, and which targets all of the cognitive variables shown to be important to the development of this disorder, as well as GAD-specific symptoms (perfectionism and sleep difficulties). If it can be shown that children respond favourably to a cognitive program addressing GAD-specific symptoms and maintaining factors, it may go some way towards further improving treatment programs and response rates for this population.

**The No Worries! Program**

Based on theoretical and empirical research relating to the development and maintenance of excessive worry and GAD, the No Worries! Program was developed to target intolerance of uncertainty (IU), negative beliefs about worry (NBW), negative problem orientation (NPO), and cognitive avoidance (CA), as well as symptoms commonly reported by children with GAD including sleep difficulties and perfectionism. PBW has not been targeted in the No Worries! Program because, as noted above, it has not been consistently found to be related to worry in children (Bacow et al., 2009; Fialko et al., 2012; Holmes et al., Under Review). The No Worries! Program is a group based program and consists of 10 weekly sessions, each of 90
minutes duration, followed by two booster sessions, conducted one and three months after completion of the initial program. Parents concurrently complete seven sessions, each of 90 minutes duration, as well as two booster sessions.

Three therapists are required to facilitate the No Worries! Program; two therapists for the child program and one therapist for the parent program. Parent sessions were designed to accompany the material covered in the child sessions as well as teach parents strategies to better manage their child’s (and their own) anxiety. Sessions focused on strategies such as psychoeducation about child anxiety and GAD, contingency management, relaxation training and education on the worry management strategies taught to children. During each session the parent was empowered to help their child acquire the skills learned in the program and better manage situations in which their child becomes worried or anxious. The parent and child sessions are run independently, with the exception of Session 4. Session 4 is a joint session focused on developing more effective sleeping habits. Session-by-session outlines for the child and parent components of the No Worries! Program are provided in Tables 1 and 2 respectively. The majority of the child program is dedicated to targeting children’s IU, CA, NPO, NBW, sleep issues associated with worry, and perfectionism.

*Insert Table 1 and Table 2 here.*

**Overview**

Developing approaches to explain cognitive constructs such as IU, NBW, NPO and CA to children can be challenging and requires significant creativity. Worry and the cognitive processes associated with it are abstract and therefore difficult for young children to grasp. The challenge for a developmentally sensitive cognitive program is to transform abstract meta-cognitive processes to concrete, tangible examples for children, with the aim of educating them about worry “thought traps” and providing them with empowering approaches to manage and master their worry. The No Worries! Program
utilises narrative therapy approaches and frames pathological worry as a child’s “Worry Beast”, who is controlling and demanding of the children. For example their “worry beast” demands “You must be perfect – making mistakes is really bad”. The goal of each session then, is to understand the demands of their worry beast, how this impacts on their lives and exploring alternative strategies they can implement to tame their Worry Beast. At the beginning of the program, children are given time to conceptualise and draw their own Worry Beast. They give him a name, and they draw the situations where he annoys them most. We explain to children that no matter how old you are, whether you are seven years old, 17 years old or 27 years old, everyone has a Worry Beast that is annoying, bossy and obnoxious. We further explain that the goal of the No Worries! Program is not to get rid of their Worry Beast, but rather to tame him and make him more manageable and less scary. At the completion of the program, children are again asked to draw their Worry Beast as they now see him. Figures 1 and 2 provide an example of a pre- and post-treatment Worry Beast. The following section describes specific strategies that we use in the No Worries! Program to target IU, NPO, NBW, CA, sleep difficulties and perfectionism.

Intolerance of Uncertainty

Children who are intolerant of uncertainty often ask their parents, friends and teachers many questions so that they can have all the answers and be prepared for anything and everything that comes their way. In the session dedicated to IU, children are first asked to identify their “Will it…” or “What if…” worries. For example, “Will I fail my maths test today?” or “What if mum forgets to pick me up from school?”. We then challenge their thinking by asking them “smart” questions like: “Does it really matter?”, “Do I really need to know everything for certain?”, “Is it really possible to be 100% certain about everything?”. Children are then educated that it is simply impossible
to be sure about everything and that they are able to in fact, choose to be in control of their thoughts, feelings and behaviours, rather than having their worries control them.

Children with GAD often worry about things that are not their responsibility. For example: “Is the house locked at home?”, “Will mum and dad have enough money to pay all the bills?”. Therefore, after planting the seed that it is impossible to be completely certain about everything, we then encourage children to evaluate whether their specific worries belong to them or to someone else. Children are taught to give their worries back to the rightful owner – either mentally (e.g., visually see themselves handing the worry back to the person it belongs to) or verbally (e.g., “Mummy I am worrying about the house being locked – can you please worry about that instead of me?”), such that they learn to accept what is within their responsibility, and what is not. For homework in this session, children are asked to monitor the times they wanted to ask their parent/friend/teacher a question, but managed not to. Further, they are rewarded for letting go (or giving back!) some of their worries, which do not belong to them.

Cognitive Avoidance

When children experience worry and the unpleasant physiological symptoms associated with it, the “simplest” strategy, and the strategy often suggested to them by others is to simply “not think about it” and to “put it out of their mind”. However, both research and clinical experience demonstrate that the more a person tries not to think about something, the more they in fact think about it. One strategy we use to highlight the futility of trying to suppress one’s thoughts is the classic white bear experiment. Instead of a white bear however, a pink fluffy elephant is used to create a more vivid mental image for the children. Here is a small excerpt from the script read to children:

“I’d like you to get a picture of a pink fluffy elephant in your mind. I want you to think about what it looks like. PAUSE. Can you see the Pink Fluffy Elephant in your
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mind? PAUSE. Now I am going to ask you to do something a little different. For the next three minutes, I do not want you to think about the pink fluffy elephant. You can think about absolutely anything at all, there are no limits on what you can think about, except for one small thing. I DO NOT want you to think about a pink fluffy elephant. I do not want you to picture a pink fluffy elephant; I don’t want you to think about the words pink fluffy elephant. And I certainly do not want you to think about the pink fluffy elephant’s big pink fluffy ears, or his pink saggy, baggy skin, or his long pink wrinkly nose. But other than the pink fluffy elephant, you can think of absolutely anything you like”.

When therapists deliver this script, they are instructed to embellish it as much as they like and can refer to the pink fluffy elephant as often as they like. Usually, after a few minutes, it is quite clear that the activity is having the desired effect, as most of the children are laughing and giggling. Every time the therapist mentions the words ‘pink fluffy elephant’ it prompts the children to think about it. A discussion then ensues, where the difficulty and problems associated with trying to just push thoughts out of one’s mind, are highlighted.

Following the Pink Fluffy Elephant exercise, children create a “worry jar” and they designate a special “Worry Time” each day as an alternative to cognitive avoidance. A discussion then centres on the utility of only worrying “part” of the day rather than “all” of it. We suggest to them that each time they have a worry, they write it down and store it in their worry jar. Only during the 20-minute Worry Time are they allowed to think about their worry and discuss it with their parents. When children come back the following week and the Worry Jar is discussed, it is usually the case that when Worry Time comes around each day, children have either forgotten about the things they wrote down, or they are no longer an issue. This demonstrates to the children that it is important to accept their worry for what it is, and to process it by writing it down and
choosing to think about it at a later time point rather than attempting to avoid thinking about it altogether.

**Negative Beliefs about Worry**

We know from recently conducted research that young children tend to endorse numerous negative beliefs about worry (Bacow et al., 2010; Bacow et al., 2009). Some children with GAD think that their worries will go on forever, or will make them very sick or go crazy. In order to target their negative beliefs about worry, children are asked to spend a few minutes (with their eyes closed) thinking about one of their worries. Whilst doing so, the therapist prompts them to think about how their worry makes them feel, what things their worry interferes with in their life, and how badly they want their worry to go away. Immediately following this activity, children quickly switch activities and play a game of charades, with no conclusion to the previous activity. The purpose of this exercise is to demonstrate to the children that they can control and be distracted from their worries, and that their worries will not in fact go on forever, and that the negative beliefs they hold about their worries are generally not true. Once the children have been playing charades for 10 minutes, their attention is shifted back to the previous worry activity. Some children respond with “what activity?”, whilst others comment on how clever we were in distracting them from their worries. The majority of children who participate in this activity are amazed that by simply shifting their attention to something else, they can stop worrying. They are prompted then to come up with a list of activities they can engage in when they are feeling worried and to discuss why the NBW they hold are not true and are not helpful.

**Negative Problem Orientation**

NPO is targeted in a number of ways in the No Worries! Program. To illustrate the impact that NPO can have on their ability to tackle problems, children are instructed to solve six maths problems in less than 10 seconds. Although the maths problems are
relatively easy (e.g., 8 + 5), as soon as the children attempt to complete the task, the clinician tries to distract them by telling them that the math problems are extremely difficult, that they will not be able to solve them on their own, that they will probably get the answers wrong and that they may as well give up trying. That is, the therapist invokes a NPO to the maths problem. What generally happens during this activity, is that children get so distracted by thinking about how hard the problems are to solve, that they fail to answer any of the questions. The purpose of this exercise is to highlight the fact that it is often not the problem or their ability to solve it that makes decision making or problem solving difficult, but rather it is their confidence in their ability to do so and the degree to which they worry about solving problems or making decisions that makes it difficult.

After the maths exercise, children are taught that neither negative self-talk (“I am dumb”, “I can’t do this”) or worry helps them to solve problems. They are further instructed that instead, a logical plan and strategy is more helpful. In conjunction with strong coping statements (e.g., “I am a good problem solver – I can do this”), children are taught how to “attack” their problems rather than avoid them and are taught the basic steps of problem solving. We then discuss that we want them to be “problem-solving ninjas” because ninjas are strong, brave and attack their problems head on (see Figure 3 for an example worksheet). Ninjas do not run away from their problems and they certainly never give up without a fight. Children tend to relate to this example well and come up with creative coping statements to help them attack, rather than avoid, their problems.

Insert Figure 3 here.

Perfectionism

Children who worry excessively also frequently demonstrate a number of perfectionistic tendencies / standards, and the No Worries! Program targets
perfectionism in a number of ways. First, children engage in an activity designed to illustrate how attempting to be perfect may affect one’s ability to complete tasks. Children are given a piece of paper with three randomly placed squiggles. They are instructed to draw as quickly as they can, a picture of their family incorporating these squiggles within the picture. Once completed, children are given another piece of paper with the same three squiggles and instructed to draw another picture of their family. This time however, they are told that their drawing must be absolutely perfect with no mistakes and must be the best they can possibly do. Children often struggle with this activity and ask their therapist many questions about what they should include in their picture, and what is meant by the word ‘perfect’. At the end of the activity, children are asked how they felt while drawing each picture, what thoughts were going through their mind as they drew each picture, and how satisfied they are with each drawing. Despite being neater and more accurate, children generally report that they enjoyed, and derived more satisfaction from, their first drawing rather than the second one. The utility and impact of holding perfectionistic ideals and standards is then discussed.

A second strategy targeting perfectionism involves the child’s favourite toy. Children are asked to bring along one of their favourite toys to share with the group and are then asked to explain what they love about their favourite toy and to rate how perfect they believe it is from zero to 100. Most children rate their toy as 100% perfect. The therapist then gently challenges how “perfect” their toys are by asking the children to find flaws in their toys, explaining that everything in the world has flaws if we look closely enough. The point is made though, that just because something is not 100% “perfect”, certainly does not mean that it is not special and extremely important. In this way, the needlessness and impossibility of perfectionism is highlighted.

To further target perfectionism, the child workbooks for the No Worries! perfectionism session deliberately contain over 25 spelling errors. At the end of the
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session, children are informed about this fact and the majority of children are shocked that they did not even notice one mistake. A discussion about children’s perfectionistic beliefs ensues whereby the therapist explains to children that although striving to do things well is important, striving to be absolutely 100% perfect is impossible, and that ultimately the world will not end if they make mistakes. The importance of making mistakes in order to help us learn valuable lessons is then discussed.

A final strategy to target perfectionism involves a lengthy discussion about the advantages and disadvantages of perfectionism. The therapist highlights that although there are advantages to perfectionism (e.g., achieving good grades at school, receiving praise and rewards for hard work etc.), there are also a significant number of disadvantages (e.g., headaches, excessive stress, decreased productivity etc.). With an understanding of what perfectionism is, as well as its advantages and disadvantages, children are then asked to make a list of all their perfectionistic behaviours (e.g., spending copious amounts of time checking work or rubbing out and re-writing homework). They are then encouraged to come up with a second list of behaviours to practise being less than perfect, and are asked to try engaging in them for homework.

Sleep Issues

Children with GAD often present to therapy with sleep disturbance, usually because they are ruminating about their worries. To first improve sleep hygiene, both parents and children are educated about good sleep hygiene and habits. Once the advantages of getting a good night’s sleep and the disadvantages of not getting enough sleep are discussed, each family takes some time to identify the unhealthy habits / routines they have formed over the years (e.g., irregular sleep/wake times, use of technology or consumption of sugary/caffeinated beverages at bed time, or calling out to parents for a hug or to tell them something). To target sleep difficulties that occur due to worry, parents and children are reminded of the worry-management strategies already
taught to them throughout the program. Children and parents then develop a new ‘sleep plan’ aimed at improving unhealthy sleeping habits/routines and incorporating some of the worry management strategies (e.g., the Worry Jar) at bedtime.

To assist children to adjust to their new sleeping plan, a game is introduced. Each week children are allocated a set number of tokens (the number of which are gradually reduced with increasing confidence and mastery). Whenever they engage one of their unhealthy sleep behaviours, they are required to surrender a token. At the end of each week, the more tokens they have in their possession, the better the reward they receive from their parents.

**Summary**

The No Worries! Program represents one of the first attempts to develop a disorder-specific, cognitively-focussed, group treatment program for children aged 7 to 12 years with GAD. The program was developed based on theoretical and empirical research relating to the development of pathological worry in children, and targets children’s intolerance of uncertainty, negative beliefs about worry, negative problem orientation, and cognitive avoidance in novel ways. The discussion above has provided a detailed overview of several of the strategies/techniques utilised in the No Worries! Program to target the cognitive processes shown to be important in the development and maintenance of GAD. A case study is now presented to demonstrate the feasibility of achieving successful outcomes with a complex presentation.

**Case Illustration**

Although the child described in the case report experienced positive outcomes from the program, we are not suggesting that such impressive gains will be made by all children who participate in this program. The family involved in the case study were highly motivated and committed, completing all sessions and homework tasks. Thus, the case study is not meant to be representative of all children with GAD. Both parent
and child provided their written consent to participate in this study, and for the report to be published.

**Presenting Problem**

CC was a 10 year old Caucasian male in Grade 5, who was referred to the No Worries! Program by his mother (RC). He was the youngest of three children and lived with both biological parents. His primary presenting difficulty related to excessive worry about his school work (e.g., “I will never be as good as the other kids”), being good enough in sporting and recreational activities (e.g., “I am a bad soccer player – the team hates me!”), social/interpersonal worries (e.g., “I don’t have as many friends as my classmates”), the health and safety of himself and family (e.g., “What if mum and dad have a car accident – how will I cope?”), running out of money and not being able to pay household bills (e.g., “we probably won’t have enough money to pay for my school fees”) as well as current/worldly affairs (e.g., “what if it rains and floods our house – like it did for so many people last summer”). These difficulties resulted in excessive reassurance seeking from his parents and teachers, and numerous physiological complaints including fatigue, sleep difficulties, stomach upsets and difficulty concentrating/paying attention in class.

In addition to his more general worry, CC also had difficulty separating from his mother in both familiar and unfamiliar contexts (e.g., school drop offs, birthday parties, friend’s places, and shopping centres etc.) and was extremely shy and withdrawn in most social situations. RC reported that CC found it extremely difficult to interact with same-age peers, to initiate or maintain conversations with other people, and that he often avoided situations where he might be the centre of attention. He also presented with a significant fear of thunderstorms/lightening as well as a fear of the dark.
History of Presenting Problem and Previous Assistance

CC presented with a long history of anxiety-related problems. His mother described chronic worry from an early age (even as a toddler), and periods of acute anxiety such as anxiety about separating from primary caregivers, difficulty engaging in independent activities, fear of the dark, and trouble socialising. His specific phobia of thunderstorms and lightening began following a large-scale natural disaster in 2011, whereby the local region was subjected to flash flooding, resulting in thousands of people being affected, homes destroyed and a generally devastating impact on the community. Although their home was not destroyed in the flood, they were isolated for several days till the surrounding flooding had subsided.

There was no reported precipitant to the current exacerbation of CC’s worry, which is reported to be a long-standing chronic problem, with onset when CC was two years old. CC’s difficulties had become more prominent in recent years, likely due to the increase in cognitive awareness, combined with the increasing social and academic demands of middle-childhood, as well as the real-world threats, such as natural disasters, which CC experienced first-hand. CC had not sought treatment in the past for psychological difficulties and had never taken medication. There was a family history of anxiety and depression on both the maternal and paternal sides of his family. Although RC reported a supportive and loving relationship with CC, this often meant that she gave in to his excessive reassurance seeking (by answering his many questions), and allowed him to avoid situations which made him feel anxious or worried.

A cognitive conceptualisation of CC’s GAD, drawing upon theoretical models of adult GAD, is presented in Figure 4 (Dugas et al., 1998; Dugas & Robichaud, 2007; Wells, 1997). This formulation suggests that a biological vulnerability, coupled with stressful life events, likely resulted in increased hypervigilence for danger and the activation of threat-based information processing biases. The experience of triggers –
either somatic, environmental or cognitive – lead to worry and associated dysfunctional processing of these worries, in ways which serve to exacerbate attentional allocation to the worry, avoidance of affective experiences, heightened arousal and psychosomatic complaints. This consequently results in pathological avoidance, excessive reassurance seeking and the persistent cycle of ongoing chronic, debilitating worry.

Insert Figure 4 here

Measures

Diagnostic Status

CC’s diagnostic status was assessed using the Anxiety Disorder Interview Schedule - Child and Parent Version (ADIS-C/P; Silverman & Albano, 1996). A clinician severity rating (CSR) rating of 4 and above on the ADIS-C/P indicates the presence of clinical-level disorder according to the Diagnostic and Statistical Manual for Mental Disorders – Fourth Edition (DSM-IV-TR; APA, 2000). The ADIS-C/P and all outcome questionnaires (outlined below) were administered at pre-treatment, post-treatment, and three-month follow-up. All assessments were conducted by independent, provisionally registered Psychologists who were blind to CC’s diagnostic profile and treatment allocation. All assessors were trained to administer the ADIS-C/P, and were supervised by the second and third authors who are experienced Clinical Psychologists.

Children’s Global Assessment Scale

CC’s overall level of functioning was assessed using the Children's Global Assessment Scale (CGAS; Shaffer et al., 1983). The CGAS provides an overall rating of child functioning, with values ranging from 1 to 100, where higher numbers are indicative of higher levels of functioning (Shaffer et al., 1983).

Child Outcome Measures

Penn State Worry Questionnaire for Children (PSWQ-C, Chorpita, Tracey, Brown, Collica, & Barlow, 1997). The revised 11-item PSWQ-C was used to measure
CC’s trait worry (Chorpita et al., 1997). The psychometric properties of the PSWQ-C are well established (Muris, Meesters, & Gobel, 2001).

**Social Problem-Solving Inventory Revised Short-Form** (SPSI-R-SF, D’Zurilla, Nezu, & Maydeu-Olivares, 2002). Negative Problem Orientation (NPO) was assessed using the 5-item NPO subscale of the SPSI-R-SF (D’Zurilla et al., 2002), with minor wording modifications made to two items to ensure it was appropriate for a 10 year old. The psychometric properties of the NPO subscale are well established (D’Zurilla et al., 2002).

**Meta-Cognitions Questionnaire for Children** (MCQ-C, Bacow et al., 2009). The Positive (6-items) and Negative (6-items) Beliefs about Worry subscales of the MCQ-C were used to assess CC’s PBW and NBW (Bacow et al., 2009). The psychometric properties of the MCQ-C are satisfactory (Bacow et al., 2009).

**White Bear Suppression Inventory** (WBSI, Wegner & Zanakos, 1994). Cognitive avoidance (CA) was measured using the 15-item WBSI, with minor wording modifications to ensure its suitability for a 10 year old. The WBSI has demonstrated satisfactory psychometric properties.

**Intolerance of Uncertainty Scale for Children** (IUS-C, Comer et al., 2009). Intolerance of uncertainty was assessed using the 27-item IUS-C (IUS-C; Comer et al., 2009). The psychometric properties of the IUS-C are satisfactory (Comer et al., 2009).

**Child and Adolescent Perfectionism Scale** (Flett, Hewitt, Boucher, Davidson, & Munro, 2000). The Child and Adolescent Perfectionism Scale (CAPS) is a 22-item self-report questionnaire assessing two dimensions of perfectionism: self-oriented perfectionism (SOP; the setting of demanding, stringent standards of performance or behaviour for oneself); and socially prescribed perfectionism (SPP; a desire to achieve unrealistic standards or expectations and to be perfect because of perceived or real
pressure from significant others) (Flett et al., 2000). The CAPS has sound psychometric properties (Flett et al., 2000).

**Quality of Life** (Varni, Seid, & Rode, 1999). The 23-item Paediatric Quality of Life Inventory (QoL) was used to assess CC’s health-related quality of life (Varni et al., 1999), with both child and parent reports being completed. The psychometric properties of the QoL are satisfactory (Varni et al., 1999).

**Child Behaviour Checklist** (Achenbach & Rescorla, 2001). Internalising behaviour was assessed using the Internalising subscale of the Child Behaviour Checklist 6-18 (Achenbach & Rescorla, 2001). The psychometric properties of the CBCL are well established (Achenbach & Rescorla, 2001).

**Spence Children’s Anxiety Scale and Spence Child Anxiety Scale for Parents** (Spence, 1998, 1999). The 44-item Spence Children's Anxiety Scale (SCAS-C; Spence, 1998) and the 38-item Spence Child Anxiety Scale for Parents (SCAS-P; Spence, 1999) were used to assess CC’s anxiety symptoms. The psychometric properties of the SCAS-C and SCAS-P are well established.

**Treatment satisfaction**

Immediately following treatment, satisfaction with the intervention was assessed using an author-developed, eight-item questionnaire. RC and CC rated on a 5-point Likert-scale ranging from 0 (Not at all) to 4 (Very much) how satisfied they were with various aspects of the program. The resulting total score has a possible range from 0 to 32, where higher scores are indicative of a higher level of satisfaction with treatment. In addition, there were three open-ended questions where CC and RC were able to comment on what they liked most about the program, what they liked the least, and which parts of the program they perceived to be the most important components of therapy.
Results

Determination of Clinical Status and Clinical Reliable Change

Several methods were employed to assess the level of clinical improvement in the case study presented below. First, we looked for changes in clinical diagnostic status according to the ADIS-C/P across the three time points. CSR ratings below 3 were considered to be non-clinical as outlined in the ADIS-C/P manual (Silverman & Albano, 1996). T-scores were used to determine clinical status on the CBCL internalizing subscale. According to Achenbach (2001), T-scores above 63 are considered to be in the clinical range. A score of one standard deviation (SD) above the mean for the relevant age and gender group was used to determine clinical status for the total score and GAD-subscale score on the SCAS-C/P using norms from Spence (1998) and Natua et al., (2004).

The reliable change index (RCI; Jacobson & Truax, 1991) was also calculated on the SCAS-C/P and the CBCL-Internalising subscale to determine whether the magnitude of change observed in CC’s scores from pre-treatment through to three-month follow-up were statistically reliable. According to the procedure outlined by Jacobson and Traux (1991), a RCI is calculated by subtracting CC’s score at time 3 from his score at time 1 and dividing it by the standard error of the difference between his two test scores. If CC’s RCI score exceeds 1.96 on the measures of interest, then it is highly likely that the observed changes between the two time points are statistically reliable. Norms, clinical cut-offs and test-retest reliability estimates were not available for the other self-report questionnaires, and therefore clinical status and reliable change were unable to be assessed for these measures.

Pre-Treatment-to Post-Treatment Assessment

Table 3 outlines CC’s diagnostic profile, CGAS ratings, and self-report measure scores at pre-treatment, post-treatment and three-month follow-up. Table 3 also
provides satisfaction ratings at post-treatment, as well as the range of possible scores on all measures. The ADIS-C/P indicated that at baseline, CC met DSM-IV-TR criteria for GAD, separation anxiety disorder (SAD), social phobia (SoPh), and two specific phobias (thunderstorms / lightening and the dark). Although this study was conducted prior to the publication of DSM-5, it is noteworthy that CC also met DSM-5 criteria for diagnoses of GAD, SAD and SoPh (APA, 2013). The CSR ratings (ranging from 4 to 8) for each anxiety diagnosis placed him within the clinical range at pre-assessment. Furthermore, his CGAS of 41 placed him in the clinical range and suggested “moderate to severe impairment across several domains”. Scores on the SCAS-C and SCAS-P were consistent with the ADIS-C/P diagnoses, with clinical-level scores being noted on the GAD, SAD, and SoPh subscales and the total anxiety score. With the exception of PBW, CC’s scores on all of the cognitive variables (i.e., IUS, WBSI, NPO, and NBW), the CAPS, and the PSWQ were all high at pre-treatment (relative to the possible ranges of scores on these measures).

As is evident from Table 3, CC had lost his GAD diagnosis and demonstrated reductions in the CSR ratings of SAD, SoPh and his specific phobias (although the comorbid diagnoses remained in the clinical range) by post-treatment. Furthermore, CC’s CGAS increased from 41 (moderate to severe impairment across several domains) at pre-treatment to 60 (small to moderate impairment in only a few domains) at post-treatment. CC’s overall quality of life also improved substantially over the course of treatment, increasing from 50% at pre-treatment to 96% at post-treatment where his score indicated only minimal impairment in day-to-day functioning. CC’s gains were also reflected in several of the self-report measures he completed. Specifically, significant reductions were observed from pre- to post-treatment on measures of worry, cognitive avoidance, and negative problem orientation. Although CC’s score on the
CBCL-Internalising subscale remained in the ‘borderline’ clinical range at post-treatment, according to the RCI (at \(p < .05\)), the 20 point reduction in his score from pre- to post-treatment represents a reliable and clinical improvement. Little change was observed on child-rated measures of anxiety, perfectionism, and positive and negative beliefs about worry. However, according to the RCI, maternal reports on the SCAS-P total score and GAD subscale score, also represent a reliable and clinical improvement (at \(p < .05\)).

**Three-Month Follow-Up**

At three-month follow-up, only CC’s diagnosis of SoPh remained, having reduced from a CSR of 6 at pre-treatment to that of 4 at three-month follow-up. CC no longer met clinical criteria for a diagnosis of SAD or specific phobia, and he had maintained the loss of his GAD diagnosis evident at post-treatment. Furthermore, his CGAS rating had further increased to 75 placing him well within the normal range of functioning. The gains observed on the self-report and parent-report measures at post-treatment were further maintained and enhanced at three-month follow-up. CC’s overall level of worry, intolerance of uncertainty, negative problem orientation, cognitive avoidance, negative beliefs about worry, and self-oriented and other-oriented perfectionism had all reduced by three-month follow-up. Indeed, there a greater than 20% reduction in his scores from pre-treatment to three-month follow-up on all of these measures. Maternal responses on the SCAS-P total score and GAD-subscale score as well as the CBCL-Internalising score were all in the normal range at three-month follow-up. As determined by the RCI (Jacobson & Truax, 1991), CC demonstrated reliable and clinical improvement from pre-treatment to three-month follow-up on the SCAS-C/P total score and GAD-subscale score and the CBCL-internalising subscale at a criterion of \(p < .05\).
Client Satisfaction

Both CC and RC indicated high levels of satisfaction with the program immediately following completion of treatment. The Worry Beast and relaxation were identified by RC as being the most important aspects of the program. CC identified that he particularly enjoyed meeting other children in the group who were similar to him and enjoyed participating in the practical activities during sessions.

Discussion of the Case Study

This case study sought to illustrate the No Worries! Program in treating a complex clinical presentation. The outcomes for CC were positive and provided an illustration of the potential effectiveness of this new, novel treatment for childhood GAD. Although the No Worries! Program focused exclusively on GAD (and its accompanying symptoms) and did not include an exposure component common to traditional transdiagnostic CBT programs, by three-month follow-up, CC had lost all of his pre-treatment clinical diagnoses with the exception of social phobia.

The finding that social phobia remained as a diagnosis is not surprising given that social phobia (particularly in children) is considered to be notoriously resistant to treatment regardless of whether the treatment is specific to social phobia or transdiagnostic in nature (Kendall, Settipani, & Cummings, 2012). Given that exposure is considered to be the most important CBT treatment component in the treatment of phobias (including social phobia), and that most disorder-specific programs for social phobia (and some transdiagnostic ones) include both exposure and a social-skills training (SST) component, it may be worthwhile adding additional treatment modules to the No Worries! Program that focus on exposure and SST for children with comorbid social anxiety.

As highlighted above, the reductions CC demonstrated with respect to loss of clinical diagnoses were consistent with reductions observed on many of the self-report
questionnaires. Specifically, the No Worries Program appeared to reduce CC’s intolerance of uncertainty, thought suppression and perfectionism. His overall levels of worry and anxiety were also substantially reduced from pre-treatment to three-month follow-up. The program did not appear to reduce CC’s positive or negative beliefs about worry or improve his negative problem orientation. Although reductions were noted from pre-treatment to three-month follow-up, his scores on both these measures remained elevated at the final assessment point. Given that CC lost his diagnosis of GAD and reported substantially greater quality of life following completion of the No Worries! Program, it is unclear as to whether the lack of change on these two measures was because the program failed to successfully address these particular cognitive constructs or whether the measures were not sensitive enough to change. Replication and extension of this study is clearly needed to assess this issue, including innovative multi-method approaches to assessing cognitive processes.

CC and his family engaged well in the program, participating actively in all sessions, complying with homework tasks set in between sessions, and completing all clinical assessments and questionnaires. They also reported extremely high levels of satisfaction with the program and commented that the group program was “fun, interactive, supportive and normalising”. Thus, overall, this case study illustrates that a GAD-specific, cognitively focused group treatment program was successfully able to target, and produce significant change, in many of the cognitive processes known to be associated with worry and GAD in children in a fun and interactive way.

Conclusion

The purpose of this paper was to provide clinicians and researchers with a detailed overview of a GAD-specific, cognitively focussed treatment program for young children (aged 7 to 12 years), with a particular focus on describing the clinical strategies used in the program. A case study was also presented to demonstrate the feasibility of
achieving successful outcomes with a complex presentation. Before solid conclusions can be drawn about the efficacy of the No Worries! Program in treating childhood GAD, a randomised controlled trial is required. Such a trial is currently being conducted by the authors with encouraging preliminary results.

It is hoped that this paper has provided the clinician with some helpful tips for targeting some of the cognitive variables associated with pathological worry and GAD in children. Furthermore, it is hoped that provision of these tips and strategies will enhance the effectiveness of clinicians’ treatment of child GAD, so that more children affected with this disabling condition can be assisted.


Worry and Generalised Anxiety Disorder in Children


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http://dx.doi.org/10.1097/CHI.0b013e318067e288.


### Table 1

*Session by Session Description of the No Worries! Program (Child Program).*

<table>
<thead>
<tr>
<th>Session</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Getting started.</strong> General introduction to the No Worries! Program. Normalisation of anxiety and worry and provision of rationale for treatment. Definition of important terms. Introduction to the Worry Beast. Discussion about the consequences of excessive worry and life with fewer worries. Goal setting. Rationale for weekly homework. Explanation of Session 1 home practice tasks.</td>
</tr>
<tr>
<td>2</td>
<td><strong>Thoughts, Feelings, Behaviours.</strong> Review of home practice task. Quiz to revise previous session material. Psychoeducation about thoughts, feelings and behaviours. Discussion about the connection between thoughts, feelings and behaviours. Description of home practice task.</td>
</tr>
<tr>
<td>3</td>
<td><strong>Body Signs and Relaxation.</strong> Review of home practice task. Quiz to revise previous session material. Tracking the Worry Beast using the Worry Meter. Psychoeducation about Body Signs. Activity – Identification of own body signs. Psychoeducation about formal (i.e., deep breathing, and progressive muscle relaxation) and informal relaxation techniques. Progressive Muscle Relaxation techniques taught. Identification of anxious facial expressions. Description of home practice task.</td>
</tr>
<tr>
<td>4</td>
<td><strong>Getting a good night’s sleep (Joint session with Parents).</strong> Review of home practice task. Quiz to revise previous session material. Tracking the Worry Beast using the Worry Meter. Discussion about importance of sleep to well-being and consequences of inadequate sleep. Identification of unhealthy sleep habits. Development of a new Sleep Plan (with the aim of increasing healthy sleeping habits and decreasing unhealthy sleeping habits).</td>
</tr>
</tbody>
</table>
Introduction to Good-Night Sleep Challenge. Description of home practice task.

5  **Dealing with Uncertainty.** Review of home practice task. Quiz to revise previous session material. Tracking the Worry Beast using the Worry Meter. Psychoeducation about uncertainty and reassurance seeking. Description of home practice task. Summary of Taming Tricks.

6  **The Power of Thoughts.** Review of home practice task. Quiz to revise previous session material. Tracking the Worry Beast using the Worry Meter. Psychoeducation about the power thoughts through imaginal experiment (pink fluffy elephant). Discussion about thought suppression/avoidance. Psychoeducation about thought avoidance and suppression, and distraction activities. Activity – development of worry jar. Description of home practice task.

7  **What are the chances?** Review of home practice task. Quiz to revise previous session material. Tracking the Worry Beast using the Worry Meter. Psychoeducation about probability overestimation and coping underestimation. Development of coping statements. Weighing up the evidence using smart, logical questions. Description of home practice task.


9  **It has be to perfect.** Review of home practice task. Quiz to revise previous session material. Tracking the Worry Beast using the Worry Meter.
Discussion about advantages and disadvantages of perfectionism.

Psychoeducation about learning from mistakes, perfectionism. Discussion about perfectionism habits and bossing back to the Worry Beast using Taming Talk. Description of home practice task.


11 **Booster Session 1.** Session quiz to revise program. Tracking the Worry Beast using the Worry Meter. Reviewing progress since Session 10 – activity to share difficulties and achievements over the last month. Quiz to review smart thoughts and worry thoughts (pass-the-parcel).

12 **Booster Session 2.** Session quiz to revise program. Tracking the Worry Beast using the Worry Meter. Reviewing progress since Booster Session 1. Review of major concepts. Game to review program material (Charades).
Table 2

Session by Session Description of the No Worries! Program (Parent Program).

<table>
<thead>
<tr>
<th>Session</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td><strong>Thoughts, Feelings, Behaviours and Relaxation.</strong> Review of home practice task. Psychoeducation about thoughts, feelings and behaviours and the connection between them. Tracking the Worry Beast using the Worry Meter. Training in identification of children’s common physiological reactions to anxiety and worry. Relaxation training (e.g., deep breathing and progressive muscle relaxation) and trouble-shooting during relaxation. Description of home practice task.</td>
</tr>
<tr>
<td>3</td>
<td><strong>Managing children’s behaviours.</strong> Review of home practice task. Discussion of advantages and disadvantages of common parent strategies for managing child anxiety (e.g., planned ignoring, giving reassurance). Discussion of how parental responses to child anxiety can serve to exacerbate or dissipate children’s anxiety responses. Training in developing positive relationships between parents and children (e.g., quality time, physical affection, praise). Description of home practice task.</td>
</tr>
<tr>
<td>4</td>
<td><strong>Getting a good night's sleep (Joint session with Parents).</strong> Review of home practice task. Quiz to revise previous session material. Tracking the Worry</td>
</tr>
</tbody>
</table>
Beast using the Worry Meter. Discussion about importance of sleep to well-being and consequences of inadequate sleep. Identification of unhealthy sleep habits. Development of a new Sleep Plan (with the aim of increasing healthy sleeping habits and decreasing unhealthy sleeping habits).

Introduction to Good-Night Sleep Challenge. Description of home practice task.

5 **Dealing with Uncertainty and Cognitive Avoidance.** Review of home practice task. Review of theoretical model of excessive worry. Psychoeducation about intolerance of uncertainty, cognitive avoidance and reassurance seeking. Education and training in all of the strategies taught to children in Session 5 and 6 to enable and empower parents to help their children tame their Worry Beasts. Description of home practice task.

6 **Probability Overestimation/Coping Underestimation and Negative Problem Orientation.** Review of home practice task. Review of theoretical model of excessive worry. Psychoeducation about Probability Overestimation/Coping Underestimation and Negative Problem Orientation. Education and training in all of the strategies taught to children in Session 7 and 8 to enable and empower parents to help their children tame their Worry Beast.


8 **Booster Session 1.** Informal recap of program materials. Discussion about positive gains and difficulties/setbacks parents have encountered over the past month as well as a discussion (and problem-solving) about possible
future challenges.

9 **Booster Session 2.** Discussion about positive gains and difficulties/setbacks encountered over the past 3 months. Discussion and problems-solving about future challenges parents anticipate in the near future. Review of goals set in Session 1.
<table>
<thead>
<tr>
<th>Measure</th>
<th>Score Range</th>
<th>Pre-treatment</th>
<th>Post-treatment</th>
<th>3-month follow-up</th>
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<td><strong>Diagnostic Profile</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Generalised Anxiety Disorder</td>
<td>0 – 8</td>
<td>8*</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2. Separation Anxiety Disorder</td>
<td>0 – 8</td>
<td>6*</td>
<td>5*</td>
<td>2</td>
</tr>
<tr>
<td>3. Social Phobia</td>
<td>0 – 8</td>
<td>6*</td>
<td>5*</td>
<td>4*</td>
</tr>
<tr>
<td>4. Thunderstorms/Lightening Phobia</td>
<td>0 – 8</td>
<td>4*</td>
<td>4*</td>
<td>0</td>
</tr>
<tr>
<td>5. Dark Phobia</td>
<td>0 – 8</td>
<td>4*</td>
<td>4*</td>
<td>0</td>
</tr>
<tr>
<td>CGAS – combined</td>
<td>1-100</td>
<td>41*</td>
<td>60*</td>
<td>75#</td>
</tr>
<tr>
<td><strong>Child Outcome Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Worry</td>
<td>0 - 33</td>
<td>31</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>SCAS-Child Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) GAD Subscale</td>
<td>0 – 18</td>
<td>18*</td>
<td>18*</td>
<td>1*</td>
</tr>
<tr>
<td>b) Total</td>
<td>0 - 114</td>
<td>83*</td>
<td>88*</td>
<td>13*</td>
</tr>
<tr>
<td>SCAS-Parent Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) GAD Subscale</td>
<td>0 – 18</td>
<td>15*</td>
<td>6#</td>
<td>6#</td>
</tr>
<tr>
<td>b) Total</td>
<td>0 - 114</td>
<td>76*</td>
<td>27</td>
<td>18#</td>
</tr>
<tr>
<td>CBCL – Int Subscale T-scores</td>
<td>0 – 100</td>
<td>T = 87*</td>
<td>T = 67#*</td>
<td>T = 58#</td>
</tr>
<tr>
<td>Intolerance of Uncertainty</td>
<td>27 - 135</td>
<td>109</td>
<td>50</td>
<td>35</td>
</tr>
<tr>
<td>Negative Problem Orientation</td>
<td>0 - 20</td>
<td>18</td>
<td>11</td>
<td>13</td>
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<tr>
<td>Negative Beliefs about Worry</td>
<td>6 – 24</td>
<td>19</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>Positive Beliefs about Worry</td>
<td>6 - 24</td>
<td>10</td>
<td>8</td>
<td>7</td>
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</tbody>
</table>
### Worry and Generalised Anxiety Disorder in Children

#### Cognitive Avoidance

<table>
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<th>Score Range</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 - 75</td>
<td>61</td>
<td>34</td>
<td>27</td>
</tr>
</tbody>
</table>

#### Perfectionism

- **a) Total Sore:** 22 – 110
  - N: 78
  - Mean: 74
  - SD: 51

- **b) Self-Oriented Perfectionism:** 12 - 60
  - N: 59
  - Mean: 54
  - SD: 41

- **c) Socially-Prescribed Perfectionism:** 10 - 50
  - N: 19
  - Mean: 20
  - SD: 10

#### Quality of Life

- **Child Report (%):** 0 – 100%
  - N: 55.43
  - Mean: 97.83
  - SD: 98.91

- **Parent Report (%):** 0 – 10%
  - N: 50
  - Mean: 96.74
  - SD: 95.65

#### Treatment Satisfaction

- **Child:** 0 - 32
  - N: 29
  - Mean: -

- **Parent:** 0 - 32
  - N: 29
  - Mean: -

### Note

1. * = clinical scores;
2. # = Reliable and Clinical Change;
   
   a. Reliable and Clinical Change indices were only calculated on the SCAS-C/P and CBCL;
3. CSR = Clinician Severity Rating; CGAS: Clinical Global Assessment Scale; GAD = Generalised Anxiety Disorder; SCAS-C/P = Spence Children’s Anxiety Scale – Child/Parent Report; CBCL-Int = Child Behaviour Checklist - Internalising Subscale.
Figure 1. Pre-treatment Worry Beast drawing.
Figure 2. Post-Treatment Worry Beast drawing.
Figure 3. Example worksheet from the Negative Problem Orientation session.
Figure 4. Cognitive conceptualisation of CC’s worry and GAD.
STUDY 4 ~ CHAPTER 7

THE EFFICACY OF A GROUP-BASED, DISORDER-SPECIFIC TREATMENT PROGRAM FOR CHILDHOOD GAD – A RANDOMIZED CONTROLLED TRIAL.

The following Appendices are relevant to this chapter, but have not been referred in text as it has been submitted for publication.

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<td>O</td>
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This chapter includes a co-authored paper, which is currently “In Press”. The bibliographic details of the paper are:


My contribution to the published paper involved: initial concept and review design; literature search and review of relevant research; data collection and data analysis; and manuscript preparation.

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Dr. Lara Farrell  
**Co-author and Secondary Supervisor**

Dr. Sonja March  
**Co-author and Tertiary Supervisor**
The Efficacy of a Group-Based, Disorder-Specific Treatment Program for Childhood GAD – A Randomized Controlled Trial

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Abstract

Objective. The majority of treatment programs for children with generalised anxiety disorder (GAD) are transdiagnostic in nature and do not target the specific cognitive factors argued to be integral to the disorder. The aim of this study was to provide a preliminary examination of a disorder-specific treatment program for children with GAD that employed strategies targeting underlying cognitive factors. Methods. Forty-two children with a primary diagnosis of GAD, aged between 7 and 12 years, and their parents, were randomly assigned to either a treatment (TX) or waitlist (WLC) condition. Clinical diagnostic interviews as well as parent and child questionnaires were completed at pre- and post-assessment for both conditions, and at 3-month follow-up for the TX group. Results. For the completer analyses at post-treatment, 52.9% of children in the TX group compared to 0% in the WLC group were free of their primary GAD diagnosis. Compared to the WLC children, TX children demonstrated a greater reduction in clinical severity, greater improvement in overall functioning, and held fewer clinical diagnoses. TX children also reported greater reductions in worry and greater improvement in quality of life compared to WLC children. By 3-month follow-up, 100% of children in the TX group were free of their GAD diagnosis, 50% were free of all diagnoses, and the gains made on all other variables were maintained or improved upon (with the exception of positive beliefs about worry). Conclusions. A disorder-specific treatment program for children with GAD is effective in treating this chronic and disabling disorder.

KEYWORDS: Generalised anxiety disorder; treatment; cognitive-behaviour therapy; child psychopathology; anxiety.
Highlights

- A disorder-specific treatment program for children with GAD was developed

- Treatment consisted of 10 child sessions and 7 parent sessions, each 1.5 hours long

- Improvements in child GAD diagnostic status, symptoms, and comorbidity were found

- At post 52.9% of children in the treatment group no longer met criteria for GAD

- At 3-month follow-up, 100% of children in the treatment group were GAD-free

- At 3-month follow-up, 50% of children in the treatment group were diagnosis free
Generalised Anxiety Disorder (GAD) is a chronic and pervasive condition characterised by excessive and uncontrollable worry about numerous topics (APA, 2000). Unfortunately, children are not exempt from being afflicted with GAD, and typically worry about a wide range of issues including school work, performance based activities, the health/safety of themselves and significant others, the future, friendships and worldly affairs (e.g., war, natural disasters) (Albano & Hack, 2004; Dugas & Robichaud, 2007). In addition, children with GAD also experience severe perfectionism and sleep issues (Robin et al., 2006). Although perfectionism and sleep problems are commonly reported by children suffering with other forms of anxiety, there is some evidence to suggest that children with GAD hold stronger perfectionistic beliefs and have more sleep problems than children with other anxiety disorders (Robin et al., 2006).

Although prevalence estimates for youth GAD are difficult to ascertain and vary widely across epidemiological studies, the research suggests point prevalence rates of 0.47% to 5.9% (Anderson, Williams, McGee, & Silva, 1987; Benjamin, Costello, & Warren, 1990; Bowen, Offord, & Boyle, 1990; Ford, Goodman, & Meltzer, 2003; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993; McGee et al., 1990), six month prevalence rates of approximately 2.8% (Breton et al., 1999), and lifetime prevalence rates of 0.4% to 5.7% (Essau, Conradt, & Petermann, 2000; Kessler et al., 2005; Lewinsohn et al., 1993; Wittchen, Zhao, Kessler, & Eaton, 1994).

Although some children with anxiety may simply ‘grow out of it’, the majority of anxious children (especially those with GAD) do not, and if left untreated, clinical-level anxiety can lead to significant difficulties later in life (Cartwright-Hatton, 2013). Indeed, GAD has been associated with a number of problematic consequences for children including difficulty concentrating at school, disrupted sleeping patterns, nervous habits (such as nail biting or skin picking), academic difficulties, and school
refusal/social withdrawal due to decreased self-confidence and ostracism from peers (Albano & Hack, 2004). Thus, GAD is a significant problem in children, and warrants empirical investigation.

Within the literature, research has demonstrated that cognitive factors such as intolerance of uncertainty (IU), positive and negative beliefs about worry (PBW and NBW), negative problem orientation (NPO) and cognitive avoidance (CA) are particularly important in the development and maintenance of pathological worry and GAD in adults (Dugas & Robichaud, 2007). Intolerance of uncertainty (IU) is a dispositional characteristic that originates from a set of negative beliefs about uncertainty and its consequences (Dugas & Robichaud, 2007). Problem orientation is a motivational process that refers to the behavioural, cognitive and emotional variables that characterise an individual's knowledge and appraisal of beliefs about, and expectancies relating to, the occurrence of problems and his or her ability to solve them (D'Zurilla & Nezu, 1999). Individuals with a negative problem orientation (NPO) do not lack the ability to solve problems, but rather lack confidence in their ability to do so because they see problems as difficult and threatening (D'Zurilla & Nezu, 1999). Individuals who excessively worry may also hold a number of metacognitive beliefs about worry including positive and negative beliefs about worry (PBW and NBW). Broadly speaking, metacognition refers to ‘thinking about thinking’ and involves an individual’s knowledge, appraisal, and control of his/her thought processes (Bacow, Pincus, Ehrenreich, & Brody, 2009). NBW centre around the negative mental and physical impact of uncontrollable worry (Wells, 1997), whereas, PBW centre around the utility of worry as a coping strategy (Wells, 1997). Finally, cognitive avoidance (CA) refers to those strategies (whether automatic or purposeful) that lead to the avoidance and/or suppression of unwanted mental content.
There is preliminary yet accumulating evidence, that children who have a tendency to excessively worry, also have difficulty tolerating uncertainty, have a negative problem orientation, attempt to avoid threatening cognitive stimuli and hold negative beliefs about worry (Bacow, May, Brody, & Pincus, 2010; Bacow et al., 2009; Barahmand, 2008; Fialko, Bolton, & Perrin, 2012; Fisak, Mentuccia, & Przeworski, 2013; Holmes, Donovan, Farrell, & Hearn, Under Review; Holmes, Donovan, & Farrell, Under Review; Laugesen, Dugas, & Bukowski, 2003; Payne, Bolton, & Perrin, 2011). In the adult literature, PBW have been found to be associated with GAD and worry, but compared to NBW, PBW is not as specific to GAD and worry as NBW is (Bacow et al., 2010; Bacow et al., 2009; Dugas & Robichaud, 2007; Fialko et al., 2012; Holmes, Donovan, Farrell, et al., Under Review; Holmes, Donovan, & Farrell, Under Review). In addition, it has recently been found that NBW and CA, not IU as has been found in the adult and adolescent literature, are the strongest, unique predictors of worry in children (Holmes et al., Under Review).

Looking at the treatment of GAD in adults, there appears to be two prominent research camps; that of Dugas and colleagues, and the other by Wells and colleagues. The treatment studies conducted by Dugas and colleagues generally included worry awareness training (to identify those problems amenable to problem-solving), uncertainty recognition (to understand that uncertainty is inevitable in daily life, and that one has to learn to cope with uncertainty), re-evaluation of the usefulness of worry (for problematic positive beliefs about worry), problem solving training (for problems that are amenable to problem solving), and cognitive exposure (for those problems that cannot be solved, but rather must be tolerated because of their uncertainty, and to counteract cognitive avoidance) (Dugas et al., 2010; Dugas et al., 2003). Whilst the studies conducted by Wells and colleagues utilised MCT, which focusses on psychoeducation about the metacognitive model of pathological worry, discussion and
modification of PBW, NBW and CA, and relapse prevention (Wells & King, 2006; Wells et al., 2010). Collectively, these programs have been found to be particularly efficacious, with remission rates between 60% and 87.5% (Dugas et al., 2010; Dugas et al., 2003; Wells & King, 2006). In their study, Wells et al., (2010) found that 100% of their sample was free of their primary diagnosis of GAD following treatment. However, the majority of treatment interventions aimed at child anxiety disorders (including GAD) have involved a transdiagnostic Cognitive Behaviour Therapy (CBT) approach, where children with a variety of anxiety diagnoses are treated with the same CBT program protocol. Transdiagnostic programs are based on evidence suggesting that there are a number of cognitive and/or behavioural maintenance processes that are shared across the various anxiety disorders and typically include strategies aimed at emotional education, coping skills training, cognitive restructuring and graded in-vivo exposure (Mansell, Harvey, Watkins, & Shafran, 2009).

Research has shown that transdiagnostic CBT interventions delivered in a group or individual format, with or without parental involvement, are effective in treating children and adolescents with a range of anxiety disorders including GAD (James, Soler, & Weatherall, 2007, 2013; Silverman, Pina, & Viswesvaran, 2008). Collectively, studies have found that between 50% to 80% of youth with anxiety disorders receiving CBT show clinical levels of improvement (Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004; Hudson, 2005; Ishikawa, Okajima, Matsuoka, & Sakano, 2007; James et al., 2007; March, Spence, & Donovan, 2009). Whilst the evidence suggests favourable outcomes for some, approximately 20% to 50% of young people continue to experience clinical levels of anxiety following treatment (Compton, Burns, Egger, & Robertson, 2002). In the case of GAD, a potential reason for the less than optimal remission rates, may be that transdiagnostic CBT approaches do not address the underlying cognitive causal and maintaining factors that have been shown
empirically to be associated with GAD. Thus, despite the practical advantages of transdiagnostic CBT programs in terms of time and cost efficiency, there is an argument for disorder-specific treatment programs that allow clinicians to target the symptoms and processes unique to GAD.

Based on a review of the literature, only five studies to date have specifically examined the treatment (either transdiagnostic or disorder-specific) of GAD in youth. Of these, only two involved disorder-specific programs targeting the cognitive variables associated with GAD, and only one of these two studies involved children under the age of 12 years. The other three studies tested programs that were transdiagnostic in nature.

Turning first to the three studies employing a transdiagnostic treatment approach. Using a case series design (n=4), two studies by Eisen and Silverman (1993, 1998) investigated the effectiveness of prescriptive treatments (i.e., psychoeducation, cognitive restructuring and graded exposure) versus non-prescriptive treatments (i.e., relaxation training focusing on a somatic conceptualisation of anxiety) with children diagnosed with Overanxious Disorder, aged 6 to 15 years. Although children improved in both treatment conditions, participants generally reported greater improvements in the prescriptive condition compared to the non-prescriptive condition. In another case series design of four adolescent females (aged 14 and 16 years), Waters et al., (2008) developed an intervention that incorporated psychoeducation about worry and anxiety, breathing and relaxation, cognitive restructuring, graded exposure to worry-provoking situations and interpersonal skills training (Waters et al., 2008). Overall, it was found that treatment was effective, with gains being maintained at 3-month follow-up (Waters et al., 2008).

As noted above, only two studies investigating youth with a primary diagnosis of GAD have targeted the cognitive variables implicated in the aetiology and maintenance of the disorder. Both Payne et al., (2011) and Leger et al., (2003)
developed CBT programs based on the Dugas model of worry (Dugas, Gagnon, Ladouceur, & Freeston, 1998) that included worry awareness training, planned exposure to uncertainty, modification of dysfunctional beliefs about worry, modified problem-solving training, imaginal exposure to unpleasant images/worries and relapse prevention. The young children in both studies received individual therapy and there were no designated number of sessions. In their case series design of seven adolescents (aged between 16 and 18 years), Leger and colleagues (2003) found that at post treatment, three participants no longer met diagnostic criteria for GAD, two experienced moderate reductions in the severity of their GAD diagnosis (but still met clinical criteria), and one participant remained unchanged. At 12-month follow-up, treatment gains were maintained for children who had recovered at post, and were partially maintained for those who demonstrated a reduction in GAD severity. Children completed on average 13.2 sessions. Payne and colleagues (2011) sought to replicate the findings produced by Leger et al., (2003) in a case series study of 16 young people aged 7 to 17 years, whereby therapy was terminated when the young person displayed significant improvements in their GAD symptoms or when they had completed 15 sessions (whichever came first). Overall, it was found that treatment was effective, with 81% of their sample no longer meeting diagnostic criteria for GAD from pre- to post-treatment and 59% no longer met criteria for their co-morbid anxiety diagnoses from pre- to post-treatment. Longer-term follow-up however was not conducted. The number of sessions that the children and youth received ranged from 5 to 15, with a mean of 9.69 sessions.

The Payne et al., (2011) and Leger et al., (2003) studies provide preliminary support for the efficacy of interventions for youth GAD that focus on the cognitive variables associated with the aetiology and maintenance of the disorder. However, only the Payne et al., (2011) study involved children under the age of 12 years, and both the
Payne et al., (2011) and Leger et al., (2003) studies used a case series design which has limited validity, reliability and generalisability. Furthermore, despite being based on the Dugas model of worry (Dugas et al., 1998; Dugas & Robichaud, 2007), neither study measured the cognitive constructs they purported to target in order to determine whether there was change in these variables following treatment. Finally, the treatment protocols used in these two studies were not standardised, and there were no set number of sessions completed by participants.

The present study sought to improve upon the studies conducted to date by conducting a randomised control trial (RCT) aimed at assessing the efficacy of a treatment program targeting the cognitive variables of IU, NBW, NPO and CA, for children aged 7 to 12 years with a primary diagnosis of GAD.

There were important reasons for the present study’s focus on developing and testing a GAD-specific program. Although there is little evidence to suggest that children with a primary diagnosis of GAD respond less favourably to transdiagnostic CBT than children with other anxiety disorders, between 30-50% of children with an anxiety disorder fail to demonstrate clinical levels of improvement following transdiagnostic CBT. It may well be that the less than perfect remission rate evidenced by transdiagnostic CBT programs is due to their failure to address disorder-specific symptoms and maintaining factors. In the case of GAD, such elements include worry, sleep issues, perfectionism, IU, CA, NBW and NPO. To date, none of these factors are targeted in transdiagnostic programs. Furthermore, a purely cognitive program addressing the aforementioned GAD-specific symptoms and maintaining factors has never been tested with a child population, despite being extensively tested with adults. Indeed, it is important to note that just because transdiagnostic CBT programs for child anxiety disorders are efficacious, it does not mean that we should therefore abandon our efforts to improve upon, or test alternatives to them. If it can be shown that children can
in fact respond favourably to a purely cognitive program addressing GAD-specific symptoms and maintaining factors, it may go some way towards further improving treatment programs for this population.

Therefore, it was hypothesised that compared to children in the waitlist control (WLC) group, children in the active treatment group (TX) would demonstrate significantly greater improvements on diagnostic status and a range of symptom measures, as well as a greater reduction in maladaptive cognitive biases including intolerance of uncertainty, negative beliefs about worry, cognitive avoidance, and negative problem orientation. It was further hypothesised that gains made by the TX group at post-treatment would be maintained or enhanced at 3-month follow-up.

Method

Participants

Participants were 42 children (14 males and 28 females), aged 7 to 12 years ($M = 9.64, SD = 1.41$) with a primary clinical diagnosis of GAD, and at least one of their parents. Seventy-one percent of children were born in Australia, with the remainder born in New Zealand (14.3%), the United Kingdom (11.9%) and South Africa (2.4%). None of the children identified as being of Aboriginal or Torres Strait Islander origin. The majority of children (73.8%) were living in families with both biological parents, and on average, children came from middle- to high-income Australian families as assessed through combined family income and parent education levels. Table 1 presents the sociodemographic information for participants.

Table 2 provides an overview of the diagnostic profile of all children included in this study. On average, children presented with 3.6 clinical diagnoses ($SD=1.70$). Overall, 9.5% of children presented with GAD only, 11.9% presented with two clinical diagnoses, 31% presented with three clinical diagnoses, 21.4% presented with four
clinical diagnoses and the remaining 26.2% presented with five or more clinical diagnoses.

*Insert Table 1 and 2 here.*

Children were included in the study if they were aged between 7 and 12 years, had a minimum reading level of 7 years and met DSM-IV-TR criteria (APA, 2000) for a primary diagnosis of GAD according to the Anxiety Disorder Interview Schedule – Child Interview Schedule (ADIS-C/P; Silverman & Albano, 1996). As determined by the clinician administering the ADIS-C/P, the GAD diagnosis was required to have a clinical severity rating (CSR) of at least 4 (on a 0 to 8 scale) for inclusion in the study. Comorbidity with other anxiety disorders, depression, and externalising disorders was permissible, providing that GAD was considered to be the primary diagnosis (i.e., most severe and interfering). Children were not permitted to enter the study if they were diagnosed with a pervasive developmental disorder, intellectual handicap or learning disability, or if they were found to have behavioural problems more impairing than anxiety, substance abuse, self-harm or suicidal ideation. Children were also excluded if they were currently receiving psychological assistance or medical treatment. Children excluded due to these criteria were provided with referrals to appropriate mental health services. All clinicians administering the ADIS-C/P were blind to both experimental condition and client history.

Figure 1 illustrates the flow of participants through the study. As can be seen in Figure 1, 42 families were allocated to either the treatment group (n=20) or the waitlist control group (n=22). Two treatment group families withdrew prior to Session 2; one due to illness and the other due to legal custody issues. One treatment client failed to complete diagnostic interviews at post-treatment (but completed post-treatment questionnaires as well as 3-month follow-up interviews and questionnaires). Two treatment clients failed to complete 3-month follow-up assessments. For the waitlist
In the TX group, there were two dropouts prior to the end of the waiting period, with both families deciding to seek therapy elsewhere.

**Measures**

The primary (diagnostic status and severity) and secondary (child- and parent-report of worry/anxiety symptoms and cognitive variables associated with worry) outcome measures are described below.

**Primary outcome measures**

**Diagnostic Status.** Diagnostic status of children was assessed using the Anxiety Disorder Interview Schedule – Child Interview Schedule (ADIS-C/P; Silverman & Albano, 1996) with the same parent interviewed at each time point. The ADIS-C/P is a semi-structured interview developed specifically for the diagnosis of anxiety and other related disorders in children and adolescents, and is organised according to the diagnostic categories of the DSM-IV-TR (Silverman & Albano, 1996). The ADIS-C/P includes a parent interview schedule (ADIS-P) and a child interview schedule (ADIS-C) and allows clinicians to establish a clinical severity rating (CSR) for each diagnosis ranging from 0 (no interference with daily functioning) to 8 (extreme interference with daily life) based upon child and parent report (Silverman & Albano, 1996). A CSR rating of 4 and above indicates the presence of a clinical-level disorder according to the DSM-IV-TR (APA, 2000), and only those children who received a primary diagnosis of GAD were included in this study. The ADIS-C/P and all outcome questionnaires (outlined below) were administered at pre-treatment and post-treatment for both the TX and WLC group, and at 3-month follow-up for TX participants only. The ADIS-C/P interviews were conducted either face-to-face or over the telephone, by provisionally registered Psychologists who were provided with a minimum of eight hours of training, and who were blind to experimental condition, client history and assessment time-point. Each interview was moderated by a supervising Clinical Psychologist and each
interviewer received ongoing supervision for the interviews they conducted. At each

time point a combined diagnostic profile was obtained, based on consensus meetings
and review of both the parent and child report.

All ADIS interviews were recorded with the consent of participants. A random
sample of 20% of these interviews was used to determine diagnostic reliability.
Independent interviewers who were blind to the participant's original diagnoses, listened
to and watched these recordings to derive their own diagnoses. Inter-reliability estimates
were then calculated by comparing the original diagnoses and CSR ratings to those
obtained by the independent interviewer. High inter-assessor reliability was found for
both primary diagnosis and CSR rating, with a kappa value of 1 and a correlation of
0.96 respectively.

**Clinician Rated Assessment of Functioning.** Children’s overall level of
functioning was assessed using the Children's Global Assessment Scale (CGAS; Shaffer
et al., 1983). Values on the CGAS range from 1 to 100, where higher numbers are
indicative of higher levels of functioning (Shaffer et al., 1983). According to the CGAS,
scores between 81 and 100 indicate a normal, healthy level of functioning; scores
between 61 and 80 represent slight impairments; scores of 41 to 60 indicate a moderate
degree of impairment in functioning; and scores between 1 and 40 indicate serious
disability (Shaffer et al., 1983). In this study, scores on the CGAS were derived based
on information obtained from the ADIS-C/P interviews and were rated by the same
clinician administering the ADIS-C/P. The CGAS has been found to be a reliable and
valid measure of overall functioning, with an inter-rater reliability estimate of 0.84 and
a test-retest reliability over 6-months of 0.85 (Shaffer et al., 1983).
Secondary Outcome Measures

Parents and children completed a battery of online questionnaires designed to assess worry, GAD and its associated cognitive processes, and general anxiety symptoms.

**Demographic Information.** Parents provided information about themselves (including their name, age, gender, country of birth, occupation, income and living arrangements) and their child (including their name, age, gender, and country of birth).

**Child Internalising Behaviours.** Child internalising symptoms were assessed using the 32-item Internalising subscale of the Child Behaviour Checklist 6-18 (CBCL-Int; Achenbach & Rescorla, 2001). The CBCL-Int requires parents to indicate how often each symptom occurs on a 3-point Likert scale ranging from 0 (*Never*) to 2 (*Often*). Scores on the CBCL-Int may range from 0 to 64, with higher scores indicating greater internalising difficulties. Internal reliability estimates for the CBCL 6-18 have been found to range from 0.78 to 0.97 for the various subscales (Achenbach & Rescorla, 2001). The CBCL 6-18 also has excellent test-retest reliability over an eight day period ($r = 0.82 - 0.94$) (Achenbach & Rescorla, 2001).

**Child Anxiety Symptoms – parent and child report.** The Spence Children's Anxiety Scale (SCAS; Spence, 1998) and the Spence Child Anxiety Scale for Parents (SCAS-P; Spence, 1999) were used to assess anxiety symptoms in children. The SCAS (44-items) and the SCAS-P (38-items) assess specific anxiety symptoms based on the DSM-IV-TR (APA, 2000). For each item of the SCAS/SCAS-P, participants are asked to indicate how often each symptom occurs on a 4-point Likert scale ranging from 0 (*Never*) to 3 (*Always*). A total score as well as six subscale scores (social anxiety disorder, separation anxiety disorder, panic attacks/agoraphobia, obsessive-compulsive disorder, generalised anxiety disorder and physical injury fears) can be derived. Only the SCAS/SCAS-P total score and the GAD subscale scores were used in this study.
The total score may range from 0 to 114, with higher scores indicating greater anxiety symptoms. The GAD subscale score may range from 0 to 18, with higher scores indicating greater GAD symptoms. Research utilising the SCAS/SCAS-P has demonstrated acceptable internal consistency for the total score (Cronbach's alpha ranging between 0.89 and 0.92) and for the individual subscales (Cronbach's alpha ranging between 0.57 and 0.82) (Muris, Schmidt, & Merckelbach, 2000; Nauta et al., 2004; Spence, 1998; Spence, Barrett, & Turner, 2003).

**Quality of Life.** The Paediatric Quality of Life Inventory (QoL) was used to assess children's health-related quality of life according to the guidelines prescribed by the World Health Organisation (Varni, Seid, & Rode, 1999). The QoL contains 23 items and asks respondents to indicate how often they (or their child) experience each item on a 5-point Likert scale ranging from 0 (Never) to 4 (Almost Always). The QoL evaluates a child’s functioning across four domains: physical; social; emotional; and school functioning. Child and parent reports were used in this study. Raw scores on the QoL are transformed into scaled scores out of 100, with higher scores being indicative of better quality of life (Varni et al., 1999). The psychometric properties of the QoL are satisfactory (Varni et al., 1999).

**Child Worry.** Child worry was assessed using the revised, 11-item Penn State Worry Questionnaire for Children (PSWQ-C; Chorpita, Tracey, Brown, Collica, & Barlow, 1997). The PSWQ-C is an adaptation of the Penn State Worry Questionnaire (PSWQ; Chorpita et al., 1997), and assesses a child's general propensity to worry. Each item on the PSWQ-C requires children to indicate how true each statement is for them on a 4-point Likert scale ranging from 0 (Not at all true) to 3 (Always true). Scores may range from zero to 33, with higher scores indicating a greater tendency to worry. The PSWQ-C has been shown to yield a Cronbach's coefficient alpha of 0.89 for young children (Muris, Meesters, & Gobel, 2001).
**Child Intolerance of Uncertainty.** The 27-item Intolerance of Uncertainty Scale for Children (IUS-C) was used to assess children’s intolerance of uncertainty and tendency to react negatively to uncertain situations and events on an emotional, cognitive and behavioural level (Comer et al., 2009). Each item on the IUS-C requires children to rate the degree to which they agree with each statement on a 5-point Likert scale ranging from 1 (*Not at all*) to 5 (*Very much*). Scores on the IUS-C may range from 27 to 135, with higher scores indicating greater intolerance of uncertainty. Comer et al., (2009) found excellent internal consistency for the IUS-C for both a community sample ($\alpha = 0.91$) and an anxiety-disordered sample ($\alpha =0.94$) of youth aged 7 to 17 years.

**Child Positive and Negative Beliefs about Worry.** Child Positive and Negative Beliefs about Worry (PBW and NBW) were measured using the PBW and NBW subscales of the Meta-Cognitions Questionnaire for Children (MCQ-C; Bacow et al., 2009). The PBW and NBW subscales of the MCQ-C each contain six items and require children to indicate the degree to which they agree with each statement on a 4-point Likert scale ranging from 1 (*Do not agree*) to 4 (*Agree very much*). Scores on the PBW and NBW subscales may range from six to 24, with higher scores being indicative of greater PBW and NBW respectively. Cronbach's alphas have been found to range between 0.60 to 0.89 for the PBW subscale and between 0.74 to 0.76 for the NBW subscale (Bacow et al., 2009).

**Child Negative Problem Orientation.** Child Negative Problem Orientation (NPO) was measured using the 5-item subscale of the Social Problem Solving Revised Short-Form (SPSI-R-SF; D’Zurilla, Nezu, & Maydeu-Olivares, 2002). Each item asks children to rate how true each item is for them on a 5-point Likert scale ranging from 0 (*Not at all true of me*) to 4 (*Extremely true of me*). Scores on the NPO subscale of the SPSI-R-SF may range from zero to 20, with higher scores indicating a more negative problem orientation. Minor wording modifications were made to two items to suit a
younger population. For example, “When I am faced with a difficult problem, I doubt that I will be able to solve it on my own no matter how hard I try” was modified to read “When I faced a difficult problem, I don't believe I can solve it no matter how hard I try”. The NPO subscale has been shown to yield a Cronbach's alpha level of 0.83–0.86 and a test-retest reliability of 0.79 over a three week period in adults (D'Zurilla et al., 2002; Hawkins, Sofronoff, & Sheffield, 2009). To the author’s knowledge, this measure is yet to be validated in children.

**Child Cognitive Avoidance.** The 15-item White Bear Suppression Inventory (WBSI) was used to measure child cognitive avoidance (Wegner & Zanakos, 1994). The WBSI comprises statements to which children indicate their agreement on a 5-point Likert scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Scores on the WBSI may range from 15 to 75, with higher scores indicating greater cognitive avoidance. Minor wording modifications were made to three items to suit a younger population. For example, "There are images that come to mind that I cannot erase" was modified to read "There are pictures that come to mind that I cannot get rid of". Farrell and Barrett (2006) used a modified version of the WBSI with children aged 6 to 17 years, yielding comparable internal consistency estimates to the original WBSI (Cronbach's alpha of 0.93 for children and 0.91 for adolescents).

**Child Perfectionism.** The Child and Adolescent Perfectionism Scale (CAPS) is a 22-item self-report questionnaire that was employed to assess two dimensions of perfectionism: self-oriented perfectionism (SOP; the setting of demanding, stringent standards of performance or behaviour for oneself); and socially prescribed perfectionism (SPP; a desire to achieve unrealistic standards or expectations and to be perfect because of perceived or real pressure from significant others). The CAPS asks children to indicate how true each item is of them on a 5-point Likert scale ranging from 1 (*False – Not at all true of me*) to 5 (*Very true of me*). The CAPS total score, as well as
the SOP and SPP subscale scores, were used in this study. The total score on the CAPS may range from 22 to 110, scores on the SOP subscale may range from 12 to 60, and scores on the SPP may range from 10 to 50, with higher scores indicating greater perfectionism. The CAPS has been shown to yield a Cronbach's alpha level of 0.85 and a test-retest reliability of 0.83 over a one week period (Castro et al., 2004).

**Treatment satisfaction.** Immediately following the end of treatment, satisfaction with the intervention was assessed through an 8-item, author-developed questionnaire. Parents and children rated on a 5-point Likert scale ranging from 0 (Not at all) to 4 (Very much) how satisfied they were with various aspects of the program. The mean item rating for parents and children was used to assess treatment satisfaction. Example items include “How much did the No Worries! program help you to feel less anxious” (child), and “How much did the No Worries! program help to reduce your child’s anxiety?” (parent).

**Procedure**

Prior to commencement of the study, ethical approval was obtained from the Griffith University Human Research Ethics Committee and Brisbane Catholic Education. Participants were referred by parents, teachers, guidance officer networks, school newsletters, child and youth mental health services as well as through social media forums (i.e., Facebook). Following referral, all potential participants were screened using a 10 minute screening interview in order to assess for broad inclusion and exclusion criteria. This initial screening interview was conducted over the telephone with the child's parent. If, from this interview, the child was assessed as potentially suitable for the study, the family was invited to complete the ADIS-C/P interviews and the online questionnaires. Both parent and child were required to provide their written consent to participate in this study.
Following diagnostic assessment and after the family had been deemed eligible to participate, the family was randomly allocated to either the treatment condition (TX) or the waitlist control (WLC) condition via a computer generated, blocked randomisation list. A block size of eight that was stratified according to treatment condition (TX or WLC) was used, and all families were informed of their condition by the primary researcher. After allocation, the TX group immediately commenced the treatment program and were reassessed at post-treatment and 3-month follow-up. In total, there were 7 treatment groups with 5 to 7 children in each group. After their 12 week wait, the WLC group were reassessed (i.e., diagnostic interviews and online questionnaires) and ceased to be part of the study, as it was deemed unethical to withhold treatment for longer than the post-treatment period. Immediately following their follow-up, all WLC participants were offered the treatment program. All treatment was conducted face-to-face, onsite at the Griffith University psychology clinics by provisionally registered Psychologists who were post-graduate students receiving advanced clinical training. All therapists were supervised weekly by registered Clinical Psychologists.

**Content of the intervention**

Based on theoretical and empirical research relating to the development and maintenance of excessive worry and GAD, the No Worries! program was developed to target intolerance of uncertainty (IU), negative beliefs about worry (NBW), negative problem orientation (NPO), and cognitive avoidance (CA) as well as symptoms commonly reported by children with GAD including sleep difficulties and perfectionism. The No Worries! program is a manualised, group-based, cognitively-focused treatment program and consists of 10 weekly sessions, each of 90 minutes duration, followed by two booster sessions, conducted one and three months after completion of the initial program. Parents concurrently complete seven sessions, each of
90 minutes duration, as well as two booster sessions. Three therapists are required to facilitate the No Worries! Program; two for the child sessions and one for the parent sessions.

Session-by-session outlines for the child and parent components of the No Worries! program are provided in Table 3. The anxiety management strategies covered in the No Worries! program include some generic CBT components such as psychoeducation about anxiety and worry, relaxation training (i.e., controlled breathing and progressive muscle relaxation) and the A-B-C model. However, the majority of the program is dedicated to targeting children’s IU, NBW, NPO, CA, sleep issues associated with worry, and perfectionism. All sessions were videotaped with the consent of participants, and a random 20% of all group sessions were rated by an independent assessor to determine treatment fidelity. It was found that 97.63% of activities were completed according to the treatment manual.

Developing approaches to explain cognitive constructs such as IU, NBW, NPO and CA to children can be challenging and requires significant creativity. Worry and the cognitive processes associated with it are abstract and therefore difficult for young children to grasp. The challenge for a developmentally sensitive cognitive program is to transform abstract meta-cognitive processes into concrete, tangible examples for children, with the aim of educating them about worry “thought traps” and providing them with empowering approaches to manage and master their worry. The No Worries! Program therefore utilises narrative therapy approaches and frames pathological worry as a child’s “Worry Beast”, who is controlling and demanding of the children. For example their “worry beast” demands “You must be perfect – making mistakes is really bad”. The goal of each session then, is to help children to understand the demands of their worry beast (i.e., to be perfect, to need to know things absolutely for sure etc.), to explore how these demands impact on their lives and to teach children alternative
strategies they can implement to tame their Worry Beast. It should be noted that greater
detail around the composition of the No Worries! program is documented in a paper that
is currently under review (Holmes, Donovan, Farrell, Under Review).

Insert Table 3 here.

Results

Statistical Analyses

Efficacy of the intervention was evaluated using both completer and intent-to-
treat (ITT) samples. The completer sample comprised those participants who had
completed all the particular measures at the particular time points under consideration,
while the ITT sample comprised all participants allocated to condition. As has been
used by prominent researchers in the field, missing data was replaced using the last
observation carried forward (LOCF) method for the ITT sample (March et al., 2009;
McEvoy, Nathan, Rapee, & Campbell, 2012; Payne et al., 2011).

For both completer and ITT samples, in order to evaluate treatment effects from
pre- to post-treatment, a series of chi-square analyses (for categorical variables) and 2
(Condition: TX, WLC) X 2 (Time: Pre, Post) mixed-factorial repeated measures
ANOVAs (for continuous variables) were performed. For assessment of the 3-month
follow-up data, only the TX group was available and the analytic method was different
for completer and ITT samples. For the completer sample, because of various missing
data at each time point, repeated measures ANOVAs were conducted from pre-
assessment to 3-month follow-up, and then separately from post-assessment to 3-month
follow-up, to ensure that as much data was retained as possible. For the ITT sample,
repeated measures ANOVAs across the three time points were conducted. Where
significant time effects were found, simple contrasts were conducted to assess between
which two time points the significant differences lay.
Indication of effect size was presented using partial eta-squared ($\eta^2$). According to Cohen (1988) for analyses conducted using repeated measures between groups ANOVAs, the guidelines for magnitude of $\eta^2$ are that .02, .13 and .26 indicate small, medium and large effect sizes respectively. For the repeated measures ANOVAs and simple contrasts conducted in the follow-up analyses, Cohen (1988) suggests that the guidelines for eta squared are followed whereby .01, .06, and .14 are indicative of small, medium and large effect sizes respectively.

**Pre-Treatment Comparisons**

Preliminary analyses were conducted to ensure there were no pre-existing differences between the TX and WLC group on sociodemographic (age and gender), primary or secondary outcome variables at baseline. There were no significant differences between the groups on child age, $F(1, 40) = .001, \eta^2 <.001, p = .39$, gender, $\chi^2 (1, n = 42) = 0.56, p = .44$, or number of anxiety diagnoses, $F(1, 40)= .57, \eta^2 = .01, p = .45$. Similarly, there were no significant multivariate group differences for the CSR or CGAS, Pillai’s $F(2,39) = .36, p = .70, \eta^2 = .02$, the parent-rated questionnaires, Pillai’s $F(4,37) = 1.01, p = .41, \eta^2 = .10$ or the child self-report questionnaires, Pillai’s $F(7,34) = 1.26, p = .29, \eta^2 = .21$.

**Satisfaction with Treatment and Session Attendance**

As discussed above, satisfaction with treatment was computed using the mean item rating for both parents and children. A rating of 2 indicates ‘a little bit’ satisfied, 3 indicates ‘quite a bit’ satisfied and a rating of 4 indicates ‘a lot’ satisfied. The results suggest that satisfaction with the treatment program was moderate for both children ($M = 2.88, SD =0.67$) and parents ($M = 3.27, SD =0.61$). On average, children in the treatment group attended 9.39 treatment sessions ($SD = 0.92$), and 1.61 booster sessions ($SD = 0.61$).
Completer Analyses: Pre- to Post-Treatment

Tables 4 and 5 outline the means (M), standard deviations (SD) and Cronbach’s Alpha (α) for each of the primary and secondary outcome variables for pre-treatment, post-treatment, and 3-month follow-up for the completer sample. Table 6 outlines the results of the repeated measures ANOVAs conducted for each of the primary and secondary outcome variables from pre-treatment to 3-month follow-up for the completer sample. For ease of interpretation, treatment results have been presented separately for primary and secondary outcome measures.

Insert Tables 4, 5 and 6 here

Primary Outcome Measures. At post-treatment, significantly more children in the TX condition compared to children in the WLC condition were free of their GAD diagnosis, $\chi^2(1, n=36) = 13.41, p = .000$. Specifically, at the post-assessment time-point, 52.9% of children in the TX condition and 0% of children in the WLC condition were free of their GAD diagnosis. Additionally, 17.6% of children in the TX condition no longer met criteria for any diagnosis, compared to 0% of children in the WLC condition. This difference between the TX condition and the WLC condition approached significance, $\chi^2(1, n = 36) = 3.66, p = .056$.

Furthermore, compared to children in the WLC group, children in the TX group demonstrated a greater reduction in the number of anxiety diagnoses, and clinical severity (CSR) of their GAD diagnosis, as well as a greater increase in their overall functioning (CGAS) from pre- to post-treatment. Furthermore, at post-assessment, the CSR of the TX group had fallen within the non-clinical range ($M=3.59, SD=1.33$), while the CSR for the WLC group had not ($M=6.21, SD=0.79$). There was a significant group effect on the CSR ($F(1, 34) = 25.69, p<.001, \eta^2 = .43$) and CGAS ($F(1, 34) = 6.06, p=.02, \eta^2 = .15$).
Secondary outcome measures – child-rated. With respect to child-rated secondary outcome measures, compared to children in the WLC group, children in the TX group demonstrated a greater reduction in worry symptoms, and a greater improvement in overall quality of life from pre- to post-treatment. However, children in both groups reported equal improvement from pre- to post-treatment on measures of IU, NPO, NBW, CA, total perfectionism, SOP, and SPP. No improvements were observed for either group on the SCAS-TOTAL, SCAS-GAD or PBW questionnaires. There were no significant group effects for any of the secondary outcome measures.

Secondary outcome measures – parent-rated. With respect to parent-rated secondary outcome measures, it is evident from Table 6 that parents of children in both the TX and WLC group reported equal improvement in their child’s internalising behaviour, anxiety symptoms and overall quality of life from pre- to post-treatment. It is noteworthy, that the group by time interaction for the SCAS-P-GAD approached significance ($p = .053$).

Completer Analyses: 3-month Follow-up

Primary Outcome Measures. As is evident from Table 4, at 3-month follow-up, 100% of children no longer met diagnostic criteria for GAD. Furthermore, the percentage of children who were free of any diagnosis had risen from 17.6% at post-treatment, to 50% at 3-month follow-up. It is noteworthy that, for those children who still met criteria for a diagnosis at 3-month follow-up, social phobia was the most common remaining anxiety diagnosis ($n=4$), followed by specific phobias ($n=3$), and oppositional defiant disorder ($n=1$). Furthermore, as is evident from Table 4, improvements made by the TX group from pre- to post-treatment on number of anxiety diagnoses, GAD severity, and overall level of functioning were further enhanced at 3-month follow-up.
Secondary outcome measures – child-rated. Improvements made by children in the TX group from pre- to post-treatment on worry and overall quality of life were enhanced further by 3-month follow-up. With respect to the results for IU, CA, NBW, NPO, total perfectionism, SOP and SPP, given that both the TX and WLC groups improved equally from pre- to post-treatment on these measures, improvements evident at 3-month follow-up may represent maintenance or further improvement due to treatment, or may simply be due to the passage of time. Given improvements from pre- to post-treatment on the SCAS-Total and SCAS-GAD were not evident for either the TX or WLC groups, improvements demonstrated by the TX group at 3-month follow-up suggest that treatment effects may have taken longer to emerge on these measures. Again, there were no significant effects for PBW.

Secondary outcome measures – parent-rated. As is evident in Table 6, significant improvements were observed from pre-treatment to 3-month follow-up and from post-treatment to 3-month follow-up for the SCAS-P-Total, the SCAS-P-GAD, the CBCL-Int, and QoL. However, given that the TX and WLC groups improved equally on these measures from pre- to post-treatment, it is difficult to determine whether the improvements seen from post-treatment to 3-month follow-up for the TX group on these measures represented further improvements due to treatment or were simply due to the passage of time.

Intent-to-Treat Sample (ITT)

For the ITT sample, significantly more children in the TX condition compared to the WLC condition were free of their GAD diagnosis, $\chi^2(1, n = 42) = 12.60, p = .000$, with 45% of children in the TX group and 0% of the WLC group being free of their GAD diagnosis at post-treatment. Additionally, 15% of children in the TX condition no longer met criteria for any diagnosis, compared to 0% in the WLC condition. This difference between the TX condition and the WLC condition approached significance,
\( \chi^2 (1, n = 42) = 3.55, p = .059. \) By 3-month follow-up, 88.88% of children were free of their GAD diagnosis, and 44.44% of children were free of all diagnoses.

As there was relatively little missing data, it is not surprising to find that the results of the ITT analyses closely mirror those using the completer sample. There were no differences in the interpretation of results between completer and ITT analyses with respect to primary outcome measures, or the child self-report questionnaires. For parent-rated secondary outcome measures, one difference between the completer and ITT samples was found on the SCAS-P-GAD. For the ITT sample, a significant time effect, \( F(1,40) = 11.47, p = .002, \eta^2 = .22, \) and a significant group by time effect, \( F(1,40) = 4.15, p = .048, \eta^2 = .09 \) were found on the SCAS-P-GAD, suggesting that parents of children in the TX group reported greater improvements in their child’s GAD symptoms compared to parents of WLC group children. At 3-month follow-up, there were no differences in the interpretation of results between the completer and ITT samples with respect to primary outcome measures, child-rated questionnaires or parent-rated questionnaires.

**Subsidiary Analyses: Responders versus Non-Responders**

Supplementary analyses examined whether there were any pre-treatment differences between children who responded to the program (i.e., no longer met diagnostic criteria for their primary diagnosis of GAD following treatment) versus those who did not respond to the program at post-assessment (i.e., retained their primary diagnosis of GAD). A series of between groups ANOVAs were conducted on age, gender and primary and secondary outcome measures. For post-treatment response, children who no longer met criteria for their primary diagnosis of GAD were not found to differ from children who retained their primary diagnosis of GAD on any demographic, primary or secondary outcome measures (either parent- or child-rated). Given that 100% of children in the TX group no longer met criteria for their primary
diagnosis of GAD by 3-month follow-up, it was not possible to conduct the same analyses at 3-months.

Supplementary analyses also examined whether there were any pre-treatment differences between children who no longer met diagnostic criteria for all clinical diagnoses, versus children who did not. A series of between groups ANOVAs were conducted on all pre-treatment demographic variables (i.e., age, gender and SES) and primary and secondary outcome measures. For post-treatment response, results were only significant for the CSR, $F(1,34) = 14.15, p = .001, \eta^2 = .294$, and CGAS, $F(1,34) = 9.27, p = .004, \eta^2 = .214$, such that compared to those who retained some sort of anxiety diagnosis at post-treatment, those who no longer met diagnostic criteria for any diagnosis at post-assessment, had a lower pre-treatment GAD CSR and a higher overall level of functioning at pre-treatment. For 3-month follow-up treatment response, results were significant for the CGAS, $F(1,14) = 4.95, p = .04, \eta^2 = .261$, number of pre-treatment diagnoses, $F(1,14) = 7.98, p = .014, \eta^2 = .363$, and cognitive avoidance, $F(1,14) = 5.53, p = .053, \eta^2 = .283$, such that compared to those children who retained some sort of clinical diagnosis at 3-month follow-up, those children who did not had a higher overall level of functioning prior to treatment, fewer clinical diagnoses at pre-treatment and reported lower levels of cognitive avoidance at pre-treatment.

**Discussion**

This study sought to investigate the efficacy of a disorder-specific treatment program for childhood GAD. It was hypothesised that compared to children in the waitlist control (WLC) group, children who had undergone treatment (TX) would demonstrate greater improvements on diagnostic status, symptoms and quality of life. Further, it was hypothesised that children in the TX condition would report greater reductions in the cognitive biases of intolerance of uncertainty, negative beliefs about worry, negative problem orientation and cognitive avoidance. It was further
hypothesised that improvements would be maintained or enhanced at 3-month follow-up.

The results for the primary outcome measures largely supported the hypotheses. At post-treatment, significantly more children in the TX group compared to children in the WLC group no longer met diagnostic criteria for GAD. However, the groups were not found to differ from pre- to post-treatment with respect to the loss of all clinical diagnoses, although this difference approached significance. By 3-month follow-up, all children no longer met diagnostic criteria for GAD, and half the sample was completely diagnosis free. Children in the TX group also evidenced a greater reduction in the severity of their GAD diagnosis and number of anxiety diagnoses, as well as a significantly greater increase in their overall functioning, compared to children in the WLC group.

Comparing the results of this study with those of earlier ones is difficult given that all five previous studies investigating children with GAD specifically, were a) case series rather than RCTs, and b) involved treatment that was conducted in an individual rather than group format. However, reflecting back on those studies, it would seem that the post-assessment results of the present study for loss of primary GAD diagnosis were somewhat lower than those reported by Eisen and Silverman (1993, 1998) who provided children with a transdiagnostic anxiety program. In their earlier trial, three of the four children no longer met diagnostic criteria for GAD, whilst all children no longer met diagnostic criteria for GAD at post-treatment in the latter trial. The results of the current study are comparable, if not superior to those of Eisen and Silverman (1993, 1998) however, when looking at treatment response at 3-month follow-up for the present study, where 100% of children were free of their GAD diagnosis.

In terms of GAD-specific interventions for children, the only comparable study (as it was the only one that involved children under the age of 12 years) was that
conducted by Payne et al., (2011) who found that at post-treatment 81% of children and adolescents no longer met diagnostic criteria for GAD and 59% no longer met diagnostic criteria for any comorbid diagnosis. Again, at post-treatment, the remission rates produced in the current study were somewhat lower than those produced by Payne et al., (2011), but were superior by 3-month follow-up. Thus, it would seem that overall, the disorder-specific program tested in this study was effective in treating children with GAD and that although moderate improvements were seen at post-treatment, by 3-month follow-up GAD was ameliorated in every case. The enhanced effect at 3-month follow-up is interesting. Given that GAD is a complex, largely cognitive disorder, it might be the case that following Session 10, and in the lead up to their 3-month follow-up assessment, children had more ‘real life’ opportunities to implement, and consequently consolidate, the treatment strategies taught. The two booster sessions between Session 10 and the 3-month follow-up may have further contributed to the enhanced effect at the 3-month assessment point.

As noted above, although all children no longer met diagnostic criteria for GAD at 3-month follow-up, 50% of children retained a diagnosis of either social phobia or specific phobia. The finding that social phobia remained as a diagnosis in some children (but not all) is not surprising given that social phobia (particularly in children) is considered notoriously resistant to treatment regardless of whether the treatment is specific to social phobia or transdiagnostic in nature (Kendall, Settipani, & Cummings, 2012). Given that exposure is considered to be the most important CBT treatment component in the treatment of phobias (including social phobia), and that most disorder-specific and transdiagnostic programs for social phobia and specific phobia include exposure, it might be useful to develop and evaluate an additional optional treatment module focusing on exposure for children who retain these residual diagnoses following treatment. Similarly, most treatment programs for social phobia include social skills
training (SST). It may therefore be useful to develop and evaluate an additional optional treatment module for children with residual social anxiety that focuses on teaching the child practical skills to interact and engage with others.

The results with respect to pre-treatment differences between those children who recovered (i.e., no longer met criteria for any clinical diagnosis) and those who did not were not surprising. Those children who recovered at post-treatment had less severe pre-treatment GAD and higher overall quality of life compared to children who did not lose all clinical diagnoses at post-treatment. Similarly, children who had recovered by 3-month follow-up were more likely to have less severe pre-treatment GAD, fewer clinical diagnoses, and lower levels of cognitive avoidance. It is logical that children who are less severe and better functioning are more likely to lose their diagnoses as there are fewer clinical symptoms to treat and therefore fewer improvements to be made. Furthermore, children would be able to more easily direct their acquired skills to more simple and contained contexts. The finding that children who recovered at 3-months had lower pre-treatment levels of cognitive avoidance is interesting, and also seems logical from a theoretical perspective. In their seminal work, Wegner and Zanakos (1994) highlight a number of problems associated with suppressing one's thoughts. First, the more someone attempts not to think about a particular thought, the more likely they are to think about it. Second, whilst a thought is supposedly suppressed in the short term, it is likely to be enhanced in the long term, a phenomenon known as the "Rebound Effect" (Wegner & Zanakos, 1994). Thus, children who employ less cognitive avoidance are more likely to respond better to treatment, as they consciously process, rather than actively avoid, unpleasant worry thoughts. By not avoiding their thoughts, children are also more likely to deal with their worry thoughts in a timely fashion. Therefore, those children who endorse elevated levels of cognitive avoidance at pre-treatment may require additional assistance when it comes to learning adaptive
skills for coping with unpleasant mental thoughts/images. It is noteworthy that the analyses conducted with respect to treatment response were somewhat underpowered and hence should be interpreted with caution. Studies with larger sample sizes would enable researchers to better assess predictors of treatment outcome.

In terms of the questionnaire data, there were several important findings. Compared to children in the WLC group, children in the TX group demonstrated greater improvements from pre- to post-treatment on child-rated levels of excessive worry, and child-rated quality of life, and these gains were enhanced further by 3-month follow-up. For all other parent- and child-rated secondary outcome measures (with the exception of PBW), children in the TX and WLC groups either improved to the same degree or there were no differences evident at post-treatment. At 3-month follow-up however, children in the TX group evidenced significant improvements with respect to these cognitive variables. Given that the program used in this study was almost entirely cognitive in nature, it might be the case that treatment effects take longer to emerge, as cognitive shifts may take a little longer to occur. Alternatively, it is also possible that children may not have understood the questions being asked of them in these questionnaires. Future research may consider modifying/reviewing the self-report questionnaires to be more child-friendly, or may experiment with changing the mode of delivery of these questionnaires to enhance understanding (e.g., reading questions aloud to children). However, although it seems likely that the improvements were due to the treatment itself, we cannot unequivocally state this with any certainty due to the lack of a WLC group at 3-month follow-up and the alternative explanation that improvements were simply due to the passage of time. Although inclusion of a waitlist group at 3-month would have strengthened the study, there are significant ethical implications for withholding treatment for extended periods of time, especially given the nature and severity of the children included in this study.
Finally, the null results pertaining to PBW are consistent with recent research suggesting that NBW may be more related to worry than PBW in young children (Bacow et al., 2010; Bacow et al., 2009; Holmes, Donovan, Farrell, et al., Under Review; Holmes, Donovan, & Farrell, Under Review). Indeed, in this study, PBW was the only cognitive variable for which neither time effect nor group by time effects were found in any of the analyses. Given that researchers have found that adults and adolescents (as young as 14 years) endorse PBW and that these beliefs are implicated in the worry process, it might be that PBW represent higher-order cognitive processes that emerge once children reach a certain level of cognitive maturity (Dugas et al., 1998; Dugas, Marchand, & Ladouceur, 2005; Laugesen et al., 2003). Determination of the age at which PBW emerge as an important predictor of worry will be an important and interesting area of empirical enquiry.

**Strengths, limitations and suggestions for future research**

This study had several strengths. To the best of the author’s knowledge, it was the first randomised controlled trial (RCT) investigating the efficacy of a disorder-specific treatment program for children aged 7 to 12 years with a primary diagnosis of GAD that targeted the cognitive variables suggested to be important in the development and maintenance of the disorder. This study also employed multiple informants in the data collection phase (including clinicians, parents and children). In particular, all children were diagnosed according to the ADIS-C/P, which meant that treatment effects were not solely based on self- and parent-report (Silverman & Albano, 1996). This study progresses the field by using a rigorous design, and incorporates measurement of the cognitive biases being targeted in treatment. Furthermore, this study includes follow-up to three months to assess durability of gains and consolidation of treatment effects. Another strength of the current study was the use of group CBT treatment rather than traditional individual therapy, which is potentially a cost-effective way to deliver
therapy to a large population of clinically anxious children. Furthermore, given that research investigating the cognitive components of child worry is in its infancy, another strength of the current study was the inclusion of cognitive measures developed for use with children. Finally, all clinical interviewers were blind to both experimental condition and client history, thus ensuring that the interviews were valid, unbiased assessments of the child’s current functioning.

Despite its strengths however, this study was not without its limitations. First, although only a pilot study in nature, the current investigation would have benefited from a larger sample size and less attrition. Second, the results of this research might be limited in terms of generalizability due to the demographics of the sample. The sample was of high socioeconomic status and parental education level, and was comprised of mothers predominately from Australia. Future research should endeavour to gain a more ethnically diverse sample comprising a combination of mothers and fathers with varying socio-economic backgrounds and education levels. Finally, the present study would have benefited from longer term follow-up assessment points. Future research should aim to replicate the results of this study with additional follow-ups at 6- and 12-months to establish the long-term durability of the program.

In addition to the suggestions for future research discussed above, there are a number of other avenues worthy of further investigation. It would be worthwhile comparing the program tested in this study to a transdiagnostic CBT program to determine whether the outcomes achieved for children with GAD are in fact better than what would be achieved with traditional child anxiety treatment programs that do not target the cognitive processes known to be associated with GAD. It would be also interesting to investigate whether transdiagnostic CBT programs are able to alter children’s intolerance of uncertainty, negative beliefs about worry, negative problem orientation, and cognitive avoidance without formally targeting them. Another
important area for future empirical enquiry is to investigate moderators and mediators of change in this population, so as to better understand the mechanisms by which this program produced change. In particular, investigations regarding the possible moderating effect of age may be important. Despite significant attempts to ensure that the program was developmentally appropriate, it may be that younger children struggled more with some of the content and/or had more difficulty concentrating than older children. Alternatively, there may be different mechanisms of change for younger versus older children. Future research should attempt to recruit sufficient sample sizes to examine potential moderators and mechanisms of change in disorder-specific programs.

The results of this study are novel and exciting, and suggest that a disorder-specific treatment program targeting the cognitive variables thought to underpin GAD, is beneficial for young children suffering from this debilitating disorder. Further, the cognitive program was well accepted by families, with moderate to high satisfaction ratings and positive written feedback. It is hoped that the results of this study, and future others that will extend and improve upon it, will go some way towards alleviating the suffering and disability experienced by children and their families as a result of this disorder.
Registration

This Randomised Controlled Trial is registered with the Australian and New Zealand Clinical Trials Registry (ANZCTR); Registration Number: ACTRN12612000061831, http://www.anzctr.org.au/.

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Conflict of Interest

None declared.
References


Worry and Generalised Anxiety Disorder in Children


Investigation of the cognitive components of worry in a community sample of young children aged 8 to 12 years. *Behaviour Therapy*.


Worry and Generalised Anxiety Disorder in Children


Table 1
Sociodemographic Details for the Total Sample, Separated by Group Membership.

<table>
<thead>
<tr>
<th></th>
<th>TX Group (N = 20)</th>
<th>WLC Group (N = 22)</th>
<th>Total Sample (N = 42)</th>
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<tr>
<td><strong>Gender (%)</strong></td>
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<td>Male</td>
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<td><strong>Living Arrangements (%)</strong></td>
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<td>21.4</td>
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<tr>
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<tr>
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<td>22.7</td>
<td>21.4</td>
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<tr>
<td>Degree</td>
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<td>13.6</td>
<td>16.7</td>
</tr>
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<tr>
<td>Father</td>
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<td>22.7</td>
<td>11.9</td>
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<tr>
<td>Completed Year 10</td>
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<td>9.1</td>
<td>19</td>
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<tr>
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<td>2.4</td>
</tr>
<tr>
<td>Postgraduate University Degree</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

*Note. SD = Standard Deviation.*
Table 2

Diagnostic Profile of Children in the Study.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
<th>Fifth</th>
<th>Sixth</th>
<th>Seventh</th>
<th>Eighth</th>
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<tbody>
<tr>
<td>Separation Anxiety Disorder</td>
<td>14</td>
<td>9</td>
<td>4</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Specific Phobia – Total</td>
<td>5</td>
<td>9</td>
<td>8</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Social Phobia</td>
<td>15</td>
<td>12</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dysthymia</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
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<td>Major Depressive Disorder</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
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<td>ADHD</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ODD</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>None</td>
<td>3</td>
<td>8</td>
<td>22</td>
<td>31</td>
<td>34</td>
<td>39</td>
<td>41</td>
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</table>

*Note: All children held a primary diagnosis of GAD. ADHD = Attention Deficit Hyperactivity Disorder; ODD = Oppositional Defiant Disorder.*
Table 3

*Session by Session Description of the No Worries! Program – Child and Parent Program.*

<table>
<thead>
<tr>
<th>Session</th>
<th>Children</th>
<th>Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• Introduction, normalisation of anxiety and worry</td>
<td>• Introduction, normalisation of anxiety and worry</td>
</tr>
<tr>
<td></td>
<td>• Rationale for treatment and explanation of key terms</td>
<td>• Rationale treatment</td>
</tr>
<tr>
<td></td>
<td>• Goal setting and homework</td>
<td>• Psychoeducation – child anxiety, worry and GAD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Overview of cognitive model of GAD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Goal setting and homework</td>
</tr>
<tr>
<td>2</td>
<td>• Quiz</td>
<td>• Thoughts, feelings, behaviours</td>
</tr>
<tr>
<td></td>
<td>• Thoughts, feelings and behaviours</td>
<td>• Body signs and relaxation and troubleshooting</td>
</tr>
<tr>
<td></td>
<td>• Homework</td>
<td>• Homework</td>
</tr>
<tr>
<td>3</td>
<td>• Quiz</td>
<td>• Psychoeducation and strategies on parenting an anxious child</td>
</tr>
<tr>
<td></td>
<td>• Body signs and relaxation</td>
<td>• Development of a new parenting plan</td>
</tr>
<tr>
<td></td>
<td>• Homework</td>
<td>• Homework</td>
</tr>
<tr>
<td>4</td>
<td>• <em>Joint Session with Parents</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Quiz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sleep hygiene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Development of a new sleep routine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Homework</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>• Quiz</td>
<td>• Review of theoretical model of GAD</td>
</tr>
</tbody>
</table>
• Dealing with uncertainty and reassure seeking
• Homework

6
• Quiz
• Understanding the power of thoughts through imaginal activities (White Bear Experiment)
• Thought suppression and negative beliefs about worry
• Homework

7
• Quiz
• Probability overestimation and coping underestimation
• Problem solving and problem orientation
• Homework

8
• Quiz
• Problem solving and problem orientation
• Homework

9
• Quiz
• Perfectionism
Homework

Quiz

Review of program content through game
Worry and Generalised Anxiety Disorder in Children

Table 4

Values for Primary Outcome Measures for the Completer Sample from Pre-Treatment to 3-Month Follow-Up.

<table>
<thead>
<tr>
<th></th>
<th>Pre-Treatment</th>
<th>Post-Treatment</th>
<th>3-month Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tx Group</td>
<td>WLC Group</td>
<td>Tx Group</td>
</tr>
<tr>
<td><strong>Free of Primary Diagnosis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>%</td>
<td>0%</td>
<td>0%</td>
<td>52.9%*</td>
</tr>
<tr>
<td><strong>Free of Any Diagnosis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>0%</td>
<td>0%</td>
<td>17.6%</td>
</tr>
<tr>
<td><strong>Number of Diagnoses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.82</td>
<td>3.74</td>
<td>2.06*</td>
</tr>
<tr>
<td>(SD)</td>
<td>1.60</td>
<td>1.88</td>
<td>1.48</td>
</tr>
<tr>
<td><strong>Clinician Severity Rating (CSR)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>6.00</td>
<td>6.26</td>
<td>3.59*</td>
</tr>
<tr>
<td>(SD)</td>
<td>(1.28)</td>
<td>(0.73)</td>
<td>(1.33)</td>
</tr>
<tr>
<td><strong>Children’s Global Assessment of Functioning (CGAS)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>50.71</td>
<td>50.16</td>
<td>63.82*</td>
</tr>
<tr>
<td>(SD)</td>
<td>(8.91)</td>
<td>(7.06)</td>
<td>(11.03)</td>
</tr>
</tbody>
</table>

*Note.* Tx = Treatment group; WLC = Waitlist Control Group; SD = Standard Deviation; CSR = Clinician Severity Ratings - these range from 0 (low) to 8 (high); CGAS = Children’s Global Assessment Scale - these range from 0 (poorest level of functioning) to 100 (highest level of functioning); * = a significant difference between TX group and WLC group at post-treatment; # = a significant difference for TX group from post-treatment to 3-month follow-up.
Table 5
Means and SDs for all Child Secondary Outcome Measures Across Occasions and Conditions (Completer Sample)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre-Treatment</th>
<th>Post-Treatment</th>
<th>3-month Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tx Group</td>
<td>WLC Group</td>
<td>Tx Group</td>
</tr>
<tr>
<td>Quality of Life (QoL) – Child Report (α = 0.90)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>67.87</td>
<td>69.96</td>
<td>76.09</td>
</tr>
<tr>
<td>(SD)</td>
<td>(13.82)</td>
<td>(8.14)</td>
<td>(15.17)</td>
</tr>
<tr>
<td>Quality of Life (QoL) – Parent Report (α = 0.78)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>67.87</td>
<td>69.97</td>
<td>79.17</td>
</tr>
<tr>
<td>(SD)</td>
<td>(13.82)</td>
<td>(8.14)</td>
<td>(14.16)</td>
</tr>
<tr>
<td>Spence Children’s Anxiety Scale – Total Score (SCAS-P-TOTAL) (α = 0.90)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>41.22</td>
<td>35.90</td>
<td>29.94</td>
</tr>
<tr>
<td>(SD)</td>
<td>(14.75)</td>
<td>(13.41)</td>
<td>(12.70)</td>
</tr>
<tr>
<td>Spence Children’s Anxiety Scale – GAD Subscale Score (SCAS-P-GAD) (α = 0.75)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>8.67</td>
<td>7.47</td>
<td>6.17</td>
</tr>
<tr>
<td>(SD)</td>
<td>(3.12)</td>
<td>(3.08)</td>
<td>(2.71)</td>
</tr>
<tr>
<td>Child Behaviour Checklist – Internalising Subscale – T-Scores (CBCL-INT) (α = 0.95)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>M</td>
<td>72.28</td>
<td>67.58</td>
<td>64.44</td>
</tr>
<tr>
<td>(SD)</td>
<td>(11.04)</td>
<td>(7.16)</td>
<td>(10.43)</td>
</tr>
<tr>
<td>Child Worry (α = 0.86)</td>
<td></td>
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</tr>
<tr>
<td>M</td>
<td>20.39</td>
<td>20.21</td>
<td>13.00</td>
</tr>
<tr>
<td>(SD)</td>
<td>(5.66)</td>
<td>(7.33)</td>
<td>(6.70)</td>
</tr>
<tr>
<td>Spence Children’s Anxiety Scale – Total Score (SCAS-Total) (α = 0.90)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>40.29</td>
<td>35.90</td>
<td>34.88</td>
</tr>
<tr>
<td>(SD)</td>
<td>(14.65)</td>
<td>(13.41)</td>
<td>(20.25)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>------------------------------</td>
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<td>-------</td>
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</tr>
<tr>
<td><strong>Spence Children’s Anxiety Scale – GAD Subscale Score (SCAS-GAD)</strong> (α = 0.78)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.47</td>
<td>7.47</td>
<td>7.41</td>
</tr>
<tr>
<td><strong>Child Intolerance of Uncertainty (IU)</strong> (α = 0.95)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>78.83</td>
<td>81.32</td>
<td>58.83</td>
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<tr>
<td><strong>Child Negative Problem Orientation (NPO)</strong> (α = 0.82)</td>
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<td></td>
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<tr>
<td></td>
<td>11.61</td>
<td>12.37</td>
<td>6.89</td>
</tr>
<tr>
<td><strong>Child Positive Beliefs about Worry (PBW)</strong> (α = 0.78)</td>
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<td></td>
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<tr>
<td></td>
<td>9.28</td>
<td>9.11</td>
<td>8.28</td>
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<tr>
<td><strong>Child Negative Beliefs about Worry (NBW)</strong> (α = 0.76)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16.22</td>
<td>17.79</td>
<td>13.00</td>
</tr>
<tr>
<td><strong>Child Cognitive Avoidance (CA)</strong> (α = 0.85)</td>
<td></td>
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<tr>
<td></td>
<td>56.94</td>
<td>57.05</td>
<td>48.06</td>
</tr>
<tr>
<td><strong>Child Perfectionism Total Score (Total Perfectionism)</strong> (α = 0.90)</td>
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<tr>
<td></td>
<td>61.65</td>
<td>61.53</td>
<td>50.82</td>
</tr>
<tr>
<td><strong>Child Self-Oriented Perfectionism (SOP)</strong> (α = 0.89)</td>
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<tr>
<td></td>
<td>40.82</td>
<td>38.05</td>
<td>32.82</td>
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<tr>
<td><strong>Child Socially Prescribed Perfectionism (SPP)</strong> (α = 0.85)</td>
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<tr>
<td></td>
<td>20.82</td>
<td>23.47</td>
<td>18.00</td>
</tr>
<tr>
<td></td>
<td>Treatment Group (Tx)</td>
<td>Waitlist Control Group (WLC)</td>
<td>SD</td>
</tr>
<tr>
<td>-------</td>
<td>----------------------</td>
<td>-----------------------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| Note. | Tx = Treatment group; WLC = Waitlist Control Group; SD = Standard Deviation; \( \alpha \) = Cronbach’s Alpha; * = a significant difference between TX group and WLC group at post-treatment; # = a significant difference for TX group from post-treatment to 3-month follow-up.
Table 6

Results of Repeated Measures ANOVAs for the Completer Sample from Pre-Treatment to 3-month Follow-Up.

<table>
<thead>
<tr>
<th></th>
<th>Pre- to Post-Treatment</th>
<th>Pre-treatment to 3-month follow-up</th>
<th>Post-treatment to 3-month follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Time Effects</td>
<td>Group x Time Effects</td>
<td>Time Effects</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>p</td>
<td>η²</td>
</tr>
<tr>
<td><strong>Primary Outcome Measures</strong></td>
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<td></td>
</tr>
<tr>
<td>Number of Anxiety Diagnoses</td>
<td>47.09</td>
<td>.000</td>
<td>.58</td>
</tr>
<tr>
<td>CSR</td>
<td>36.28</td>
<td>.000</td>
<td>.52</td>
</tr>
<tr>
<td>CGAS</td>
<td>42.43</td>
<td>.000</td>
<td>.55</td>
</tr>
<tr>
<td><strong>Secondary Outcome Measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>– Child Rated</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worry</td>
<td>20.75</td>
<td>.000</td>
<td>.37</td>
</tr>
<tr>
<td>IU</td>
<td>11.14</td>
<td>.000</td>
<td>.24</td>
</tr>
<tr>
<td>NBW</td>
<td>11.66</td>
<td>.002</td>
<td>.25</td>
</tr>
<tr>
<td>PBW</td>
<td>1.58</td>
<td>.218</td>
<td>.04</td>
</tr>
<tr>
<td>NPO</td>
<td>18.86</td>
<td>.000</td>
<td>.35</td>
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<tr>
<td>CA</td>
<td>9.14</td>
<td>.005</td>
<td>.21</td>
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<tr>
<td>Total perfectionism</td>
<td>10.36</td>
<td>.003</td>
<td>.23</td>
</tr>
<tr>
<td>SOP</td>
<td>9.76</td>
<td>.004</td>
<td>.22</td>
</tr>
<tr>
<td>SPP</td>
<td>5.34</td>
<td>.027</td>
<td>.14</td>
</tr>
<tr>
<td>SCAS-C-TOTAL</td>
<td>.004</td>
<td>.950</td>
<td>.000</td>
</tr>
<tr>
<td>SCAS-C-GAD</td>
<td>.005</td>
<td>.946</td>
<td>.000</td>
</tr>
<tr>
<td>QoL</td>
<td>1.08</td>
<td>.307</td>
<td>.030</td>
</tr>
<tr>
<td><strong>Secondary Outcome Measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>– Parent Rated</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCAS-P-TOTAL</td>
<td>12.71</td>
<td>.001</td>
<td>.27</td>
</tr>
<tr>
<td>SCAS-P-GAD</td>
<td>11.29</td>
<td>.002</td>
<td>.24</td>
</tr>
<tr>
<td>CBCL-Int</td>
<td>18.49</td>
<td>.000</td>
<td>.35</td>
</tr>
<tr>
<td>QoL</td>
<td>14.51</td>
<td>.001</td>
<td>.29</td>
</tr>
</tbody>
</table>

Note. CSR = Clinician Severity Rating; CGAS = Children’s Global Assessment of Functioning; IU = Intolerance of Uncertainty; NBW = Negative Beliefs about Worry; PBW = Positive Beliefs about Worry; NPO = Negative Problem Orientation; CA = Cognitive Avoidance; SOP = Self Oriented Perfectionism; SPP = Socially Prescribed Perfectionism; SCAS-C-TOTAL = Spence Children’s Anxiety Scale – Total Score, Child Report; SCAS-C-GAD = Spence Children’s Anxiety Scale – GAD Score, Child Report; QoL =
Quality of Life; SCAS-P-TOTAL = Spence Children’s Anxiety Scale – Total Score, Parent Report; SCAS-P-GAD = Spence Children’s Anxiety Scale – GAD Score, Parent Report.
Figure 1. Flow diagram of participants’ progress through phases of the study.
SECTION 3 – GENERAL DISCUSSION
Anxiety disorders are amongst the most common and functionally debilitating disorders affecting children around the world. According to the DSM-5, children can be diagnosed with a variety of anxiety disorders including separation anxiety disorder (SAD), social anxiety disorder (SAnD), specific phobias (SP) and generalised anxiety disorder (GAD; APA, 2013). If anxiety disorders are left untreated, they are unlikely to spontaneously remit and are associated with numerous adverse short- and long-term consequences. Of the anxiety disorders commonly diagnosed in childhood, GAD was the focus of this thesis. GAD is a disorder that has changed with respect to its name, criteria and believed presence/absence in children. Although GAD is a prevalent, chronic and disabling condition for its child sufferers, our knowledge and understanding of the aetiology, maintenance and treatment of the disorder in a paediatric population remains a neglected area of empirical enquiry.

When we compare the adult versus youth literature with respect to GAD, it is evident that there has been substantially more research conducted with adult populations than there has been with young people. In the adult literature, a number of cognitive models have been put forward by prominent researchers in the area to explain the aetiology and maintenance of GAD, including Borkovec’s avoidance theory of worry and GAD (Borkovec, Alcaine, & Behar, 2004); Mennin’s emotion dysregulation model (Mennin, 2004; Mennin, Heimberg, Turk, & Fresco, 2002); Wells’ metacognitive model of GAD; and Dugas’ cognitive model of GAD (Dugas, Gagnon, Ladouceur, & Freeston, 1998; Dugas & Robichaud, 2007). Although each model has a slightly different focus, all of them emphasise the importance of various cognitive processes including intolerance of uncertainty (IU), positive and negative beliefs about worry (PBW and NBW), negative problem orientation (NPO) and cognitive avoidance (CA). A large body of research has now been conducted on these cognitive processes in adults and has found evidence that each of them is related to worry and GAD in this population. The
cognitive models listed above are important, as their cognitive constituents have formed the basis of treatment programs for GAD in adults. Although transdiagnostic CBT programs have also been shown to be effective in the treatment of anxiety disorders in adults (including GAD), the accumulating evidence to date suggests that disorder-specific treatments for GAD based on the abovementioned cognitive factors, are particularly efficacious.

Until recently, the study of IU, PBW, NBW, NPO and CA in children was a relatively neglected area of empirical enquiry. Given the known importance of these cognitive processes to the conceptualisation of adult GAD, theorists and empirical researchers have now turned their attention to the possible role that these cognitive variables might play in the aetiology of GAD in children. To date, research with children is scant at best in this area. However, some of the abovementioned cognitive variables have been previously investigated with respect to worry and GAD in children, while others are yet to be investigated at all in this regard. Furthermore, treatment programs for childhood GAD, have been almost uniformly transdiagnostic in nature, and have therefore not targeted the cognitive variables demonstrated to be involved in the aetiology and maintenance of the disorder. Indeed, only two empirical studies to date (both of which were case series), have tested disorder-specific treatment programs for youth and only one of those involved children under the age of 12 years.

Based on the literature presented in Section 1 of this thesis, it was apparent that there were a number of important gaps in the literature. First, no empirical study had investigated the roles that IU, PBW, NBW, NPO and CA played in the development of worry and GAD in children within the one study, nor had any previous study investigated the potential influence of parental cognitive factors in the development and maintenance of child worry and cognitive factors. Second, research had not yet been conducted comparing non-clinical children to children with a diagnosis of GAD in
terms of their endorsement of IU, NBW, PBW, NPO and CA. Again, given the influence that parents have on their children, it was also interesting to find that no empirical study had investigated differences between the parents of children with GAD versus parents of non-anxious children with respect to their own endorsement of these cognitive variables. Third, as noted above, only two disorder-specific treatment programs for youth GAD had been tested and only one was designed for children under the age of 12 years. Given the difficulties associated with getting across these rather sophisticated and complex cognitive concepts to children, it was disappointing to find that although described as disorder-specific and targeting the cognitive components associated with GAD, neither of the studies provided sufficiently detailed information on the treatment strategies employed so that clinicians could be assisted in their implementation. Finally, both of the studies investigating a disorder-specific program for child GAD were case series. It was clear that a rigorous test of the efficacy of a disorder-specific treatment had not yet been conducted.

This thesis therefore sought to fill the gaps in the literature by conducting a series of four studies. The first study examined the relationship between child worry and the cognitive variables of IU, NBW, PBW, NPO, and CA in a community sample of children and their parents. The second study examined whether levels of IU, NBW, PBW, NPO and CA differed between children diagnosed with GAD (and their parents) and non-anxious children (and their parents). The third study provided a detailed description of the development of, and strategies comprising, a disorder-specific treatment program for child GAD (the No Worries! program), that aimed to target the cognitive variables and symptoms associated with GAD. The final study provided a preliminary examination of the efficacy of the No Worries! program through a randomised controlled trial (RCT), that not only measured changes in diagnostic status and anxiety, but also measured changes in the cognitive variables the program was
designed to target. The findings from each of the four empirical studies will now be briefly reviewed, together with the strengths and limitations of the research program overall and directions for future research. The discussion provided below is not a verbatim repetition of the research papers described in Section 2, but rather is an integrated discussion of the overall findings, and the clinical implications emanating from the results.

**Study 1**

Study 1 had two important aims. The first was to investigate whether the cognitive variables of IU, PBW, NBW, NPO and CA were associated with worry in a community sample of children aged eight to 12 years. The second aim was to investigate the influence of parent worry, IU, NBW, PBW, NPO and CA on child worry. In a community sample of 114 children and their parents, it was found that child IU, PBW, NBW, NPO and CA were all positively correlated with child worry. Unlike what has been found in the adult literature where IU has consistently emerged as the strongest unique predictor of worry, NBW and CA were found to be the only unique predictors of child worry, with NBW emerging as the more important of the two. Furthermore, of the five cognitive variables, child PBW demonstrated the weakest relationship with child worry.

Turning to the influence of parental variables on child worry, it was found that parental worry, IU, and CA were all associated with child worry. There was also evidence of specificity with respect to the intergenerational transmission of parental IU, NPO and CA. That is, higher parental intolerance of uncertainty, led to higher child intolerance of uncertainty, which in turn led to greater child worry. Similarly, higher parental negative problem orientation, led to higher child negative problem orientation, which in turn led to greater child worry. Finally, higher parental cognitive avoidance, led to higher child cognitive avoidance, which subsequently led to greater child worry.
The overall findings of Study 1 suggest that adult cognitive models of worry, emphasising the importance of cognitive processes such as IU, PBW, NBW, NPO and CA, may be applicable to children and that parents may influence the development of worry and the cognitive variables associated with it, in their children. Perhaps the most important result emanating from Study 1 was the finding that NBW and CA are the only unique predictors of child worry. As the reader will recall, this is different to what has been found in the adult and adolescent literature, where IU emerges as the strongest predictor. Although children endorse most of the cognitive variables present in the adult models of worry described earlier in this section, this study has highlighted that NBW and CA, not IU, might be important maintaining factors in the cycle of worry for children. From a developmental perspective, it makes sense that NBW and CA (not IU, NPO and PBW) emerge as important predictors of worry. When a child experiences worry and the unpleasant physiological symptoms associated with it, they are more likely to see it as ‘bad and yukky’, rather than ‘helpful’. The most logical and concrete strategy then for managing the worry is to ‘simply not think about it’. This avoidance likely maintains the vicious cycle of excessive worry. Thus, in addition to targeting the other cognitive processes endorsed by children, it might be important to hone in on NBW and CA in the treatment of pathological worry in children. Study 1 was also the first empirical study to investigate the relationships between all of the cognitive variables and worry in children, and was the very first to investigate the influence of parents on child worry and the associated cognitive variables in any capacity.

**Study 2**

Based on the findings of Study 1, Study 2 sought to compare a sample of 25 children with a diagnosis of GAD (and their parents), with a sample of 25 non-anxious children (and their parents) on worry, IU, NBW, PBW, NPO and CA. As hypothesised, children with GAD endorsed significantly higher levels of worry, IU, NBW, NPO and
CA compared to non-anxious children. However, consistent with the findings of Study 1 that PBW was not a significant predictor of child worry, children with GAD and children without anxiety were not found to differ on PBW. Unexpectedly given the results of Study 1, parents of children with a diagnosis of GAD were not found to differ from parents of non-anxious children on any of the variables. A couple of explanations were offered for the null parental results. First, because parents involved in Study 2 endorsed low levels of worry, it made sense that they also endorsed low levels of IU, PBW, NBW, NPO and CA. Second, there may also have been a sampling effect whereby parents of treatment-seeking, clinically anxious children, under-reported their own experience of anxiety or worry as a result of a social desirability, or in an attempt to deflect possible “blame” for their child’s worries. Clearly further research is required to reconcile the somewhat contradictory findings of Studies 1 and 2 with respect to parental cognitive variables.

Although previous studies had investigated GAD versus non-clinical children with respect to PBW, NBW and IU, Study 2 was the first of its kind to investigate CA and NPO in this regard. Furthermore, it was the first to investigate whether parents of children with GAD differ from parents of non-anxious children on any of the cognitive factors associated with worry.

**Study 3**

The results of Study 1 and 2 suggested that the cognitive processes known to be important in the development and maintenance of worry and GAD in adults may also be important in the development and maintenance of worry and GAD in children. Based on accumulating evidence in the adult literature that disorder-specific treatments for adults with GAD are particularly effective and the finding that only two case studies had been conducted in the child literature with poorly described treatment protocols, Study 3 described in detail the development and componentry of a disorder-specific treatment
program for childhood GAD (the No Worries! program). The program was developed to specifically target child IU, NBW, NPO, and CA, and therefore represents one of the first attempts to develop a disorder-specific treatment program for children with GAD.

A case study was presented to demonstrate the feasibility of achieving successful outcomes with a complex presentation by using the No Worries! program. By 3-month follow-up, the child had lost all pre-treatment clinical diagnoses with the exception of social phobia, and the was program was successful in reducing the child’s intolerance of uncertainty, thought suppression, perfectionism, worry, and anxiety symptoms. However, the program did not lead to remission of the child’s social phobia diagnosis, nor did it significantly reduce the child’s negative beliefs about worry or improve the child’s negative problem orientation. Given that the child remained GAD-free at 3-month follow-up, and reported significant improvements in his quality of life following treatment, it is unclear as to whether the lack of changes in NPO and NBW were due to failure of the program to successfully address these particular issues, or were due to the self-report measures employed failing to effectively measure change. Furthermore, given that social phobia is considered by many clinicians to be the anxiety disorder most resistant to treatment, it was not surprising to see that social phobia remained in the child’s diagnostic profile, although its severity had reduced substantially. It was suggested that in order to improve treatment efficacy for children who have residual issues with social phobia (or specific phobias) following treatment, additional optional treatment modules could be added focusing on social skills training and exposure.

**Study 4**

As noted above, prior to conducting this research, only two studies involving case series had been conducted examining the efficacy of a disorder-specific treatment for youth GAD. Study 4 was therefore the first randomised controlled trial (RCT) of a
disorder-specific treatment program for childhood GAD. Forty-two children with a primary diagnosis of GAD, aged between seven and 12 years, and their parents, were randomly allocated to either a treatment (TX) group or waitlist (WLC) group. It was found that at post-treatment, 52.9% of children in the TX group, compared to 0% in the WLC group, were free of their primary GAD diagnosis. Furthermore, 17.6% of children in the TX condition, compared to 0% of children in the WLC condition, no longer met criteria for any diagnosis. By 3-month follow-up, 100% of children in the TX group were free of their GAD diagnosis and 50% were free of all clinical diagnoses. At this time point, children in the TX group also evidenced a greater reduction in the severity of their GAD diagnosis and number of anxiety diagnoses, as well as a significantly greater increase in their overall functioning, compared to children in the WLC group.

Varying results were found with respect to reductions on worry and the cognitive constructs of IU, NBW, PBW, NPO, and CA. At post-treatment, compared to children in the WLC group, children in the TX group reported significantly greater reductions in worry and overall quality of life. These improvements were further enhanced by 3-month follow-up. With respect to the other constructs of interest, significant improvements were generally observed at the 3-month follow-up mark. However, given that both the TX and WLC group improved equally from pre- to post-treatment on a number of variables, the improvements evident at 3-month follow-up for the TX group may have represented further improvement due to treatment, or may have simply been due to the passage of time. It was our contention that given the complexity of GAD and the cognitive nature of IU, NBW, NPO and CA, positive change may have taken longer to occur for children with GAD. Consistent with the results of Studies 1, 2 and 3, there were no significant effects for either group with respect to change on PBW, suggesting again that PBW may be less important to child worry and GAD than it is for
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adults. Taken together, the results from Study 4 suggest that a disorder-specific treatment program for childhood GAD is beneficial.

**Strengths and Limitations of the Compendium of Studies**

The strengths and limitations of each of the four studies have been discussed in detail in Chapters 4 to 7, and will not be repeated here. Rather, this discussion will focus on the overall strengths and limitations emanating from the program of research conducted. Perhaps one of the biggest strengths stemming from this research was the novelty of each study and the way in which each study built upon the preceding one. Indeed, the program of research comprised a series of ‘firsts’. It was the first to a) explore all five cognitive processes in children within the one study; b) explore whether children with a diagnosis of GAD endorsed higher levels of worry and related cognitive processes than non-anxious children; c) consider the potential influence of parents in the development of child worry and cognitive processes; d) provide a detailed treatment protocol of a disorder-specific treatment program for childhood GAD, and e) conduct an RCT examining the efficacy of a disorder-specific treatment program for children with GAD.

A second strength of the research program centres around the degree to which the results from the four studies have important clinical applications for the conceptualisation and treatment of childhood GAD. Together the studies provide clinicians and researchers with a framework to be better understand worry and its potential determinants in a paediatric population. Although replication of the results is clearly required, the present thesis opens up new avenues for future research to tease apart the complex and bidirectional relationships between worry and the five cognitive processes.

A third strength of the series of studies was that the research methodology underpinning each was strong. Each study was of adequate sample size, utilised
questionnaires with sound psychometric properties, and employed multiple informants. All children in Studies 2, 3 and 4 were diagnosed according to the ADIS-C/P, a diagnostic interview that is considered to be the ‘gold standard’ in the area. Furthermore, all clinical interviewers were blind to experimental condition, client history and assessment time-point, thus ensuring that the interviews were valid, unbiased assessments of the child’s current functioning.

A final strength of this compendium of studies relates to the measurement and investigation of mechanisms of change in treatment. Specifically, this study was the first to assess children’s worry, IU, PBW, NBW, NPO, and CA, prior to and following treatment to establish whether the program successfully led to change in the constructs it was designed to target.

Despite the strengths of the four research studies however, there were also a number of limitations worthy of discussion. First, although many of the measures utilised were psychometrically sound and were those most commonly used in the child anxiety literature, measurement of three of the cognitive variables was problematic. Given that research into the cognitive components of worry in children is still in its infancy, there remains a lack of psychometrically sound measures of CA and NPO. Each study thus employed adult versions of these constructs with wording modifications to suit primary school-aged children. In addition to the lack of developmentally appropriate, psychometrically sound measures of CA and NPO, the internal consistency of the positive beliefs about worry (PBW) subscale of the Metacognitions Questionnaire for Children was poor. It is unknown whether the lack of results found with respect to PBW in all studies and CA and NPO in Studies 3 and 4, were really due to these variables being unimportant or whether the measures simply failed to effectively tap into the particular constructs they were designed to assess.
Second, given the progression of studies reported in this compendium, another limitation pertains to the fact that comparisons were not made between children with a diagnosis of GAD, and children with other anxiety disorders (without GAD in their diagnostic profile). It may well be that the cognitive variables or a subset of them, are also important to other anxiety disorders. Understanding the specificity of cognitive belief domains related to different childhood anxiety disorders represents an important area for future research in the development of refined theories and treatments for these specific, and characteristically distinct disorders.

A third limitation relates to the fact that only one parent was required to complete the battery of questionnaires in all four studies, and therefore, for the majority of nuclear families included in this research, we only received ‘half’ the story (mostly that of the mothers). Future research should aim to include both parents (if possible), to better test potential intergenerational effects of parent worry and related cognitive processes.

Fourth, although parents completed a battery of questionnaires relating to the cognitive processes of worry, IU, NBW, PBW, NPO and CA, information regarding parental anxiety and other psychopathology (such as depression) was missing, and may have provided valuable information. It is possible that parents of children with GAD suffered from other disorders that may have contributed to the development of worry and GAD in children.

Fifth, although this research was the first of its kind to develop, and concurrently test the efficacy of a disorder-specific treatment program for childhood GAD, Study 4 would have benefited from longer-term follow-up assessment points. Future research should aim to replicate the results with additional follow-ups at 6- and 12-months to establish the long-term durability of the program. Although all children lost their GAD
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diagnosis at 3-month follow-up, it would be worthwhile investigating whether these treatment gains were maintained in the longer-term.

Sixth, the lack of a 3-month follow-up time point in Study 4 for the WLC group represents another important limitation. Although it seems likely that the improvements observed for the TX children at 3-month follow-up were due to treatment, we cannot unequivocally state this with any certainty due to the lack of a comparison WLC group at 3-month follow-up, and the alternative explanation that improvements were simply due to the passage of time. Although inclusion of a waitlist group at 3-month would have strengthened the study, there are significant ethical implications around withholding treatment for extended periods of time, especially given the nature and severity of the children included in Study 4.

Finally, the results pertaining to Studies 1, 2 and 4 may be limited in terms of their generalizability due to the demographics of the samples employed. The samples in each of these studies were of high socioeconomic status and parental education level, and were comprised of mothers predominately from Australia. Future research should endeavour to gain a more ethnically diverse sample comprising a combination of mothers and fathers with varying socio-economic backgrounds and education levels.

**Suggestions for future research**

The compendium of research studies presented in this thesis have not only filled a number of gaps in the literature, but have also opened up a number of avenues for future research, some of which have been discussed above. There are also a number of additional avenues worthy of further empirical enquiry however, that have not yet been suggested. First, given the suggestion that both transdiagnostic and disorder-specific CBT interventions are effective for childhood GAD, future research should aim to compare the two types of treatment programs to ascertain which is more effective. It
would also be interesting to investigate whether transdiagnostic CBT programs alter children’s IU, NBW, NPO and CA without formally targeting them.

Second, given the findings of Studies 3 and 4 that social phobia and specific phobia remained as the only clinical diagnoses following treatment in a small subset of children, it might be useful to develop and evaluate additional optional treatment modules focusing on exposure and social skills training, to ascertain whether treatment response might be improved for these children. As noted above, these modules could be delivered as an adjunct to therapy, when residual clinical diagnoses remain upon completion of the program.

Finally, PBW was the only cognitive variable for which no evidence was obtained in any of the four studies. Although the measurement of this construct might have been problematic, it may well be the case that PBW is just not important to child worry as it is to adult worry. Given that it is found to be important in adolescents and adults however, it might be the case that PBW represents a higher-order cognitive process that emerges once children reach a certain level of cognitive maturity. Determination of the age at which PWB emerge as important predictors of worry may also therefore be an important and interesting area of future empirical enquiry.

**Concluding Comments**

The results emanating from this research are exciting and provide researchers and clinicians with a framework to better understand and treat worry and GAD in young children. Although we are yet to fully understand why worry becomes pathological for some children, the compendium of studies presented in this thesis has identified a number of cognitive variables that may well be important to the aetiology and maintenance of this condition in children. Specifically, of the five cognitive variables demonstrated to be associated with child worry, only NBW and CA emerged as unique predictors of worry. Our knowledge and understanding of worry and GAD in this
population has been heavily influenced by the cognitive models of worry put forth by two prominent research camps; Wells (1997) and Dugas (1998). Although children endorse most of the cognitive variables put forth in these models, the results of the studies presented in this thesis suggest that development of worry in children is less complex than originally hypothesised. Although further empirical enquiry is required to consolidate our understanding of the aetiology and maintenance of this chronic and disabling disorder, it is hoped that the four research studies comprising this thesis have sparked new interest in the area, opening up new doors and avenues for further empirical research. Indeed, children can and do worry at clinical levels that can have a detrimental impact on their lives and the lives of those people around them. It is hoped that the results of this thesis, and future others that will extend and improve upon it, will go some way towards alleviating the suffering and disability experienced by children and their families as a result of this disorder.

As Timon and Pumbaa sing in the Lion King……
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APPENDICES
APPENDIX A
STUDY 1
ETHICAL CLEARANCE FROM GRIFFITH UNIVERSITY
Dear Dr Donovan

I write further to your application for a variation to your approved protocol "Worry and Psychological Wellness" (GU Ref No: PSY/A8/10/HREC). This request has been considered by the Office for Research.

The OR resolved to approve the requested variation:

I am seeking permission to advertise my research project in:
Catholic School Newsletters
Email through GU networks
Local Papers
Griffith University 1st year Subject pool

I would also like to offer new participants a $25 Coles/Myer Gift Card in appreciation of their participation in the research project (the condition of this gift card is the return of 2 completed questionnaires).

This decision is subject to ratification at the next meeting of the HREC. However, you are authorised to immediately commence the revised project on this basis. I will only contact you again about this matter if the HREC raises any additional questions or comments about this variation.

Regards

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APPENDIX B
STUDY 2
ETHICAL CLEARANCE FROM GRIFFITH UNIVERSITY
Dear Ms HOLMES
I write further to the additional information provided in relation to the provisional approval granted to your application for ethical clearance for your project "Clinical Vs Non-Clinical Generalised Anxiety Disorder in Children" (GU Ref No: PSY/A9/13/HREC).
The additional information was considered by Chair.
This is to confirm that this response has addressed the comments and concerns of the HREC.
We also confirm that the proposed incentive to encourage participation was tested against s 9.3 of Booklet 21 of the Griffith University Research Ethics Manual. This is the test to be utilised in these cases. The proposed incentive is considered appropriate.
Consequently, you are authorised to immediately commence this research on this basis.
The standard conditions of approval attached to our previous correspondence about this protocol continue to apply.

Regards
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Cc: Researchers are reminded that the Griffith University Code for the Responsible Conduct of Research provides guidance to researchers in areas such as conflict of interest, authorship, storage of data, & the training of research students. You can find further information, resources and a link to the University's Code by visiting http://policies.griffith.edu.au/pdf/Code%20for%20the%20Responsible%20Conduct%20of%20Research.pdf

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APPENDIX C

STUDY 4

ETHICAL CLEARANCE FROM GRIFFITH UNIVERSITY
Dear Ms Holmes

I write further to the additional information provided in relation to the provisional approval granted to your application for ethical clearance for your project "No Worries! Efficacy of a Cognitive Behavioural Treatment program for children with Generalised Anxiety Disorder" (GU Ref No: PSY/C9/11/HREC).

The additional information was considered by Chair.

This is to confirm that this response has addressed the comments and concerns of the HREC.

Please provide the text of any advertising or recruitment materials once they become available to the research team.

Consequently, you are authorised to immediately commence this research on this basis.

The standard conditions of approval attached to our previous correspondence about this protocol continue to apply.

Regards

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You can find further information, resources and a link to the University's Code by visiting http://www62.gu.edu.au/policylibrary.nsf/xupdatemonth/e7852d226231d2b4a25750c0062f457?openDocument

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APPENDIX D
STUDY 1
INFORMATION SHEET AND CONSENT FORM
Who is conducting the research?

Dr. Caroline Donovan (Clinical Psychologist)
Miss Monique Holmes (Provisional Psychologist and PhD Student)
Mrs Catherine Hearn (Registered Teacher and Honours Student)

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Why is the research being conducted?
This research examines the relationship between worry and psychological wellness in children and their parents. Lots of people worry, but uncontrollable worry can have a negative impact on many areas of our lives. Past research has focused on worry in adults and adolescents. Therefore we know little about worry in children between the ages of 8 and 12 years. From this research we hope to better understand worry in young children and their parents.

This research is being conducted as part of Monique Holmes' PhD Thesis and Catherine Hearn's Honours Research Thesis under the guidance of Dr. Caroline Donovan.

To say "thank-you" for your time, all families who complete the questionnaires will be entered into a draw to win one of five prizes. These include:
- 1 x VIP 3 Park Super Pass (or similar) valued at approximately $100
- 1 x Birch Carroll and Coyle Movie Voucher valued at $40
- 3 x $25 gift vouchers from Angus and Robertson Book Store

The basis by which participants will be selected
To participate in this study, your child must be aged between 8 and 12 years at the time of participation.

What you will be asked to do
If you and your child agree to participate in this research, you will both be required to fill in some questionnaires. The child questionnaires will assess areas such as worry, worry avoidance, beliefs about worry, problem solving style, coping style and tolerance of uncertainty. Parent questionnaires will include assessment of your child's worries and behaviours, and your parenting style as well as your worry, worry avoidance, beliefs about worry, tolerance of uncertainty, problem solving style, coping style and your ability to regulate anxiety and depression in general. Some general demographic questions will also be included.

Parent questionnaire packages will be sent home with your child on the day of participation. Once completed, parent questionnaire packages can be returned to the school administration office. Children will complete the questionnaire package during school hours, in a classroom supervised by Dr. Caroline Donovan (Clinical Psychologist), Miss Monique Holmes (Provisional Psychologist and PhD Student), and Mrs Catherine Hearn (Registered Teacher and Honours Student). Both questionnaire
packages will take less than one hour to complete. To minimise fatigue, children will complete the questionnaires over two 30 minute sessions. All questions will be read aloud to the children by the researcher and assistance will be given to children who require it.

**The expected benefits of the research**
The results of this research will help us to better understand how worry impacts on the lives of children and their parents. Ultimately, this will lead to improved outcomes for therapy and can be used for future research and early intervention projects. It is envisaged that participation in this research will be enjoyable.

**Risks to you**
There are no expected risks from participating in this study for either you or your child. If, during student data collection, any procedure causes distress, it will be stopped immediately. Taking part in this study is voluntary and you and your child may withdraw at any time (including following informed consent) without any negative consequences or prejudice. Below is a list of support services that you may find useful, should you require additional support:

- **Lifeline**: Phone 13 11 14
- **Kids Helpline**: Phone 1800 55 1800
- **Australian Psychological Association**
- **Kids Matter**: www.kidsmatter.edu.au (This website provides information about the kinds of mental health issues that may affect children. It does not provide direct advice or specific referrals)
- **Parentline**: 1300 301 300
- **Beyond Blue**: 1300 22 4636
- **Griffith University Psychology Clinic**: Phone: (07) 3735 3301
  - Or contact the Guidance Officer at your school.

**Your confidentiality**
All information gathered will be kept in locked filing cabinets, will be confidential and will only be accessed by the researchers mentioned above. Any reports arising from this research will include group statistics only. This means that no individual participant will be able to be identified. Your contact details (provided to us in the child and parent questionnaire), will be used to inform you:

a) Should you win a prize as mentioned above
b) In line with our duty of care, if you display high levels of anxiety or depression from the self-report questionnaires
c) In line with our duty of care, if your child displays high levels of anxiety
d) We will also notify the School Principal and Guidance Officer if your child is displaying high levels of anxiety to assist in support follow-up

Once all data has been collected for this study, and parent and child questionnaires have been matched, all identifying information will be replaced with a randomly generated number. This means that your personal responses will not be able to be traced to you or your child. All hard copies of personal information will also be destroyed promptly after this process.
Your participation is voluntary
Participation in the research study is entirely voluntary and as mentioned above, you or your child are free to withdraw from the study or refuse to take part at any time, without any negative consequences or prejudice. Participation in the research is valuable to us as it enables researchers to develop effective early intervention programs for children severely affected by worry.

Questions / Feedback to you
If you have any questions regarding this study, please contact Dr Caroline Donovan by telephone on (07) 3735 3401 or by email: c.donovan@griffith.edu.au. At the end of the study, you are very welcome to contact the researcher for a summary of research results.

The ethical conduct of this research
Griffith University conducts research in accordance with the National Statement on Ethical Conduct in Human Research. If you have any concerns or complaints about the ethical conduct of the research project, please contact the Manager, Research Ethics on (07) 3735 5585 or research-ethics@griffith.edu.au.

Privacy Statement
The conduct of this research involves the collection, access and / or use of your identified personal information. As outlined elsewhere in this information sheet, your identified personal information may be reported to the School Principal and / or Guidance Officer if your child displays high levels of anxiety to assist in support follow-up. Other than this disclosure, the information collected is confidential and will not be disclosed to third parties without your consent, except to meet government, legal or other regulatory authority requirements. A de-identified copy of this data may be used for other research purposes. However, your anonymity will at all times be safeguarded, except where you have consented otherwise. For further information consult the University’s Privacy Plan at http://www.griffith.edu.au/about-griffith/plans-publications/griffith-university-privacy-plan or telephone (07) 3735 5585.

***** Please keep this information sheet for your records. *****
To say "thank-you" for your time, we will enter you in the draw to win one of five prizes. These include:

1 x VIP 3 Park Super Pass (or similar) valued at $100

1 x $40 Birch Carroll & Coyle Movie Card

1 of 3 x $25 Angus & Robertson Book vouchers
Participation Prize - Terms and Conditions

1. When you enter the competition, you accept these terms and conditions of entry.

2. Employees of Griffith University ("the University") and their immediate families are ineligible to enter.

3. Entry into the competition is by:
   a. giving a completed consent form to the Griffith University researchers at your school.

4. The first random drawn entry will receive 1 x VIP 3 Park Super Pass (or similar) valued at $100. The second random draw entry will receive 1 x $40 Birch Carol & Coyle Movie Card. The third, fourth and fifth random draw entry will receive 1 x $25 Angus and Robertson Book Voucher each.

5. The decision of the University is final and no correspondence will be entered into.

6. The prize is not transferable and cannot be redeemed for cash. The prize is not refundable.

7. The winner releases the University from any and all causes of action, losses, liability, damage, expense (including legal expenses) cost or charge suffered, sustained or in any way incurred by the winner as a result of any loss or damage to any physical property of the winner, or any injury to or death of any person arising out of, or related to or in any way connected with the University or the prize.

8. Any winner drawn for the prize who is unable to fulfil all of these terms and conditions will forfeit the prize and another winner will be drawn.

9. The winner will be notified by phone, email or post by no later than June 2011.

10. The competition opens to entries from March 2011 and the competition closes in June 2011. The competition is drawn on 30th June 2011 at Griffith University. You do not need to be present at the draw to win.

11. The prize will be available for collection by the winner at Griffith University immediately after the draw.
CONSENT FORM

Who is conducting the research?
Dr. Caroline Donovan (Clinical Psychologist)
Miss Monique Holmes (Provisional Psychologist and PhD Student)
Mrs Catherine Hearn (Registered Teacher and Honours Student)

Griffith University - Mt Gravatt Campus
School of Psychology
176 Messines Ridge Road,
Mt Gravatt, QLD 4122
Contact Phone: (07) 3735 3401
Contact Email: c.donovan@griffith.edu.au

By signing below, we confirm that we have read and understood the Information Sheet and in particular have noted that:

- We understand that our involvement in this research will include the completion of a questionnaire package;
- We have had any questions answered to our satisfaction;
- We understand the risks involved;
- We understand that there will be no direct benefit to us from our participation in this research (other than the possibility of winning a prize);
- We understand that our participation in this research is voluntary and that we are free to withdraw at any time without negative consequences or prejudice, including after the informed consent process;
- We understand that if we have any additional questions we can contact the research team;
- We understand that our personal details will be collected for notification of the prize mentioned above; to inform me, as a parent, if the questionnaires show that I may have high levels of anxiety or depression; and to inform me if my child may have high levels of anxiety;
- We understand that the School Principal and Guidance Officer will be notified if my child is displaying high levels of anxiety to assist in support follow-up;
- We understand that we can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on (07) 3735 5585 (or research-ethics@griffith.edu.au) if we have any concerns about the ethical conduct of the project; and
- We agree to participate in the project.

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Please return this consent form in the envelope provided to your school's administration office by WEDNESDAY 2nd MARCH 2011. According to University Guidelines, this signed form must be received by the researchers before you and your child can participate in the research study.
APPENDIX E
STUDY 2
INFORMATION SHEET AND CONSENT FORM (CHILD VERSION)
We are a team of researchers who are doing a study with kids to learn more about worry and anxiety. Generalised anxiety is when kids are worried about lots of different things like their family, their brothers and sisters, whether they are doing well at school, things going on around the world, and little things like saying the wrong thing to friends, teachers and family members.

Some children don’t worry about anything at all. That means we need kids who have some generalised anxiety troubles to be part of our study. We also need some children who don’t worry about anything to be a part of our study.

We want you to be part of our study and it would be great if you could read this sheet to learn more about what we are going to do. Don’t be scared to ask any questions if you are not sure of what something means.

If you said YES to being part of our study, you and one of your parents would need to talk to someone in our research team to tell us a bit about whether you worry or not. You would also need to fill in some questions about your feelings.

It is totally up to you whether you want to be a part of this study. You can say NO or stop at any time if you do not want to keep going or if you don’t want to be part of the study any more. Anything you talk to us about or do in the study will be kept a secret and only the research team will be able to see your answers.

To say "thank you" for your time, all families who complete questionnaires and telephone interviews will receive a $15 Gift Card. Thank you for reading this information sheet. You can now think about whether you want to be part of our study.
CONSENT FORM for 8 to 12 year olds

Who is doing this study?

Dr. Caroline Donovan (Clinical Psychologist)
Dr. Lara Farrell (Clinical Psychologist)
Dr. Sonja March (Clinical Psychologist)
Monique Holmes (Psychologist and PhD Student)

Griffith University - Mt Gravatt Campus
School of Applied Psychology
176 Messines Ridge Road
Mt Gravatt QLD 4122
Phone: (07) 3735 3305
Email: m.holmes@griffith.edu.au

Please tick the boxes if you agree:

☐ I have read (or had read to me) and understood the information in the Information Sheet;

☐ The researchers have answered all of my questions about the research;

☐ I understand that I will need to fill out some questionnaires and complete an interview;

☐ I understand that the answers I give will be kept confidential (a secret) and no one will be allowed to see my answers except the person doing the study, to the extent allowed by law;

☐ I understand that my answers (that will not have my name on it) may be used for other research conducted in the future;

☐ I know I do not have to do the study if I don’t want to;

☐ I know that nothing bad will happen if I decide that I don’t want to do the study anymore;

☐ I understand that I can call the researchers if I have any questions;

☐ I agree to all the things written in the Information Sheet I just read; and

☐ I agree to be involved in this project.

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APPENDIX F
STUDY 2
INFORMATION SHEET AND CONSENT FORM (PARENT VERSION)
Who is conducting the research?

Monique Holmes (PhD Student) – Griffith University
Dr. Caroline Donovan (Primary Supervisor) – Griffith University
Dr. Lara Farrell (Associate Supervisor) – Griffith University

Griffith University - Mt Gravatt Campus
School of Applied Psychology
176 Messines Ridge Road,
Mt Gravatt, QLD 4122
Contact Phone: (07) 3735 3305
Contact Email: noworriesprogram@griffith.edu.au

Why is the research being conducted?

Researchers from Griffith University are investigating the differences between the cognitive components of worry in anxious and non-anxious children. This research is being conducted as part of Monique Holmes' PhD in Clinical Psychology under the guidance of Dr. Caroline Donovan and Dr. Lara Farrell.

Many children suffer with anxiety and in particular, Generalised Anxiety Disorder. Children with Generalised Anxiety Disorder worry a lot about many different things. For example, they worry about their safety, the future, family issues (e.g., family finances, parental separation), the health of themselves and significant others, performance based activities and school work. GAD can be very upsetting for the child and their family and because it may persevere into adolescence and adulthood, early treatment is very important.

We are interested in learning more about the ways in which anxious and non-anxious differ with respect to the cognitive components of worry.

To say "thank you" for your time, all families who complete questionnaires and an interviews (both parent and child questionnaire packages and interviews) will receive a $15 Coles/Myer Gift Card.

The basis by which participants will be selected

To participate in this study, your child must be aged between 8 and 12 years at the time of participation. What you will be asked to do If you and your child agree to participate in this research, you will both be required to fill in some paper questionnaires and complete a telephone interview. These questionnaires will ask you about emotional and behavioural problems. Some general demographic questions will also be included. The assessments take around 1.75 hours to complete (questionnaires and interview). This information is confidential and if you or your child do not wish to answer any of the questions in the questionnaires, you are free to leave those questions unanswered. Both questionnaire packages will take approximately 45 minutes each to complete and the telephone interviews will take approximately 1 hour each to complete.
The expected benefits of the research
The results of this research will help us to better understand how anxiety, and in particular worry, differ between anxious and non-anxious children. This will lead us to develop more effective treatment programs for children who worry excessively.

Risks to you
There are no expected risks from participating in this study for either you or your child. Taking part in this study is voluntary and you and your child may withdraw (including following informed consent) without any negative consequences or prejudice. Below is a list of support services that you may find useful, should you require additional support:

- **Lifeline:** Phone 13 11 14
- **Kids Helpline:** Phone 1800 55 1800
- **Australian Psychological Association:** http://www.psychology.org.au/FindaPsychologist
- **Kids Matter:** www.kidsmatter.edu.au (This website provides information about the kinds of mental health issues that may affect children. It does not provide direct advice or specific referrals)
- **Parentline:** 1300 301 300
- **beyondblue:** 1300 22 4636

Griffith University Psychology Clinic: Phone: (07) 3735 3301

Your confidentiality
All information gathered will be kept in locked filing cabinets, will be confidential and will only be accessed by the researchers mentioned above. Any reports arising from this research will include group statistics only. This means that no individual participant will be able to be identified. Your contact details (provided to us in the child and parent questionnaires and on the consent form), will be used to inform you: a) In line with our duty of care, if you display high levels of anxiety from the self-report questionnaires b) In line with our duty of care, if your child displays high levels of anxiety; c) To send you your Gift Card upon completion of the questionnaires and telephone interviews. Once all data has been collected for this study, and parent and child questionnaires have been matched, all identifying information will be replaced with a randomly generated number. This means that your personal responses will not be able to be traced to you or your child. All hard copies of personal information will also be destroyed promptly after this process.

Your participation is voluntary
Participation in the research study is entirely voluntary and, as mentioned above, you or your child are free to withdraw from the study or refuse to take part without any negative consequences or prejudice. It should be noted that once your data has been de-identified, the researchers will be unable to remove your data as it will then be anonymous. Participation in the research is valuable to us as it may enable researchers to develop effective early intervention programs for children affected by generalised anxiety.

Questions / Feedback to you
If you have any questions regarding this study, please contact Dr Caroline Donovan by telephone on (07) 3735 3401 or by email: c.donovan@griffith.edu.au. At the end of the study, you are very welcome to contact the researcher for a summary of research results.
The ethical conduct of this research
Griffith University conducts research in accordance with the National Statement on Ethical Conduct in Human Research. If you have any concerns or complaints about the ethical conduct of the research project, please contact the Manager, Research Ethics on (07) 3735 5585 or research-ethics@griffith.edu.au.

Privacy Statement
The conduct of this research involves the collection, access and / or use of your identified personal information. The information collected is confidential and will not be disclosed to third parties without your consent, except to meet government, legal or other regulatory authority requirements. A de-identified copy of this data may be used for other research purposes. However, your anonymity will at all times be safeguarded, except where you have consented otherwise. For further information consult the University’s Privacy Plan at http://www.griffith.edu.au/about-griffith/plans-publications/griffith-university-privacy-plan or telephone (07) 3735 5585.
Cognitive variables associated with worry in anxious and non-anxious children

CONSENT FORM

Who is conducting the research?

Dr. Caroline Donovan (Clinical Psychologist)
Dr. Lara Farrell (Clinical Psychologist)
Dr. Sonja March (Clinical Psychologist)
Monique Holmes (Psychologist and PhD Student)

Griffith University - Mt Gravatt Campus
School of Applied Psychology
176 Messines Ridge Road
Mt Gravatt  QLD 4122
Phone: (07) 3735 3305
Email: m.holmes@griffith.edu.au

By signing below, we confirm that we have read and understood the Information Sheet and in particular have noted that:

- We understand that our involvement in this research will include the completion of a questionnaire package and a telephone interview;
- We have had any questions answered to our satisfaction;
- We understand the risks involved;
- We understand that there will be no direct benefit to us from our participation in this research;
- We understand that our participation in this research is voluntary and that we are free to withdraw without negative consequences or prejudice, including after the informed consent process, and until our data has been de-identified as our data will then be anonymous;
- We understand that if we have any additional questions we can contact the research team;
- We understand that our personal details will be collected for the purpose of sending out the questionnaires and receiving the gift card in appreciation of our participation; to inform me, as a parent, if the questionnaires show that I may have high levels of anxiety; and to inform me if my child may have high levels of anxiety;
- We understand that we can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on (07) 3735 5585 (or research-ethics@griffith.edu.au) if we have any concerns about the ethical conduct of the project; and
- We agree to participate in the project.

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APPENDIX G
STUDY 4
INFORMATION SHEET AND CONSENT FORM (CHILD VERSION)
We are a team of researchers who are doing a study with kids who have troubles with generalised anxiety. Generalised anxiety is when kids are worried about lots of different things like their family, their brothers and sisters, whether they are doing well at school, things going on around the world, and little things like saying the wrong thing to friends, teachers and family members. Generalised anxiety is a problem that LOTS of kids have and can make it hard for them to do their schoolwork, concentrate on school activities, be around people, and can make you feel sick in the tummy. Does that sound like you?

Our team has made a program for kids who have troubles with generalised anxiety. We have called our program “No Worries!” and we want to see if this program can help kids feel better about things that make them feel worried.

That means we need kids who have some generalised anxiety troubles to be part of our study. We want you to be part of our study and it would be great if you could read this sheet to learn more about what we are going to do. Don’t be scared to ask any questions if you are not sure of what something means.

If you said YES to being part of our study, you and one of your parents/guardians would need to talk to someone in our research team on the phone, to tell us a bit about the situations that make you feel worried. You would also need to fill in some questions about your feelings. You will need to fill out these questions and speak to someone on the phone up to 4 times over the course of the program and once you finish.

Some kids who are suitable for this program may start the program right away. Other children may have to wait 10-12 weeks before they get to do the program. However, you don’t get to pick which group you go in!

It is totally up to you whether you want to be a part of this study. You can say NO or stop at any time if you do not want to keep going or if you don’t want to be part of the study any more. Anything you talk to us about or do in the program will be kept a secret and only the research team will be able to see your answers.

Thank you for reading this information sheet. You can now think about whether you want to be part of our study.
THANKS!

The No Worries! Research Team

If you have read this sheet and you WANT to be part of our study, please click on the button below:

Continue to consent form
School of Applied Psychology
No Worries! Program
CONSENT FORM for 8 to 12 year olds

Who is doing this study?
NO WORRIES RESEARCH TEAM
Monique Holmes (PhD Student) – Griffith University
Dr. Caroline Donovan (Primary Supervisor) – Griffith University
Dr. Lara Farrell (Associate Supervisor) – Griffith University

Griffith University - Mt Gravatt Campus
School of Applied Psychology
176 Messines Ridge Road,
Mt Gravatt, QLD 4122
Contact Phone: (07) 3735 3305
Contact Email: noworriesprogram@griffith.edu.au

Please tick the boxes if you agree:

- I have read (or had read to me) and understood the information in the Information Sheet;
- The researchers have answered all of my questions about the research;
- I understand that I may take part in one of two treatment groups;
- I understand that I may need to complete an interview and surveys up to 4 times during the study;
- I understand that the answers I give will be kept confidential (a secret) and no one will be allowed to see my answers except the person doing the study, to the extent allowed by law;
- I understand that my answers (that will not have my name on it) may be used for other research conducted in the future;
- I know I do not have to do the study if I don’t want to;
- I know that nothing bad will happen if I decide that I don’t want to do the study anymore;
- I understand that I can contact the researchers if I have any questions;
- I agree to all the things written in the Information Sheet I just read; and
- I agree to be involved in this project.

To complete the consent form, please fill in the boxes below.

I have read the information sheet about the research study, and I agree to participate in this research project. Tick the checkbox below if you agree.

I agree to participate.  SUBMIT
APPENDIX H
STUDY 4
INFORMATION SHEET AND CONSENT FORM (PARENT VERSION)
**Who is conducting the research?**

- **Monique Holmes (PhD Student)** – Griffith University
- **Dr. Caroline Donovan (Primary Supervisor)** – Griffith University
- **Dr. Lara Farrell (Associate Supervisor)** – Griffith University
- **Dr. Sonja March (External Supervisor)** – University of Queensland

Griffith University - Mt Gravatt Campus  
School of Applied Psychology  
176 Messines Ridge Road,  
Mt Gravatt, QLD 4122  
Contact Phone: (07) 3735 3305  
Contact Email: noworriesprogram@griffith.edu.au

**Why is the research being conducted?**

Researchers from Griffith University are investigating the effectiveness of a treatment program for children with Generalised Anxiety Disorder (or GAD). This research is being conducted as part of Monique Holmes' PhD in Clinical Psychology under the guidance of Dr. Caroline Donovan and Dr. Lara Farrell.

Many children suffer with anxiety and in particular, GAD. Children with GAD worry a lot about many different things. For example, they worry about their safety, the future, family issues (e.g., family finances, parental separation), the health of themselves and significant others, performance based activities and school work. GAD can be very upsetting for the child and their family and because it may persevere into adolescence and adulthood, early treatment is very important.

Previous research has typically used treatment programs which take a general approach and target various forms of anxiety in the same program (e.g. social fears, specific fears and separation fears). Although these programs have been shown to be quite effective in reducing generalised anxiety in children and adolescents, we are interested in examining whether we can improve treatment programs further by tailoring the content of the intervention to the specific type of anxiety experienced (e.g. generalised anxiety).

**What you will be asked to do**

If you and your child agree to take part in the study, you will be randomly placed in one of two groups. You may be placed in a group that completes the specific GAD program straight away, or you may be placed on a 10-12-week waiting-list before commencing treatment. You will only be accepted into the study if you are willing to be placed into either of these two conditions. If you are placed in the Waiting Group, you will then commence the specific GAD program immediately following your 10-12-week waiting period.

The treatment will be conducted in a group format, with approximately 6 children. Children will be required to attend the Griffith University Psychology Clinic for 10 weekly, 1.5 hour sessions. Parents will be required to attend the Griffith University Psychology Clinic for 7 weekly, 1.5 hour sessions. Two booster sessions are also offered 1 month and 3 months after completion of the initial program.

Within the treatment program, your child will receive education regarding anxiety and in particular GAD; education about the worry cycle and what triggers it; instruction on the recognition of physiological responses to anxiety; relaxation training; uncertainty
recognition; behavioural exposure to uncertainty; worry re-evaluation; identifying and re-evaluating beliefs about the utility of worry and help finding alternatives to their worry. You, as a parent, will be educated in the strategies being taught to your child, as well as assisted with strategies to better manage your own anxiety (if it exists) and the behaviour of your child. All sessions and face-to-face interviews will be videotaped for research and training purposes only. Once data has been collated and analysed, all videotapes will be destroyed.

You and your child will also be asked to complete questionnaires and a face-to-face interview that ask about emotional and behavioural problems. The assessments take around 1.75 hours to complete (questionnaires and interview). This information is confidential and if you or your child do not wish to answer any of the questions in the questionnaires, you are free to leave those questions unanswered. You and your child will may be asked to complete the interviews and questionnaires up to 4 times; before the program starts, after completion of the program, 3 months later and again 6 months later.

The basis by which participants will be selected or screened.

The first step in the process of being involved in this study involves a face-to-face interview with you and your child (individually) that are of approximately one-hour duration each. The purpose of these interviews is to assess whether or not your child has Generalised Anxiety Disorder and whether or not this treatment program will be of benefit to him / her. If from the interviews it is determined that the program may be of benefit to your child, a battery of questionnaires will be provided to both you and your child which will be completed online, and your child will be randomly placed in one of two groups described earlier; a group that completes the treatment immediately, or a group that has a 10-12-week waiting period before commencing treatment.

The expected benefits of the research

It is expected that involvement in the treatment program will reduce generalised anxiety in your child as the content of the program is derived from effective treatment programs shown to be effective in adults and adolescents.

Risks to you

There are no expected risks from participating in this study for either you or your child. Taking part in this study is voluntary and you and your child may withdraw at any time (including following informed consent) without any negative consequences or prejudice. Below is a list of support services that you may find useful, should you require additional support:

**Lifeline:** Phone 13 11 14

**Kids Helpline:** Phone 1800 55 1800

**Australian Psychological Association:** http://www.psychology.org.au/FindaPsychologist

**Kids Matter:** www.kidsmatter.edu.au (This website provides information about the kinds of mental health issues that may affect children. It does not provide direct advice or specific referrals)

**Parentline:** 1300 301 300

**beyondblue:** 1300 22 4636

**Griffith University Psychology Clinic:** Phone: (07) 3735 3301

**www.griffith.edu.au/health/school-psychology/clinics**

Your confidentiality

All information gathered will be kept in locked filing cabinets, will be confidential and password protected, and will only be accessed by the researchers. Information that is entered into computer databases will be de-identified, however original files will be
identifiable to ensure that the researchers will be able to match responses over time, and to enable the researchers to provide individual participant feedback. Any reports arising from this research will include group statistics only. This means that no individual participant will be able to be identified.

**Your participation is voluntary**
Participation in the research study is entirely voluntary and as mentioned above, you or your child are free to withdraw from the study or refuse to take part at any time, without any negative consequences or prejudice. Participation in the research is valuable to us as it enables us to assess how effective the treatment is and your feedback will help us to develop even better programs for the future.

**Questions / Feedback to you**
If you have any questions regarding this study, please contact Monique Holmes by telephone on (07) 3735 3305 or by email: noworriesprogram@griffith.edu.au. At the end of the study, you are very welcome to contact the researcher for a summary of research results.

The ethical conduct of this research
Griffith University conducts research in accordance with the *National Statement on Ethical Conduct in Human Research*. If you have any concerns or complaints about the ethical conduct of the research project, please contact the Manager, Research Ethics on (07) 3735 5585 or research-ethics@griffith.edu.au.

**Privacy Statement**
The conduct of this research involves the collection, access and / or use of your identified personal information. The information collected is confidential and will not be disclosed to third parties without your consent, except to meet government, legal or other regulatory authority requirements. A de-identified copy of this data may be used for other research purposes. However, your anonymity will at all times be safeguarded, except where you have consented otherwise. For further information consult the University’s Privacy Plan at http://www.griffith.edu.au/about-griffith/plans-publications/griffith-university-privacy-plan or telephone (07) 3735 5585.

Kind Regards,
The No Worries! Team

**To register for participation in this Program, you must have read the Parent Information Sheet. If you have done this, you can now go on to the Consent Form.**

[CONTINUE TO CONSENT FORM]
Who is conducting the research?

Monique Holmes (PhD Student) – Griffith University
Dr. Caroline Donovan (Primary Supervisor) – Griffith University
Dr. Lara Farrell (Associate Supervisor) – Griffith University
Dr. Vanessa Cobham (External Supervisor) – University of Queensland
Dr. Sonja March (External Supervisor) – University of Queensland

Griffith University - Mt Gravatt Campus
School of Applied Psychology
176 Messines Ridge Road,
Mt Gravatt, QLD 4122
Contact Phone: (07) 3735 3305
Contact Email: noworriesprogram@griffith.edu.au

By agreeing below, I confirm that I have read and understood the information package and in particular:

- I understand that my involvement in this research will require my child to attend the clinic for 10 weekly, 1.5 hour sessions as well as two booster sessions conducted one month and three months after completion of the initial program.
- I understand that my involvement in this research will require me to attend the clinic for 7 weekly, 1.5 hour sessions as well as two booster sessions conducted one month and three months after completion of the initial program.
- I understand that my involvement in this research will require me and my child to complete interviews and questionnaires at 4 time points (Pre-Treatment, Post-Treatment, 3 months post; 6-months Follow-Up);
- I understand that I may be placed in one of two groups; one that commences treatment immediately or one that commences following a 10-12 week wait;
- I understand that all sessions and interviews will be videotaped and that the videotapes will be destroyed once data has been analysed;
- I have had any questions answered to my satisfaction;
- I understand the risks involved;
- I understand that my participation in this research is voluntary and my decision to refuse our data to be used for research purposes will not affect the quality of treatment we receive;
- I understand that if I have any additional questions I can contact the researcher;
- I understand that I am free to withdraw at any time, without comment or penalty;
- I understand that I can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on 3735 5585 (or research-ethics@griffith.edu.au) if I have any concerns about the ethical conduct of the project;
- I understand that a de-identified copy of our data may be used for other research purposes;
- I agree to all conditions set out in the Information Sheet; and
- I agree to participate in the project.

I have read the information sheet about the research study, and I agree for me and my child to participate in this research project. Tick the checkbox below if you consent.
APPENDIX I
STUDY 1
DEMOGRAPHIC QUESTIONS - CHILDREN
Information about you.

Today’s Date: __/__/2011

1. What is your name? (First name and Last name)____________________________________

2. What is your gender? (Circle) BOY / GIRL

3. What is your Date of Birth (DOB)? __/__/____

4. How old are you now? (In years)________________________________________

5. What grade are you in at school?
   □ Grade Two (2)       □ Grade Five (5)         □ Grade Eight (8)
   □ Grade Three (3)     □ Grade Six (6)
   □ Grade Four (4)      □ Grade Seven (7)

6. Where you were born?
   □ Australia          □ USA                □ New Zealand
   □ United Kingdom (UK) □ China              □ Other (Please write below):
                     ________________

7. Who do you live with at home? (Tick)
   □ Biological Mother   □ Stepfather         □ Caregiver
   □ Biological Father   □ Grandmother        □ Brother / Sister
   □ Stepmother          □ Grandfather        □ Other:__________

8. What JOB does your MOTHER do? (Please tell us WHAT she does, not where she
   works)________________________________________

9. What JOB does your FATHER do? (Please tell us WHAT he does, not where he
   works)________________________________________
APPENDIX J

PENN STATE WORRY QUESTIONNAIRE FOR CHILDREN (PSWQ-C)
### Penn State Worry Questionnaire for Children

Read each statement below, and tell us how true each one is for you by circling: 1) Not at all True OR; 2) Sometimes True OR; 3) Often True OR 4) Always True.

1. **My worries really bother me**
   - Not at all true
   - Sometimes True
   - Often True
   - Always True

2. **I don’t really worry about things**
   - Not at all true
   - Sometimes True
   - Often True
   - Always True

3. **Many things make me worry**
   - Not at all true
   - Sometimes True
   - Often True
   - Always True

4. **I know I shouldn’t worry, but I just can’t help it**
   - Not at all true
   - Sometimes True
   - Often True
   - Always True

5. **When I am under pressure I worry a lot**
   - Not at all true
   - Sometimes True
   - Often True
   - Always True

6. **I am always worrying about something**
   - Not at all true
   - Sometimes True
   - Often True
   - Always True

7. **I find it easy to stop worrying when I want**
   - Not at all true
   - Sometimes True
   - Often True
   - Always True

8. **When I finish one thing, I start to worry about everything else**
   - Not at all true
   - Sometimes True
   - Often True
   - Always True

9. **I never worry about anything**
   - Not at all true
   - Sometimes True
   - Often True
   - Always True

10. **I have been a worrier all my life**
    - Not at all true
    - Sometimes True
    - Often True
    - Always True

11. **I notice that I have been worrying about things**
    - Not at all true
    - Sometimes True
    - Often True
    - Always True

12. **Once I start worrying I can’t stop**
    - Not at all true
    - Sometimes True
    - Often True
    - Always True

13. **I worry all the time**
    - Not at all true
    - Sometimes True
    - Often True
    - Always True

14. **I worry about things until they are done**
    - Not at all true
    - Sometimes True
    - Often True
    - Always True
APPENDIX K
METACOGNITIONS QUESTIONNAIRE FOR CHILDREN (MCQ-C)
Meta-cognitions Questionnaire for Children

We are interested in how young people think. Listed below are a number of beliefs that people have. Please read each item and say how much you generally agree with it by circling a number. Please respond to all items. There are no right or wrong answers.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Do not Agree</th>
<th>Agree Slightly</th>
<th>Agree Moderately</th>
<th>Agree very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>If I worry about things now, I will have fewer problems in the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>It is not a good idea to worry because worrying is bad for me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>I often notice the thoughts that I have in my head</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>If I worry a lot, I could make myself sick</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5.</td>
<td>When I am thinking about a problem in my head, I take note of how my mind works</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6.</td>
<td>If I did not get a worry thought out of my head and then something bad happened, it would be my fault</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7.</td>
<td>Worrying about things helps me to be organized and keep my stuff in order</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8.</td>
<td>My worrying thoughts keep going, no matter how hard I try to put them out of my head</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9.</td>
<td>When I am confused, worrying helps me sort things out</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>I can't stop thinking of the things that I worry about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>I try hard to keep track of the thoughts that I have in my head</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>I should be able to tell myself to stop and start thinking about things whenever I want to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>Worrying might make me go crazy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>I am always thinking about the thoughts in my head</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>15</td>
<td>I pay a lot of attention to the way that I think</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>Worrying helps me feel better</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>If I can't stop my thoughts, I am no good</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>Once I start worrying about something, I cannot stop</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>If I can't stop my thoughts, bad things will happen</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>Worrying helps me solve problems</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>It is bad to think about certain things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>If I couldn't be in control of what I think, I would fall apart</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23</td>
<td>I need to worry in order to get my work done</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24</td>
<td>I think about my thoughts over and over</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX L

WHITE BEAR SUPPRESSION INVENTORY (WBSI)
**White Bear Suppression Inventory**
Sometimes people try not to think about things, and some people do this more than others. Please read each statement below and tell us how much you agree or disagree with it.

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>There are things I prefer not to think about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>Sometimes I wonder why I have the thoughts I do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.</td>
<td>I have thoughts I cannot stop</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4.</td>
<td>There are images that come to mind that I cannot get rid of</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5.</td>
<td>My thoughts often return to one idea</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6.</td>
<td>I wish I could stop thinking of certain things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7.</td>
<td>Sometimes my mind races so fast I wish I could stop it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8.</td>
<td>I always try to put problems out of my mind</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9.</td>
<td>There are thoughts that keep jumping into my head</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.</td>
<td>Sometimes I stay busy just to keep thoughts from coming into my mind</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11.</td>
<td>There are things that I try not to think about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12.</td>
<td>Sometimes I really wish I could stop thinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13.</td>
<td>I often do things to distract myself from my thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14.</td>
<td>I have thoughts that I try to avoid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15.</td>
<td>There are many thoughts that I have that I don't tell anyone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX M

INTOLERANCE OF UNCERTAINTY SCALE FOR CHILDREN (IUS-C)
## Intolerance of Uncertainty Scale for Children

How well do these statements describe you?

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Not At All</th>
<th>Somewhat</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Doubts stop me from having strong opinions</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Being unsure means that a person is mixed up</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Not knowing what will happen in the future makes life hard</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>It's not fair that we can't predict the future</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>I can't relax if I don't know what will happen tomorrow</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Not knowing what will happen in the future makes me uneasy, anxious or stressed</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Surprise events upset me greatly</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>It frustrates me to not have all the information I need</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Not knowing what could happen keeps me from enjoying life</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>One should always think ahead to avoid surprises</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>Plans can be ruined by things you didn't think would happen</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>When it is time to do things, not knowing what could happen keeps me from acting</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>Being unsure of things means that I am not great</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>14</td>
<td>When I am not sure of something I can't go forward</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>When I am not sure of something I can't work very well</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>16</td>
<td>Other kids have less doubts than I do</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>17</td>
<td>Not knowing what will happen makes me unhappy or sad</td>
<td>1 2 3 4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Very Much</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td>18.</td>
<td>I always want to know what will happen to me in the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>I don't like being taken by surprise</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20.</td>
<td>The smallest doubt can stop me from doing things</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21.</td>
<td>I should be able to prepare for everything in advance</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22.</td>
<td>Being unclear about things means that I am not confident</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23.</td>
<td>It's not fair that other kids are more sure of things</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24.</td>
<td>Not knowing what can happen keeps me from sleeping well</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25.</td>
<td>I must get away from all situations where I don't know what will happen</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>26.</td>
<td>Things that are unclear stress me</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27.</td>
<td>I don't like being undecided about the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX N

CHILD AND ADOLESCENT PERFECTIONISM SCALE (CAPS)
This is a chance to find out about yourself. It is not a test. There are no right answers and everyone will have different answers. Be sure that your answers show how you actually are. Please do not talk about your answers with anyone else. We will keep your answers private and not show them to anyone. When you are ready to begin, please read each sentence below and pick your answer by circling a number from “1” to “5”. The five possible answers for each sentence are listed below:

1 = False—Not at all true of me
2 = Mostly False
3 = Neither True nor False
4 = Mostly True
5 = Very True of me

For example, if you were given the sentence “I like to read comic books,” you would circle a “5” if this is very true of you. If you were given the sentence “I like to keep my room neat and tidy,” you would circle a “1” if this was false and not at all true of you. You are now ready to begin. Please be sure to answer all of the sentences.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I try to be perfect in everything I do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>I want to be the best at everything I do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>My parents don’t always expect me to be perfect in everything I do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I feel that I have to do my best all the time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>There are people in my life who expect me to be perfect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>I always try for the top score on a test</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>It really bothers me if I don’t do my best all the time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>My family expects me to be perfect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>I don’t always try to be the best</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>People expect more from me than I am able to give</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>I get mad at myself when I make a mistake</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Statement</td>
<td>False – not at all true of me</td>
<td>Mostly False</td>
<td>Neither True nor False</td>
<td>Mostly True</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>-------------</td>
<td>-----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>12</td>
<td>Other people think that I have failed if I do not do my very best all the time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>Other people always expect me to be perfect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>I get upset if there is even one mistake in my work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>People around me expect me to be great at everything</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>When I do something, it has to be perfect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>My teachers expect my work to be perfect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>I do not have to be the best at everything I do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>I am always expected to do better than others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>Even when I pass, I feel that I have failed if I didn’t get one of the highest marks in the class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>I feel that people ask too much of me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>I can’t stand to be less than perfect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX O

SPENCE CHILDREN’S ANXIETY SCALE (SCAS)
### SCAS-C

Please put a circle around the word that shows how often each of these things happen to you. There are no right or wrong answers.

<table>
<thead>
<tr>
<th></th>
<th>I worry about things</th>
<th>NEVER</th>
<th>SOMETIMES</th>
<th>OFTEN</th>
<th>ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am scared of the dark</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>2</td>
<td>When I have a problem, I get a funny feeling in my stomach</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>3</td>
<td>I feel afraid</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>4</td>
<td>I would feel afraid of being on my own at home</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>5</td>
<td>I feel scared when I have to take a test</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>6</td>
<td>I feel afraid if I have to use public toilets or bathrooms</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>7</td>
<td>I worry about being away from my parents</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>8</td>
<td>I feel afraid that I will make a fool of myself in front of people</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>9</td>
<td>I worry that I will badly at my school work</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>10</td>
<td>I am popular amongst other kids my own age</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>11</td>
<td>I worry that something awful will happen to someone in my family</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>12</td>
<td>I suddenly feel as if I can’t breathe when there is no reason for this</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>13</td>
<td>I have to keep checking that I have done things right (like the switch is off, or the door is locked)</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>14</td>
<td>I feel scared if I have to sleep on my own</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>15</td>
<td>I have trouble going to school in the mornings because I feel nervous or afraid</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>16</td>
<td>I am good at sports</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>17</td>
<td>I am scared of dogs</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>18</td>
<td>I can’t seem to get bad or silly thoughts out of my head</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>19</td>
<td>I suddenly start to tremble or shake when there is no reason for this</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>20</td>
<td>I worry that something bad will happen to me</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>21</td>
<td>I am scared of going to the doctors or dentists</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>22</td>
<td>When I have a problem, I feel shaky</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>23</td>
<td>I am scared of being in high places or lifts (elevators)</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Always</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
<td>-----------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>26</td>
<td>I am a good person</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>I have to think of special thoughts to stop bad things from happening</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(like numbers or words)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>I feel scared if I have to travel in the car, or on a Bus or a train</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>I worry what other people think of me</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>I am afraid of being in crowded places (like shopping centres, the</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>movies, buses, busy playgrounds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>I feel happy</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>All of a sudden I feel really scared for no reason at all</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>I am scared of insects or spiders</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>I suddenly become dizzy or faint when there is no reason for this</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>I feel afraid if I have to talk in front of my class</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>My heart suddenly starts to beat too quickly for no reason</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>I worry that I will suddenly get a scared feeling when there is nothing</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>to be afraid of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>I like myself</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>I am afraid of being in small closed places, like tunnels or small</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>rooms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>I have to do some things over and over again (like washing my hands,</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>cleaning or putting things in a certain order)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>I get bothered by bad or silly thoughts or pictures in my mind</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>I have to do some things in just the right way to stop bad things</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>from happening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>I am proud of my school work</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>I would feel scared if I had to stay away from home overnight</td>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX P

QUALITY OF LIFE – CHILD VERSION
**QoL**

Following is a list of things that might be a problem for you. Please tell us how much of a problem each one has been for you during the past ONE MONTH. There are no right or wrong answers. In the past month, how much of a **problem** has this been for you:

<table>
<thead>
<tr>
<th>About my Health and Activities (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is hard for me to walk more than a block</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is hard for me to run</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is hard for me to do sports activity or exercise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is hard for me to lift something heavy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is hard for me to take a bath or shower by myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is hard for me to do chores around the house</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I hurt or ache</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have low energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>About my feelings (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel afraid or scared</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel sad or blue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel angry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have trouble sleeping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I worry about what will happen to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How I get along with others (problems with ...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have trouble getting along with other kids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other kids do not want to be my friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other kids tease me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I cannot do things that other kids my age can do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is hard to keep up when I play with other kids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>About School (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is hard to pay attention in class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I forget things</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have trouble keeping up with my schoolwork</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I miss school because of not feeling well</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I miss school to go to the doctor or hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX Q

DEMOGRAPHIC QUESTIONS (PARENTS)
Parent Information

Today’s Date: ____________________________

1. **What is your name?** (Please write your first name and surname) __________________

2. **What is your gender?** (Please Circle) MALE / FEMALE

3. **What is your Date of Birth (D.O.B)?** _ _ / _ _ / _ _ _ _

4. **How old is the child’s mother?** ________________________________

5. **How old is the child’s father?** __________________________________

6. **Where were you born (Town and Country)?** ________________________

7. **Ethnic origin**: (Please tick ONE square to indicate which of the following categories you feel you belong – This question relates to status as opposed to geographical location)

   - [ ] White / Caucasian / Northern European
   - [ ] Aboriginal or Torres Strait Islander
   - [ ] Hispanic
   - [ ] Middle Eastern
   - [ ] Mediterranean
   - [ ] Asian
   - [ ] African
   - [ ] African / American
   - [ ] Mediterranean
   - [ ] Other:

Child Information

8. **What is the child’s name?** (Please write their first name and surname)

   _____________________________________________________________

9. **What is the child’s gender?** (Circle) MALE / FEMALE

10. **What is the child’s Date of Birth (D.O.B)?** _ _ / _ _ / _ _ _ _

11. **Where was the child born?** (Town and Country) __________________

12. **Is the child of Aboriginal and / or Torres Strait Islander descent?** YES / NO

Family Demographics

13. **What is your relationship to the child?** (Tick)

    - [ ] Mother
    - [ ] Step-Mother
    - [ ] Grandmother
    - [ ] Other: ________
    - [ ] Father
    - [ ] Step-Father
    - [ ] Grandfather

14. **What is the marital status of the child’s parents?** (Tick)

    - [ ] Divorced
    - [ ] Never lived together
    - [ ] De Facto
    - [ ] Married
    - [ ] One or more parents deceased
    - [ ] Separated
    - [ ] Other: ___________________
15. **Who does your child live with?** (Tick)

- [ ] Both biological parents
- [ ] Father
- [ ] Father and Step-parent
- [ ] Mother
- [ ] Mother and Step-parent
- [ ] Other: ____________

16. How many siblings does the child have? (Please include how many and their ages)

______________________________________________________________________

---

**Employment & Education History – Child’s MOTHER**

17. **Mother’s Name:** ________________________________________________

18. **What is the highest education of the child’s mother?** (Tick)

- [ ] Postgraduate University Degree
- [ ] Undergraduate University Degree
- [ ] TAFE / Apprenticeship
- [ ] Completed Year 12
- [ ] Completed Year 10
- [ ] Other: __________________________

19. **What is the occupation of the child’s mother?** ______________________

20. **What is the mother’s income** (before tax)? (Include any pensions)

- [ ] Less than $20,000
- [ ] $21,000 - $40,000
- [ ] $41,000 - $60,000
- [ ] $61,000 - $80,000
- [ ] $81,000 - $100,000
- [ ] Greater than $100,000

---

**Employment & Education History – Child’s FATHER**

21. **Father’s name:** ________________________________________________

22. **What is the highest level of education of the child’s father?** (Tick)

- [ ] Postgraduate University Degree
- [ ] Undergraduate University Degree
- [ ] TAFE / Apprenticeship
- [ ] Completed Year 12
- [ ] Completed Year 10
- [ ] Other: __________________________

23. **What is the occupation of the child’s father?** ______________________

24. **What is the father's income** (before tax)? (Include any pensions)

- [ ] Less than $20,000
- [ ] $21,000 - $40,000
- [ ] $41,000 - $60,000
- [ ] $61,000 - $80,000
- [ ] $81,000 - $100,000
- [ ] Greater than $100,000
APPENDIX R

PENN STATE WORRY QUESTIONNAIRE (PSWQ)
### Penn State Worry Questionnaire

Circle the number that best describes how typical or characteristic each item is of you.

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

META-COGNITIONS QUESTIONNAIRE (MCQ-30)
Meta-Cognitions Questionnaire - 30

Please read each statement and tell us how much you agree with each of these. There are no right or wrong answers.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Do not Agree</th>
<th>Agree Slightly</th>
<th>Agree</th>
<th>Moderately</th>
<th>Agree Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I do not trust my memory</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>I have a poor memory</td>
<td>1</td>
<td>2</td>
<td>3</td>
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</tr>
<tr>
<td>3.</td>
<td>I have little confidence in my memory for actions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>I have little confidence in my memory for places</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>I have little confidence in my memory for words and names</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>My memory can mislead me at times</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Worrying helps me to get things sorted out in my head</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Worrying helps me cope</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>I need to worry in order to work well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Worrying helps me to solve problems</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>I need to worry in order to remain organised</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Worrying helps me to avoid problems in the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>I am constantly aware of my thinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>I pay close attention to the way my mind works</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>I think a lot about my thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>I constantly examine my thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>I monitor my thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>I am aware of the way my mind works when I am thinking through a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>My worrying thoughts persist no matter how I try to stop them</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>When I start worrying I cannot stop</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>I could make myself sick with worrying</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>I cannot ignore my worrying thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>My worrying could make me go mad</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Statement</td>
<td>Do not agree</td>
<td>Agree Slightly</td>
<td>Agree Moderately</td>
<td>Agree Very much</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------</td>
<td>----------------</td>
<td>------------------</td>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>My worrying is dangerous for me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>If I could not control my thoughts, I would not be able to function</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td>Not being able to control my thoughts is a sign of weakness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>I should be able to control my thoughts all of the time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>It is bad to think certain thoughts</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>If I did not control a worrying thought and then it happened, it would be my fault</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
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<tr>
<td>30.</td>
<td>I will be punished for not controlling certain thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
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</tbody>
</table>
APPENDIX T

COGNITIVE AVOIDANCE QUESTIONNAIRE (CAQ)
**Cognitive Avoidance Questionnaire**

We are interested in how you deal with your thoughts. Please read the statements below and tell us how typical each one is of you.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>There are things that I would rather not think about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>I avoid certain situations that lead me to pay attention to things I do not want to think about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>I replace threatening mental images with things I say to myself in my mind</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>I think about things that concern me as if they were occurring to someone else</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5.</td>
<td>I have thoughts I try to avoid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6.</td>
<td>I try not to think about the most upsetting aspects of some situations so as not to be too afraid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7.</td>
<td>I sometimes avoid objects that can trigger upsetting thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8.</td>
<td>I distract myself to avoid thinking about certain disturbing subjects</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9.</td>
<td>I avoid people who make me think about things that I do not want to think about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>I often do things to distract myself from my thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>I think about trivial details so as not to think about important subjects that worry me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>Sometimes I throw myself into an activity so as not to think about certain things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>To avoid thinking about subjects that upset me, I force myself to think about something else</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>There are things I try not to think about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Worry and Generalised Anxiety Disorder in Children</td>
<td></td>
<td></td>
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<td>---</td>
<td>--------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>15.</strong></td>
<td>I keep saying things to myself in my head to avoid visualising scenarios (a series of mental images) that frighten me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>16.</strong></td>
<td>Sometimes I avoid places that make me think about things I would prefer not to think about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>17.</strong></td>
<td>I think about past events so as not to think about future events that make me feel insecure</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>18.</strong></td>
<td>I avoid actions that remind me of things I do not want to think about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>19.</strong></td>
<td>When I have mental images that are upsetting, I say things to myself in my head to replace the images</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>20.</strong></td>
<td>I think about many little things so as not to think about more important matters</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>21.</strong></td>
<td>Sometimes I keep myself occupied just to prevent thoughts from popping up in my mind</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>22.</strong></td>
<td>I avoid situations that involve people who make me think about unpleasant things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>23.</strong></td>
<td>Rather than have images of upsetting events form in my mind I try to describe the events using an internal monologue (things that I say to myself in my head)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>24.</strong></td>
<td>I push away the mental images related to a threatening situation by trying to describe the situation using an internal monologue</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>25.</strong></td>
<td>I think about things that are worrying other people rather than thinking about my own worries</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX U

INTOLERANCE OF UNCERTAINTY SCALE (IUS)
### Intolerance of Uncertainty Scale

Please read each statement below and tell us how characteristic each statement is of you. Remember there are no right or wrong answers.

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Not at all characteristic of me</th>
<th>A little characteristic of me</th>
<th>Somewhat characteristic of me</th>
<th>Very characteristic of me</th>
<th>Entirely characteristic of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Uncertainty stops me from having a strong opinion</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>2.</td>
<td>Being uncertain means that a person is disorganised</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.</td>
<td>Uncertainty makes life intolerable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4.</td>
<td>It's unfair having no guarantees in life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5.</td>
<td>My mind can't be relaxed if I don't know what will happen tomorrow</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6.</td>
<td>Uncertainty makes me uneasy, anxious, or stressed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7.</td>
<td>Unforeseen events upset me greatly</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>8.</td>
<td>It frustrates me not having all the information I need</td>
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<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9.</td>
<td>Uncertainty keeps me from living a full life</td>
<td>1</td>
<td>2</td>
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<td>5</td>
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<tr>
<td>10.</td>
<td>One should always look ahead so as to avoid surprises</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11.</td>
<td>A small unforeseen event can spoil everything, even with the best planning</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12.</td>
<td>When it's time to act, uncertainty paralyses me</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>13.</td>
<td>Being uncertain means that I am not first rate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14.</td>
<td>When I am uncertain, I can't go forward</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
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<td></td>
<td>Not at all characteristic of me</td>
<td>A little characteristic of me</td>
<td>Somewhat characteristic of me</td>
<td>Very characteristic of me</td>
<td>Entirely characteristic of me</td>
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</tr>
<tr>
<td>15.</td>
<td>When I am uncertain, I can't function very well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16.</td>
<td>Unlike me, others seem to know where they are going with their lives</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17.</td>
<td>Uncertainty makes me vulnerable, unhappy, or sad</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18.</td>
<td>I always want to know what the future has in store for me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19.</td>
<td>I can't stand being taken by surprise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20.</td>
<td>The smallest doubt can stop me from acting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21.</td>
<td>I should be able to organise everything in advance</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22.</td>
<td>Being uncertain means that I lack confidence</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23.</td>
<td>I think it's unfair that other people seem to be sure about their future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24.</td>
<td>Uncertainty keeps me from sleeping soundly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25.</td>
<td>I must get away from all uncertain situations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26.</td>
<td>The ambiguities in life stress me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27.</td>
<td>I can't stand being uncertain about my future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX V

SPENCE CHILDREN'S ANXIETY SCALE – PARENT REPORT (SCAS-P)
**Spence Children’s Anxiety Scale**

Please put a circle around the word that shows how often each of these things happen to you. There are no right or wrong answers.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>NEVER</th>
<th>SOMETIMES</th>
<th>OFTEN</th>
<th>ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I worry about things</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I am scared of the dark</td>
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<tr>
<td>3</td>
<td>When I have a problem, I get a funny feeling in my stomach</td>
<td></td>
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<tr>
<td>4</td>
<td>I feel afraid</td>
<td></td>
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<tr>
<td>5</td>
<td>I would feel afraid of being on my own at home</td>
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<tr>
<td>6</td>
<td>I feel scared when I have to take a test</td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td>I feel afraid if I have to use public toilets or bathrooms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>I worry about being away from my parents</td>
<td></td>
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<tr>
<td>9</td>
<td>I feel afraid that I will make a fool of myself in front of people</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10</td>
<td>I worry that I will badly at my school work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>I am popular amongst other kids my own age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>I worry that something awful will happen to someone in my family</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>13</td>
<td>I suddenly feel as if I can’t breathe when there is no reason for this</td>
<td></td>
<td></td>
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<tr>
<td>14</td>
<td>I have to keep checking that I have done things right (like the switch is off, or the door is locked)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15</td>
<td>I feel scared if I have to sleep on my own</td>
<td></td>
<td></td>
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<tr>
<td>16</td>
<td>I have trouble going to school in the mornings because I feel nervous or afraid</td>
<td></td>
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<tr>
<td>17</td>
<td>I am good at sports</td>
<td></td>
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<tr>
<td>18</td>
<td>I am scared of dogs</td>
<td></td>
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<tr>
<td>19</td>
<td>I can’t seem to get bad or silly thoughts out of my head</td>
<td></td>
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</tbody>
</table>
### Worry and Generalised Anxiety Disorder in Children

<table>
<thead>
<tr>
<th>Question</th>
<th>NEVER</th>
<th>SOMETIMES</th>
<th>OFTEN</th>
<th>ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. When I have a problem, my heart beats really fast</td>
<td></td>
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<tr>
<td>21. I suddenly start to tremble or shake when there is no reason for this</td>
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<tr>
<td>22. I worry that something bad will happen to me</td>
<td></td>
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<tr>
<td>23. I am scared of going to the doctors or dentists</td>
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<tr>
<td>24. When I have a problem, I feel shaky</td>
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<tr>
<td>25. I am scared of being in high places or lifts (elevators)</td>
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<tr>
<td>26. I am a good person</td>
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<tr>
<td>27. I have to think of special thoughts to stop bad things from happening (like numbers or words)</td>
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<tr>
<td>28. I feel scared if I have to travel in the car, or on a Bus or a train</td>
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<tr>
<td>29. I worry what other people think of me</td>
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<tr>
<td>30. I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds)</td>
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<tr>
<td>31. I feel happy</td>
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<tr>
<td>32. All of a sudden I feel really scared for no reason at all</td>
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<tr>
<td>33. I am scared of insects or spiders</td>
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<tr>
<td>34. I suddenly become dizzy or faint when there is no reason for this</td>
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<td>35. I feel afraid if I have to talk in front of my class</td>
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<tr>
<td>36. My heart suddenly starts to beat too quickly for no reason</td>
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<tr>
<td>37. I worry that I will suddenly get a scared feeling when there is nothing to be afraid of</td>
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<tr>
<td>38. I like myself</td>
<td></td>
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<tr>
<td></td>
<td>Question</td>
<td>NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
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<tr>
<td>39.</td>
<td>I am afraid of being in small closed places, like tunnels or small rooms</td>
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<tr>
<td>40.</td>
<td>I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order)</td>
<td></td>
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<tr>
<td>41.</td>
<td>I get bothered by bad or silly thoughts or pictures in my mind</td>
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<tr>
<td>42.</td>
<td>I have to do some things in just the right way to stop bad things from happening</td>
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<tr>
<td>43.</td>
<td>I am proud of my school work</td>
<td></td>
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<tr>
<td>44.</td>
<td>I would feel scared if I had to stay away from home overnight</td>
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<tr>
<td>45.</td>
<td>Is there something else that you are really scared of?</td>
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<tr>
<td></td>
<td>Please write down what that is:</td>
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<tr>
<td></td>
<td>____________________________________________________________________</td>
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<td>____________________________________________________________________</td>
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<td></td>
<td>____________________________________________________________________</td>
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<tr>
<td></td>
<td>How often are you afraid of this thing?</td>
<td></td>
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</tr>
</tbody>
</table>

**Yes/No**

Please write down what that is:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
APPENDIX W

QUALITY OF LIFE – PARENT REPORT
In the past ONE month, how much of a problem has your child had with:

<table>
<thead>
<tr>
<th>Physical Functioning (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Walking more than one block</td>
<td></td>
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<tr>
<td>2. Running</td>
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<tr>
<td>3. Participating in sports activity or exercise</td>
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<tr>
<td>4. Lifting something heavy</td>
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<tr>
<td>5. Taking a bath or shower by him or herself</td>
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<tr>
<td>6. Doing chores around the house</td>
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</tr>
<tr>
<td>7. Having hurts or aches</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8. Low energy level</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Emotional Functioning (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Feeling afraid or scared</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Feeling sad or blue</td>
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<td></td>
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<tr>
<td>3. Feeling angry</td>
<td></td>
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<tr>
<td>4. Trouble sleeping</td>
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<tr>
<td>5. Worrying about what will happen to him or her</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Functioning (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Getting along with other children</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>2. Other kids not wanting to be his or her friend</td>
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<tr>
<td>3. Getting teased by other children</td>
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<tr>
<td>4. Not being able to do things that other children his or her age can do</td>
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<tr>
<td>5. Keeping up when playing with other children</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>School Functioning (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Paying attention in class</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>2. Forgetting things</td>
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<tr>
<td>3. Keeping up with schoolwork</td>
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<tr>
<td>4. Missing school because of not feeling well</td>
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<tr>
<td>5. I missing school to go to the doctor or hospital</td>
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</tbody>
</table>
APPENDIX X

STUDY 4

FEEDBACK FROM CLIENTS
Most Liked Aspects of the program

<table>
<thead>
<tr>
<th>Parent</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Very child friendly. Therapists worked with my child’s lack of confidence. We have both developed new and wonderful life skills. I feel much more able to help XXX in a way she can relate to when she has a problem.</td>
<td>• Let’s recap at the start of each session. Meeting the people in the group.</td>
</tr>
<tr>
<td>• Parents were able to know what the children were learning about and how to support them at home by attending the parent sessions. The facilitator was very supportive and respectful to us all</td>
<td>• Learning about worrying</td>
</tr>
<tr>
<td>• I liked the worry beast itself, because my child was able use the visual of it to see she could control him</td>
<td>• Learning how to control your worries, feelings and behaviours</td>
</tr>
<tr>
<td>• It gave me a greater understanding of the background behind worrying and anxiety. I have had anxiety/been a worrier all my life and it’s great to be able to gain lots of information on tools which will help my daughter and help me as well. It’s great to have the booklet handouts to be able to refer back to as well.</td>
<td>• The teachers understood and helped. I felt like there was nothing to worry about when I was there.</td>
</tr>
<tr>
<td>• The two classes - parents separate from children so we could learn what the children were learning</td>
<td>• The program helped me a lot and I would tell my other friends about it.</td>
</tr>
<tr>
<td>• Extremely helpful ways to get rid of that horrible Warthog!!</td>
<td>• I enjoyed the drawings and the other kids in my group. The group showed me that I was not the only one with problems.</td>
</tr>
<tr>
<td></td>
<td>• Everyone was really nice and enthusiastic. They taught important things in a fun way. It made me realise I am not alone in my worries and how to handle some of my worries</td>
</tr>
<tr>
<td></td>
<td>• The fact that I could share my thoughts and worries and not be judged. How much everybody was willing to share and help everyone else</td>
</tr>
</tbody>
</table>
### Least Liked Aspects of the program

<table>
<thead>
<tr>
<th>Parent</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Surveys - a bit long</td>
<td>- Didn't like some of the homework</td>
</tr>
<tr>
<td>- Nothing - it was all great and very helpful</td>
<td>- When you had to write thing down</td>
</tr>
<tr>
<td>- Perhaps would have liked more one on one with child</td>
<td>- When we did relaxation because I felt embarrassed even though I had no reason to</td>
</tr>
<tr>
<td>- Nothing!!</td>
<td>- It is hard to say what it was that I like the least, but, it can possibly be all the work but still it was not that hard.</td>
</tr>
<tr>
<td>- There were no parts I didn't like</td>
<td>- Nothing</td>
</tr>
<tr>
<td>- I don't think I liked anything the least about the program.</td>
<td>- The Worry Jar</td>
</tr>
<tr>
<td>- I can't think of anything I didn't like</td>
<td>- Sometimes I didn't like sharing my feelings but then I got used to it</td>
</tr>
<tr>
<td>- It seemed to accelerate his anxiety; halfway through the program it was really bad. I expected it would get better but he seemed to get worse. I think because we were dealing with it head on and we were constantly talking about it.</td>
<td>- Sometimes I didn’t like some of the homework</td>
</tr>
<tr>
<td>- Long Questionnaires</td>
<td></td>
</tr>
<tr>
<td>- Liked all of it. I cannot fault it</td>
<td></td>
</tr>
</tbody>
</table>
Unsolicited Feedback from Participants Received via Email

“I personally want to say thank you for your programme and accepting XXX into it. The change we have seen in XXX has just been amazing. So thank you one again”

“Overall Monique, XXX is doing really well. Just has a few stubborn little characteristics that do sometimes get in her way - like "I can't do it", but overall she is doing really well, teacher is happy, we are happy”

“It's a lovely course for the kids and a great reminder for the parents. I'm realising how much I worry, last week's session in particular about people needing certainty hit me like a tonne of bricks! I think I have realised I might also need some help with anxiety! Thanks so much”

“Hi Monique, I thought you might be interested to hear that XX was elected as House Captain for next year. Instead of doing a speech he did a rap and got the audience involved. At the end they didn't clap for him he told me. They cheered. Thank you for all you have done to help turn my insecure boy into a more confident individual”

“I was very grateful to have got him a place in the program, and whilst his anxiety peeked during the program he has benefited from the skills and strategies that he was taught and I'm sure he will continue to benefit from them in the future. It was fabulous for him to realise that he was not alone and other children were experiencing the same thing as him.

“Our family is so fortunate that you and your wonderful program came into our lives”

“Thank-you!! The coping mechanisms you have taught us will be skills for life! Thank-you!!”

“Thank-you so much for this program as xxx has improved out of sight and is still going forward; this has made his and my life so much easier”