

Anxiety in the Primary Classroom:  
A Handbook for Elementary Educators

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## **Abstract**

This project presents a literature review of pediatric anxiety including the prevalence, etiology, and treatment of anxiety disorders in children, presented along with evidence indicating the short- and long-term effects of anxiety in young children, and the important role of the school in first response regarding the early identification and intervention for these children. A needs assessment was conducted using primary elementary school teachers to identify their level of confidence in their ability to identify and support children suffering with anxiety disorders in their classrooms. Results of the assessment indicated a strong need for a resource that provides both information and support for teachers in their interactions with children with anxiety disorders. The assessment results were used to guide the development of a handbook for elementary educators providing current empirical research detailing information about various forms of anxiety disorders commonly affecting young children in primary grades, as well as a list of available resources, and a series of six sequential lesson plans to be implemented for the entire class. Lesson plans are designed to facilitate increased levels of understanding toward the issues confronted by children suffering from anxiety, and fostering strong peer relations and character-building opportunities. Participants were provided with the handbook for evaluation, which indicated a strong support for the effectiveness and usefulness of the resource.

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## **Dedication**

In loving memory of my mom and dad; thank you for always believing in me, and encouraging me to be the best that I could be in all that I do. With sincere thanks to my loving husband for being the rock and the anchor that allowed me to see this project to fruition. To my beautiful children, may you nurture the seeds of life-long learning that I have so carefully planted in each one of you, and may you always strive to leave the world a better place than it was before your journey through it.

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## **CHAPTER ONE: INTRODUCTION TO THE PROBLEM**

Fear and worry comprise a natural and normal part of life, evolutionarily designed to protect us from harm (Rapee, Wignall, Spence, Cobham, & Lyneham, 2008), and anxiety is a normal emotional response to a perceived threat (Grills-Taquechel & Ollendick, 2007). When the mechanism for fear becomes activated without the presence of a threatening stimulus it causes an unnaturally anxious and problematic situation which can adversely affect a child's ability to function in everyday life (Grills-Taquechel & Ollendick, 2007; Rapee et al., 2008).

### **Statement of the Problem**

Anxiety disorders were once thought to be rare and have no significant impact on the daily lives and development of young children and youth. Currently they are recognized as the most frequently diagnosed childhood disorders with prevalence rates ranging from 2% to 17% of the population (Creswell & Cartwright-Hatton, 2007; Degnan, Almas, & Fox, 2010; Imran, Bhatti, Anwar, Najmi, & Haider, 2012). Anxiety disorders in children have been demonstrated to have both a high comorbidity with other affective disorders, as well as being indicative of developmental problems and continued issues into adulthood (Grills-Taquechel & Ollendick, 2007; Muris, 2006; Quide, Witteveen, El-Hage, Veltman, & Olf, 2012; Rapee, Schniering, & Hudson, 2009), and presenting significant disturbances to the child's daily functioning ability (Muris, Meesters, & van Melick, 2002; Walkup et al., 2008).

Anxiety can be described as a multi-dimensional construct (Beidel & Alfano, 2011; Grills-Taquechel & Ollendick, 2007) involving physiological, cognitive, and behavioural components. The physiological component consists of features such as

increased heart rate and respiration, perspiration, and trembling (Alfano, Beidel, & Turner, 2006; Grills-Taquechel & Ollendick, 2007). The cognitive component can include negative ideation, catastrophic thoughts, and negative perceptions of external stimuli as well as negative self-efficacy (Alfano et al., 2006; Grills-Taquechel & Ollendick, 2007; Hogendoorn et al., 2012; Parkinson & Creswell, 2011; Rockhill et al., 2010). The behavioural responses can include avoidance, or adoption of repetitive or ritualistic routines and behaviours (Bienvenue et al., 2012; Grills-Taquechel & Ollendick, 2007; Hollander, Braun, & Simeon, 2008; Merlo et al., 2010).

There are also developmental differences in the expression of anxiety based on cognitive development and understanding (Grills-Taquechel & Ollendick, 2007; Reynolds, Wilson, Austin, & Hooper, 2012; Stallard, 2002). Young children may not be able to verbalize their feelings or relate their experiences to their physiological symptoms (Chansky, 2004; Grills-Taquechel & Ollendick, 2007; Minde, Roy, Bezonsky, & Hashemi, 2010). As a result, symptoms of pediatric anxiety are frequently overlooked or misdiagnosed as behavioural issues (Chansky, 2004; Kauffman & Landrum, 2009; Monga, Young, & Owens, 2009).

### **Background of the Problem**

Very little research into the area of pediatric anxiety disorders took place before the mid-1900s (Creswell & Cartwright-Hatton, 2007). Until as recently as the 1960s, child psychotherapy was considered no more useful than the passage of time, because child anxiety was considered to be a condition that children would grow out of (Kendall, 2012). Studies examining anxiety disorders and treatment models were originally designed for adult patients with the results later being applied to children without

consideration for the vast developmental differences (Reynolds et al., 2012; Stallard, 2002). In recent years, however, there has been a growing awareness of the problems presented by pediatric anxiety disorders, and a corresponding body of evidence-based research informing pediatric anxiety disorders and their treatments (Creswell & Cartwright-Hatton, 2007; Kendall, 2012).

### **Purpose of the Handbook**

The purpose of this handbook was to develop an instrument that can provide information, strategies, and tools to help educators understand and respond to children suffering with anxiety disorders. The handbook was designed to be a resource of current knowledge, and teachable activities to be used by the classroom teacher with the entire class. In doing so, each child has the opportunity to develop stronger intra- and inter-personal skills. Also, by including all students, the child already struggling with issues of anxiety is not centred out through class withdrawal.

The six lesson plans provided begin with the identification of feelings, followed by the empowerment of recognizing and managing those feelings, looking at anger management, and thinking error correction. Subsequently, two lessons in conflict resolution and helping one another are presented, and finally, two lessons in social decision making. This set of lesson plans provides the opportunity for children suffering with anxiety disorders to receive understanding and skills to deal with their problems without being centred out. The lessons are designed to be presented to the entire class with the premise that they are positive skills for every child to develop and reinforce.

The handbook in the present project provides the opportunity for the educator to connect with parents and caregivers of children who may need further assessment and

support due to the disruption of their child's anxiety disorders in their lives. When the school and home begin to work in conjunction with one another, mutually supporting common efforts for the benefit of the child, the best possible outcome for the child is encouraged.

### **Rationale**

Anxiety disorders have been shown to have a significantly negative impact on the daily lives of children ranging from health to emotional and social areas of their lives. Children suffering from anxiety disorders are more likely to suffer from poor health, develop comorbid disorders, have fewer friendships, suffer from bullying, and underestimate their ability across domains (Connolly et al., 2007; Crawford & Manassis, 2011; Manassis et al., 2010; Reynolds et al., 2012; Simon & Bögels, 2009).

Academic performance can also be affected by anxiety. Anxious children tend to lack the ability to approach a task with confidence, and therefore, will often engage in avoidant behaviour even though they are conscientious and eager to accomplish the task (Duchesne, Vitaro, Larose, & Tremblay, 2008; Rapee et al., 2008). Studies demonstrate a high correlation between children diagnosed with anxiety at an early age and high school non-completion (Connolly et al., 2007).

Because young children often have difficulty identifying and naming feelings, it is a challenge for them to distinguish between and recognize emotions. Before a child can successfully begin to manage anxiety, he/she must be able to recognize and name it. Anxiety, when misunderstood is often internalized and can quickly turn to frustration and anger (Chansky, 2004).

Rothi and Leavey (2006) demonstrated that parents are very good at recognizing emotional and behavioural problems in their children, but that they often do not seek help. When they do seek help, they are most likely to speak with the child's teacher. Loades and Mastroyannopoulou (2010) investigated teacher perceptions and skills in identifying children with various emotional and behavioural challenges. Loades and Mastroyannopoulou (2010) found that teachers are skilled at recognizing these challenges in children, but were much more likely to pay attention to the external behavioural issues and ignore the internalized emotional issues. They point out that much was expected of teachers regarding students' academic, behavioural, and emotional needs, but that they did not receive training to be able to accommodate all of these mandates.

Since anxiety in children is clearly an issue of growing concern, a handbook offering current available knowledge and strategies to help educators support children suffering with anxiety disorders was demonstrated as a necessary and supportive tool in a needs assessment provided by primary school educators in a school district in Canada.

### **Theoretical Framework**

The empirical research currently available in the field of pediatric anxiety will be framed according to Bronfenbrenner's Bioecological Theory of Human Development, as well as Bowlby's Attachment Theory.

Bronfenbrenner's Bioecological Theory of Human Development focuses on the reciprocal interrelations between the developing child's character and his/her different levels of environmental interactions (Santrock, Woloshyn, Gallagher, DiPetta, & Marini, 2010; Swick & Williams, 2006). Bronfenbrenner's theory proposes that a child's behaviour needs to be understood as part of a larger picture that includes the shaping of

the child's development both physically, emotionally and cognitively. Through this theoretical framework it becomes clear that the etiology of anxiety must be examined from a genetic, biological, and environmental lens to fully understand its foundations.

Bowlby's Attachment Theory is a way of understanding human psychological and social development from the perspective of attachment to caregivers. The theory examines long- and short-term consequences that arise when this attachment fails to take place securely (Beetz et al., 2011; Brandell, 2010; Holmes, 1993). Through this framework it becomes evident that the development of anxiety can be understood through the examination of the family network, and the development of the child within it.

### **Scope and Limitations**

*Anxiety in the Primary Classroom: A Handbook for Elementary Educators* has several limitations. First, the handbook is limited to primary school-aged children. The reason for this limitation is that children in primary grades are developmentally significantly different from junior or intermediate children. For this reason, different foci, strategies, and lesson plans would be required for each age category. Also, and more importantly, the young children are the first point of contact with the education system, and the first opportunity through which they can be recognized and directed to, or provided with, intervention. Intervention and treatment at the junior and intermediate level is significantly different than that of the primary level.

The second limitation is that the needs assessment was completed by only three teachers, all of whom worked in the same district school board. The opinions expressed by these teachers regarding their levels of training and preparedness, is not significant

when addressing the situation of teachers from different boards who may have had different training practices.

Third, it is at this young age when children are experiencing school for the first time that lessons in character development, respect, acceptance, and esteem are critical in order to shape the attitudes and expectations of the school years that will follow. If the current stigma against a diagnosis of anxiety is to be eliminated, education around the attitudes and expectations of individuals suffering from anxiety need to be discussed openly and honestly from the beginning.

The handbook was not targeted only at children who are specifically identified with an anxiety disorder. It is, therefore, not therapeutic in nature, but rather an informative and supportive pedagogical tool for educators. The handbook was not designed to encourage educators to diagnose or treat anxiety disorders, but rather to recognize the growing number of children struggling with issues of anxiety, to begin to recognize some of the symptoms that may indicate this struggle, and to equip with a rudimentary set of lesson plans that can be globally administered in the classroom for the benefit of the many, rather than specifically those struggling with anxiety. By administering these lesson plans globally, an educator can hope to equip children struggling with anxiety with some rudimentary understanding and basic coping strategies while at the same time heighten awareness and create empathy within the class for those children who are not identified by the exercises, but who are affected by these anxiety disorders.

## Chapter Summary

Anxiety in childhood is a serious condition affecting every facet of a child's life, and extending challenges to the family, school, and community. Research indicates the school to be a reasonable and productive venue through which to start the process of support for these children and their families.

### Outline of Remainder of the Document

The next chapter of this project will undertake a comprehensive and current literature review of pediatric anxiety including the prevalence, etiology, and treatment of pediatric anxiety. Current empirical research and theoretical frameworks will be presented.

Chapter 3 is a presentation of empirical evidence of the impact of pediatric anxiety on the lives of children and their families in the present and the future, culminating in an assessment for the need of a handbook to aid educators in supporting children with anxiety in their classrooms. A discussion on the summary of the needs assessment, and the process of the development of the handbook will conclude this chapter.

Chapter 4 is the presentation of the handbook *Anxiety in the Primary Classroom: A Handbook for Elementary Educators*.

Finally, chapter 5 is a summary of the project including the results of participant evaluations of the handbook, discussion of the implications for practice, limitations, and recommendations for future work.



## CHAPTER TWO: REVIEW OF THE LITERATURE

Fear is a basic human response to a stimulus that presents a potential threat to the safety and well-being of the individual, either physically or emotionally. Fear is multidimensional, triggering an inner response of distress, and an outer behavioural expression (Beidel & Alfano, 2011; DuPont Spencer, DuPont, & DuPont, 2003; Muris & Field, 2011). Normal fear, worry, or shyness which is developmentally typical can be distinguished from more extreme atypical experiences requiring intervention and support by observations of severity, persistence, and possibly associated functional or cognitive impairments (James, Cowdrey, & James, 2012; Leonardo & Hen, 2008).

The mean age of onset for anxiety disorders is 11 years old (Kessler et al., 2005; Leonardo & Hen, 2008), a fact consistent with the finding described by Leonardo and Hen (2008) that individual levels of trait anxiety are established at an early age and remain fairly consistent over the lifespan. It stands to reason, therefore, that the foundations for anxiety disorders are largely determined during the early developmental stages (Leonardo & Hen, 2008), possibly affecting early neuroanatomical development based on mental processes and events to which the individual is subjected (Kagan & Snidman, 1999; Leonardo & Hen, 2008)

### **Theoretical Framework**

The empirical research presented in this literature review will be framed according to Bronfenbrenner's Bioecological Theory of Human Development in conjunction with Bowlby's Attachment Theory.

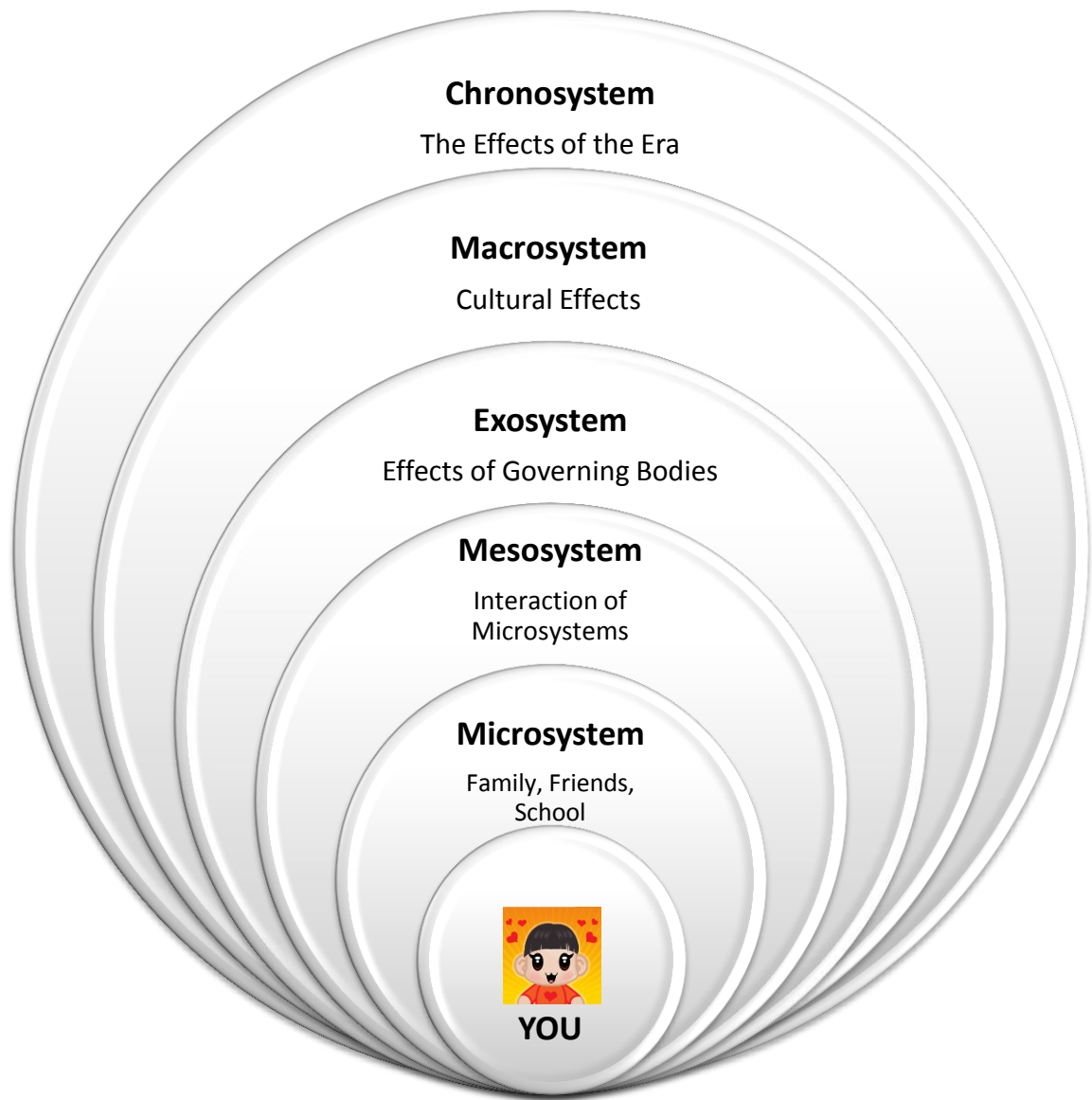
## **Bronfenbrenner's Bioecological Theory of Human Development**

Urie Bronfenbrenner's Ecological Theory of child development focuses on the reciprocal interrelations between the developing child's character and his/her different levels of environmental interactions (Santrock, Woloshyn, Gallagher, DiPetta, & Marini, 2010; Swick & Williams, 2006). Bronfenbrenner's theory includes all of the systems which make up the family network, and reflects the dynamic nature of actual family interrelationships (Swick & Williams, 2006). It is for this reason that a child's anxiety needs to be seen as part of a larger picture that includes the shaping of the child's development physically, emotionally, and cognitively.

Bronfenbrenner (1979) proposed that behaviour is shaped and develops as a result of the interplay between the child and his/her environment. Bronfenbrenner outlined five different levels of environmental systems through which a child may interact and be influenced (see Figure 1). The first and closest to the child, and therefore the most influential, are the child's microsystems involving family, peers, schools, and neighbourhoods. The mesosystem links the various microsystems. Positive and negative interactions in one microsystem will affect the child's ability to interact successfully in other microsystems. Microsystems are connected and interactive. The exosystem refers to the child's experience as influenced by the dominant powers that oversee the conditions in his various microsystems. For example, the decisions made municipally by a school board will affect the child's experience in school, or the government's decision to withdraw funding to a program could result in the loss of a job for a parent, thereby strongly impacting living conditions, as well as levels of stress and interpersonal interactions within the family (Santrock et al., 2010; Swick & Williams, 2006; Weisner,

2008). The macrosystem refers to a broader realm of customs and traditions that influence the culture in which the child lives. For instance, a girl living in Afghanistan may be denied the opportunity for an education, and be subjected to a completely different set of values and expectations than a girl of the same age in Canada. This will affectively shape the outlook and expectations of the two girls in very different ways. Finally, the chronosystem refers to the influences experienced by the child as the result of the current era. A child living today would be raised very differently, and have a different outlook and set of expectations from a child raised 100 or 1000 years ago (Santrock et al., 2010; Swick & Williams, 2006; Weisner, 2008).

Bronfenbrenner's (1979) theorizing is framed to explain why a child may respond differently to the same situation in a different environment with different individuals present. The microsystem is defined as "a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics" (Bronfenbrenner, 1979, p. 22). The mesosystem is the interaction between two or more microsystems, such as the child's home and school. The mesosystem is a network of microsystems that is expanded every time the child enters into a new microsystem. Bronfenbrenner (1979) stated that development cannot take place in a vacuum, but rather is influenced by an environmental context, and expressed through behaviour. As the developing child successfully interacts with his/her various microsystems, and subsequently with his/her mesosystem, the ability to develop a conception of the environment and become motivated and confident in a personal ability to effect change in this environment begins to take place.



(Microsoft Word, 2010)

*Figure 1.* Bronfenbrenner's Bioecological Theory of Human Development. (Adapted from: Bronfenbrenner, 1979; Santrock et al., 2010).

Bronfenbrenner (1979) determined that the measure of successful development in a child is the ability to transfer the skills acquired in one setting to another. The likelihood of a successful transition is increased if made in the company of a person common to both microsystems; for example, a child attending his first day in a new daycare setting will make a more successful transition to this new environment, or microsystem, if he is initially accompanied by his mother (Bronfenbrenner, 1979). The issue of anxiety in young children can better be understood when Bronfenbrenner's explanations of child development are coupled with John Bowlby's Attachment Theory.

### **Bowlby's Attachment Theory**

Beetz et al. (2011) described members of our Western society as increasingly suffering from stress and stress-related diseases. The majority of our most important stressors originate from the social domain. Paradoxically, the most effective means of stress reduction is through close and trusting relationships in a social support network (Beetz et al., 2011; Swick & Williams, 2006).

As humans, we enter the world vulnerable and helpless, quickly learning to elicit the support and protection of another who is capable of providing for our needs. Bowlby's Attachment Theory provides a framework for understanding human psychological and social development and the short- and long-term consequences when this development fails in the infancy stages (Brandell, 2010). Bowlby (Beetz, et al., 2011; Holmes, 1993) demonstrated that attachment theory is primarily a theory of spatial proximity. When we are physically close to our protector and provider, we feel secure. When we are physically farther away, we feel insecure and are prompted to elicit behaviours that will remove the distance between us. Attachment theory, therefore, is

based on a behavioural system involving brain mechanisms and affecting motivation (Beetz et al., 2011). Being in close proximity to the caretaker gives a child the freedom to explore and interact with the world. The child is secure in the knowledge that if the need should arise, the caretaker can be depended upon to respond immediately. This child is referred to as securely attached (Bowlby, 2007; Holmes, 1993).

Alternatively, the child who does not have this confidence is less willing to engage with the people or the world. This child is more likely to interact with inanimate objects such as toys or dolls where there is perceived safety. Bowlby's theory identifies several categories of children that are not securely attached, but the resulting inadequate development of social interactions and relationships holds true across all of these categories (Holmes, 1993; Wood, Emmerson, & Cowan, 2004). The insecurely attached child demonstrates symptoms of anxiety and delayed emotional development, being less likely to engage in social interaction, investigation, and play (Bowlby, 2007; Holmes, 1993; Wood et al., 2004).

Bronfenbrenner (1979) described a study by Ringler et al. (1975 as cited in Bronfenbrenner, 1979) in which the developing relationship between a mother and a newborn child was examined. The conclusions determined that there was a window of not more than 12 hours in which a mother forms an attachment to her newborn child, and that this attachment could be measured by her physical and affectionate behaviour toward the child afterwards. It is evident then, that this initial attachment will affect the mother-infant dyadic relationship and the experience of the child in this first microsystem of his life. Also, the attachment, as explained by Bowlby (1980) will affect the child's

confidence and ability to interact with this and other microsystems as he continues to develop through childhood (Holmes, 1993).

There are many factors that may contribute to the development of an anxiety disorder in children. Colonnesi et al. (2011) pointed out that a major contributing factor to childhood anxiety is a lack of the close connection between children and nurturing adults. Historically, societal structure incorporated children into the fabric of neighbourhoods and closely connected communities allowing the input for nurture and discipline to be approached as a village rather than the isolated familial structures evident in society today. Children cannot contribute to a sense of security in one another except on a superficial level. This sense of security is dependent on a caring relationship with a mature and trustworthy adult.

Atzil, Hendler, Zagoory-Sharon, Winetraub, and Feldman (2012) researching the neurobiology of parenting, recently presented evidence for a neurochemical behavioural process responsible for maternal and paternal bond formation with an infant. *Behavioral synchrony* is defined as “the coordination of biological and behavioral responses between parent and child” (Atzil et al., 2012, p. 798), essentially, an examination of the synchrony of parental brain responses to environmentally valid infant cues. Atzil et al. (2012) studied 30 mothers and fathers comprising 15 couples parenting infants between the ages of 4 to 6 months. Parents were videotaped during interaction with their infants, then underwent a functional magnetic resonance imaging (fMRI) scan while observing their interactive videos compared to the videos of other parent-child interactions. Results indicated a coordinated system of empathy and social cognition between the male and female parents supporting an intuitive understanding of infant signals and appropriate

responses to them. These findings are crucial in demonstrating a coordinated neurological response between two individuals. The study did not specify whether the parental-infant relationship was biological, leaving questions of relevance regarding the bond formation in non-biological parent-infant relationships. Further research in this area would yield valuable information as to the nature/nurture contribution to the origin of human bond formation.

Colonnesi et al. (2011) conducted a meta-analytic review of 46 studies empirically examining the relationship between insecure attachment and anxiety in children up to 18 years of age. Colonnesi et al. (2011) explained that although there are several risk factors associated in the development of childhood anxiety disorder, a key factor is a child's attachment insecurity.

The meta-analysis by Colonnesi et al. (2011) included studies conducted over the previous 30 years that involved investigation into the parent-child relationship specifically. Four models of organized attachment strategies were distinguished and investigated. They include secure, insecure avoidant, insecure ambivalent, and insecure disorganized attachment. The early child-caregiver attachment relationship sets the framework for the way in which the child perceives him/herself in relation to others in the future. Failure to develop secure attachment to a nurturing caregiver may be a precursor to both a negative sense of self and social problems in adolescence and adulthood (Colonnesi et al., 2011).

Children who have been nurtured and have developed a securely attached relationship with a supportive parent tend to exhibit faith in other people, and explore their world freely. Their experience with their caregiver is one of predictability and



protection, and they believe themselves as worthy and capable of eliciting that care and protection when needed. Children who demonstrate anxious behaviour can often be responding to their uncertain experience with the availability of support, protection, and nurture when it is needed (Colonnesi et al., 2011; Holmes, 1993).

Insecure avoidant children view adults as indifferent and non-nurturing. These children have failed to develop a securely attached relationship and consequently feel they are unworthy and unable to elicit care and protection. Their experience with their caregivers has been inconsistent, and as a result they demonstrate a tendency to avoid social interactions and relationships in order to protect themselves from possible rejection. Their early experience with their caregivers has set the expectation for future relationships by creating a defense mechanism against rejection and confirmation of personal unworthiness (Colonnesi et al., 2011; Holmes, 1993), as well as by creating an ineffective pattern of attachment that has been demonstrated to be carried forward into their later peer relationship formation (Wood et al., 2004). Studies suggest that insecure attachment predicts later difficulty with peer interactions and acceptance in elementary school and into adolescence (Bowlby, 1980; Wood et al., 2004).

Insecure ambivalent children also view their caregivers as unpredictable and inconsistent; however, rather than avoiding attempts at attachment behaviour, these children elicit responses from caregivers through extreme reactions. Insecure ambivalent children have adopted a strategy of displaying exaggerated expressions of distress to increase the likelihood of a caregiver response (Colonnesi et al., 2011; Holmes, 1993; Wood et al., 2004) and these externalizing behaviours have been demonstrated to account for subsequent peer rejection in preschool children (Wood et al., 2004)

Further, children demonstrating disorganized attachment perceive their caregivers as frightening. Because the caregiver is the source of both comfort and fear, these children are in a state of “fear without solution” (Colonnesi et al., 2011, p. 631; Holmes, 1993; Muris, 2006), creating what can be viewed as a breakdown or disintegration of an attachment strategy (Borelli, David, Crowley, & Mayes, 2010).

Connolly et al. (2007) suggested that parents and families often play a pivotal role in the development and maintenance of anxiety disorders in their children. Effective interventions often include the strengthening of familial relationships, the improvement of problem-solving strategies, and the fostering of positive parenting skills. Such interventions that support the reduction of parental anxiety offer more benefit than any child-focused intervention alone.

The findings of Colonnesi et al.’s (2011) meta-analysis point to two empirical studies (Bakermanns-Kranenberg, Van IJzendoorn, & Juffer, 2003, 2005; as cited in Colonnesi et al., 2001) which demonstrated support for family-based interventions that focus on heightening parental sensitivity to the nurturing requirements of children during infancy and early childhood. Colonnesi et al. (2001) offered further evidence for attachment-based family therapy as an effective treatment when combined with cognitive behavioural therapy in adolescents. Aschenbrand and Kendall (2012) further postulated that parents often model anxious behaviour, exerting excessive control and thereby creating a codependent relationship that shapes one another’s behaviour. This pattern reinforces the child’s anxiety, demonstrating that the more parents model anxiety and express fear, the more their children’s anxiety will be heightened (Aschenbrand & Kendall, 2012).

## **Etiology of Anxiety**

Anxiety can be viewed as the body's signal of internal distress or conflict, triggering the employment of behaviours to defend or alleviate danger when in fact there is no actual danger evident (Brown et al., 2012; Connolly et al., 2007). Anxiety disorders are the result of the malfunction of the body's natural defense system creating interference with normal behaviour and development (Connolly et al., 2007).

The cycle of anxiety and anxiety reinforcing behaviour can be summarized as follows:

- exposure to an anxiety-producing trigger – separation, a fearful situation, or obsessional thinking
- an accelerating increase of the anxious sensation to a high level – can be accompanied by thoughts of catastrophic outcomes
- the initiation of various forms of escape behaviour – running, hiding, ritualistic behaviours such as counting or rocking – which will produce relief from the experience of anxiety (Rockhill et al., 2010)

Because these behaviours produce the desired relief from the anxious experience, the behaviour is reinforced and quickly becomes habitual. In addition, children quickly come to recognize and avoid the anxiety-producing triggers (Rockhill et al., 2010).

There are various models that explain the susceptibility of a child to the development of an anxiety disorder. The pathogenesis of pediatric anxiety disorder is multi-faceted, involving a combination of factors that include genetic, biological, and environmental (Muris, 2006, 2012). In order to understand anxiety, and develop empirically based prevention, and intervention of anxiety disorders, it is necessary to

identify the factors and mechanism that precede, maintain, or exacerbate the disorder (Degnan et al., 2010). Following is a discussion of a genetic, cognitive-behavioural, physiological, and ecological model.

### **Genetic Model of Anxiety**

The role of genetics is thought to contribute a broad underlying predisposition to over-arousal and hyper-reactivity to stimuli. Both temperamental quality of behavioural inhibition and physiological hyper-arousal have been shown to be risk factors in the development of anxiety disorders in children (Rockhill et al., 2010). Estimates for the role of heredity in the development of anxiety disorders in children, range from 36% to 65% (Rockhill et al., 2010).

Brown et al. (2012) conducted research examining anxiety sensitivity. Self-report measures of anxiety sensitivity were measured at three points from adolescence into young adulthood by 2,651 individuals previously involved in twin studies. Quantitative genetic analysis comparing subject across non-shared environmental influences provided further evidence for genetic predisposition to global anxiety sensitivity.

Hirshfeld-Becker, Micco, Simoes, and Henin (2008) conducted meta-analytic research using high-risk offspring studies. Their results demonstrated a significant difference in the occurrence of anxiety disorders in both categories labelled “any anxiety disorder” or “two or more anxiety disorders” between groups of high-risk families, and non-high-risk families. Hettema (2008) similarly demonstrated support for a genetic predisposition based on family and twin studies. Furthermore, evidence is presented for the possibility of specific genetic loci that may generally predispose an individual across

the spectrum of affective disorders (Hettema, 2008; Smoller, Gardner-Schuster, & Covino, 2008).

There is a large body of research clearly indicating that anxiety disorders are strongly inherent in families, showing genetics to be the strongest identifiable risk factor in the development of an anxiety disorder (Smoller & Faraone, 2008). The role of heredity in the development of anxiety disorders is controversial in that the parents are not only the biological source, but also the environmental role model for the child. Research into the genetic etiology of anxiety, therefore, must take into account the interaction of multiple genes with the gene-environment interaction (Arnold & Tallefer, 2011). Further studies in the field using children raised by adopted or foster families may prove helpful in separating the roles of nature and nurture in this model.

Gregory and Eley (2011) pointed out that research in the field of genetic predisposition to anxiety disorders has changed considerably in the last decade. That there is a genetic link to the development of anxiety disorders is clearly evidenced. Muris (2012), and Leonardo and Hen (2008) are just two examples of twin studies which attributed 20% – 40% of anxiety symptoms to heritability. The focus is now shifted to more detailed questions of how factors such as age and sex may influence the triggering of a predisposition. Gregory and Eley (2011) went on to explain that anxiety is not linked to a specific gene, but rather to multiple genes and the interplay between these genes and the environment. Association and linkage studies comparing the frequency of genes in individuals with a diagnosis of anxiety to individuals with no history of anxiety are offering insights into the connections between groups of genes associated with anxiety. Furthermore, this research is offering insight into the behaviour of genes as they are

affected by age and sex. It has been demonstrated that several genes associated with anxiety are switched on and off at different stages of development, making certain ages more vulnerable to the development of anxiety than others (Gregory & Eley, 2011).

Smoller and Faraone (2008) suggested future research based on genetic factors as the best route to the understanding, treatment and prevention of the pathogenesis of anxiety.

### **Cognitive-Behavioural Model of Anxiety**

The cognitive-behavioural model for the development of anxiety shows the anxious individual as processing both external and internal stimuli in a biased way that emphasizes personal threat (Hogendoorn et al., 2012). Traditional models of conditioning have demonstrated a behavioural route to the etiology and treatment of anxiety and fear (Field & Purkis, 2011). The three main routes associated with the acquisition of fear and anxiety include: classical conditioning, observational learning, and the transmission of verbal threat information (Field & Purkis, 2011; Muris, 2012).

Children who develop anxiety disorders have been shown to have exaggerated dysfunctional thoughts, feelings, and behaviours (Hogendoorn et al., 2012; Rockhill et al., 2010). Feelings of inadequacy and negative self-thoughts have been shown to contribute to a person's engagement in worry, which serves as a form of cognitive avoidance (Llera & Newman, 2010; Parkinson & Creswell, 2011). Parkinson and Creswell (2011) concluded from their research that in primary school children, worry was associated with cognitive distortions about personal ability, and that these distortions were not in keeping with actual skill. Furthermore, it is noted that similar studies with adults have yielded the same result. A study comparing 50 socially phobic youth with

non-anxious controls demonstrated the anxious youth to have lower expectations of their performance and cognitively distorted assessments of their performance based on an increasing shift of focus away from external social cues and instead, towards internal self-focus (Alfano et al., 2006; Llera & Newman, 2010; Parkinson & Creswell, 2011).

Unless these negative and cognitively distorted processes are unlearned and replaced with healthy learning, the anxiety will be maintained through negative reinforcement of both avoidance and escape behaviour (Rockhill et al., 2010). Evidence suggests that childhood anxiety disorders have a chronic component that carries them forward into adulthood often with worsening symptomatology and development of comorbid disorders (Muris, 2006).

### **Ecological Model of Anxiety**

The ecological model explaining the development of anxiety disorders in children is dependent on the influence of environmental factors from the various micro-, meso-, and exosystems in which the child is a participant. Insecure parent-child attachments, controlling parent styles, anxious parent behaviour models, and abusive and neglectful parenting experiences have all been shown to be associated with the development of anxious behaviour in children (Rockhill et al., 2010). Borelli et al. (2010) gave further evidence in their research indicating that children with disorganized attachment were associated with higher reports of depressive symptoms and shyness, and were described by their parents as more likely to have symptoms that meet clinical criteria.

Environmental factors involve specific learning experiences such as conditioning, modelling, and information transmission (positive and negative) as well as anxiety-promoting child-rearing practices that all take place in the context of the family (Borelli

et al., 2010; Muris, 2012; Rockhill et al., 2010). Research demonstrates that parents of anxious youth model anxious or avoidant behaviour, engage in over-controlling and intrusive parenting practices, and engage in certain socialization behaviours that may contribute to the development of anxiety disorders in their children (Gere, Villabø, Torgersen, & Kendall, 2012; Jacob, Thomassin, Morelen, & Suveg, 2011).

Rockhill et al. (2010) gave further evidence showing that mothers suffering from postpartum maternal depression and anxiety negatively affect the infant's ability to regulate stress in the long-term. Animal studies demonstrate a definite prenatal component to anxiety with permanent effects on brain structure and function in the offspring of animals given the stress hormone, corticosterone, during pregnancy (Glover, 2011).

### **Neuro-Physiological Model of Anxiety**

Genetic vulnerability and environmental predispositions are reflected in the neurotransmitter systems functioning in the brain. The result is a hypersensitivity of subcortical structures involved in the early sensory information-gathering and evaluation process of novel, threatening, or ambiguous information (Muris, 2012). Functional impairment in regions of the brain associated with the modulation of emotion and fear have been associated with children suffering from anxiety disorders. These areas include regions of the amygdala involved in fear conditioning, the hippocampus involved in contextual processing, and in the prefrontal cortex involved in the modulation of fear and the extinction of the fear response (James et al., 2012; Rockhill et al., 2010). Rockhill et al. (2010) summarized neuroimaging studies demonstrating that adolescents with anxiety disorders have a hypersensitivity of fear circuitry and a decreased response in the fear



response activation of cortical circuits. Furthermore, studies examining the neuroanatomical abnormalities present in the brains of youth with anxiety diagnoses are inconsistent depending both on age and type of anxiety disorder experienced. James et al. (2012) explained two primary hypotheses for the fear acquisition and extinction process gathered through fMRI data accounting for a *threat interpretation bias*. A distinction is made between anxiety disorders revolving around intense fear, such as panic disorder, phobias, or post-traumatic stress disorder, and anxiety disorders revolving around excessive worry and rumination, such as obsessive compulsive disorder, or generalized anxiety disorder. In the case of the former, fMRI studies indicate an under-activity of the prefrontal cortex, disinhibiting the amygdala. In the case of the later, there is indication of an over-activity of the prefrontal cortex also involving the dorsal anterior cingulate in the fear response.

McClure et al. (2007) identified the amygdala as a potential biological marker to identify individuals suffering from various anxiety disorders who would likely benefit from treatment intervention. The study conducted fMRI testing on 15 children and adolescents with a *Diagnostic Systems Manual IV (DSM-IV)* anxiety disorder diagnosis. Subjects were further screened by the researchers and diagnoses with Generalized Anxiety Disorder (GAD) or social phobia. The subjects were also assessed for level of severity using the Clinical Global Impressions Severity (CGI-S) and Improvement (CGI-I) scales. All participants had to be free of psychotropic medications for no less than one year.

Participants, after being acclimated to the fMRI scanner, underwent an initial scan before being enrolled in 8 weeks of treatment consisting of either fluoxetine or cognitive

behaviour therapy (CBT). The families were given the option and made the decision as to which treatment the child was enlisted in. Participants underwent post-treatment fMRI scanning the week after treatment was completed. All participants in this study had previously participated in another study (Monk et al., 2006) in which healthy adolescents, and adolescents diagnosed with an anxiety disorder underwent fMRI imaging to compare amygdala responses. Participants in this study were shown fearful faces and happy faces. Adolescents with an anxiety disorder demonstrated a pattern of amygdala hyperactivity compared to their adolescent control counterparts. Based on this study, McClure et al. (2007) used the same fearful and happy face paradigm but viewed each face repeatedly with focus on different attentional states such as: “How afraid are you?”, “How hostile is the face?”, “How wide is the nose?”, “view picture passively” (McClure et al., 2007, p. 100) to compare fMRI scans before and after treatment. Their findings suggested that overall, there was a significant difference between pre- and post-treatment CGI-S and CGI-I scores, and that treatment with fluoxetine or CBT was most effective in participants demonstrating an increased amygdala response while attending to their internal emotional response. McClure et al. (2007) reviewed recent studies and report inconsistent findings in similar studies involving both youth and adults. These findings are, therefore, indicative of a possible neurological substrate, but are in need of further investigation.

Milad et al. (2007) studied 14 healthy subjects using structural magnetic resonance imaging (MRI) and 13 others using fMRI. The subjects in the fMRI group underwent fear conditioning and extinction exercises while studying the functional activation of the dorsal anterior cingulate cortex (dACC) and conditioned fear

expressions during the conditioned response phase. MRI subjects were measured for thickness across the cerebral cortex during the conditioned response phase. Results indicated that the dACC thickness was positively correlated with the conditioned fear responses to the conditioned stimulus. There was a significant correlation between structural and functional correlates of the conditioned fear response in the dACC, which was found to be remarkable considering that data were collected from two distinct groups of participants. The dACC location reported to be correlated with fear expression is the same as that targeted by anterior cingulotomy, a previously effective neurosurgical treatment for patients with anxiety disorders who have not responded to pharmacological or behaviour treatments. Milad et al. (2007) suggest that the anterior cingulate cortex is a viable target for research on future anti-anxiety treatments.

### **Prevalence and Classifications of Anxiety and Related Internalizing Disorders**

Worry is a natural part of existence, comprising a part of the makeup that allows us to successfully protect ourselves from harm. When worry fails to correspond to actual situational threats, it can occupy the central focus of cognitive activity disrupting daily routines, adjustment, and development (Essau & Petermann, 2001).

Anxiety disorders are the most common psychological problems diagnosed in children and adolescents (Muris, 2012; Rapee et al. 2008,). Mychailyszyn et al. (2011) indicated that 10% - 20% of children in the general North American population report experiencing distressing levels of anxiety, and Rapee et al. (2009) noted that 40% - 60% of children diagnosed with an anxiety disorder meet criteria for at least one other anxiety disorder.

Mychailyszyn et al. (2011) reported that the three most prevalent forms of anxiety disorders diagnosed in children include general anxiety disorder (GAD), separation anxiety disorder (SAD), and social anxiety disorder, and that children who exhibit symptoms of anxiety disorders often avoid age-appropriate social interactions with peers that are necessary for healthy development. Furthermore, anxious children are more likely to experience a worsening of symptoms over time, and increasing difficulties in social interactions and school performance (Mychailyszyn et al., 2011), and are associated with high costs to society. According to common estimates, anxiety disorders affect up to 20% of the population at some point in their lifetime and carry an annual estimated cost of \$44 billion dollars in the United States alone (Leonardo & Hen, 2008).

The *DSM-IV* divides anxiety disorders into 6 different classifications. These classifications include: generalized anxiety disorder, social phobia, specific (simple) phobia, panic disorder, post-traumatic stress disorder, and obsessive-compulsive disorder. Leonardo and Hen (2008) point out that anxiety disorders occur with a highly prevalent comorbidity rate.

### **General Anxiety Disorder**

Keeton, Kolos, and Walkup (2009) defined general anxiety disorder as an excessive and uncontrollable form of worry accompanied by physical symptoms such as gastrointestinal difficulties, headaches, heart palpitations or restlessness. GAD can cause the need in children for excessive reassurance and produce negative responses to evaluation or criticism. Beidel and Alfano (2011) noted that the intensity, frequency and functional impairment that accompanies GAD differentiates it from worry experienced by

children with low anxiety, and accounts for 38% to 59% of referrals to child anxiety clinics.

Da Fonseca et al. (2008) reported that children with GAD consistently report feelings of self-doubt, inadequacy, and negative feelings of social acceptability and expectations for the future. All of these participate in compromising the child's adaptive functioning and creating difficulties in learning and socialization. A child who is in a chronic state of fear over a wide range of things may be diagnosed with GAD (Kauffman & Landrum, 2009).

### **Separation Anxiety Disorder**

Separation anxiety disorder (SAD) is characterized by developmentally inappropriate fear and distress associated with the separation or anticipated separation from the major attachment figure (Mychailyszyn et al., 2011; Rockhill et al., 2010). Children with SAD worry excessively about potential harm to themselves or their attachment figure. The child with SAD will avoid detachment from the primary attachment figure at all cost, even resorting to oppositional behaviour and refusing to sleep alone or attend school (Eisen, Brien, Browsers, & Strudler in Essau & Petermann, 2001; Rockhill et al., 2010).

The construct of SAD is rooted in Bowlby's Attachment Theory (Bowlby, 1980) in which attachment is defined as a biologically motivated bond considered to be a survival mechanism (Beidel & Alfano, 2011).

### **Social Anxiety Disorder/Phobia**

Social anxiety disorder is characterized by an unreasonable, excessive and persistent fear of embarrassment or negative evaluation in a social context resulting in

avoidance of situations perceived to involve such a potential circumstance, and significantly interfering with a person's daily life (APA, 2000; Mychailyszyn et al., 2011; Rockhill et al., 2010; Yuen, 2013). Somatic symptoms normally associated with embarrassment such as blushing, heart palpitations, sweating, or trembling are also common (Alfano et al., 2006). Alfano et al. (2006) further pointed out that cognitive models of adult social phobia recognize that socially phobic individuals have a negative bias regarding the way they evaluate their performance in terms of process, attention to the task, and expected performance. These negative cognitions lead to the inaccurate assessment that others view and judge them in this same substandard light. Negative self-referent conditions such as an individual's beliefs about their general abilities, and negative social self-efficacy (the confidence an individual possesses to navigate social situations) have been strongly connected to levels of social anxiety (Rockhill et al., 2010; Rudy, Davis, & Matthews, 2012).

Children with social phobia tend to be sensitive to rejection, highlight the negative aspect of any social interaction, and perceive less acceptance from their peers, who tend to be the source of their social anxiety (Rockhill et al., 2010). Rockhill et al. (2010) pointed out that phobias tend not to be responsive to reassurances or distractions, and are frequently responsible for the failure of children and adolescents to develop close peer relationships resulting in further interpersonal challenges.

### **Selective Mutism**

Selective mutism (SM) refers to a reluctance to speak where there is not a physical problem to prevent it. Children with SM often choose to speak to only one person or a small group of people, and refuse to speak in all other situations. SM is a

form of social withdrawal as the result of anxiety, although in some circumstances it can be the result of trauma or abuse (Kauffman & Landrum, 2009). The research of Bergman, Piacentini, and McCracken (2002) indicated that most children with selective mutism tend to also embody the criteria for social phobia.

Selective mutism (SM) has a subset of children who are prone to oppositional defiant behaviour. Their parents often refer to them as more stubborn, willful, or irritable than normal. Many other children with selective mutism display a number of internalizing disorders (Beidel & Alfano, 2011). Features commonly associated with selective mutism include:

- refusal to communicate verbally in social situations, including school, for not less than 6 months, without the presence of any physical reason
- continues to communicate verbally at home
- excessive shyness
- excessive fear of social embarrassment
- social isolation
- withdrawal
- clinging behaviour
- compulsive traits
- negativism (Beidel & Alfano, 2011; Hung, Spencer, & Dronamraju, 2012).

### **School Refusal**

School refusal refers to a child's refusal to attend school, or difficulty remaining in school, for the duration of the day. School refusal is not a reflection of a child's desire to participate in school, but rather of the level of discomfort experienced by the child in

the school's social environment. School refusal is not to be confused with truancy, which is typically grounded in disruptive or delinquent behaviour (Beidel & Alfano, 2011; Melvin & Tonge, 2012). The characteristic presentation of children with anxiety-based school refusal include somatic complaints such as headaches, stomach aches, sore throats, and sleep difficulties including nightmares, night terrors, difficulty sleeping alone, difficulty falling asleep (Beidel & Alfano, 2011).

Beidel and Alfano (2011) further described school refusal as being linked to one of two subtypes: neurotic and *characterological* (way-of-life). The common features in both subtypes include somatic complaints, fear of separation from primary caregiver, fears revolving around school attendance, and conflicts between parents and school administration. The neurotic subtype has an acute onset, whereas the characterological subtype has an incipient onset. Furthermore, the neurotic subtype typically presents many of the following symptoms: Monday onset of illness following an illness on the previous Thursday or Friday, academic underachievement, expressed concerns about death and dying – particularly linked to the mother's health, good family communication between parents, competition between parents in household management, and parents who are typically understanding and easy for the school to work with. The characterological subtype presents many of the following symptoms: Monday onset of illness, but as a minor illness rather than a prevalent antecedent, good to superior academic achievement, poor communication between parents where father shows little interest in the household or children, mother demonstrates neurotic behaviour and father often has a character disorder, and parents are typically difficult for the school to work with (Beidel & Alfano, 2011).



School refusal is commonly linked to social anxiety, but can also be related to generalized anxiety disorder, or a mood disorder (Eisen et al., 2011). School refusal should not be confused with school withdrawal which represents parental acceptance or endorsement of the child's non-attendance (Melvin & Tonge, 2012).

### **Specific Phobias**

A phobia is a more specific form of anxiety demonstrating an irrational and intense fear of a thing or a situation. A phobia leads to extreme measures of avoidance of the feared situation (Kauffman & Landrum, 2009). Phobias are classified by the object of perceived threat and can include such things as natural disasters, specific animals or insects, blood, or specific environments such as closed or open spaces. Children often develop rituals of compulsive responses to their phobias which can lead to obsessive-compulsive disorder (Beidel & Alfano, 2011; Rockhill et al., 2010).

Adults typically recognize the irrational nature of their phobias, but children have a less developed insight, often leading to embarrassment and unwillingness to disclose or discuss their fears. Their fears can often be identified by their avoidant responses, somatic complaints, or clingy behaviour (Rockhill et al., 2010).

### **Panic Disorder**

Panic disorder (PD) is a highly prevalent mental disorder characterized by recurrent panic attacks, persistent concerns about additional attacks, and worry about the consequences of the attack. Kauffman and Landrum (2009) described a panic attack as unexpected episodes of severe distress demonstrated by at least four somatic symptoms including sweating, rapid breathing, tingling sensations, heart pounding or racing, and uncontrollable thoughts about losing control. A panic attack can be triggered by a

situational cue, but more often is a random occurrence with no warning of onset (Beidel & Alfano, 2011).

Panic disorder is typically seen in conjunction with agoraphobia (AG); the fear or avoidance of situations where a panic attack may occur and help would not be readily available. Pollack et al. (2007) pointed out that the disorder has an adverse effect on the quality of life at a personal, social, and professional level. Comorbid symptoms of substance abuse and affective disorders such as depression (Pollack et al., 2007), GAD, and SAD (Beidel & Alfano, 2011) are common.

### **Obsessive-Compulsive Disorder**

An obsession refers to a repetitive or persistent image or thought about something unrelated to typical real-life worries. In children the obsession can often be unrealistic such as a fear of turning into something else (Kauffman & Landrum, 2009). A compulsion is the need to perform an action repetitively and consistently in order to avoid a consequence. It is not grounded in real events or consequences. Common compulsions include excessive hand washing, repeating a sequence of words, or repetitive motions or actions (Kauffman & Landrum, 2009).

Obsessive-Compulsive Disorder (OCD), one of the most severe and disabling of the anxiety disorders (Beidel & Alfano, 2011), is often associated with an attempt to reduce anxiety by exercising control through a ritualistic routine (Bienvenu et al., 2012). For example, by repeating a sequence of words each time the thought of turning into something else presents itself, it is believed that the transformation is prevented from occurring. In an attempt to control the anxiety over the transformation, a situation is created in which failure to repeat the sequence of words will cause the transformation to

happen, thereby perpetuating the cycle of anxiety. OCD differs greatly from the other anxiety disorders in this irresistible repetitive behaviour (Bienvenu et al., 2012; Hollander, Braun, & Simeon, 2008), causing a call for OCD to be removed from the list of anxiety disorders in the *DSM-V* and more appropriately grouped with similar compulsive disorders such as addictions and somatoform disorders. Further evidence for a clear distinction between OCD and other anxiety disorders is demonstrated by the fact that selective serotonin reuptake inhibitor (SSRI) medications are used as the front-line pharmacological treatment in all anxiety disorders except OCD, which alone responds better to a tricyclic antidepressant (TCA) medication, clomipramine (Farach et al., 2012).

Gilbert et al. (2009) conducted research into the neural correlates of OCD.

Neuroimaging studies have identified distinct neural correlates of OCD in adult subjects related to functional abnormalities in the cortico-striatal-thalamic neural systems underlying cognition and affective processing, but these findings had not been connected to research in children. Gilbert et al. (2009) identified reduced activity in the right insula thalamus, dorsolateral prefrontal cortex, and left orbitofrontal cortex, and in the right thalamus and right insula using fMRI testing on 18 pediatric OCD subjects and 18 matched controls. OCD typically affects 1 in every 200 children. Unlike adults with OCD, children are unaware that their behaviour is irrational and excessive (Kauffman & Landrum, 2009).

### **Post-Traumatic Stress Disorder**

Post-traumatic stress disorder (PTSD) refers to an ongoing emotional and behavioural response to a severely traumatic situation in which death or serious injury to self or others was involved. The initial reaction to the original situation must have

involved horror, intense fear, or helplessness (Kauffman & Landrum, 2009). The traumatic event is often re-experienced through recurrent dreams or intrusive thoughts or images. Kauffman & Landrum (2009) list four characteristics common to extreme childhood trauma resulting in PTSD. These characteristics include:

- repeated memories of the traumatic event
- repetitive behaviours in response to the traumatic event
- fears linked specifically to the traumatic event
- feelings of vulnerability resulting in altered attitudes toward life

Situations such as natural disasters, wars, domestic violence, and sexual abuse can perpetrate the onset of PTSD. Schools are increasingly populated with children who have witnessed or experienced domestic violence, physical or sexual abuse, or violence in schools such as school shootings. Also, immigrants from war-torn countries are entering our schools in increasing numbers. Regardless of the origin of the trauma, children with PTSD will have increased difficulty in school both socially and academically (Kauffman & Landrum, 2009).

### **Diagnosing Anxiety Disorders**

Assessment for anxiety generally consists of a multi-modal approach, collecting information from a number of individuals using a variety of modalities allowing for a thorough presentation of symptomatology and resulting impairments (Mychailyszyn et al., 2011). Interview formats include a wide range of standardized schedules, psychometrically sound self-report questionnaires, and teacher or parent rating scales to present an initial assessment of anxiety levels and emotional/behavioural difficulties (Mychailyszyn et al., 2011).

The *Diagnostic Statistical Manual –IV-TR (DSM-IV-TR)* lists specific criteria for each particular type of anxiety disorder as seen in both children and adolescents. This is the standard by which presenting symptoms must be measured in order for a formal medical diagnosis to take place (Rockhill et al., 2010).

McClure et al. (2007) determined, based on neurobiological evidence of atypical amygdala activation in patients with anxiety disorders, that fMRI identification followed by treatment with SSRI medications or CBT yielded significantly positive responses to treatment. The importance of this research is in identifying a biological marker for individuals who will most likely benefit from various forms of treatment for anxiety disorders.

In order for an effective evidence-based treatment to be prescribed, a thorough assessment is necessary. A clinician must examine all of the evidence presented, embark on collecting any evidence deemed critical to proper evaluation, and only then proceed to match an empirically proven treatment to the indicators given by the assessment. This careful procedure optimizes the probability of an efficacious outcome for the child (Davis III & Ollendick, 2011).

Kendall (2012) reminded us that until as recent as the 1960s, it was widely reported that child psychotherapy was no more useful than the passage of time. Since that time, over 1,500 studies and four meta-analyses have been produced giving absolute evidence that psychotherapies for children outperform both control and placebo conditions. The procedure of producing evidence-based assessments and prescribing evidence-based treatments to match the conditions is still a fairly new concept. Kendall (2012) explained that although we have evidence that psychotherapy is an effective

treatment for children, it is also clear that some forms of the treatment work better than others. The goal at present is to identify the efficacy of specific treatments for specific emotional, behavioural, and social problems.

### **Intervention for the Treatment of Anxiety**

Anxiety disorders are associated with both functional and structural brain changes commonly involving the prefrontal cortex, hippocampus, and amygdala; the *fear network* (Quide, Witteveen, El-Hage, Veltman, & Olf, 2012, p. 627; vanTol et al., 2010).

Excessive amygdala and reduced prefrontal cortex functioning are often demonstrated (Quide et al., 2012). A systematic review compiled data from 30 psychotherapeutic and 31 pharmacotherapeutic studies in an effort to determine whether these abnormalities return to normal levels following successful treatment for an anxiety disorder. Quide et al. (2012) concluded from their findings that successful pharmacotherapeutic treatment resulted in a decrease of over-activity of limbic structures creating what they term a *bottom-up effect* (p. 635). Successful psychotherapeutic treatments resulted in increased activity in the prefrontal areas including the anterior cingulate cortex resulting in what is described as a *top-down effect* (p. 635). Findings from the study by Quide et al. (2012) provided evidence that successful treatment does produce a physiological change consistent with remission of anxiety symptomatology.

### **Cognitive Behavioural Therapy Treatment for Anxiety**

Treatment models have traditionally been designed for adults and later applied to children without consideration for the vast developmental and circumstantial differences (Stallard, 2002). This is particularly significant in the case of CBT because it is cognitively based, requiring a certain level of cognitive development for efficacy.

Criticism exists that models of CBT applied to children are more behaviourally than cognitively based, and that the significant role of the parent in pediatric treatment is a variant from adult based CBT (Stallard, 2002).

Several meta-analytic studies involving clinical research on the effectiveness of CBT have demonstrated a high efficacy in the remission of anxiety disorders both in adults and children over the age of 6 years (Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004; Reynolds et al., 2012). Because the developmental needs of children differ from adolescents and adults, criticism arises around the effectiveness of a cognitive based therapy for children who lack the maturity to successfully engage in the treatment. A response to this argument refers to modified CBT treatment in which behavioural rather than cognitive processes are targeted, or the use of modifications and supports allow for an appropriate cognitive component of treatment. The use of parents in treatment is one such adaptation. There are mixed results regarding the efficacy of the parental role in CBT for young children, with some showing significant gains and others reporting no differences. There is a clear need for further research that includes adequate sample sizes, including each classification of anxiety, and to assess appropriate follow-up (Reynolds et al., 2012).

CBT is still the front-line treatment for anxiety disorders in children. Between 50% and 85% of children receiving CBT no longer meet the criteria of their primary diagnosis upon completion of treatment with effects maintained up to years later (Albano, 2009; March, Spence, & Donovan, 2009). The Pediatric OCD Treatment Study (March et al., 2004) demonstrated CBT to have an efficacy equal to or in some cases greater than that of pharmacological treatment options. Furthermore, CBT not only relieves the

symptoms of anxiety, but can alter the long-term trajectory of the mental health of children diagnosed with anxiety disorders (Albano, 2009; March et al., 2009).

Monga et al. (2009) conducted a pilot study evaluating CBT as a group program for children between the ages of 5 and 7 years with anxiety disorders. They utilized a manual developed for child and parent groups entitled *Taming "Sneaky Fears": Child Treatment Manual and Parent Treatment Manual*. This unique approach to CBT designed specifically for 5 - 7 - year-olds utilizes stories, games, and activities to create engaging opportunities promoting the learning of cognitive behavioural strategies (Monga et al., 2009).

The treatment approach of Monga et al. (2009) involved the children participating in group sessions while the parents separately participated in their own group sessions. The child sessions began with helping the children to recognize, identify, and label their various feelings. Next, relaxation strategies including muscle tension relaxation, deep breathing, and imaging were presented, and finally, sessions focusing on cognitive strategies such as talking to adults about feelings when anxious, ignoring *scary* thoughts and replacing them with *brave* thoughts were implemented. Simultaneously, the parents were learning cognitive behavioural strategies to use with their children. The sessions initially focused on teaching parent management and behavioural strategies. Parents were taught to distinguish between anxiety symptoms and more general behavioural issues. Later, parents were taught to guide their children away from avoidance and toward confrontation of fears. Parents working together in a group reported benefits from both the support and the group's effort in problem solving.



Monga et al. (2009) enrolled 32 children between the ages of 5 and 7 years old who were referred to a large children's hospital by physicians and mental health professionals and who all met criteria for at least one anxiety disorder based on the *DSM-IV*. Children diagnosed with a pervasive developmental disorder, a psychotic disorder, a medical condition that would interfere with treatment, or who were not proficient in English were excluded from the study. Children on medication were not excluded; however, only one participant was currently taking prescription Fluoxetine and had been doing so for several months. Pharmacological treatment was not stopped or altered during the course of the study. Pre-study measures consisted of the following:

- *Screen for Child Anxiety Related Emotional Disorders (SCARED) Parent Version*-a 41-item instrument completed by parents eliciting anxiety symptoms rated on a 3-point scale discriminating among anxiety disorders, between anxiety and disruptive disorders, and between anxiety and mood disorders
- *Anxiety Disorders Interview Schedule for DSM-IV Parent Version (ADIS-P)* - a semi-structured interview that produces a diagnosis of child anxiety disorders, mood disorders and externalizing disorders
- *Children's Global Assessment Scale (CGAS)* – a clinician rating of adaptive functioning for children during the previous 4 months
- *Revised Connor's Parent Rating Scale: Long Version (CPRS-R:L)* – an 80-item instrument screening for behavioural difficulties
- *Behavioural Style Questionnaire (BSQ)* – a 100-item instrument measuring child temperament characteristics (Monga et al., 2009).

Children did not complete any self-report measures, although they were seen in a clinical interview with their parents before the beginning of the program.

The trial consisted of 12 weekly 1-hour sessions. A child therapist joined the parent group for the last few minutes of each session to brief them on what the children had learned. An interview with each parent was conducted at the mid-point of the sessions to assess the parents' review of their child's progress. Within 2 weeks of completion of the sessions, parents attended a post-group session. At this time parents completed the SCARED and the CPRS-R:L, and were re-interviewed by the pre-treatment child psychiatrist to re-administer the ADIS-P. Clinicians completed a CGAS based on post-group ADIS-P and parental post-group clinical interviews.

Two-tailed *t*-tests were run using the Statistical Package for the Social Sciences (SPSS Version 13.0) to test for treatment effect. Effect size was calculated using Cohen's *d*. Repeated measures ANOVAs tested for possible interactions and main effects of variables. Considerations included gender, age, and temperament. Significance levels were recorded at  $p > .01$ .

Parent ratings on the SCARED were significantly decreased from pre- to post-test for factors including general anxiety, separation anxiety, social anxiety, and school refusal. Parent ratings on the CPRS-R:L significantly declined from pre- to post-test. At the beginning of the trial 20 of the 32 children demonstrated two or more anxiety disorders. This number was reduced to 5 post-treatment. Children who had at least one anxiety disorder resolve post-treatment were 71.9%, and 14 children (43.8%) no longer met the criteria for any DSM-IV anxiety disorder post-treatment. Remission rates for children who were diagnosed with only one anxiety disorder pre-treatment had a

remission rate of 66.7%, where children who were diagnosed with more than one anxiety disorder pre-treatment experienced a remission rate of 30%.

Monga et al. (2009) concluded from this study that children between 5 and 7 years of age can benefit from CBT when it is presented in an age-appropriate manner with developmental restraints considered. Although there was no randomized control group present in this study, there were 11 children on a wait-list who did not demonstrate any change in their anxiety factors during the time of the trial while they awaited their opportunity to participate in the treatment. Monga et al. (2009) viewed this as an indicator that the remissions experienced by the subjects of the trial were the result of the treatment program and not of the simple passage of time.

Minde et al. (2010) conducted an open pilot trial of a modified form of CBT for young children including 37 children between the ages of 3 and 7 years old. All participants had been referred by their physicians to a university hospital-based child psychiatric anxiety clinic for young children. Requirements for acceptance to the clinic included

- a physician's referral
- a parent questionnaire concerning family background and the child's development
- Strengths & Difficulties Questionnaire (SDQ) – a 25 item, well validated instrument assessing five behavioural components to be completed by the parent as well as the teacher or day care provider most familiar with the child (Minde et al., 2010)

Families underwent a 2-hour interview including:

- a detailed history of the present illness presented by the child

- past psychiatric, social, and medical histories of all family members
- a developmental history of the child
- a mental status examination of the child

The treatment phase consisted of 40 minutes per week of individual therapy with each child, concluding with an additional 20 minutes to brief parents and offer educational support. The modified CBT model was based on teaching children the power of the mind to talk back to the brain. Emphasis was placed on concrete ways to overcome fears including distraction, self-talk, or envisioning the demise of a scary thought through puppet play, or breathing techniques.

Appointments were adjusted from weekly to bi-weekly, and eventually to monthly when children were assessed to have gained control over more than 65% of their worries. A follow-up visit arranged 4 to 6 weeks after the last appointment involving both the parents and teachers submitting the same questionnaires post-treatment.

Minde et al. (2010) found that initial support for the efficacy of CBT for anxious children in the 3- to 7-year-old age range supporting the findings of Monga et al. (2009). All 37 families completed the treatment program and reported a statistically significant improvement in their child's level of anxiety and behaviour both at home and in school from pre- to post-treatment. Analysis was completed using two-tailed t-tests with significance of  $p < .001$ . Parents also reported a significant decrease in the burden placed on them and their families by the anxious child post-treatment; again, calculated with a two-tailed t-test reporting a significance of  $p < .001$ . Minde et al. (2010) demonstrated that carefully designed desensitization and shaping strategies can be effective in the treatment of anxiety in individual young children. It is noted, however, that there is a question of

whether the modified CBT was the sole agent of transformation for these children, or whether the non-specific treatment aspects played a role as well.

CBT is an effective evidence-based therapy for child and adolescent anxiety disorders (Albano, 2009). There are, however, many obstacles including comorbidity with other psychiatric disorders, developmental appropriateness of the CBT model, transportability, accessibility, and cost-analysis factors (Albano, 2009; Cobham, 2012; Elkins, McHugh, Santucci, & Barlow, 2011; Hirshfeld-Becker et al., 2010). For these reasons, much research has been focused on alternate forms of delivery that would make it feasible for children from low-income families, rural areas, or large urban centres with extensive wait lists to receive timely and effective treatment.

Manassis et al. (2010) suggested that children with internalizing symptoms would best benefit from school-based CBT programs, pointing out that in establishing school-based programs many of the barriers commonly confronted by families in need of this service could be alleviated. The cost of a private practitioner, the obstacle of geographic location, and the struggle with stigma attached to a diagnosis can be effectively handled by providing generalized classroom training equipping all children with coping strategies, as well as providing CBT programs to children with identified emotional needs. Although the evidence points to the success of CBT-based interventions in the treatment of anxiety disorders, the implementation into schools where the effects of the emotional and behavioural characteristics are most problematic is not being translated into practice (Foreman & Barakat, 2011). As teachers face greater demands from students demonstrating behavioural problems, time is being taken from instruction and the academic and social climate of the classroom is compromised (Allen, 2011).

Mychailyszyn et al. (2011) pointed out that there are important complications that can arise from a school-based CBT delivery. Adequate time is required after a CBT session to reduce a child's anxiety symptoms before he/she should return to class. Classical CBT requires a child to stay in contact with a feared stimulus until the level of anxiety is reduced by at least 50% (Mychailyszyn et al., 2011). Also, time should be given to conclude the session with a pleasant activity to avoid returning the child to class in a state of distress (Mychailyszyn et al., 2011). All of these constraints remove the child from his/her classroom time and compromise academic success.

Angelosante, Colognori, Goldstein, and Warner (2011) pointed out that the current treatment centres where CBT can be accessed are insufficient to service the growing community need. School-based interventions are described as advantageous for many reasons. Firstly, schools offer easy access to youth, and provide a single location thereby reducing cost and transportation concerns. Also, the stigma of seeking treatment in a mental health facility can be alleviated. When treatment is offered among the many services routinely provided by the school, parents and youth may be more willing to become involved. Secondly, many of the feared situations encountered by youth can be found in schools (separation from parents, rejection from peers, and evaluation from adults) (Allen, 2011; Angelosante et al., 2011). In this way, the school provides a natural environment in which the child can be guided and encouraged to engage, thereby narrowing the divide between a clinical session and the real-world application (Angelosante et al., 2011).

Angelosante et al. (2011) described three types of school-based interventions. The first, universal intervention, provides preventative care for all students. The second,

selective intervention, provides intervention to those students who have been identified as at risk for developing an anxiety disorder. The third, indicated intervention, provides intervention only to students who meet the criteria for a clinical diagnosis or an anxiety disorder. FRIENDS is a school-based universal intervention program for the intervention and treatment of anxiety. It is delivered to all students over 10 weekly sessions and four parent sessions to inform parents about the program and enhance parental skills in anxiety management. Children are introduced to emotional recognition and regulation, relaxation skills, cognitive awareness and restructuring, problem solving, and in vivo exposure. Angelosante et al. (2011) cited numerous studies examining the efficacy of the FRIENDS program, all of which demonstrated an improvement in anxiety symptoms post-treatment and at later follow-ups.

Elkins et al. (2011) reported significant strides in the transportability of CBT to allow greater accessibilities to children otherwise removed from traditional treatment services. CBT delivered through primary care settings, computerized CBT, camp-based CBT, and school-based CBT are all options being explored and developed.

CBT is a securely established front-line intervention in the treatment of children with a diagnosis of an anxiety disorder (Elkins et al., 2011; Gloster et al., 2011; Hirshfeld-Becker et al., 2010; Reynolds et al., 2012). A multi-centre study conducted in Germany set out to examine the role of therapist-guided exposure in CBT (Gloster et al., 2011). Gloster et al. (2011) generated two primary and two secondary hypotheses. The first stated that both treatment groups, CBT with or without the active participation of the therapist, would yield more effective results than the wait-listed control group receiving no treatment. The second hypothesis stated that the treatment group (T+) where the

therapist was present and guiding the exposure to fearful situations with the patients would demonstrate more pervasive changes than the treatment group (T-) where the therapist was not (Gloster et al., 2011). The next two hypotheses were dependent on the positive outcome of the first two. The third hypothesis stated that agoraphobic avoidance would be reduced after the patients in the T+ group were exposed to in situ exercises allowing confrontation and rationale of fearful situations; and the final hypothesis stated that the patients who had the greatest exposure to a rationale-guided anxiety-producing situation would have the greatest benefit in the reduction of symptoms (Gloster et al., 2011).

Gloster et al. (2011) screened an initial 2,354 patients seeking treatment at one of six outpatient psychological treatment centres or two psychiatric outpatient clinics across Germany over a 2-year period. Inclusion criteria consisted of a diagnosis of panic disorder with agoraphobia according to the DSM-IV-TR, scores of 18+ on the Hamilton Anxiety Scale (HAM-A), and a score of 4+ on the Clinical Global Impression (CGI). All participants' diagnoses were verified by a clinical director at each site according to a checklist-based interview (Gloster et al., 2011). Participants were excluded for various reasons including any comorbidity that was established to be primary, inability to comply with the treatment centre's schedule, clinically significant suicidal ideation, diagnosis of any medical condition that could account for the anxiety symptomatology, diagnosis of any psychotic disorder including bipolar disorder and borderline personality disorder, or current alcohol dependence (Gloster et al., 2011). No medications were permitted during the course of the study. Any participants currently taking prescription medications had to agree to a guided discontinuation or be disqualified from the study. A final number of



369 patients signed informed consent and were included in the study. A chart is provided by Gloster et al. (2011) breaking down all participants and the reasons for disqualification.

Patients were characterized according to gender, age, years of education, employment, social class, marital status, living arrangements, and comorbidity. They were then randomly selected to participate in one of three groups (Gloster et al., 2011). The first group (T+) would receive CBT with instruction and the guidance of a therapist through exposure to induced anxious stimuli before being asked to complete two additional exposures independently prior to the next session. The second group (T-) would receive CBT with instruction but no guidance through the induced anxious stimulus. The two groups differed only in the implementation format of the treatment. The final group (WL) would be placed on a treatment waiting list and would thereby act as a control (Gloster et al., 2011).

Gloster et al. (2011) selected 90 therapists for the study, each an advanced-level clinical psychology graduate student or postdoc experienced in CBT of anxiety disorders. They all successfully completed a 3-day workshop including a recorded role-play simulation (Gloster et al., 2011). The following tools were used to collect data: CIDI, the standardized computer-administered personal assessment program used to obtain the diagnosis of panic disorder with agoraphobia according to the *DSM-IV*, the HAM-A used to measure anxiety symptoms through patient interviews and assign a score from 0-56, and the CGI which assigns a clinician rated score from 1-7 for the overall severity of the disorder (Gloster et al., 2011).

Barlow et al. (2000; as cited in Gloster et al., 2011) have shown the CGI to be sensitive to change in the treatment of panic disorder. Also administered was the MI, a patient self-report measure proven highly sensitive to change in the measure of the degree of agoraphobic avoidance (Chambless et al., 1985; as cited in Gloster et al., 2011), and the PAS, another self-report measure employing a questionnaire to indicate the severity of panic attacks, agoraphobic avoidance, worries about health, disability, and anticipatory anxiety. Bandelow (1997; as cited in Gloster et al., 2011) demonstrated this tool to be reliable and sensitive to change in the above listed symptomatology during treatment of panic disorder.

All sessions were videotaped to maintain consistency and integrity between therapists and centres (Gloster et al., 2011). Quantitative statistical analyses using one-sided regression models and post hoc comparisons were conducted to test Hypotheses 1/3/4. Additionally, linear regressions tested within-group effects. In response to the first stated hypothesis, both T+ and T- improved significantly ( $p \geq .05$ ) over the WL group across all response-rate variables (Gloster et al., 2011). The second hypothesis utilized a between groups comparison of two active treatments. T+ improved significantly over T- on the CGI and MI, but not the SIGH-A. T+ achieved a significant reduction of the number of panic attacks experienced over T- ( $p \geq .047$ ), as well as the degree of agoraphobic avoidance ( $p \geq .001$ ), and improved global clinical functioning ( $p \geq .039$ ). T+ also achieved a significant global time effect demonstrating rate of change in symptomatology based on number of sessions ( $p \geq .042$ ; Gloster et al., 2011).

The third hypothesis put forward the expectation that exposure rationale and induced exposure to anxious situations would result in a reduction of agoraphobic

avoidance, while the fourth hypothesis addressed the dose-response rate between number of anxious situations entered into during treatment and outcome. Gloster et al. (2011) described anxious situations as a conscious entry into an anxious situation. The table of results provided by Gloster et al. (2011) showed the T+ group engaged in a larger number and longer exposures to anxious situations than the T- group. With this proof of concept in place, Gloster et al. (2011) collapsed the groups in order to statistically obtain data for effect of overall exposure in relation to outcome and found that the high exposure group showed a significant difference for agoraphobic avoidance ( $p \geq .011$ ), but not number of panic attacks for ( $p \geq .078$ ).

Gloster et al. (2011) concluded that the inclusion of therapist-guided exposure to anxiety-inducing situations affected a stronger, quicker and more pervasive outcome. The T+ group had a lower level of agoraphobic avoidance, more patients reporting no panic attacks, and an overall higher global functioning. But treatment groups, however, did lead to improvement over the 12 sessions which is in keeping with the first hypothesis expecting both forms of treatment to be effective (Gloster et al., 2011).

Gloster et al. (2011) pointed out that the most important measure of treatment efficacy is the improvement of the patients' overall functioning. That the guidance of the therapist made a significant difference was established, but the reason for the difference cannot be inferred from this study. Gloster et al. (2011) pointed out that the reason is likely due to the assistance and guidance provided by the therapist as the patient entered the invoked anxious situations. Frequent confrontation, elimination of safety behaviours, and length of time in the confrontational situation are all elements that the therapist could positively affect, and that have been shown relevant in the treatment outcome (Gloster et

al., 2011). Gloster et al. (2011) reminded us that it is possible, but unlikely, that the difference is caused by a relationship or motivational factor.

There are several threats to the external validity of this study. Only Caucasian patients from treatment centres with severe panic disorder and agoraphobic symptoms were used, thereby possibly limiting the generalizability of the results to the general population experiencing milder symptomatology, or just panic disorder without agoraphobia (Gloster et al., 2011). Further, all patients were required to be free of any psychotropic medications in order to participate in the study. Because treatment of panic disorder frequently utilizes psychotropic medication, the outcome of CBT for patients also on medication may vary (Gloster et al., 2011). The study does not take into account the financial cost involved in treating patients with a therapist rather than training them to prepare for and enter exposure exercises independently. The country in which this study was conducted operates on a universal health care system, as do many other countries globally. The cost factor is a major consideration in the successful implementation of a treatment option (Gloster et al., 2011).

The importance of the findings of the 2011 Gloster et al. work is that it has substantiated the efficacy of CBT therapy as an intervention for panic disorder with or without a therapist-guided exposure in situ. Although the efficacy was more pronounced with the presence and guidance of the therapist, there was still a significant treatment effect in individuals who received instruction but not actual guidance (Gloster et al., 2011). This is relevant to the next study which is concerned with the lack of availability of therapists for individuals with panic disorder in certain treatment situations.

Rathgeb-Fuetsch, Kempter, Feil, Pollmächer, and Schuld (2011) examined whether the treatment of panic disorder with CBT has a reduced efficacy in the presence of comorbidity of other affective disorders or substance abuse. Rathgeb-Fuetsch et al. (2011) identified a problem in the availability of CBT for the most severe panic disorder patients being treated in psychiatric in-patient facilities. CBT therapists tend to be associated exclusively with out-patient treatment clinics (Rathgeb-Fuetsch et al., 2011). Many patients with agoraphobic comorbidity suffer from severe avoidance and are thereby confined to a clinical treatment setting where CBT therapists are not available. Moreover, substance abuse complicates CBT (Rathgeb-Fuetsch et al., 2011). Rathgeb-Fuetsch et al. (2011) point out that most patients with severe anxiety disorders tend to delay seeking treatment intervention, and therefore present with secondary comorbid disorders already in place when they first seek help. Rathgeb-Fuetsch et al.'s (2011) hypothesis was that CBT would be just as effective in patients with additional psychiatric disorders such as substance abuse and depression as it is in subjects with no comorbidity.

The Rathgeb-Fuetsch et al. (2011) study consisted of 48 patients diagnosed with panic disorder according to the *DSM-IV* criteria. Twenty subjects had a single diagnosis of panic disorder, while 28 were diagnosed with at least one comorbid disorder (Rathgeb-Fuetsch et al., 2011). All diagnoses used the *DSM-IV* diagnostic criteria. The ratio of female to male patients was approximately 3:1, which is in keeping with the generally accepted statistic that panic disorder affects approximately three times as many women as men (Gloster et al., 2011). The subjects were aged between 18 and 70 years, and were all patients at the Centre of Mental Health in Ingolstadt, who gave written informed consent to participate in the study. Patients with substance abuse issues went through a 2-week

detoxification. Patients currently taking prescription antidepressants continued, but no new medications were prescribed during the course of the study (Rathgeb-Feutsch et al., 2011).

The therapy consisted of guided exposure to the fearful situation. For patients without agoraphobia, panic symptoms were evoked, and then they were guided through their fearful interpretations. Patients were additionally given exposure to stress relaxation techniques, and sports and arts therapy (Rathgeb-Feutsch et al., 2011). All patient data were obtained from clinical interviews and questionnaires administered upon admission, discharge, and 20 months post study. Thirty-three patients responded to the 20-month follow-up questionnaire administered through the mail. Seven others could not be located, and 8 others refused to participate in the follow-up (Rathgeb-Feutsch et al., 2011).

A quantitative assessment of the data included a Chi-square test to compare the distribution of socio-demographic variables. To measure differences between patients with solitary panic disorder and those with comorbidity, a Fisher's exact test for between-subject comparisons was used. An analysis of variance was used to measure the change of mental disorder from the beginning of the study to the conclusion (Rathgeb-Feutsch et al., 2011).

Rathgeb-Feutsch et al. (2011) found no significant difference between the two groups for gender, age, marital status, educational level, employment, or age at which help was first sought. The comorbid group did indicate a significantly higher rate of prescription medication use; primarily antidepressants (Rathgeb-Feutsch et al., 2011). There was no statistical significance in the change of mental disorder between the two

treatment groups. Due to the lack of a control group, therapeutic response cannot be determined quantitatively, but patients from both groups reported a significant reduction in panic and agoraphobic symptoms, and avoidance behaviours at the end point interview, as well as in the follow-up questionnaire (Rathgeb-Feutsch et al., 2011).

The 2011 Rathgeb-Fuetsch et al. study utilized a relatively small sample size. This may limit the reliability of the statistical analysis and the validity of the results. Rathgeb-Feutsch et al. (2011) were looking at the application of CBT for an exclusive population, and the results would not be generalizable beyond that scope. The findings of efficacy for CBT in a patient population suffering from panic disorder with comorbidity is encouraging, particularly if taken in combination with the results of the first study, indicating that CBT has a positive efficacy with or without the guidance of a therapist. This would help to address the need indicated by Rathgeb-Feutsch et al. (2011) pertaining to lack of availability of therapists in psychiatric in-patient facilities.

Minde et al. (2010) acknowledged the large body of research supporting the efficacy of CBT for anxious older children, but pointed out that this efficacy has not been substantiated in children younger than 8 years old. The prevalence of anxiety disorders in preschool- and early school-age children is shown to be the same as for adolescents aged 5 to 17 (Minde et al., 2010). A study incorporating a modified form of CBT designed to serve a population of children under the age of 8 was designed by Minde et al. (2010) using 37 anxious children aged 37-89 months. All participants were attending a university anxiety specialty clinic. Independent evaluators assessed symptomatology and severity pre- and post-treatment. A young child's relative immaturity negates some of the traditional tools of CBT, such as self-report measures, or the exploration of evidence for

faulty beliefs. For this reason, parents were included in the treatment team in a significant way, and participated in part of each treatment session. Findings indicated that significant improvement to both symptoms and severity were reported after an average of 8.3 treatments. Minde et al. (2010) postulated that parents can be an effective tool in CBT delivery for the young child. This finding also supports the previously mentioned work of Connolly et al. (2007) when they discussed the importance of the role of the caregiver in the therapeutic process for the child.

Van der Bruggen, Stams, and Bögels (2008) presented a meta-analytic review investigating the relationship between parental control and child anxiety, as well as the relationship between parent anxiety and child anxiety. It is believed that anxious parents tend to exert more control over their children. Further, parents anticipating an anxious response from children will tend to tighten control. Van der Bruggen et al. (2008) examined 1,305 parent-child dyads and found a significant relationship between child anxiety and parental control. The causal effect is, however, unknown, and a recommendation for further research into the dynamic of this relationship is recommended. The findings of van der Bruggen et al. (2008) further support the role of parental involvement in CBT postulated by Minde et al. (2010).

Furthermore, van der Sluis, van der Bruggen, Brechman-Toussaint, Thissen, and Bögels (2012), delivered a CBT intervention for young children ages 4-7 that was delivered exclusively to the parents. The therapeutic intervention consisted of four 2-hour group sessions of four to six parents each. Over a 4-week period, parents received an additional telephone session once per week. Measures of children's symptoms were assessed pre- and post-treatment. Parents also reported on likely measures to be used to



deal with their child's anxiety, pre- and post-treatment. Van der Sluis et al. (2012) found that parents were more likely to use positive reinforcement, modelling, and reassurance rather than dependency-oriented strategies. Results indicated a significant decrease in the children's anxious symptoms post-treatment.

Rapee, Kennedy, Ingram, Edwards, and Sweeney (2005) conducted a similar study with 3- to 4-year old participants in which only the parents were trained in a group setting over six sessions to apply CBT strategies with their behaviourally inhibited children. Rapee et al. (2005) demonstrated significant improvements in the reduction of anxiety diagnoses after 12 months.

Hirshfeld-Becker et al. (2010) conducted further research into the advantageous effect of developmentally appropriate parent-child CBT for young children aged 4-7 years old diagnosed with an anxiety disorder. The results indicated a significant difference in the response rate for improvement between the participants and their wait listed control group, with improvements maintaining stability at a 1-year follow-up. The inclusion of parents in the therapeutic process equips parents with psychoeducational training, allowing them to support their children and play a key role in the motivation and adherence to the program outside of the session, and at the same time forces parents to deal with their own distress while guiding their children through often upsetting exposure exercises or homework tasks (Freeman et al., 2008).

Further research into the efficacy of CBT involved the addition of motivational interviewing (MI; Merlo et al., 2010; Westra, 2004; Westra, Arkowitz & Dozois, 2009). Motivational interviewing is an adjunct to the evidence-based CBT treatment model. As effective as CBT has been demonstrated to be, there is always a small proportion of

individuals who refuse, fail to complete, or fail to respond to treatment. It is believed that ambivalence or difficulty engaging in, or committing to, treatment is partially responsible for these negative outcomes (Westra, 2004). Motivational interviewing is essentially a client-centred treatment designed to enhance intrinsic motivation through understanding and resolution of ambivalence (Westra, 2004; Westra et al., 2009). Motivational interviewing is designed to support self-efficacy. The role of the MI therapist is to guide the client into a realization of the discrepancy between the undesirable behaviours and the values and outcomes that are inconsistent with those behaviours. The pros and cons of change are explored with the MI therapist helping to guide the decision towards change. Tools used by the MI therapist consist of open-ended questions, reflective listening, affirming, summarizing, and eliciting and reinforcing change talk (Westra et al., 2009).

Unlike adults who are personally responsible for their attendance at a therapeutic session, children are dependent on an adult to bring them to the session. They are often unwilling participants in the therapeutic process, particularly in the case of OCD children who feel their well-being and safety is dependent upon their adherence to their adopted repetitive routines. For this reason, it is logical to explore the possibility of the MI therapeutic adjunct in the treatment of children as well. Merlo et al. (2010) conducted the first research into the use of motivational interviewing with children. Because lack of motivation or personal investment in CBT can negatively impact success, anything that can be done to create optimism and a positive attitude would benefit the therapeutic process. Some children approaching the therapeutic process, display unwillingness for a number of reasons, including lack of confidence. Merlo et al. (2010) pointed out that in children with OCD, there is a fear of deviating from their adopted ritual which they

believe keeps them safe. Merlo et al. (2010) conducted the first study using MI as a pre-treatment to CBT in pediatric OCD. The preliminary randomized trial incorporated 16 children between the ages of 6 and 17 years who had been diagnosed with OCD and participating in an intensive family-based CBT program. Participants were randomly assigned to a group with either an MI adjunct or extra psychoeducation (PE) sessions. Results of Merlo et al.'s (2010) study indicated participants in the CBT plus MI group showed a statistically significant lower score on the mean Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) than participants in the CBT plus PE group after only four sessions. It was found, however, that this effect decreased over time, and scores at post-treatment indicated no significant difference. What was significant, however, was that the participants in the CBT plus MI group completed their treatment course on average three sessions sooner than the CBT plus PE group, indicating the value of MI in facilitating a more rapid response and improvement, thereby minimizing the burden of treatment for families (Merlo et al., 2010).

A further response to the need for alternative methods of treatment delivery comes from the world of high tech. Computer-based delivery of CBT programs has been proposed as a solution for many of the limitations of traditional CBT treatment delivery programs. Computer-based CBT removes the need for a therapist to be physically present, thereby removing accessibility from the list of problematic features. Furthermore, it is possible to design as individual or group based, and there is ultimate confidentiality, thereby eliminating the problem of any perceived social stigma with the therapeutic process. It is also cost-effective and completely flexible, accommodating any family's time constraints (Cobham, 2012; March et al., 2009; Spence et al., 2011; Titov,

Andrews & Sachdev, 2010). Computerization is easily adapted for CBT because its highly structured procedures, formats, and treatment models can be set up as self-contained self-help sessions, or combined with therapist contact through any media (telephone, email, internet web site, or face to face; March et al., 2009; Mychailyszyn et al., 2011).

Spence et al. (2011) pointed out that online treatment models have predominantly been researched on adult populations, and the transition of this treatment modality to pediatric anxiety is relatively new. Spence et al. (2011) designed a randomized controlled trial of online versus clinic-based CBT for 115 adolescents between the ages of 12 and 18 years diagnosed with an anxiety disorder. The sample was composed of 48% diagnosed with GAD, 35% with social phobia, 13% with separation anxiety, and 4% with a specific phobia as their primary diagnosis. Also, 84% of participants had a comorbid anxiety disorder diagnosed at a level of clinical significance. All families participating agreed to be randomly assigned to either a traditional clinical CBT, internet delivery CBT, or wait listed group. The traditional CBT and the internet group received equivalent CBT content.

The internet participants completed *BRAVE for Teenagers – ONLINE* (Spence, Holmes, & Donovan, 2006 as cited in Spence et al., 2011), an online treatment program for children aged 7-14 years. The program consists of 10 weekly, 60-minute child sessions, and six weekly 60-minute parent sessions. A booster session at 3 and 6 months post-completion, focused on consolidation of learned skills and relapse prevention. Each of the initial 10 weekly sessions consisted of 20-30 web pages that needed to be sequentially completed. They were designed to stimulate motivation and engage

participants utilizing cartoon graphics, games, literary material, question and answer exercises, and reviews and quizzes. Sessions incorporated strategies for relaxation training, psychoeducation, symptom recognition, cognitive strategies for coping, self-talk, cognitive restructuring, graded exposure, problem solving, and self-reinforcement. An online therapist was available to review responses, activities, and homework via email. The role of the online therapist was to encourage, and clarify misconceptions and misunderstandings (March et al., 2009; Spence et al., 2011).

Participants and parents completed the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions (ADIS-C/P). Each diagnosis was assigned a severity rating from 0 to 8 (0 = absent, 8 = very severely disturbing or disabling) with scores of 4 or above indicating clinical levels of impairment. Assessments were completed by a psychologist blind to the group assignments and independent of the study. The blind assessor also completed the Children's Global Assessment Scale (CGAS). Secondary outcome measures included the Spence Children's Anxiety Scale Child (SCAS-C) and Parent (SCAS-P) to measure levels of adolescent anxiety. Finally, the Child Behavior Checklist (CBCL) and the Youth Self-Report (YSR) were used to measure adolescent internalizing symptoms (Spence et al., 2011).

Both the internet and clinical group demonstrated statistically significant reductions in anxiety symptoms compared to the wait list group. Overall ratings of the internet and clinical group were very high and demonstrated no significant difference. At 12-months follow-up, there was still no statistical difference between the improvements of the internet and clinical groups. Although there was no significant difference between the two test groups regarding improvements in the primary diagnosis, it is worth

mentioning that 62.2% of the internet group, and 72.2% of the clinical group were no longer experiencing any anxiety diagnosis. Spence et al. (2011) note, that it is possible that the treatment period was not long enough to effect change beyond the primary diagnosis. Future studies should include indicators of improvement across anxiety problems in general, and should continue for an extended treatment period.

March et al. (2009) had previously completed a similar study in which they tested the efficacy of the same internet-based CBT intervention as Spence et al. (2011) later used. They tested the BRAVE-ONLINE treatment program against a wait list control group using 7- to 12-year-old participants who had a primary diagnosis of an anxiety disorder. Like Spence et al. (2011), they found a statistically significant difference in the reduction of anxiety symptoms between the two groups with the effect being enhanced at the 6-month follow-up. March et al. (2009) and Spence et al. (2011) both propose internet-based CBT as a viable option for pediatric treatment delivery. Andrews, Cuijpers, Craske, McEvoy, and Titov (2010) conducted a meta-analysis of computer-based therapy for anxiety disorders. Andrews et al. (2010) demonstrated 22 randomized controlled trials all concluding that computer-delivered CBT had a superior outcome over control groups demonstrating both short- and long-term effects. Furthermore, patient satisfaction was consistently high despite the lack of face-to-face treatment. Andrews et al. (2010) concluded that computer-delivered CBT effectively increases access to therapeutic treatment to individuals who would otherwise go untreated.

### **Cognitive Behaviour Therapy and Hypnotherapy Treatment for Anxiety**

One further extension to traditional CBT currently being utilized is hypnotherapy. There is considerable research published surrounding the use of hypnotherapy in the

treatment of anxiety in adults; however, there is surprisingly little addressing the same treatment in children and adolescents. Wester II and Sugarman (2007) pointed out that hypnosis has traditionally been included under the umbrella of CBT. There are some features of hypnotherapy that are unique and distinct from CBT. Where CBT aims to create stability in an orderly and systematic way through predictability and control, hypnotherapy utilizes the element of surprise and paradox to harness the power of imagination in order to alter behaviour (Wester II & Sugarman, 2007). Anxiety in children frequently presents as a sleep difficulty, and hypnosis and hypnotherapy have a long history of documented efficacy in treating this condition (Wester II & Sugarman, 2007).

Kuttner (2009) presented a case study of a young girl with a personal and family history of struggling with anxiety manifested in sleep difficulties and resulting abdominal pain. The subject of this case study was 11 years old, and presented with fear and anxiety leading to abdominal pain if her mother were not present with her as she fell asleep. If her mother left the room, the anxiety escalated into panic attacks and the girl became increasingly distressed. She associated the experience of abdominal pain with fear, and created a phobia which led her to believe that any abdominal pain is a fearful situation that will induce symptoms of anxiety and escalate into panic attacks if she is not in the presence of her mother whom she depends upon to alleviate the symptoms. Kuttner (2009) stated that the girl had been medically examined and nothing significant revealed that could account for her abdominal pain. She is described by Kuttner (2009) as “anxious to please, tense, socially mature and emotionally responsive” (Kuttner, 2009, p. 61). A hypnotherapist working with the girl provided a metaphor for a safe and

comfortable situation, and through the use of a hypnotic trance guided the subject to bypass “an old stuck habit” (Kuttner, 2009, p. 62) essentially bypassing her cognitive defences to allow a new path allowing feelings of security.

Kaiser (2011) viewed self-regulation as the goal in the use of hypnosis because self-regulation requires the development and control of attentional focus. Hypnotherapy programs are most effective when tailored to the individual child, creating an environment in which the child will become empowered and experience his own mastery over the situation (Kaiser, 2011).

Further research into the efficacy of hypnotherapy as a moderated tool in the delivery of CBT to children may yield further advances in the treatment of children suffering from anxiety. Such a tool would be particularly useful in the treatment of children who have no primary caregiver to accompany them and participate in their CBT sessions.

### **Pharmacological Treatment for Anxiety**

An alternative to CBT is another front-line treatment intervention that is pharmacological in nature, focusing on the treatment of anxiety with medications. Over the past 2 decades, significant advances to pharmacological treatment have been made (Geller et al., 2003; Reinblatt & Riddle, 2007). Improvements in diagnostic criteria, classification of disorders, and diagnostic interview tools have all contributed to the increase of evidence-based research now being conducted into the pharmacological treatment of anxiety disorders (Compton, Kratochvil, & March, 2007; Reinblatt & Riddle, 2007). Although initial research into pharmacological intervention for anxiety disorders were based on strategies applied to adult populations (Compton et al., 2007)



studies specific to the pediatric population in this field tend to distinguish between OCD and other pediatric anxiety disorders such as GAD, separation anxiety disorder, and social phobia because there is significant evidence that OCD responds differently to pharmacological treatment, whereas the other anxiety disorders have a high rate of comorbidity and tend to be found together (Compton et al., 2007; Farach et al., 2012; Hoffman & Mathew, 2008; Reinblatt & Riddle, 2007).

The pharmacological treatments studied most often in the past few decades, and demonstrating the greatest efficacy, are the SSRI and tricyclic antidepressants (TCA) classes of drugs. Recently, studies including the class of SNRI medications have also received considerable attention in research (Compton et al., 2007; Hoffman & Mathew, 2008; Muris, 2012).

SSRI and SNRIs are widely accepted as the front-line choice for pharmacotherapeutic intervention in GAD and its comorbid anxiety disorders. For OCD, tricyclic clomipramine is considered the first-line pharmacotherapeutic option. Only in the case of specific phobia is there not a pharmaceutical treatment option because exposure therapy is still considered the first-line treatment (Farach et al., 2012).

TCAs are thought to treat anxiety, particularly OCD, effectively because they inhibit the reuptake of the neurotransmitters serotonin and noradrenaline, causing these chemicals to remain longer in the synaptic cleft and enhancing the probability that they will be absorbed by the post-synaptic cell (Muris, 2012). This, in turn, increases the likelihood of the post-synaptic cell becoming fully stimulated and thereby normalizing the brain systems involving these neurotransmitters. The result is a decrease in anxiety, as well as a number of other psychopathological symptoms (Muris, 2012). A meta-analytical

review (Muris, 2012) demonstrates clomipramine (TCA) to be efficacious in the treatment of pediatric OCD, but mixed reports are evidenced in its use with other types of pediatric anxiety. Furthermore, significantly more side effects are reported with the use of TCAs than SSRIs because TCAs also block peripheral cholinergic, histaminic, and adrenergic receptors. These side effects include dry mouth, blurred vision, nausea, dizziness, weight gain, and cardiac problems (Muris, 2012).

SSRIs function with a similar mechanism to TCAs, but they block only the neurotransmitter serotonin. The most commonly known SSRI medications are: fluoxetine, fluvoxamine, sertraline, paroxetine and citalopram (Muris, 2012). Meta-analysis of the current research demonstrates the efficacy of SSRI treatment both in OCD and in other pediatric anxiety disorders with the exception of the specific phobias (Muris, 2012).

In their meta-analysis of research studies, Geller et al. (2003) and Reinblatt and Riddle (2007) found significant evidence for the efficacy of SSRI medications for the treatment of pediatric anxiety disorders. Geller et al. (2003) conducted analysis between the major SSRIs including paroxetine, fluoxetine, fluvoxamine, sertraline and clomipramine in OCD pediatric studies. Multivariate regression meta-analysis of the drug effect with other variables controlled showed a significantly greater effect for clomipramine, with the others not differing from one another.

A double-blind study tested the effectiveness of venlafaxine extended-release (ET), and paroxetine against a placebo in the treatment of panic disorder. Venlafaxine is a serotonin norepinephrine reuptake inhibitor (SNRI) commonly known by the name brand Effexor. Paroxetine is a selective serotonin reuptake inhibitor (SSRI) widely recognized

by the name brand Paxil. This study took a purely pharmacological approach to treatment with no inclusion of CBT (Pollack et al., 2007).

As a precursor to this study it should be noted that the grant sponsor for the study was Wyeth Research, the pharmaceutical corporation responsible for the distribution of the name brand Effexor XR (extended release venlafaxine). Paroxetine is marketed by GlaxoSmithKline under the brand name Paxil. Venlafaxine began marketing in 1992 and Pollack et al. (2007) reported that it had become the gold standard or front-line pharmaceutical treatment of choice for panic disorder. Pollack et al. (2007) pointed out that CBT, the best tested psychosocial therapy for panic disorder, has a less than a 50% success rate for full and sustained remission. Pollack et al. (2007) believed that this represented an unmet treatment need in response to panic disorder treatment intervention, and were attempting to answer that need in this study. Pollack et al. (2007) claimed this to be the first published study comparing the efficacy of an SSRI with an SNRI in the treatment of panic disorder (Pollack et al., 2007).

Pollack et al.'s (2007) study was conducted across multiple sites in Eastern and Western Europe, allowing for a greater generalizability of the findings across populations (Pollack et al., 2007). All testing measures were translated into the language of the participants and administered by technicians fluent in both English and the native language. Although some controls were put in place, many of the test measures are completely dependent on semantics and could be compromised by an inconsistency of administration across technicians, or more broadly, across countries (Pollack et al., 2007).

A flow chart was provided indicating all original 664 participants, which group they were randomly assigned to, and how many of the successful 524 patients completed

the study in each group. The chart also provides complete information regarding the details for each failure to complete participant (Pollack et al., 2007). The primary reason for withdrawal in the treatment groups was adverse effects (AE), while in the control it was AE or lack of efficacy (Pollack et al., 2007). Eligible male and female participants aged 18 or older had to meet the *DSM-IV* criteria for panic disorder (with or without agoraphobia) for at least 3 months before the study. Participants also were required to have scores  $\geq 4$  on the CGI-S scale, have suffered no less than eight full symptom panic attacks in the past 4 weeks, and at least four panic attacks in the placebo pre-test period between the screening and the administration of the baseline visit (Pollack et al., 2007). Furthermore, participants also required a Covi Anxiety Scale total greater than their Raskin Depression Scale score. All participants signed an informed consent (Pollack et al., 2007).

All patients with a diagnosis of major depressive disorder or general anxiety disorder according to the *DSM-IV*, or any other clinically significant disorder were excluded from the study if the researchers felt that panic disorder was not the primary diagnosis. Pollack et al. (2007) mention that the prevalence of panic disorder is two to three times more common in women than men, and a chart provided indicates that each group had roughly such a gender ratio present.

The percentage of participants who were symptom-free at the end of the study served as the primary outcome measure (Pollack et al., 2007). The main comparisons were between the placebo control group and each venlafaxine dosage treatment. Comparisons between the paroxetine and placebo group were considered secondary as Pollack et al. (2007) indicated that the efficacy of this drug has long been established.

The comparison between the two venlafaxine dosage groups and the paroxetine group was also considered secondary (Pollack et al., 2007).

The change from baseline on the various tests administered in full panic attack frequency at the onset of the study and the final 12-week completer analysis was evaluated for each participant (Pollack et al., 2007). A full chart is provided listing each of the quantitative testing measures and the pre- and post-scores (Pollack et al., 2007). The change in frequency of panic attacks from baseline were significantly improved in all three treatment groups over the placebo group at each 2-week testing interval beginning at week 4, and remaining consistently significant ( $p > .001$ ) through to week 12. The Panic Disorder Severity Scale (PDSS) showed a significant improvement ( $p > .001$ ) at the end point as well as at several points during the study (Pollack et al., 2007). Patient responses on the CGI-S self-report score was significantly higher for the treatment groups than the placebo group ( $p > .001$ ), analyzed using an ANCOVA statistical analysis with treatment centre and drug as effect, and baseline measures as covariate. Each active treatment was independently compared with the placebo (Pollack et al., 2007).

The results from Pollack et al.'s (2007) study demonstrate that both venlafaxine ER and paroxetine are well tolerated and effective in the treatment of panic disorder. Pollack et al. (2007) hoped to establish venlafaxine as a viable first-line pharmacological treatment option for panic disorder alongside the already established paroxetine. The Pollack et al. (2007) study cannot overlook, however, that most patients remained somewhat symptomatic in each treatment group, and required either further time on treatment, or supplementation with additional CBT or pharmacological interventions (Pollack et al., 2007).

Pollack et al. (2007) acknowledged that this study gives no indication regarding dosage required, even though there were two treatment groups for the drug venlafaxine ER at two different dosages. Pollack et al. (2007) pointed out that previous fixed-dosage studies with paroxetine have demonstrated various results between 20 and 40 mg/day (Pollack et al., 2007). Venlafaxine already has an established dose-response relationship in the treatment of major depression. It is possible that this same dose-response would be effective in the treatment of panic attack, or panic attack comorbid with major depression, but this cannot be verified from the results of this study (Pollack et al., 2007). Because of the small number of participants who demonstrated comorbidity with major depression, it is unlikely that the pre-established effects of venlafaxine on major depression can account for the results demonstrated in this study (Pollack et al., 2007). A solid quantitative experimental design with random assignment to groups and a large and diverse enough sample size offered strong potential for generalizability of the results across the population (Pollack et al., 2007). Because the same tests were given before and after the study, there may be a threat to interval validity particularly for the self-report formats where the questions were familiar to subjects on the post test. Because the experiment was double blind, there was no possibility of comparison on treatment conditions between subjects, or between facilitators at the various centres with the subjects.

Two avenues for future research presented by Pollack et al. (2007) would be to determine whether a longer treatment period would result in a continued improvement, and if the combined treatment of venlafaxine with CBT would be effective in enhancing and sustaining a long-term treatment response. A consideration not addressed by the

Pollack et al. (2007) study involves the effect of the use of SSRI or SNRI medications with children and adolescents.

Compton et al. (2007) conducted an evidence-based medicine review of studies investigating the use of pharmacotherapy in the pediatric and adolescent population. The summary of their review supported the use of the SSRIs fluvoxamine, sertraline, and fluoxetine in the treatment of pediatric non-OCD symptoms. Mixed results, however, due to safety concerns exist for the use of extended-release venlafaxine in the treatment of pediatric GAD.

Escitalopram, a highly selective and potent SSRI prescribed in the treatment of depression, social anxiety, and panic disorder in adults was studied in an open-label trial with children and adolescents (Isolan et al., 2007). Change in baseline to end point scores in the CGI-I was used as the primary outcome variable with secondary variables using measures from the CGI-S, Social Phobia and Anxiety Inventory for Children (SPAI-C), the Screen for Child and Anxiety Related Emotional Disorders (SCARED)-Child and Parent version, and the Youth Quality of Life Instrument – Research Version (Y-QOL-R).

Subjects ranged from 10-17 years of age, met criteria for a primary diagnosis of SAD, and were free of any psychiatric medications for no less than 4 weeks. Eighteen of the 20 enrolled subjects completing the research demonstrated improvements from baseline to week 12 in every quality of life and symptomatic measure without clinically significant adverse effects. Isolan et al. (2007) reported at least one adverse effect in 75% of subjects, ranging from mild to moderate in intensity, but no subject developed suicidal ideation or self-harm behaviour, or clinically significant changes to vital signs or weight.

One subject developed tremors in the 8<sup>th</sup> week and was discontinued from the study. The adverse effect was resolved after discontinuation of the escitalopram.

The Isolan et al. (2007) study was limited by a small sample size and the absence of a placebo control group, as well as the elimination of comorbid symptomatology usually associated with SAD. Although all participants reported a significantly improved quality of life, none were symptom-free. Isolan et al. (2007) suggested further research with larger sample sizes, stronger doses of the medication, and possibly involving the use of CBT as an adjunct to the pharmacological treatment.

In a meta-analytic examination of randomized clinical trials investigating the efficacy of treating pediatric anxiety disorders with medication, CBT, or a combined therapy, Rynn et al. (2011) concluded that the evidence supports the use of mono-therapy with SSRI as the first-line treatment choice. Also, preliminary support for the efficacy of venlafaxine ER (an SNRI medication) is evident for pediatric GAD and SAD. Although effective in the treatment of pediatric OCD, TCAs are not used as first-line treatment due to their less than satisfactory safety profile (Rynn et al., 2011).

Uthman and Abdulmalik (2010) conducted a mixed treatment comparative meta-analysis calculating relative risk ratios to efficacy of different pharmacotherapeutic agents in the treatment of pediatric anxiety disorders. A placebo group was used as the common comparator between medications and studies in order to achieve a direct comparison between pharmacologic agents. Results indicated both clinical and statistical differences between the efficacy of the various individual SSRI and SNRI medications. Fluvoxamine demonstrated the most efficacy and overall acceptability closely followed by fluoxetine and paroxetine. Further, it was found that with the exception of sertraline,



all of the SSRI medications were more efficacious and better tolerated than the SNRI venlafaxine (Uthman & Abdulmalik, 2010).

In a randomized controlled trial comparing the effects of SSRI, CBT, and combination therapy, Walkup et al. (2008) demonstrated that SSRIs were the class of medication of choice for the treatment of pediatric anxiety disorders. Furthermore, it was reported that there were no more adverse effects in the SSRI treatment group than in the placebo group, and no increased risk for suicidal behaviour. Walkup et al. (2008; Walkup et al., 2001) advocated for the well-monitored use of SSRIs in the treatment of pediatric anxiety disorders.

Deschaux et al. (2013) conducted research using rats as subjects to determine whether fluoxetine (an SSRI commonly known by the brand name Prozac) is effective in the prevention of the re-emergence of extinguished fear through the introduction of acute stress. Evidence is presented for the pharmacological prevention of fear re-emergence. Fear extinction does not erase the memory of fear in humans or rats (Deschaux et al., 2013; Dirikx, Hermans, Vansteenwegen, Baeyens, & Eelen 2007; Hermans, Craske, Mineka, & Lovibond, 2006). Fear extinction in animals is commonly used to model exposure therapy for fear disorders. Since the risk of relapse from fear-based anxiety disorders such as phobias and PTSD is high following remission from treatment, the Deschaux et al. (2013) study offers further support that the use of SSRI medications can reduce the risk of relapse to fear disorders.

Hosenbocus and Chahal (2011) addressed a key issue with the use of any of the pharmacological psychotropic interventions including SSRIs, SNRIs, TCAs, antipsychotics, and mood stabilizers; namely, the discontinuation syndrome. This

syndrome is not considered to be a withdrawal mainly because it is not associated with drug-seeking behaviour. Discontinuation syndrome consists of a variety of symptoms including somatic, gastrointestinal, sensory, psychological/affective, sleep disturbance, and nervous system symptoms, which are commonly reported in varying degrees of intensity for a period of time ranging from 1 to 3 days, to 4 to 6 weeks following discontinuation of the medication (Hosenbocus & Chahal, 2011).

Discontinuation syndrome is also problematic in situations where adherence to a proper medication schedule is not followed. Those medications with a longer half-life seem to cause less of a problem as they leave the system at a slower pace. In children, the metabolic rate tends to be significantly higher than in adults thereby causing a more rapid depletion of the drug in the body, and increasing the likelihood and severity of discontinuation symptoms (Hosenbocus & Chahal, 2011). Hosenbocus and Chahal (2011) in their literature review have determined that fluoxetine appears safer for use with children than either paroxetine or venlafaxine because of the shielding effect of the longer half-life. Further research is required into the long-term effects of these psychotropic interventions for children. Hosenbocus and Chahal (2011) reported that venlafaxine is sometimes prescribed to adolescents in response to research indications of successful responses in the treatment of childhood anxiety disorders. In Canada, Health Canada has not yet approved any SNRI treatments for children or adolescents (Hosenbocus & Chahal, 2011).

Rynn et al. (2011) pointed out safety concerns in the use of pharmacological treatments on a pediatric population due to a limited knowledge about the impact on the developing brain of long-term exposure to medication. The importance of studying

critical brain development windows in relation to the exposure to stressors that contribute to the development of anxiety disorders is highlighted. This is critical in order to develop an understanding of the relationship between genetic makeup and environmental stressors in the formation of anxiety neural circuitry (Leonardo & Hen, 2008; Rynn et al., 2011).

Reinblatt, dosReis, Walkup, and Riddle (2009) examined data from pediatric pharmacological research studies involving children being administered fluvoxamine, an SSRI medication. Specifically, behavioural adverse events including suicidal ideation and suicidal attempts were considered. Results demonstrated adverse behavioural affects to be a common side effect of fluvoxamine use in children, occurring 48% of the time and within the first 8 weeks of treatment. Furthermore, it was discovered that activation of adverse behavioural events diminishes with lower dosages, but can reoccur as doses are subsequently increased. Reinblatt et al. (2009) noted that the children in whom adverse behavioural events were observed tended to have lower doses of fluvoxamine with higher mean blood levels. The question of the role of metabolic rate is postulated as a possible explanation of and indicator for adverse behavioural events in children treated with fluvoxamine.

Zuckerman et al. (2007) conducted a review of medical records for children who had been treated with an SSRI before the age of 7. Thirty-nine children met inclusion criteria with a mean age at start of treatment of 5.9 +/- 0.8 yrs. Research recorded no reports of suicidal ideation or attempts, and no children were hospitalized for adverse effects. Eleven subjects reported an adverse effect of at least moderate severity, with 7 discontinuing the SSRI due to the adverse effect. Six more subjects discontinued due to behavioural activation and 1 due to gastrointestinal upset. Zuckerman et al. (2007)

reported a median time to onset of adverse effect of 23 days, and a median time for resolution of the adverse effect as 19 days from onset of the effect.

Safer and Zito (2006) pointed out that adverse effects during the administration of SSRIs to children could be linked to developmental vulnerabilities. Because children are developmentally more prone to behavioural activation, it is more commonly seen as an adverse effect in children than adolescents or adults. Further, because children are more prone to vomiting, it also is more commonly seen as an adverse effect in children than older patients. Safer and Zito (2006) obtained their findings from a study examining all published double-blind, placebo-controlled SSRI studies of children and adolescents that separated adverse effect findings by age group. Safer and Zito (2006) as well as Zuckerman et al. (2007) commented that further controlled trials with the use of SSRIs in children should proceed with caution due to the high rates of adverse effects.

Muris (2012) concluded his meta-analytical review by stating pharmacological treatment of pediatric anxiety should be accepted as an evidence-based treatment. The medication of choice should be the SSRI class due to their demonstrated high level of efficacy with all forms of pediatric anxiety and the fewest side effects reported, making them better tolerated by children and adolescents than TCAs or SNRIs.

It should be noted that the efficacy of pharmacological treatment has been observed to be temporary, leaving the child prone to the development of new anxiety problems or reoccurrence of the presenting problem after medication has been discontinued. Because the effects of CBT have been demonstrated to be long-term, a combined therapeutic process should be considered as a desirable option (Muris, 2012).

Farach et al. (2012) introduced developments in two innovative approaches to future pharmacotherapeutic avenues in the treatment of anxiety disorders. The first involves the continued development of drugs based on specific neuroreceptors, and the second focuses on the pharmacological manipulation of fear-related memory.

Muris (2012) pointed out in his meta-analytical conclusions that there was evidence for a possible bias in the research of pharmacological treatments. Indications demonstrated a considerable percentage of families declining to participate in studies that involved medications. The participants in the pharmacological studies would likely be largely positively predisposed to the use of medication; thereby possibly increasing the likelihood of a favourable treatment outcome.

Muris (2012) pointed out that there is still a disconnect between research and application with a large number of physicians prescribing benzodiazepines for youth with anxiety problems; opting for the short-term relief over the long-term solution. This could be partially due to the lack of research on the effect of long-term pharmacological use on children and adolescents.

It is important to consider the established research evidencing the effects of long-term stress on the developing nervous systems of children suffering with anxiety disorders (Walkup et al., 2001). It stands to reason, therefore, that untreated stress in children may also contribute to neurodevelopmental effects. Further research into the benefits and risks in the use of pharmacological treatments in children needs to be carried out (Walkup et al., 2001).

Olfson, Crystal, Huang, and Gerhard (2010) produced evidence from a trend analysis of large insurance databases showing dramatic increases in the prescription of

psychotropic medications for preschool children aged 2-5 years. A best practice approach to the treatment of young children with developmental, emotional, and behavioural disorders needs to include a comprehensive and developmentally appropriate assessment and treatment plan that takes into consideration evidence-based options as well as individual needs of pediatric patients and their families (Egger, 2010; Olfson et al., 2010).

### **Combining CBT and Pharmacological Treatment for Anxiety**

In determining the course of treatment for pediatric anxiety symptoms, it is necessary to weigh the potential benefits from pharmacological use with the known adverse effects. Clinicians and researchers primarily believe that the combination of disorder-specific CBT and evidence-based pharmacotherapy is the first choice of treatment in pediatric anxiety (Compton et al., 2007).

Van Apeldoorn et al. (2008) in the Netherlands conducted a study investigating the efficacy of a combined CBT and SSRI therapeutic intervention in the treatment of panic disorder with or without agoraphobia. In light of the research evidence for the efficacy of CBT and SSRI treatments in panic attack, their objective was to establish whether the combined treatment is more effective than either of the treatments in isolation (van Apeldoorn et al., 2008). Further, van Apeldoorn et al. (2008) examined any differences in the efficacy of the individual treatments. Van Apeldoorn et al. (2008) cited various studies that have established the efficacy of CBT and SSRI over a placebo, thereby eliminating the need for a placebo in the current study. The hypothesis predicted that the combined treatment would have superior results over either of the treatments individually (van Apeldoorn et al., 2008).

Van Apeldoorn et al.'s (2008) study was conducted across 11 treatment sites in the Netherlands. Two of these sites were university training and research centres, two were university research clinics, and seven were regular mental health clinics. By incorporating academic and non-academic clinics, the researchers' goal was to establish the effectiveness for treatment of PD in daily clinical practice (van Apeldoorn et al., 2008).

The participants included 150 patients between the ages of 18 and 65 seeking care at one of the participating treatment centres or recruited through media advertisement and flyer distribution in physicians' offices in the Netherlands (van Apeldoorn et al., 2008). Patients were screened using a structured interview, the MINI, and *DSM-IV* criteria for Axis 1 disorders. Primary diagnosis of panic disorder with or without agoraphobia was required. Patients with agoraphobia were further classified into subgroups based on the severity of the agoraphobic symptoms in accordance with *DSM-III-R* criteria (van Apeldoorn et al., 2008). Patient disqualifiers included pregnancy, lactation, suicidal ideation, psychosis, severe depression, concurrent competing treatment, or contraindications to either treatment type included in the study. Furthermore, patients were prohibited from the use of psychotropic drugs with the exception of small doses of benzodiazepines (van Apeldoorn et al., 2008). Participants were randomly placed in one of the three treatment conditions according to the recruitment site (van Apeldoorn et al., 2008).

Patients in the CBT treatment group received 18 treatment sessions lasting 50 minutes each. These sessions were conducted twice per week in order to prevent the return of fear between sessions (van Apeldoorn et al., 2008). The first session was a

presentation of the treatment rationale based on the cognitive model of panic developed by Clark (1986; as cited in van Apeldoorn et al., 2008). In session 2 through 6, patients were trained to understand the relationship between thoughts and emotions (van Apeldoorn et al., 2008). The therapist instructed patients to perform exercises which caused them to induce and confront fearful situations without resorting to safety seeking behaviours. Patients were trained to understand that bodily sensations can be provoked and made to subside without harmful consequences (van Apeldoorn et al., 2008). During sessions 6 to 10, patients received CT. Patients were encouraged to examine the validity of their fears by examining the available evidence, and constructing new evidence around their fearful situations, and their self-concepts (van Apeldoorn et al., 2008). Session 10 onward offered a combination of CT and exposure assignments. Patients constructed an individual fear hierarchy and designed each exposure with the therapist before entering into the experience. Patients were instructed to remain in the feared situation without resorting to safety-seeking behaviours until their level of anxiety had sufficiently diminished (van Apeldoorn et al., 2008).

CBT treatment sessions were designed to conform as closely as possible to clinical standards (van Apeldoorn et al., 2008). Patients were considered to be symptom free when they reported no panic attacks for a 2-week period following 9 months of treatment (post-test; van Apeldoorn et al., 2008).

Patients in the SSRI treatment group engaged in nine weekly sessions with a therapist for 20 minutes each. Patients had the freedom to choose an SSRI prescription from those made available by prescription in the Netherlands including fluvoxamine, fluoxetine, paroxetine, sertraline, and citalopram. During the first session patients were



educated in the neurological mechanisms involved in panic disorder and the functioning of SSRIs (van Apeldoorn et al., 2008). Patients were then prescribed a minimum dose which was subsequently increased to an effective and well-tolerated individually determined dosage (van Apeldoorn et al., 2008). Pharmacotherapists were instructed not to provide any therapeutic guidance or intervention. Each patient individually made their own decisions regarding exposure to feared situations (van Apeldoorn et al., 2008).

The combined CBT + SSRI treatment group received both of the above treatments simultaneously. Both treatments were administered by the same therapists as used in the first two treatment groups (van Apeldoorn et al., 2008). Post-test data sources included patient-rated Patient Global Evaluation (PGE) and the clinician-rated Clinical Global Improvement Scale (CGI). Trained research assistants also administered the Hamilton Anxiety Rating Scale (HAM-A) and the Hamilton Depression Rating Scale (HAM-D). Additionally, two self-report questionnaires were administered; the five-item agoraphobic subscale of the Fear Questionnaire (FQ-AG), and the Symptoms Checklist (SCL-90), regarding general psychopathology (van Apeldoorn et al., 2008).

Quantitative statistical analysis of pre-test differences between randomized groups consisted of an ANOVA. Site differences were tested for using a Chi-squared, Fisher's exact tests and ANCOVA. T-tests were calculated for time effects per treatment. Overall differences in responder rates and panic-free rates were analyzed using Chi-squared analysis. All continuous measures were analyzed using ANCOVA with pre-test scores as covariates. Within-group and pre- to post-test changes as well as all between-group comparisons were calculated using Pearson's correlation coefficient. Overall differences

in responder and panic-free rates were analyzed with Chi-squared (van Apeldoorn et al., 2008).

There were only two significant differences found in the pre-test analyses. Patients tested at the university research clinics had a significantly higher pre-test CGI score as calculated through an analysis of variance (ANOVA;  $F = 5.7$ ;  $p \geq 0.004$ ). A Chi-squared analysis indicated patients treated at non-research sites had a lower level of education ( $X^2 = 8.8$ ;  $p \geq 0.03$ ; van Apeldoorn et al., 2008). An ANOVA was calculated to test the effect of age between groups because the patients in the mixed treatment group were somewhat younger. No main effect for age was found on any measure ( $p \geq .01$ ; van Apeldoorn et al., 2008). The findings substantiated the hypothesis that the combined treatment had a greater efficacy than CBT in isolation, but only three of the six outcome measures indicated a significant difference in the combined therapy over the SSRI therapy (van Apeldoorn et al., 2008). Patients who were assessed as having moderate to severe AG scored significantly higher than patients assessed with mild or no AG at the pre-test. The same analysis with post-test data no longer showed a significant difference, suggesting that patients with moderate to severe AG benefitted as much from the PD treatment as patients with mild or no AG. Future research into the treatment relationship between PD and AG warrants further investigation (van Apeldoorn et al., 2008).

The findings from this study have an external validity in that both clinical and academic treatment sites participated in the treatment using a diverse patient population (van Apeldoorn et al., 2008). Also, every effort was made to ensure that the CBT was as close as possible to the standard of care currently given at treatment facilities (van Apeldoorn et al., 2008). Precautions were also taken to maximize internal validity.

Therapists completed detailed forms on each treatment session, but sessions were not taped, and patients did not undergo regular blood and urine screening for the presence of unauthorized pharmaceuticals (van Apeldoorn et al., 2008). The effects of the benzodiazepines may be intermingled with the SSRIs, but these patients were evenly distributed among the groups, thereby limiting the possibility of this effect interfering with statistical evidence (van Apeldoorn et al., 2008). Van Apeldoorn et al. (2008) pointed out that the differences in time spent with a therapist could be an internal threat to validity. It is, however, noted that the CBT treatment intervention, by its very nature, relies on the therapist as its primary source of therapeutic intervention where the SSRI treatment intervention does not (van Apeldoorn et al., 2008).

The findings of van Apeldoorn et al. (2008) establish the generalizability of PD treatment intervention to AG. The van Apeldorn et al. (2008) study also established that the use of CBT with SSRI intervention may be utilized as a solution to risk of relapse from discontinued pharmacological treatment. Van Apeldoorn et al. (2008) stated that their main goal was to establish the effectiveness in daily clinical practice of PD treatment.

Thus, the combination of two established front-line treatments would produce an improved efficacy. It is possible that the combination may increase long-term well-being in patients diagnosed with panic disorder with or without agoraphobia. Further investigation into the possibility that CBT may reinforce well-being during periods of pharmacological relapse should take place. Also, it is possible that pharmacological doses could be lowered as CBT skills are mastered by patients.

Implications for treatment funding are evident from this research. The study by Rathgeb-Fuetsch et al. (2011) demonstrated the possibility of CBT treatment intervention without the active participation of the therapist. This opens the possibility of CBT intervention for patients who do not readily have access to a therapist or clinic due to geographic location or socioeconomic status. The study by Pollack et al. (2007) introduced a pharmaceutical intervention with a different action mechanism. For patients who are unable to tolerate SSRI medications, the results of this study offer new hope in the use of an SNRI treatment option.

Walkup et al. (2008) conducted a pediatric randomized controlled trial in which 488 children between the ages of 7 and 17 years with a primary diagnosis of SAD, GAD, or social phobia according to the *DSM-IV-TR* would receive 14 sessions of CBT, sertraline (an SSRI medication commonly known by the brand name Zoloft), a combination of sertraline and CBT, or a placebo drug for 12 weeks. Walkup et al. (2008) found a statistically significant difference in the response rate for each therapeutic group compared to the placebo control. Each mono-therapy significantly reduced the symptoms of anxiety in the children. The greatest response rate, however, was in the combination CBT and sertraline group.

### **Mindfulness- and Acceptance-Based Intervention for Treatment of Anxiety**

Mindfulness- and acceptance-based interventions (MABIs) have received an escalating interest over the past 2 decades. MABIs are widely accepted in clinical psychology, psychiatry, behavioural health, and psychosomatic medicine for the treatment of a variety of mental disorders including anxiety, depression, chronic pain, and other disorders in adults (Jha, Krompinger & Baime, 2007; Semple & Burke, 2012;

Vøllestad, Nielsen, & Nielsen, 2012). Mindfulness originates from contemplative religious or spiritual traditions, many from 2,500-year-old Buddhist meditation practices that have been applied to a secular or clinical context (Semple & Burke, 2012). Vøllestad et al. (2012) described MABIs as “a family of interventions with a shared emphasis on strategies that alter an individual’s relationship to his or her internal experience, rather than strategies that aim to directly alter the content of these experiences” (Vøllestad et al., 2012, p. 239).

Semple and Burke (2012) pointed out that research and clinical practice with children and adolescence typically follows successful treatment interventions for adults; a process which has only recently begun. Lee, Semple, Rosa, and Miller (2008) conducted a study and review of the literature that supports children’s ability and willingness to engage in MABI as well as preliminary evidence that these meditative techniques may be effective in treating symptoms of anxiety in school-aged children. These techniques include focusing on one’s breath, and keeping one’s thoughts centred on the moment; not allowing them to stray to past memories or future worries.

Interestingly, as previously mentioned, McClure et al. (2007), when studying amygdala hyperactivation decreases with CBT, noted that the most significant results and improvements occurred when participants focused attention to internal emotional states. Further research into the neurobiological substrates involved in MABI would allow insight and understanding of the processes involved in anxiety, and the alleviation thereof.

### **Animal-Assisted Therapy as Treatment for Anxiety**

Away from the front-line therapeutic interventions lie another group of treatment options that offer support to children suffering with anxiety disorders. Animals have long been known to reduce stress and offer companionship to humans. Wells (2009) suggested that an animal companion provides a source of support and entertainment, thereby promoting improved health for the human owner. Wells (2009) continued to point out that research consistently indicates that animals have a capacity to serve as moderators of stress. Close physical contact with a companion animal, such as stroking and talking to the animal, has been shown to result in lowered blood pressure and heart rate. It is also evident that the presence of a companion animal can reduce the autonomic responses to stressful conditions. Furthermore, the relationship with a companion animal has been shown to have significant psychological benefits not only in reducing the effects of stressful situations, but also in enhancing feelings of self-esteem, competence, and autonomy, and reducing feelings of isolation, loneliness, and even depression (Wells, 2009).

Kurdek (2008) found that dogs may function as attachment figures for their owners, providing social support and subsequently stress relief through a human-animal attachment bond. Endenburg and van Lith (2011) also found that a child's development is positively influenced by a companion animal, suggesting that their emotional development; particularly the development of self-esteem, autonomy, and empathy for others, are fostered by the human-animal companion bond. Furthermore, Endenburg and van Lith (2011) demonstrated that children who grow up in a household with a pet dog exhibit greater social confidence and develop into socially more competent adults.

Evidence also is presented suggesting that the bond of a child and a pet dog in the preschool years fosters an enhanced cognitive development. Endenburg and van Lith (2011) explained this development as the result of the dog's skills as a loyal and careful listener, facilitating and encouraging communication from the child. Beck and Katcher (2003), and Friesen (2010) demonstrated that animals can also be part of our social support network. They qualify this culturally, reminding us that although North Americans generally perceive their pets as 'part of the family', other cultures view them as dirty and unacceptable as housemates. For those who do incorporate animals into their social network, it is not uncommon to hear reports of people conversing with their pets and considering them as a confidant in the same way as one would another human. Friesen (2010) stated that therapy dogs are perceived by children as a non-judgemental support exempt from the expectations and complications of human relationships. In a word, they are considered 'safe'. She records children's comments regarding their time with a therapy dog including such things as "she's a really good listener" (Friesen, 2010, p. 261).

Melson (2003) pointed out that child developmental theory has a void where human-animal interaction is concerned. Since we understand that children develop in the context of their relationships (Holmes, 1993), it would seem evident that the bond between children and their animal companions would be examined. Melson (2003) cited that between 70% and 78% of all American and Western European households with children have pets. Also, pets are more likely to be found in households with minor children than in any other household composition. Melson (2003) further pointed out that children consider their relationships with their companion animals as among the most

important and intimate, thereby linking a child's social-emotional development and the companion animal relationship.

Daly and Suggs (2010) cited teachers as believing that having pets in the classroom contributes to students' development socio-emotionally as well as academically. The teachers stated that students benefitted from having pets in the classroom with increased social skills, increased language development, and as a catalyst for writing projects. Teachers also felt that the presence of the animal gave them an opportunity to relate with the children and bond with them on a more personal level in discussing issues relating to the classroom pet. Beck and Katcher (2003) concurred that animal contact can positively influence the development of communication skills in young children. Furthermore, the *DSM IV-TR* indicates that stuttering, an anxiety-related disorder, is often absent during oral reading or talking with a pet.

Hansen, Messinger, Baun, and Megel (1999) conducted a study to determine possible health benefits to children undergoing medical examinations which create stressful situations for them. A significant reduction in behavioural stress was found in the group of children who were examined with a companion animal present compared to the control group who did not have a companion animal present. Beetz et al. (2011) also conducted a study in which it was examined whether a real dog, a toy dog, or a friendly person would be more beneficial in alleviating the stress from a socially stressful situation in children identified as insecurely attached. It is noted, once again, that insecurely attached children find it particularly difficult to accept social support from humans as they have failed to form a strong attachment bond to a primary caregiver early in life. It is not surprising that the results of the study showed a significant reduction of



stress in children with the presence of the real dog over either of the two control conditions. Furthermore, Beetz et al. (2011) suggested the role of physical contact with the dog to be important in the stress reduction effect.

With all of the benefits being postulated for the relationship with a companion animal, it is of little wonder that schools are taking a serious look at the role of animals in various programs. Schools are starting to look to specially trained therapy dogs as participants in children's reading programs (Francis, 2009). Francis (2009) explained that having a dog in the room immediately creates an atmosphere of relaxation and openness that fosters conversation among the children. Francis (2009) described a therapy dog reading program and demonstrated how the children's relationship with the dog fosters kindness, awareness, and empathy for others. Francis (2009) further explained that the children see the therapy dog as a safe and non-judgemental listener. A teacher sits with the child and the dog and helps the child with words he/she does not know. The children are often seen turning the book to show the pictures to the dog, and explaining the story where they feel explanation may be beneficial. They believe the dog is listening and interacting with them in their reading experience.

Jalongo (2005) indicated that the use of therapy dogs can build motivation, maintain focus, and increase task persistence in children. The presence of a trained therapy dog offers a form of social support, and promotes peer interaction. Friedmann, Thomas, and Eddy (2000) demonstrated that the presence of a therapy dog reduced children's blood pressure and heart rate and diminished other observable signs of anxiety when children were asked to read aloud under three different conditions (to a peer, to an adult, and to a therapy dog).

If children are able to develop a successful attachment bond with a dog, demonstrating a trusting and caring relationship through a reading therapy program, could this positive step in their socio-emotional development be used therapeutically to foster future relationships with other humans? Beetz et al. (2011) postulated that their study using children identified as insecurely attached gives hope that they can learn to trust and respond without stress in a supportive environment.

Since children with anxiety issues tend to also experience difficulties with self-confidence, it is imperative that the therapy dog program be introduced as something exciting. Children should feel privileged to be called out of the classroom for a turn with the therapy dog. Children should never be centred out, or feel belittled or as remedial when participating in this program. A therapy dog program is all about providing an opportunity for positive growth and development. The way in which it is implemented is critical to this outcome.

It is clear that when a child is diagnosed with an anxiety disorder that the first-line treatments need to be implemented, but further research into alternative therapies that can support the remission of symptoms accomplished by alternative treatment options need to be explored. Animal assisted therapy is one such avenue open to exploration. Another is that of the various art- or play-based therapies.

### **Arts Therapy as Treatment for Anxiety**

Anari, Ddadsetan, and Sedghpour (2009) conducted a study in which they investigated the effectiveness of Drama therapy in decreasing the symptoms of Social Anxiety Disorders (Performance Anxiety, Performance Avoidance, and Social Phobia) in 10- 11-year-old children. Thirty-two children from a group of 300 in two schools in

Tehran were identified using the Liebowitz Social Anxiety Scale for Children and Adolescents. Children were divided into a control and a research group. The research group received 2-hour drama therapy intervention twice weekly for 6 weeks. The children in the research group showed a statistically significant reduction of symptoms in comparison to the control group that received no intervention. Anari et al. (2009) conducted a 3-month follow-up and found that the reduction in symptomatology was still statistically significant. It is proposed that this study submits evidence warranting further investigation of Drama therapy as an intervention tool for children with Social Anxiety disorders. It is reasonable to investigate whether the experience of practicing social situations through drama may instill confidence and support the child with strategies to more effectively handle situations later in real life.

### **Chapter Summary**

Anxiety disorders in children are clearly established as among the most prevalent, and frequently diagnosed, childhood disorders in Western culture (Angelosante et al., 2011; Colonnese et al., 2011; Ramsawh, Weisberg, Dyck, Stout, & Keller, 2011; Rockhill et al., 2010) consistently demonstrated to have a high comorbidity with other affective disorders (Beidel & Alfano 2011; Rockhill et al., 2010) and accounting for a significant cost to society based on the empirical evidence suggesting the progression of childhood diseases across the lifespan (Angelosante et al., 2011; Elkins et al., 2011; Manassis et al., 2010; Simon, Dirksen, Bögels, & Borden, 2012).

Extensive research has been committed to the efficacy of various treatment programs. The front-line treatment programs that have emerged are cognitive behaviour therapy and psychopharmacology, most frequently using SSRI medications. Clear

evidence identifies a combination therapeutic intervention as producing the best outcome for both children and adults (Compton et al., 2007; van Apeldoorn et al., 2008; Walkup et al., 2008). Although there is good evidence for reduction of symptoms through these therapies, there is no evidence in existence that the affective disorder is in remission or cured. Often, even the reduction of symptoms is only partial at best, with patients continuing to demonstrate significant distress and impairment at the completion of treatment (Rapee, Kennedy, Ingram, Edwards, & Sweeney, 2005).

The future of research in the field of anxiety disorders is shifting towards early identification and intervention (Topper, Emmelkamp, & Ehring, 2010). Certain traits or markers such as anxiety sensitivity (AS), or intolerance of uncertainty (IU) are being identified early in the personality of individuals (Cogle, 2012; McEvoy & Mahoney, 2012; Schmidt, 2012). Anxiety sensitivity, when identified early can be treated in a few hours of therapeutic intervention (Cogle, 2012; Schmidt, 2012). Intolerance of uncertainty has been identified as a possible transdiagnostic factor across the anxiety disorders indicating that it may act as a mediator for a broad range of affective disorders. This information will allow future research to focus on new approaches to early interventions for anxiety disorders (McEvoy & Mahoney, 2012; Schmidt, 2012).

Research in the field of neuroscience is continuing to contribute to our understanding of the physiological correlates of anxiety both in adults and children, providing tools to target early identification of risk factors, and the markers predicting successful treatment outcomes, thereby impacting the future direction of research and implementation of therapeutic interventions for individuals suffering with anxiety disorders. Also, the evidence for new therapies including the use of technology, arts-

based programs, and animal-assisted interventions offers insight into opportunities to support and extend existing front-line therapeutic interventions working toward the goal of long-term remission of anxiety disorders.

## **CHAPTER THREE: METHODOLOGY**

The following chapter consists of the presentation of empirical evidence that demonstrates the effects of anxiety when there is a failure to intervene at a young age. The long-term effects of anxiety, when left untreated, cause the development of further disorders and difficulties in daily functioning in a variety of ways (Connolly et al., 2007; Crawford & Manassis, 2011; Manassis et al., 2010; Rapee et al., 2008; Reynolds et al., 2012).

The chapter outlines the development and distribution of a needs assessment for a handbook designed for use by elementary educators, and the process by which the handbook was developed, and finally the evaluation of the handbook by the same educators that participated in the needs assessment.

### **Need for the Handbook**

The evidence available in the literature demonstrates a number of ways in which an individual's life can become impacted due to an anxiety disorder (Connolly et al., 2007; Crawford & Manassis, 2011; Manassis et al., 2010; Rapee et al., 2008; Reynolds et al., 2012). In addition to drawing attention to these numerous, life-affecting situations, a discussion on the importance of, and need for, early intervention and the practical role that can be played by the school in the process of early identification, and support of children with anxiety disorders will be included.

### **Health**

Anxiety disorders in children can have a negative impact in the development and functioning of a child (Reynolds et al., 2012). Manassis et al. (2010) pointed out that children suffering from anxiety disorders have a significantly increased likelihood of

developing comorbidity with other internalizing disorders such as depression. Anxiety disorders have detrimental effects on both the quality and functioning of everyday life, and often precede more severe anxiety disorders, comorbidity with depression, affective disorders, or substance abuse (Connolly et al., 2007; Simon & Bögels, 2009). Connolly et al. (2007) in their literature review provided evidence demonstrating that anxiety disorders disrupt the normal course of psychosocial development in young children and are strong indicators for adolescent and adult impairment from further affective disorders as well as an increased risk of illicit drug use.

Simon and Bögels (2009) demonstrated in a study conducted in the Netherlands that families of children with a clinically diagnosed anxious child have a 20% increase in health care costs. They point out that the cost burden on society for treatment increases as the severity of the diagnosis increases, making a socially responsible argument for early identification and intervention. Clearly, although societal cost is a significant concern, a more humanistic focus would be the increased quality of life for a child who receives treatment before the anxiety disorder is able to progress.

### **Social-Emotional Well-Being**

Children suffering from anxiety disorders tend to be shy and have fewer friends (Crawford & Manassis, 2011). The friendships they do have tend to be of a lesser quality than their peers. This reflection of an impaired social-emotional development positions these children for an increased likelihood of peer victimization (Crawford & Manassis, 2011).

Connolly et al. (2007) stated that children suffering from anxiety disorders are more likely to suffer from low self-esteem, and frequently misinterpret social situations in

a negative way, which underestimates their true competencies. As a result, these children are less likely to interact with their peers thereby further compromising their normal psychosocial development. Children suffering with SAD have the further difficulty of developing independence from their significant adult.

### **Academic Performance and Non-Completion**

Academic performance may be affected in children who have been diagnosed with an anxiety disorder (Connolly et al., 2007; Duchesne, Vitaro, Larose, & Tremblay, 2008; Rapee et al., 2008). Anxious children tend to lack the ability to approach a task with confidence, and therefore, will often engage in avoidant behaviour even though they are conscientious and eager to accomplish the task (Rapee et al., 2008). Duchesne et al. (2008) conducted research through which they determined anxiety in elementary school-aged children to be a predictor of high school non-completion. This evidence is also supported by Connolly et al. (2007) who cited evidence that 1<sup>st</sup> Graders reporting symptoms of high levels of anxiety were at more likely to experience low achievement in 5<sup>th</sup> Grade mathematics and reading.

### **Teacher/Parent Recognition and Identification of Children with Anxiety**

Loades and Mastroyannopoulou (2010) investigated teacher perceptions and skills in identifying children with various emotional and behavioural challenges. Loades and Mastroyannopoulou (2010) found that teachers are skilled at recognizing these challenges in children, but were much more likely to pay attention to the external behavioural issues and ignore the internalized emotional issues. They point out that much was expected of teachers regarding students' academic, behavioural, and emotional needs, but that they did not receive training to be able to accommodate all of these mandates. They proposed



that teachers should receive further training to refine their ability to identify and act upon children's mental health issues.

Rothi and Leavey (2006) demonstrated that parents are very good at recognizing emotional and behavioural problems in their children, but that they often do not seek help. When they do seek help, they are most likely to speak with the child's teacher. Rothi and Leavey (2006) concluded their study by suggesting that a program involving the integrated effort of numerous agencies would be most successful in early identification of and intervention for, children at risk of emotional disorders.

### **Importance of Early Intervention**

Young children often have difficulty identifying and naming feelings. It is a challenge for them to distinguish between and recognize emotions. Before a child can successfully begin to manage anxiety, he/she must be able to recognize and name it. Anxiety, when internalized can quickly turn to frustration and anger (Chansky, 2004). Kauffman and Landrum (2009) pointed out that a lack of coping strategies can result in anxiety being expressed as an externalized behaviour disorder.

Connolly et al. (2007) discussed the importance of early identification as the first step in intervention, offering several suggestions, including, community screening, media and community-based psycho-educational programming, classroom-based awareness and intervention programs, community-based parent skills training programs, and the screening and treatment of parental anxiety disorders. Further, Manassis et al. (2010) concluded by suggesting that children with internalizing symptoms would best benefit from school-based cognitive behaviour programs (CBT). Manassis et al. (2010) pointed out that in establishing school-based programs, many of the barriers commonly

confronted by families in need of this service could be alleviated. The cost of a private practitioner, the obstacle of geographic location, and the struggle with stigma attached to a diagnosis can be effectively handled by providing generalized classroom training, equipping all children with coping strategies, as well as providing CBT programs to children with identified emotional needs.

### **Needs Assessment**

A *Needs Assessment Questionnaire* was designed to identify the level of understanding from teachers regarding anxiety in primary school-aged children in the current project. Questions were asked to inform understanding of symptomatology and best intervention practice, as well as level of comfort and perceived confidence for intervention. Finally, questions regarding current levels of training and support offered to teachers in recognition and intervention of anxiety were asked.

The *Needs Assessment Questionnaire* (see Appendix A) was distributed to 3 elementary school teachers with varying amounts of teaching experience in primary grades. The teachers' professional experience ranged from 2 years to 15 years, and represented two different schools in the same district school board. Table 1 outlines the non-identifying information for each participant. Participants were asked to read a one-page introduction to anxiety in the primary school classroom, and then fill out the questionnaire based on their experience in the classroom. Participants were instructed not to provide any identifying information, and to return the questionnaires in the self-addressed, stamped envelope provided upon completion. Participants were also asked to review the handbook upon its completion.

Table 1

*Number of Years of Elementary Teaching Experience*

	Participant #1	Participant #2	Participant #3
Current Grade of Instruction	JK/SK	JK/SK	Grade 1
Number of Years of Elementary Teaching Experience	12	2	15
Previous Grades of Instruction	1, 2, 1/2 split	1, 3, 5/6 split	Special Needs, 1/2 split

### **Summary of the Needs Assessment and Findings**

The first two questions referred to behavioural indicators that may point to a problem with anxiety in a child. Refer to Table 2, which gives the number of responses to each possible indicator.

All participants felt that shyness could be related to anxiety. Participant 2 and 3 thought that there were also other reasons that could account for shyness. Participant 2 commented that shyness would be considered an indicator for anxiety only if it was persistent over a period of time, believing that all children can exhibit some level of shyness initially in a new environment.

When asked if they felt confident in their ability to recognize symptoms of anxiety in children in the classroom, participants answered as follows:

1. *Yes* – indicating that he/she had numerous years of teaching experience, and an additional 10-year experience working in a daycare.
2. *No* – stating that he/she had received no training relating to anxiety in children and felt uncomfortable recognizing anxiety in the classroom and in addressing anxiety once it was identified. This teacher indicated that he/she was afraid of misreading the indicators.
3. *Somewhat* - explaining that children could be anxious without exhibiting any outward symptoms.

Table 2

*Educators' Perceptions of Possible Behavioural Indicators for Anxiety in Young Children*

<b>Behaviour</b>	<b>Participant #1</b>	<b>Participant #2</b>	<b>Participant #3</b>
Crying when dropped off at school	x	x	x
Frequent need to go to the bathroom especially early in the day	x		x
Frequent complaints of tummy aches	x	x	x
Muscle tension	x		x
Excessive sweating			x
Complaints of feeling jittery, or visibly trembling	x	x	x
Frequent headaches	x	x	x
Negative affect		x	x
Withdrawal from social interaction	x	x	x
Avoidant behaviour		x	x
Hyper-vigilant in unfamiliar situations	x	x	x
Spending majority of time observing rather than participating		x	x
Negative attention bias to threat		x	x
Peer exclusion/rejection		x	x
Victimization/bullying		x	x

All 3 participants agreed that their chosen course of action when identifying a child suffering with anxiety would include contacting the parents, discussing with the learning resource teacher, and initiating a procedure to bring the situation to the attention of the in-school team. Participants 1 and 3 also indicated that they would discuss the situation with the school principal. Participant 3 stressed the importance of trying to identify the source of the child's anxiety.

When asked if they would be inclined to initiate any intervention directly with the child, all participants indicated that they would do so. Participant 3 explained that he/she would only do so if it was felt that the intervention would not worsen the child's anxiety. Participant 3 also felt that intervention recommended by a pediatrician would be the best course of action.

Participants were asked to respond to the following questions by rating their answers on a Likert scale selecting from the categories: *strongly agree*, *agree*, *unsure*, *disagree*, or *strongly disagree*.

1. I feel that there is a strong sense of awareness on the part of teachers in our schools regarding the increasing problems encountered by children suffering with symptoms of anxiety.
  - Participants 1 and 3 responded with *unsure*, while Participant 2 responded with *disagree*.
2. I feel confident in my ability to recognize children suffering with symptoms of anxiety in my classroom.
  - Participants 1 and 3 responded with *agree*, while Participant 2 responded with *disagree*.

3. I feel confident in my ability to offer assistance to these children through proper referrals.
  - Participants 1 and 3 responded with *agree*, while Participant 2 responded with *unsure*.
4. I feel confident in my ability to offer assistance to these children through strategies I can implement in my own classroom.
  - Participant 1 responded with *agree*, Participant 3 responded with *unsure*, and Participant 2 responded with *disagree*.
5. I feel that there is adequate training provided to teachers to identify issues regarding anxiety in children in our schools.
  - Participant 1 responded with *unsure*, Participant 3 responded with *disagree*, and Participant 2 responded with *strongly disagree*.
6. I feel that there is adequate training provided to teachers regarding strategies and possible intervention available in assisting children suffering with symptoms of anxiety.
  - Participants 2 and 3 responded with *disagree*, while Participant 1 responded with *unsure*.

All 3 participants commented on a question asking whether a handbook detailing information about anxiety in primary school-aged children would be a useful tool to teachers in the classroom with an affirmative answer. Participant 3 voiced a concern over whether the handbook would be approved by a child psychologist or pediatrician.

In response to a question asking participants to provide a list of topics that they would like to see included in the handbook, they requested the following:

- a list of possible symptoms or indicators as well as strategies was requested by all 3 participants
- a list of resources available or agency connections were requested by all 3 participants
- information on how to talk to young children and their parents about anxiety, as well as resources for parents was requested by Participant 2
- activities, stories, and lessons that could be used in the classroom were requested by all three participants
- discussion about beginning and changing school, and test anxiety was requested by Participant 1

When asked about the type of activities they would find useful, the following suggestions were offered:

- hands-on activities
- esteem- and confidence-building activities
- activities that incorporate teamwork and/or partnership
- stories that coincide with the various kinds of anxieties
- welcoming new students
- celebrations of similarities and differences
- lessons that allow students to self-identify anxiety
- activities/lessons offering students strategies
- activities that reduce the stigma surrounding anxiety and increase comfort for discussion of this topic



The information provided by the participants in this questionnaire was compiled and used to design the handbook found in chapter 4 of this project.

### **Development of the Handbook**

The handbook begins with a statement of the problem of anxiety in the primary school classroom today, and gives summarized information regarding the background of this problem, as well as the consequences to children and families when this problem goes unrecognized, undiagnosed, and untreated.

All participants involved in the *Needs Assessment Questionnaire* strongly expressed a desire to see a list of symptoms that they could recognize in their students. For this reason, a discussion on the different types of anxiety commonly diagnosed among children today including their classification, prevalence, and etiology is included followed by a summary of commonly seen symptomatology.

A summary on the main forms of treatment available to children is included with a discussion on how and why to incorporate treatment into the schools, and the important role of the school in both the identification of, and first-line intervention for children demonstrating symptoms of anxiety. Also, the important role of the teacher in establishing communication with the family and working to coordinate efforts to support the child between the home and the school are laid out. A series of lesson plans designed to address issues from personal confidence to understanding, respect, and tolerance in the classroom community are presented. Lesson plans are designed to be used either independently, or in sequence as a program in character development. A list of resources, children's books, and community support agencies are provided in the appendix of the handbook for further reference.

### **Evaluation of the Handbook**

Upon completion of the handbook, the same teachers who completed the *Needs Assessment Questionnaire* were asked to complete an *Evaluative Questionnaire* of the handbook (see Appendix B). The evaluation was composed of questions regarding the ease of use and practicality of the handbook. Participants were further asked if they felt they would use the handbook and its lesson plans in their classroom in the future. Results from the handbook evaluation are presented in chapter 5.

### **Chapter Summary**

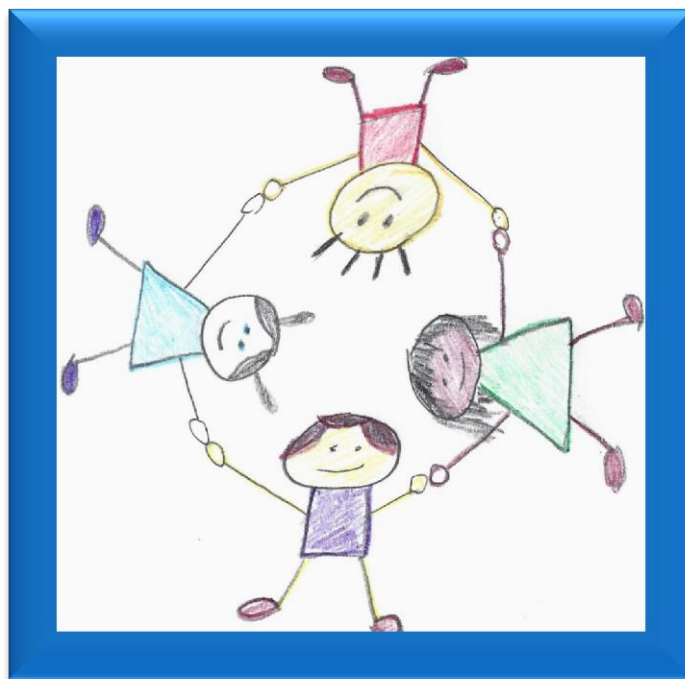
Chapter 3 initiated a discussion on the importance of intervention for children with anxiety disorders, and the repercussions of failure to receive such intervention. A description of a *Needs Assessment Questionnaire* and the teachers participating in the questionnaire was given along with detailed results provided by participants regarding their current level of knowledge and confidence on the topic of pediatric anxiety. Participants further provided suggestions for topic they felt helpful for use in their classroom practice. All of this information was then unified into a handbook consisting of an overview of the problem of anxiety in schools today, information for the identification of anxiety symptoms in children and treatment options available, lesson plans covering a variety of topics addressing anxiety in the classroom, as well as a list of resources and support material for parents and educators. The following chapter (chapter 4) provides the completed handbook.

**CHAPTER FOUR: ANXIETY IN THE PRIMARY CLASSROOM: A  
HANDBOOK FOR EDUCATORS**

This chapter contains *Anxiety in the Primary Classroom: A Handbook for Educators*. The purpose of this handbook is to provide a tool for elementary school educators with current information regarding the major forms of anxiety that children in their classrooms may be struggling with. Also, the handbook provides resources to help educators in supporting not only children struggling with anxiety, but all children, as they face the everyday stresses of developing in a social environment such as school.

The handbook is a resource of teachable activities to be used by the classroom teacher with the entire class. In doing so, each child has the opportunity to develop stronger intra- and inter-personal skills. Also, by including all students, the child already struggling with issues of anxiety is not centred out through class withdrawal.

# **Anxiety in the Primary Classroom: A Handbook for Elementary Educators**



Ismailos, 2013

Linda Ismailos (2013)

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Fear and worry is a natural and normal part of life, evolutionarily designed to protect us from harm (Rapee, Wignall, Spence, Cobham, & Lyneham, 2008), and anxiety is a normal emotional response to a perceived threat (Grills-Taquechel & Ollendick, 2007). When the mechanism for fear becomes activated without the presence of a threatening stimulus it causes an unnaturally anxious and problematic situation which can adversely affect a child's ability to function in everyday life (Grills-Taquechel & Ollendick, 2007; Rapee et al., 2008).

Anxiety disorders were once thought to be rare and have no significant impact on the daily lives and development of young children and youth. Currently they are recognized as the most frequently diagnosed childhood disorders with prevalence rates ranging from 2% to 17% of the population (Creswell & Cartwright-Hatton, 2007; Degnan, Almas & Fox, 2010; Imran, Bhatti, Anwar, Najmi & Haider, 2012). Anxiety is one of the most common problems reported by children of all ages. As adults we envision childhood to consist of carefree happy days, but in reality, many children experience unsubstantiated fear and phobias (Rapee et al., 2008).

Anxiety disorders in children have been demonstrated to have both a high comorbidity with other affective disorders, as well as being indicative of developmental problems and continued issues into adulthood (Grills-Taquechel & Ollendick, 2007; Muris, 2006; Quide, Witteveen, El-Hage, Veltman, & Olf, 2012; Rapee, Schniering, & Hudson, 2009), and presenting significant disturbances to the child's daily functioning ability (Muris, Meesters, & van Melick, 2002; Walkup et al., 2008). As a result of their anxiety, these children tend to be shy, have fewer friends, and experience less strong friendships than their peers. Academic achievement can also be affected by anxiety.

Anxious children tend to lack the ability to approach a task with confidence, and therefore, will often engage in avoidant behaviour even though they are conscientious and eager to accomplish the task (Rapee et al., 2008).

Young children often have difficulty identifying and naming feelings. It is a challenge for them to distinguish between and recognize emotions. Before a child can successfully begin to manage anxiety, he/she must be able to recognize and name it. Anxiety, when internalized, can quickly turn to frustration and anger (Chansky, 2004) and a lack of coping strategies can result in anxiety being expressed as an externalized behaviour disorder (Kauffman & Landrum, 2009).



## **SECTION ONE: TYPES OF CHILDHOOD ANXIETY**

Anxiety disorders are the most common psychological problems diagnosed in children and adolescents (Muris, 2012; Rapee et al., 2008,). Ten percent to 20% of children in the general North American population report experiencing distressing levels of anxiety (Mychailyszyn et al., 2011), and 40% to 60% of children diagnosed with an anxiety disorder meet criteria for at least one other anxiety disorder (Rapee et al., 2009). The three most prevalent forms of anxiety disorders diagnosed in children include general anxiety disorder (GAD), separation anxiety disorder (SAD), and social anxiety disorder. Another form of anxiety disorder seen with increasing frequency in elementary schools is selective mutism (Mychailyszyn et al., 2011).

### **GENERAL ANXIETY DISORDER**

General anxiety disorder is defined as an excessive and uncontrollable form of worry accompanied by physical symptoms such as gastrointestinal difficulties, headaches, heart palpitations, or restlessness (Keeton, Kolos, & Walkup, 2009). GAD can cause the need in children for excessive reassurance and produce negative responses to evaluation or criticism. The intensity, frequency, and functional impairment that accompanies GAD differentiates it from worry experienced by children with low anxiety, and accounts for 38% to 59% of referrals to child anxiety clinics (Beidel & Alfano, 2011).

Children with GAD consistently report feelings of self-doubt, inadequacy, and negative feelings of social acceptability and expectations for the future (Da Fonseca et al.,

2008). All of these participate in compromising the child's adaptive functioning and creating difficulties in learning and socialization. A child who is in a chronic state of fear over a wide range of things may be diagnosed with GAD (Chansky, 2004; Kauffman & Landrum, 2009).

### **SEPARATION ANXIETY DISORDER**

Separation anxiety disorder is characterized by developmentally inappropriate fear and distress associated with the separation or anticipated separation from the major attachment figure (Eisen et al., 2011; Mychailyszyn et al., 2011; Rockhill et al., 2010). Children with separation anxiety disorder worry excessively about potential harm to themselves or their attachment figure. The child with separation anxiety disorder will avoid detachment from the primary attachment figure at all cost, even resorting to oppositional behaviour and refusing to sleep alone or attend school (Essau & Petermann, 2001; Rockhill, et al., 2010).

The construct of separation anxiety disorder is rooted in Bowlby's Attachment Theory (Bowlby, 1980), in which attachment is defined as a biologically motivated bond considered to be a survival mechanism (Beidel & Alfano, 2011).

### **SOCIAL ANXIETY DISORDER**

Social anxiety disorder is characterized by an unreasonable, excessive, and persistent fear of embarrassment or negative evaluation in a social context. It results in avoidance of situations perceived to involve such a potential circumstance, and significantly interferes with a person's daily life (Mychailyszyn, et al., 2011; Rockhill et

al., 2010; Yuen, 2013). Somatic symptoms normally associated with embarrassment such as blushing, heart palpitations, sweating, or trembling are also common in social anxiety disorder (Alfano, Beidel, & Turner, 2006). Cognitive models of adult social anxiety disorder recognize that socially phobic individuals have a negative bias regarding the way they evaluate their performance in terms of process, attention to the task, and expected performance. These negative cognitions lead to the inaccurate assessment that others view and judge them in this same substandard light. Negative self-referent conditions such as an individual's beliefs about their general abilities, and negative social self-efficacy (the confidence an individual possesses to navigate social situations), have been strongly connected to levels of social anxiety (Rockhill et al., 2010; Rudy, Davis, & Matthews, 2012).

Children with social phobia tend to be sensitive to rejection, highlight the negative aspect of any social interaction, and perceive less acceptance from their peers, who tend to be the source of their social anxiety (Rockhill et al., 2010). Social anxiety disorder tends not to be responsive to reassurances or distractions, and is frequently responsible for the failure of children and adolescents to develop close peer relationships, resulting in further interpersonal challenges (Rockhill et al., 2010).

### **SELECTIVE MUTISM**

Selective mutism refers to a reluctance to speak where there is not a physical problem to prevent it. Children with selective mutism often choose to speak to only one person or a small group of people, and refuse to speak in all other situations (Beidel & Alfano, 2011; Bergman, Piacentini, & McCracken, 2002). It is important to distinguish selective mutism from autism spectrum disorders as many of the presenting

characteristics are similar. Children displaying symptoms of selective mutism will only refrain from speech in social situations, continuing verbal speech in the home with immediate and close family whereas children with an autism spectrum disorder will indiscriminately fail to communicate verbally (Hung, Spencer & Dronamraju, 2012).

Selective mutism is a form of social withdrawal as the result of anxiety, although in some circumstances it can be the result of trauma or abuse (Kauffman & Landrum, 2009). Most children with selective mutism tend to also embody the criteria for social phobia (Bergman et al., 2002). Selective mutism most commonly presents between the ages of 3 and 5 as children enter pre-school programs. They typically remain undiagnosed until they are in elementary school, after the age of 6 (Hung et al., 2012).

Selective mutism is not to be confused with non-communication. Many children with selective mutism communicate with gestures, nodding, pointing, or even through electronic forms of communication such as email (Beidel & Alfano, 2011; Mitchell & Kratochwill, 2013).

Selective mutism is as yet largely undefined, but is most recently thought to belong to the social anxiety disorders. Prolonged selective mutism left untreated can limit social interaction, delay language skill development, and restrict school and social involvement, thereby creating a psycho-social developmental delay (Hung et al., 2012).

## SECTION TWO: SIGNS AND SYMPTOMS

### GENERAL ANXIETY DISORDER

Children suffering from generalized anxiety disorder differ from children who simply worry, based on frequency. Children with GAD will report several areas of worry at any given time, and those subjects of worry can fluctuate. What doesn't change is that they do worry consistently, and over a long period of time. Children who are simply worried about something tend not to generalize that worry, but keep it focused on the subject that is realistically creating a threat in their lives (Beidel & Alfano, 2011)

A key sign of GAD is that the worry is often many steps removed from the current situation. Worry is pervasive, turning possibility into probability, and interpreting a situation with no guarantee of safety as a guarantee for disaster (Chansky, 2004).

A few common behaviours to watch for when suspecting a child may be suffering from GAD are as follows (Beidel & Alfano, 2011; Chansky, 2004):

- **although the subject may vary, there is something each day that the child is worried about**
- **needs to know details until satisfied that the situation is understood and under control**
- **takes innocent or off-handed comments seriously and often literally**
- **worries are focused on a future orientation: grades on a test now, will indicate future university entrance or job prospects**
- **perfectionistic and assurance-seeking behaviour**

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### Common Sources of Fear

- performance fears: fear of consequences and judgements
  - fear of getting in trouble or doing the wrong thing
  - social/interpersonal fears: fears that they are not liked by friends; friends are angry with them; teacher and parent will be angry with them if they fail to do well on a test or assignment
  - family-related fears: fear of parents getting divorced, or the family moving away; fear for family finances, asking how much family expenses such as groceries or gas cost
  - fears about illness: worrying that they will fall prey to an illness they heard about on the television last night, misinterpreting bodily symptoms as significant indicators of major illness
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(Beidel & Alfano, 2011; Chansky, 2004; Rockhill et al., 2010)

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**Consequences of prolonged worry include:**

- difficult to reassure
  - difficulty concentrating or mind going blank
  - sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep)
  - easily fatigued
  - muscle tension
  - headaches, stomach aches
  - distractible
  - easily overwhelmed
  - difficulty enjoying things
  - social impairment
  - academic compromise
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(Beidel & Alfano, 2011)

The most frequent areas of worry for children with GAD include: friends, health, school, and performance. Areas that cause the most intense worry include: war, personal harm, disasters, school, and family. Also, developmental differences have been found in the areas of worry most common in children, with younger children more focused on

worry for others, and older children more focused on worries of performance, appearance, and friends (Beidel & Alfano, 2011).

## **SEPARATION ANXIETY DISORDER**

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### **Common Characteristics of Separation Anxiety Disorder**

- Developmentally inappropriate and excessive anxiety regarding separation from home or parent
  - Inconsolable or persistent crying when parent leaves, and inability to be calmed by others
  - Possibly aggressive or self-injurious during the separation
  - Anxiety and avoidance may occur in relation to going to daycare, preschool, or kindergarten
  - Reluctance to be left alone, follow their parent from room to room
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(Rockcliff et al., 2010)



## SOCIAL ANXIETY DISORDER

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### Common Characteristics of Social Anxiety Disorder

- Constant worry and physical tension about unfamiliar people, places, and situations
  - Fear of doing something humiliating is often paralyzing in social or performance situations
  - Avoiding eye contact
  - Speaking in a very quiet voice, or not speaking at all
  - Clinging or hiding in social situations (e.g., school, birthday parties)
  - Social situations cause physical symptoms such as blushing, shaking, chills, or hot flashes
  - Highly self-conscious about appearance
  - Unable to initiate social contact
  - Hesitant to respond to other children's social invitations
  - Withdrawal at unstructured times (e.g., recess, group activities)
  - Afraid of rejection and judgement – will avoid social classes such as music, art, or physical education
  - May find a way to leave the class during read-aloud time
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(Chansky, 2004)

## **SELECTIVE MUTISM**

Selective mutism has a subset of children who are prone to oppositional defiant behaviour. Their parents often refer to them as more stubborn, willful, or irritable than normal. Many other children with selective mutism display a number of internalizing disorders (Beidel & Alfano, 2011).

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### **FEATURES COMMONLY ASSOCIATED WITH SELECTIVE MUTISM**

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- **refusal to communicate verbally in social situations, including school, for not less than 6 months, without the presence of any physical reason**
  - **continues to communicate verbally at home**
  - **excessive shyness**
  - **fear of social embarrassment**
  - **social isolation**
  - **withdrawal**
  - **clinging behaviour**
  - **compulsive traits**
  - **negativism**
- 

(Beidel & Alfano, 2011; Hung et al., 2012)

### ***SECTION THREE: INTERVENTION AND TREATMENT***

Assessment generally consists of a multi-modal approach, collecting information from a number of individuals using a variety of modalities, allowing for a thorough presentation of symptomatology and resulting impairments. Commonly, information is gathered from the child, the parent, and the teacher or caregiver associated with the child on a daily basis. Interview formats include a wide range of standardized schedules, psychometrically sound self-report questionnaires, and teacher or parent rating scales to present an initial assessment of anxiety levels and emotional/behavioural difficulties (Mychailyszyn, et al., 2011).

The *Diagnostic Statistical Manual-IV-TR (DSM-IV-TR)* lists specific criteria for each particular type of anxiety disorder as seen in both children and adolescents. This is the standard by which presenting symptoms must be measured in order for a formal medical diagnosis to take place (Rockhill et al., 2010).

In order for an effective evidence-based treatment to be prescribed, a thorough assessment is necessary. A clinician must examine all of the evidence presented, embark on collecting any evidence deemed critical to proper evaluation, and only then proceed to match an empirically proven treatment to the indicators given by the assessment. This careful procedure optimizes the probability of an effective outcome for the child (Davis III & Ollendick, 2011).

## **COGNITIVE BEHAVIOUR THERAPY**

Cognitive behaviour therapy (CBT) is the front-line treatment for anxiety disorders in children. Between 50% and 85% of children receiving CBT no longer meet the criteria of their primary diagnosis upon completion of treatment with effects maintained up to years later (Albano, 2009; March, Spence, & Donovan, 2009). A Pediatric treatment study (March et al., 2004) demonstrated CBT to have an efficacy equal to or in some cases greater than that of pharmacological treatment options. Furthermore, CBT not only relieves the symptoms of anxiety, but can alter the long-term trajectory of the mental health of children diagnosed with anxiety disorders (Albano, 2009; March et al., 2009).

Although much has been written about the developmental appropriateness of cognitive behaviour therapy for the young child, several studies using participants between the ages of 5 and 7 years have demonstrated that when CBT is presented in an age-appropriate manner with developmental restraints considered, it produces a level of effectiveness equal to that of older age groups (Minde, Roy, Bezonsky, & Hashemi, 2010; Monga, Young, & Owens, 2009;).

## PHARMACOLOGICAL INTERVENTIONS

An alternative to CBT is another front-line treatment intervention that is pharmacological in nature, focusing on the treatment of anxiety with medications. Over the past two decades, significant advances to pharmacological treatment have been made (Geller et al., 2003; Reinblatt & Riddle, 2007). Improvements in diagnostic criteria, classification of disorders, and diagnostic interview tools have all contributed to the increase of evidence-based research now being conducted into the pharmacological treatment of anxiety disorders in children (Compton, Kratochvil, & March, 2007; Reinblatt & Riddle, 2007).

The pharmacological treatments studied most often in the past few decades, and demonstrating the greatest efficacy are the selective serotonin reuptake inhibitors (SSRI) and tricyclic antidepressants (TCA) classes of drugs. Recently, studies including the class of serotonin-norepinephrine reuptake inhibitors (SNRI) medications have also received considerable attention in research (Compton et al., 2007; Hoffman & Mathew, 2008; Muris, 2012). All three of these medications are designed to work with the neurotransmitters in the brain.

Current research favours the use of SSRI medications as the front-line pharmaceutical intervention in the treatment of General Anxiety Disorder, Separation Anxiety Disorder, and Social Anxiety Disorder in children. Pharmacological treatment of pediatric anxiety is accepted as an evidence-based treatment with the medication of choice being SSRIs due to their demonstrated high level of efficacy with all forms of pediatric anxiety and the fewest side effects reported, making them better tolerated by

children and adolescents than TCAs or SNRIs (Muris, 2012; Rynn et al., 2011; Walkup et al., 2008).

Safety concerns in the use of pharmacological treatments on a pediatric population have been raised due to a limited knowledge about the impact on the developing brain of long-term exposure to medication. The importance of studying critical brain development windows in relation to the exposure to stressors that contribute to the development of anxiety disorders has been highlighted among researchers. This is critical in order to develop an understanding of the relationship between genetic makeup and environmental stressors in the formation of anxiety neural circuitry (Leonardo & Hen, 2008; Rynn et al., 2011).

It should be noted that the efficacy of pharmacological treatment has been observed to be temporary, leaving the child prone to the development of new anxiety problems, or reoccurrence of the presenting problem after medication has been discontinued. Because the effects of CBT have been demonstrated to be long-term, a combined therapeutic process should be considered as a desirable option (Muris, 2012).

**Clinicians and researchers primarily believe that the combination of disorder-specific CBT and evidence-based pharmacotherapy is the first choice of treatment in pediatric anxiety.**

**Compton, Kratochvil, & March, 2007**

In determining the course of treatment for pediatric anxiety symptoms, it is necessary to weigh the potential benefits from pharmacological use with the known adverse effects. Clinicians and researchers primarily believe that the combination of disorder-specific CBT and evidence-based pharmacotherapy is the first choice of treatment in pediatric anxiety (Compton et al., 2007).

## **ANIMAL-ASSISTED THERAPY IN THE CLASSROOM**

Away from the front-line therapeutic interventions lie another group of treatment options offering support to children suffering with anxiety disorders. Animals have long been known to reduce stress and offer companionship to humans. Animals have a capacity to serve as moderators of stress. Close physical contact with a companion animal, such as stroking and talking to the animal, has been shown to result in lowered blood pressure and heart rate. It is also evident that the presence of a companion animal can reduce the autonomic responses to stressful conditions. Furthermore, the relationship with a companion animal has been shown to have significant psychological benefits, not only in reducing the effects of stressful situations, but also in enhancing feelings of self-esteem, competence, and autonomy, and reducing feelings of isolation, loneliness, and even depression (Wells, 2009).

Dogs may also function as attachment figures for their owners, providing social support and subsequently stress relief through a human-animal attachment bond (Kurdek, 2008).

A child's development is positively influenced by a companion animal, suggesting that their emotional development, particularly the development of self-esteem, autonomy, and empathy for others, is fostered by the human-animal companion bond. Children who grow up in a household with a pet dog have been shown to exhibit greater social confidence and develop into socially more competent adults. Evidence also is presented suggesting that the bond of a child and a pet dog in the preschool years fosters an enhanced cognitive development. This development is believed to occur as the result



of the dog's skills as a loyal and careful listener, facilitating and encouraging communication from the child (Endenburg & van Lith, 2011).

Therapy dogs are perceived by children as a non-judgemental support exempt from the expectations and complications of human relationships. In a word, they are considered 'safe'. Children's comments have been recorded regarding their time with a therapy dog to include such things as "she's a really good listener" (Friesen, 2010, p. 261).

Teachers have indicated that they believe having pets in the classroom contributes to students' development socio-emotionally as well as academically. The teachers stated that students benefitted from having pets in the classroom with increased social skills, increased language development, increased communication

**The presence of a therapy dog reduced children's blood pressure and heart rate and diminished other observable signs of anxiety when children were asked to read aloud under three different conditions (to a peer, to an adult, and to a therapy dog).**

**Friedmann, Thomas, & Eddy, 2000**

skills, and as a catalyst for writing projects. Teachers also felt that the presence of the animal gave them an opportunity to relate with the children and bond with them on a more personal level in discussing issues relating to the classroom pet (Beck & Katcher, 2003; Daly & Suggs, 2010).

Beetz et al. (2011) also conducted a study in which they examined whether a real dog, a toy dog, or a friendly person would be more beneficial in alleviating the stress from a socially stressful situation in children identified as insecurely attached. It is noted, once again, that insecurely attached children find it particularly difficult to accept social

support from humans as they have failed to form a strong attachment bond to a primary caregiver early in life. It is not surprising that the results of the study showed a significant reduction of stress in children with the presence of the real dog over either of the two control conditions. Furthermore, Beetz et al. (2011) suggest the role of physical contact with the dog to be important in the stress reduction effect.

With all of the benefits being postulated for the relationship with a companion animal, it is of little wonder that schools are taking a serious look at the role of animals in various programs. Schools are starting to look to specially trained therapy dogs as participants in children's reading programs (Francis, 2009).

Having a dog in the room immediately creates an atmosphere of relaxation and openness that fosters conversation among the children. A therapy dog reading program demonstrates how the children's relationship with the dog fosters kindness, awareness, and empathy for others. The children see the therapy dog as a safe and non-judgemental listener. A teacher sits with the child and the dog and helps the child with words they do not know. The children are often seen turning the book to show the pictures to the dog, and explaining the story where they feel explanation may be beneficial. They believe the dog is listening and interacting with them in their reading experience (Francis, 2009).

The use of therapy dogs can build motivation, maintain focus, and increase task persistence in children (Jalongo, 2005). The presence of a trained therapy dog offers a form of social support, and promotes peer interaction. The presence of a therapy dog has been shown to reduce children's blood pressure and heart rate and diminish other observable signs of anxiety when children were asked to read aloud under three different conditions (to a peer, to an adult, and to a therapy dog) (Friedmann et al., 2000).

It is clear that when a child is diagnosed with an anxiety disorder that the front line of treatments needs to be implemented, but further research into alternative therapies that can support the remission of symptoms accomplished by alternative treatment options, needs to be carried out. Animal assisted therapy is one such avenue open to exploration.

## **SECTION FOUR: CONSEQUENCES OF ANXIETY AND THE IMPORTANCE OF INTERVENTION**

### **HEALTH**

Anxiety disorders in children can have a negative impact in the development and functioning of the child (Reynolds et al., 2012). Children suffering from anxiety disorders have a significantly increased likelihood of developing comorbidity with other internalizing disorders such as depression (Manassis et al., 2010). Anxiety disorders have detrimental effects on both the quality and functioning of everyday life, and often precede more severe anxiety disorders, comorbidity with depression, affective disorders, or substance abuse (Connolly et al., 2007; Simon & Bögels, 2009). Anxiety disorders have been shown to disrupt the normal course of psychosocial development in young children and are strong indicators for adolescent and adult impairment from further affective disorders as well as an increased risk of illicit drug use (Connolly et al., 2007).

A study conducted in the Netherlands demonstrated that families of children with a clinically diagnosed anxious child have a 20% increase in health care costs. They point out that the cost burden on society for treatment increases as the severity of the diagnosis increases, making a socially responsible argument for early identification and intervention. Clearly, although societal cost is a significant concern, a more humanistic focus would be the increased quality of life for a child who receives treatment before the anxiety disorder is able to progress (Simon & Bögels, 2009).

## **SOCIAL AND EMOTIONAL WELL-BEING**

As a result of their anxiety, children suffering from anxiety disorders tend to be shy and have fewer friends. The friendships they do have tend to be of a lesser quality than their peers. This reflection of an impaired social-emotional development positions these children for an increased likelihood of peer victimization (Crawford & Manassis, 2011).

Children suffering from anxiety disorders are more likely to suffer from low self-esteem, frequently misinterpreting social situations in a negative way, which underestimates their true competencies. As a result, these children are less likely to interact with their peers, thereby further compromising their normal psychosocial development. Children suffering with separation anxiety disorder have the further difficulty of developing independence from their significant adult (Connolly et al., 2007).

## **ACADEMIC PERFORMANCE AND NON-COMPLETION**

Academic performance can also be affected by anxiety. Anxious children tend to lack the ability to approach a task with confidence, and therefore, will often engage in avoidant behaviour even though they are conscientious and eager to accomplish the task (Rapee et al., 2008). Anxiety in elementary school-aged children has been shown to be a predictor of high school non-completion (Duchesne, Vitaro, Larose, & Tremblay, 2008). This evidence is also supported by Connolly et al. (2007) citing evidence that 1<sup>st</sup> graders reporting symptoms of high levels of anxiety were more likely to experience low achievement in 5<sup>th</sup> Grade mathematics and reading.

## SECTION FIVE: ROLE OF THE SCHOOL

### SCHOOL-BASED PROGRAMS

Current treatment facilities where CBT can be accessed are often insufficient to service the growing community need (Angelosante, Colognori, Goldstein, & Warner, 2011). School-based interventions are described as advantageous for many reasons. First, schools offer easy access to youth, and provide a single location, thereby reducing cost and transportation concerns. Also, the stigma of seeking treatment in a mental health facility can be alleviated. When treatment is offered among the many services routinely provided by the school, parents and children may be more willing to become involved.

Second, many of the feared situations encountered by children can be found in schools (separation from parents, rejection from peers, evaluation from adults). In this way, the school provides a natural environment in which the child can be guided and encouraged to engage, thereby narrowing the divide between a clinical session and the real-world application (Allen, 2011; Angelosante et al., 2011).

Three types of school-based interventions are commonly utilized. The first type, universal intervention, provides preventative care for all students. The second type, selective intervention, provides intervention to those students who have been identified as at risk for developing an anxiety disorder. The third indicated intervention provides support only to students who meet the criteria for a clinical diagnosis or an anxiety disorder (Angelosante et al., 2011; Tomb & Hunter, 2004).

Preventative interventions in school environments can reduce the risk factors that may contribute to the onset of an anxiety disorder. By focusing on an entire population it is possible to target the reduction of environmental risks as well as individual behavioural risks of a disorder (Tomb & Hunter, 2004).

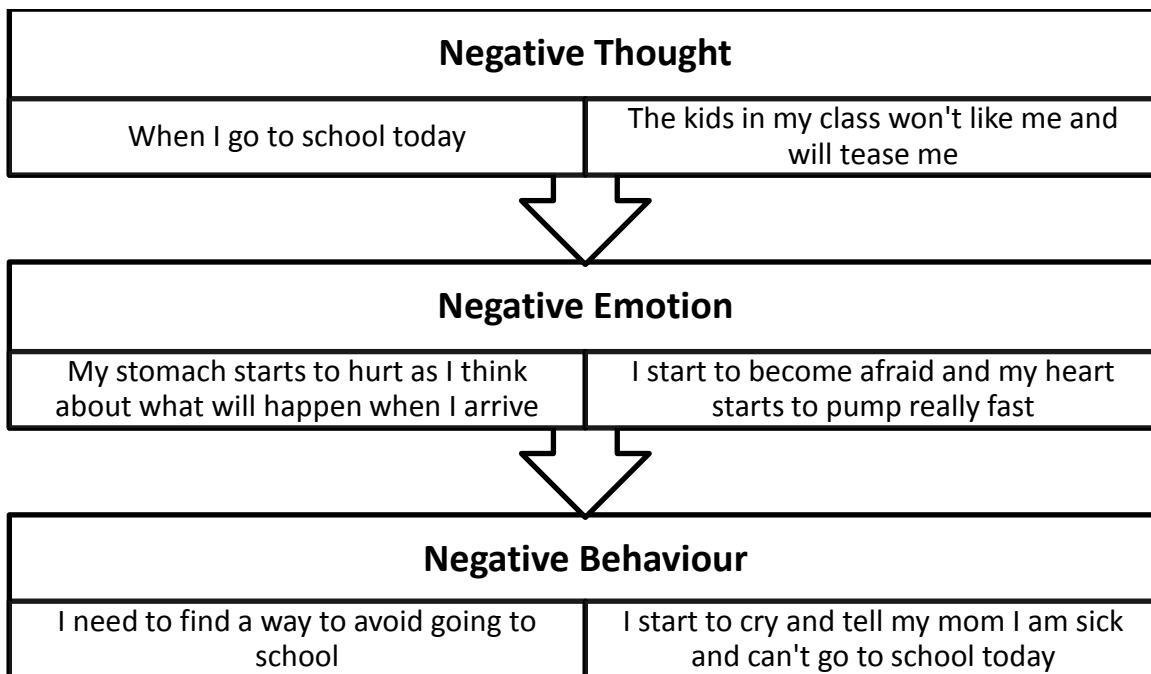
*FRIENDS* is a school-based universal intervention program for the recognition and treatment of anxiety. It is delivered to all students over 10 weekly sessions and four parent sessions to inform parents about the program and enhance parental skills in anxiety management. Children are introduced to emotional recognition and regulation, relaxation skills, cognitive awareness and restructuring, problem solving, and in vivo exposure. The *FRIENDS* program has been widely demonstrated to improve anxiety symptoms in children, post-treatment, and at later follow-ups (Angelosante et al., 2011; Barrett & March, 2007; Tomb & Hunter, 2004).

Research has suggested that children with internalizing symptoms would best benefit from school-based cognitive behaviour programs, pointing out that in establishing school-based programs, many of the barriers commonly confronted by families in need of this service could be alleviated. The cost of a private practitioner, the obstacle of geographic location, and the struggle with stigma attached to a diagnosis can be effectively handled by providing generalized classroom training equipping all children with coping strategies, as well as providing CBT programs to children with identified emotional needs (Manassis et al., 2010).

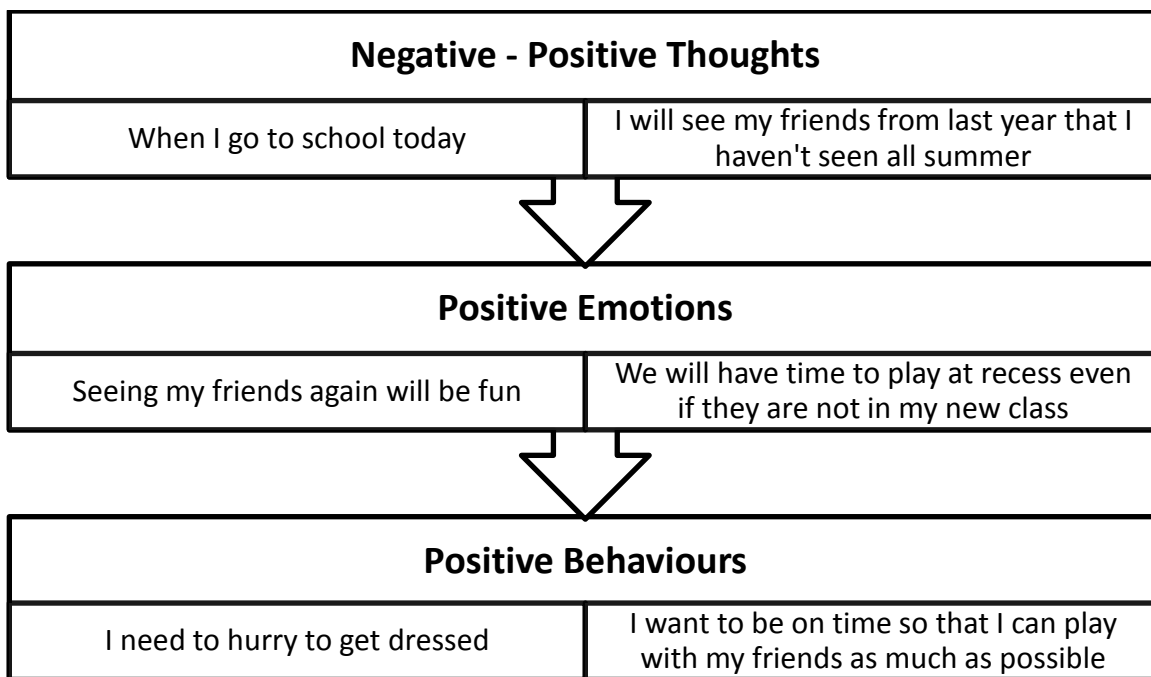
**SITUATIONAL ANXIETY**

There are many situations that occur at school that can create anxiety for all children. Children already suffering with an anxiety disorder are affected to a significantly higher degree. New and unfamiliar situations can often prompt anxious children to engage in negative self-talk. Negative thoughts can quickly translate into negative feelings and behaviours. Using the first day back at school in a new school year as an example, the following illustration demonstrates how anxious children can be guided away from negative self-talk, and towards positive affirmation.





**Children must be encouraged to recognize this pattern of negative progression so that they can turn the negative into positive self-talk.**



## **SECTION SIX: LESSON PLANS**

The following plan outlines a six-week course of program interventions designed to support children in the primary grades. The first two lesson plans are designed to identify the sensations children may feel in their bodies when they become anxious. By successfully identifying and recognizing these sensations, children are in a position to positively deal with the anxiety and prevent it from becoming internalized. The second of these two lessons focuses on a variety of ways to counteract anxiety through relaxation techniques. They are presented individually, and paired for maximum effect. It is recommended that once taught, these methods be reinforced regularly as they are good practice for well-being.

The next two lessons focus on the development of social skills for primary aged children. The first of these two lessons, Lesson 3 in the series, focuses on conflict resolution. It addresses the problem of what to do once a conflict has occurred, and how to resolve it in a positive way. The fourth lesson revolves around the issue of helping others. It is designed to build social skills and thereby benefit students in establishing strong and supportive friendships; a skill that anxious children find difficult to master.

The final two lessons focus on social decision making; decisions that relate to moral judgements. The first in this set, Lesson 5, allows students to design the social atmosphere in a world they would choose to live in. This is followed by a discussion on the reasons that they chose the characteristics they did, and not others, and how this relates to their own personal world, or social network, that they are building. The final lesson is a vivid demonstration of the power of words for both good and ill.

# Lesson Plans



Ismailos, 2013

<b>LESSON PLAN OUTLINE</b>
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<b>Knowing Your Body/ Thinking Error Correction</b>	<b>Social Skills</b>	<b>Social Decision Making</b>
<p><b>Lesson 1</b> <b>Identifying Your Feelings</b></p> <ul style="list-style-type: none"> <li>• body map</li> <li>• label where the feeling occurs in the body</li> <li>• acknowledging that the yucky feelings have a reason and a job to do</li> </ul>	<p><b>Lesson 3</b> <b>Conflict Resolution</b></p> <ul style="list-style-type: none"> <li>• teacher read aloud <i>When Sophie gets Angry . . . Really, Really Angry</i></li> <li>• Peace Walk</li> </ul>	<p><b>Lesson 5</b> <b>Design a World Martian Problem</b> <b>Adapted from Equip</b> visual exercise using pictures to represent Planet A and B</p> <ul style="list-style-type: none"> <li>• think/pair/share which planet you choose and why</li> <li>• create visual representation of the two planets</li> </ul>
<p><b>Lesson 2</b> <b>Relaxation Techniques for Reducing Anxiety</b></p> <ul style="list-style-type: none"> <li>• deep breathing</li> <li>• counting backward</li> <li>• imagery</li> </ul> <p><b>Adapted from: DiBiase, Gibbs, &amp; Potter (2005)</b> <i>Equip for Educators</i></p>	<p><b>Lesson 4</b> <b>Helping Others</b></p> <ul style="list-style-type: none"> <li>• when to help</li> </ul> <p><b>Adapted from: DiBiase, Gibbs, &amp; Potter (2005)</b> <i>Equip for Educators</i></p>	<p><b>Lesson 6</b> <b>Building Up, Not Tearing Down</b></p> <ul style="list-style-type: none"> <li>• positive and negative comments</li> <li>• how to help, not hurt, with the words you choose</li> </ul> <p><b>Adapted from: DiBiase, Gibbs, &amp; Potter (2005)</b> <i>Equip for Educators</i></p>

## **Lesson 1**

### **Identifying Your Feelings**

#### **Students will be able to:**

- identify some of the sensations they feel in their body when they are anxious
- label the anxious feelings as “yucky feelings”
- locate and label where in the body each feeling originates
- make a connection between times when these feelings have a purpose and times when they don’t (e.g., when it is dark in your room and you are scared)
- understand that your body has yucky feelings to make you notice that there is something wrong
- understand that certain feelings correspond to certain thoughts, and anxious feelings tend to go along with fearful thoughts

#### **Materials:**

- Body map page for each student

#### **Procedure**

- Introduce the topic by telling a story about a student who is afraid to walk home from school because there is a scary dog loose in the neighbour’s yard that barks and runs at her when she walks by.
- Ask students what the girl might be feeling as she approaches the house with the dog.
- Ask students to think/pair/share. Make self-to-other connections. When might they have had these same feelings?

- Give another story of the same girl who is afraid of being asked to read out loud in class because she doesn't think that she is a very good reader. She loves to read, and reads every night before she goes to bed, but she is afraid to read in front of her classmates in case she makes a mistake. When it is read-aloud time in class, she has the same "yucky feelings" as she does when she gets near the house with the dog.
- Ask students to discuss why they think she might have these same feelings in class.
- Ask students to make self-to-other connections. Have they ever felt this way when they are not really in danger?
- Help students label these feelings as fear and anxiety. Discuss the difference. (Fear is in response to a danger producing stimuli, anxiety is the same response in the absence of any true danger.)
- Have students share in small groups some of the times that they might feel these sensations.
- Students will likely identify situations in which they are legitimately afraid, e.g., when the room is dark, or when there is a scary dog in the room, or when a bully is chasing them, etc. They will also identify situations in which there is no real threat to their well-being such as when they are picking teams in gym class, or when they think they might be asked to answer a question in class or read aloud.
- Have students individually fill out a "Yucky Feelings" worksheet, asking them to select the feelings they have experienced, and draw an arrow to where on the body they experience these feelings.

**Describe your “Yucky Feelings” and draw a line to connect them to the place on your body where they bother you.**

- fluttery sick feeling in your stomach
- headache
- feeling like you might cry
- shaky
- needing to go to the bathroom
- sweaty, or feeling too hot
- dizzy, or faint
- fidgety
- heart beating very fast
- can't breathe
- tingly ant-crawly sensation



Ismailos, 2013

## Lesson 2

### Relaxation Techniques for Reducing Anxiety

*\*\*\*NOTE: This lesson can also be presented replacing anxiety with anger to focus on issues of anger management. Also, if there is a child with a serious anxiety issue, asking him/her to evoke that feeling may be stressful. In this case, using anger rather than anxiety as the example will allow all children to relate more comfortably, and then at the end link the similarity of the technique in dealing with “yucky feelings” of anxiety.*

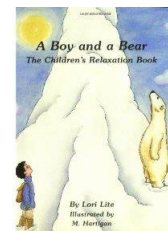
#### Overview of Expectations and Activities

#### Students Will . . . . .

- Acquire and apply techniques of deep breathing, counting backward, and evoking pleasant and peaceful imagery
- Recognize that the use of relaxation techniques in sudden anxious, or anger situations can buy crucial time for corrective self-talk and constructive social skills
- Understand that anxiety and anger are incompatible with relaxation.

#### Materials:

- Book – *A Boy and a Bear* by Lori Lite
- A wall-mounted number line from 1 – 20
- A long pointer such as a metre stick



[www.amazon.com](http://www.amazon.com)



### **Procedure and Educator Notes**

A key technique in the management of anxiety is engaging in activities incompatible with anxiety. Breathing deeply, counting backward, and invoking peaceful imagery are important because they are simple and therefore quick. Children can prevent anxiety buildup by starting to take deep breaths.

- State: This week we will focus on techniques that will help us with relaxation. These techniques are intended to help deal with “yucky feelings” in a helpful way. Relaxation techniques can make us stop thinking about the thing that made us feel “yucky” and can help stop those feelings from coming back.

### **Breathing Deeply**

Teacher Read Aloud: *A Boy and a Bear: A Children’s Relaxation Book* by Lori Lite.

Have children participate in the deep breathing exercises as the book introduces them.

- Discuss the value of the various types of deep breathing demonstrated in the book.
- Ask the children to think of a time that someone or something has made them really anxious (or “yucky”). Have them describe how they felt, reminding them of the body maps from Lesson 1.
- Have children discuss how they think they might be able to use the new lessons they have learned from the book to help them in situations where they feel anxious. How can deep breathing help with the yucky feelings on the body map?

### **Counting Backward**

- Have one child use the pointer to point to the number line on the wall from 1 – 20.

- Now have the child point to the numbers backwards.
- Ask students whether it is more difficult to say the numbers frontwards or backwards.
- Explain that it takes more focus and concentration to say the numbers backwards.
- When you are focused on something else, it is hard to stay focused on the thing that is making you anxious.
- This is a good strategy to distract you from the anxiety-provoking situation and prevent the yucky feelings from settling in your body.
- Have students think about their anxious situation once again, and then all together count backwards from 20, following the number line.

### **Counting Backward plus Slow, Deep Breathing**

- Ask children to discuss with a partner what they think might happen if we combine our new deep breathing skills with our counting backwards strategy.
- So let's try both of these techniques together. Okay, imagine that anxious situation once again (allow 10 to 15 seconds). Now get the deep breathing started. (Model and make sure the children are breathing deeply – in through the nose and out through the mouth.) Now, we will count aloud from 20. Now start. (Model; start counting backwards; make sure children are breathing deeply and counting.)
- Could you feel that helping? Have students engage in pair/share discussion, and then bring ideas to the larger group.
- Now when you are using this technique, you will be counting silently. Lead students in deep breathing once more, remind them that they should be counting

backward silently. For younger children, it may be too difficult to count silently (in your head). Allow them to continue counting out loud, but in a whisper voice.

### **Invoking Pleasant or Peaceful Imagery**

In addition to deep breathing and counting backward, pleasant or peaceful imagery will help children calm down:

- The third technique you can use is to imagine pleasant or peaceful scenes. You can calm yourself down from being anxious by imagining a pleasant or peaceful scene.
- What are some happy or peaceful scenes you can image? (Through discussion, make a list.)

### **All Three Techniques Together**

- Let's try to see if we can use all three techniques at once. First, let's bring back the anxious situation one more time (allow 10 – 15 seconds).
- Now let's start slow, deep breathing. (Model and make sure students are breathing deeply.) Now start counting backward from 20, silently. (Allow 10 – 15 seconds.) Now imagine your favourite peaceful scene while breathing deeply and counting backwards. (Allow 10 – 15 seconds.) This may be too many simultaneous instructions for the very young children. Allow them to apply the strategies consecutively, first deep breathing while counting backwards, then continue deep breathing but exchange counting for imagery technique.
- Could you feel it helping? Do you think it would stop the yucky feelings from happening to your body, or make them go away if they had already begun? Discuss.

- These three techniques – slow, deep breathing; counting backward; and pleasant or peaceful imagery – will help you reduce those yucky body sensations. If you can, use these three things together for maximum strength control power.

Encourage students to try this new strategy outside of class and report back next week whether they were able to use it to control their anxiety in various situations.

### Lesson 3

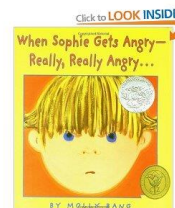
### Conflict Resolution

#### Students will be able to:

- Understand the feelings of others
- Consider the feelings of others as part of the conflict resolution process

#### Materials:

- Book: *When Sophie Gets Angry . . . Really, Really Angry*  
by Molly Bang



- Peace Walk – a piece of vinyl with a path of 7 squares  
drawn on it

[www.amazon.com](http://www.amazon.com)

The squares are labeled as follows:

<b>1</b>	<b>2</b>	<b>3</b>		<b>3</b>	<b>2</b>	<b>1</b>
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#### Procedure:

- Read the book and talk about what Sophia was very, very angry about. Ask the kids if they have ever been really angry about something. Have them share with the group what they were angry about.
- Talk to the children about what a conflict is. A conflict is when two or more people cannot agree on something. An example might be when two people both

think it is their turn to play with the blocks next. They will argue and possibly hurt each other either with words or physically.

- A way to know when someone is getting mad is to look at their face and their body. How do you look when you are mad? What do you do when you are mad? Think/pair/share and bring to group for discussion. Include discussion of outward signs such as:
  - reddening of the face
  - agitated behaviour – fidgeting, tapping foot, body posture
  - raised voice
- It is not bad to get angry sometimes, but it is important to know how to handle our anger without hurting someone or ourselves!
- When two people are mad it is important to talk about how they feel. Each person should tell the other how they feel and why. Then they can work out a solution. The solution might be you go first and take 5 minutes with the blocks, and then I will go next and take 5 minutes.
- Giving children ways to deal with situations helps them to be able to handle them! The class could do some role-playing of some different conflicts and how they could be resolved.

### The Peace Walk

- Group students into pairs and have them mutually decide on a conflict that they will role play for the class.
- Each student begins on a Square 1 at the opposite end of the Peace Walk, and will take one step in at a time until they come together in the centre square where their conflict is resolved.
- Square 1 → The students each take a turn stating how they are feeling (e.g., I feel hurt because you would not let me have a turn with the blocks. I feel angry because I wasn't finished playing and you tried to take the blocks away from me.)
- Square 2 → The students each take a turn restating what the other student was feeling (e.g., I understand that you were hurt because you hadn't had a turn with the blocks. I understand that you were upset because you wanted to finish before giving the blocks to me.)
- Square 3 → The students each take a turn offering a solution that takes into account each of their needs (e.g., I would really like to play with the blocks, but maybe we can decide on how long each of us can play before we switch. I would really like to have finished what I was doing, but I agree that having a time limit is a fair way to share.)
- Centre Square → The students shake hands and agree on the resolution. (e.g. We agree that we will each spend 5 minutes with the blocks and then switch.) They then acknowledge one another's resolved feelings. (e.g., I am glad that you are no longer feeling hurt. I am glad that you are no longer angry.)

Finally, discuss how it makes you feel when someone is angry with you. Relate the anxiety or “yucky feelings” that occur when you think someone is angry with you, with the “yucky feelings” body map from Lesson 1.

Lead students into an understanding that they have the power to help one another conquer the “yucky feelings” or anxiety created by everyday encounters in the classroom.



## Lesson 4

### Helping Others

#### Students will be able to:

- determine if the other person might need or want help
- determine what kind of help the other person needs
- be able to decide the best time to offer the help
- distinguish between good and bad helping

#### Materials:

- List of suggested situations for group discussion

#### Procedure:

- **Step 1: Think, “Is there a need? → decide if the other person might need or want your help.**

Students will have to think about the needs of the other person: “What is the person doing or saying, or what is happening, that makes you think the person needs help?”

- **Step 2: Think of how you can help → which way would be best?**

Encourage students to ask: “Does the person need something done? Need someone to listen? Need to hear words of encouragement? Should someone else help?”

- **Step 3: Plan and think ahead → Ask yourself, “Is this a good time for me to offer help?”**

Students should ask themselves whether the person could use the help better later on. If so, the students will need to be sure they are not supposed to be doing something else at the time they offer help.

- **Step 4: Offer to help → Ask the other person, “Need some help?” or “Want some help?” or go ahead and offer to help in some way.**

Stress that it is important to make the offer sincerely, allowing the other person to say no if he or she does not really want help. Indicate that students should not feel hurt or offended if the person says no or asks someone else for help. If they do help, they should ask themselves how they feel when they give the help. Point out that helping one another is what the group should be all about.

**Situations for Group Discussion → have students in pairs or triads discuss and demonstrate how they would apply steps 1-4 in the following cases:**

1. The person sitting next to you is having difficulty with his math questions.
2. Your friend forgot her lunch at home.
3. Your brother is probably not going to finish his chores in time before your mother comes home.
4. Your teacher needs help cutting out papers for this afternoon’s art class.

### **Is helping always the right thing to do?**

It is important to help students understand that sometimes helping people means doing something against their wishes – for example, students must learn to say no if helping requires them to break the law or hurt others. Add the following cases for discussion:

1. Your friend wants help hiding another classmate’s shoes in the locker room to play a joke on him/her.
2. Your friend wants you to look out while she takes snacks from someone else’s lunch box.

Discuss with students the difference between the two sets of scenarios. Discuss the idea that helping one person cannot result in hurting someone else, or doing something you know is wrong.

## Lesson 5

### Design a World

*\*\*\* NOTE: This lesson is designed as an introduction to the development of moral judgement. At the primary level this is a crucial lesson as the students are developmentally in the position of building their peer social network. Exploring positive, caring, and pro-social environments as opposed to negative and self-satisfying environments is vitally important as they apply these choices to their daily reality.*

#### **Students will be able to:**

- describe and identify an environment that is positive and caring as a place where they would want to live
- understand that everyone in that place must behave in a positive and caring way in order for this environment to be established
- understand that they can feel safe and valued, and grow up strong in a positive environment
- describe and identify an environment that is negative and self-centred
- understand that they cannot feel safe or grow strong in a negative environment

#### **Materials:**

- 11 x 17 pieces of construction paper for each group of 3 or 4 students
- glue sticks and scissors for each group
- magazines for cutting out pictures
- chart paper, flip chart, and markers
- Copies of “The Martian’s Advisor’s Problem” for each group of students:

## The Martian Advisor's Problem

(Ismailos, 2013)



**A man from Mars has decided to move to another planet. He has narrowed his search down to two planets. Planet A, and Planet B.**



**Planet A is a violent and dangerous place to live. People do whatever they want, just caring about themselves. They don't care when they hurt others.**



**Planet B is a safer, more peaceful place. People on Planet B do care about others. They still have fun, but they feel bad if they hurt someone. Planet B people try to make the planet a better place.**

**You are the Martian's advisor. Which planet should you advise him to move to? (Decide as a group and circle one.)**

**Planet A**

**Planet B**

**Can't Decide**

**Procedure:**

- Seat students on the carpet and read the problem as a group.
- Ask students what things come to mind when they hear the description of Planet A.
- Write down the descriptors they give on one side of a page on the flipchart.
- Ask students what things come to mind when they hear the description of Planet B.
- Write down the descriptors they give on the other side of the chart paper.
- In groups of 3 or 4, have students go through magazines and cut out pictures that they think would fit into the two worlds, and paste them onto the two sides of their own large piece of construction paper.
- Have students discuss which planet they would prefer to be a part of, and why.
- Bring students back to carpet and allow the groups to present their work to the class, describing the positive Planet B, and explaining why it is the place they would advise the Martian to move to. Also have them describe the negative Planet A, and explain why they did not advise the Martian to move here.
- Apply the planet to the classroom: “What type of classroom do you want this to be – Classroom A, or Classroom B, negative or positive? It’s up to you. If Classroom B is what you want for this group, have you been living up to it? Classroom B won’t happen unless everyone practices these positive behaviours to make it happen. But it’s not easy. It takes courage and strength to do the right thing.

**Note to Teachers:**

- It is important to emphasize that every student would like, not only for the Martian but for himself or herself, a world that is positive (safer, more caring, more pro-social, and so on). If some students have chosen and argued for the negative planet, the majority should be challenged to refute them. The group thereby begins to cohere in the endorsement of these positive values.
- Some reasons for choosing Planet B come from the problem situation context:
  - There is not as much violence.
  - It is more peaceful.
  - People get along without fighting; people want to help one another.
  - People have fun without hurting others.
  - People work to make things better.
- Other reasons include the following:
  - You can live longer.
  - You will feel safe.
  - You don't have to worry about bad things happening.
  - You will have friends, and people will be nicer to you.
  - People won't hurt you, even if they are angry with you.
  - People apologize when they are wrong.
  - Parents spend more time with their children.
  - People are more trustworthy.
- A few students may choose Planet A for the following reasons:
  - You can do whatever you want, whenever you want it.

- People would not be sticking their nose into your business.
- Students should be challenged to make the group a Planet B group. The following probing questions may be helpful:
  - What is the big problem with the way people think on Planet A? The answer is that they are self-centred.
  - to the students who favour doing whatever they want, reply with the following question: “What if you saw someone you love doing something that was really going to hurt them – would you try to stop them for their own protection?”

Relate Planet A back to our theme of anxiety management and ask students to discuss on which planet they are more or less likely to experience problems with “yucky feelings”.

*\*\*\*NOTE: This lesson can be used as an introduction to a classroom management system at the beginning of the year.*



## Lesson 6

### Building Up, Not Tearing Down

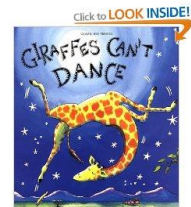
Following from Lesson 5, students will now look at how they can make their relationships positive and caring, and not negative and destructive.

#### Students will be able to:

- understand that saying negative things hurt people, even if they don't show it
- understand that saying positive things helps to build people up
- understand the importance of building one another up

#### Materials:

- 2 Macintosh Apples
- Book – *Giraffes Can't Dance* by G. Andreae & G. Parker-Rees



[www.amazon.com](http://www.amazon.com)

#### Procedure:

- Have students sit in a wide circle facing one another.
- Have students think of a time someone said something to them that hurt their feelings.
- Tell students that they are to use no identifying information, but to generically give their example (model a few examples for them).
- Allow them to use an example of something they think might be hurtful if they would rather not use a personal example.
- Tell students that each will have a turn to say their hurtful statements and throw them away. As they do so they will toss the Macintosh apple across the floor to

another student who will next have their turn. (Encourage the apple to be bounced and bruised.)

- Continue until everyone has had an opportunity to share.

Remove the Macintosh apple and put aside.

- Next, instruct students to repeat the same exercise but this time with positive statements that would have made you feel good. This time gently pass a new Macintosh apple to the person beside you. The student holding the apple has a turn to share a positive statement and then pass it on to the next student.

Put both apples aside – clearly indicating the positive and the negative apple for further application at the end of the lesson.

Teacher read-aloud of the book, *Giraffes Can't Dance*.

- Think/pair/share how Gerald felt when the animals laughed at him and wouldn't let him dance.
- Could you tell that Gerald's feelings were hurt? What outward signs did he demonstrate that would let you know?
- Think/pair/share how Gerald felt when the cricket played a new tune for him and all the animals loved his dancing.
- Remind students about the apple exercise they participated in earlier. Show them both apples and ask if they can tell which demonstrated the positive and which the negative comments.
- Take a kitchen knife and cut each apple in half horizontally. First the apple that was passed around with the positive statements. Show students that inside at the centre of each apple, is a star-shaped core.

- Next, slice the apple that demonstrated the negative comments. Although it is perfect on the outside, the inside is a bruised and mushy mess right down to its beautiful star-shaped core.
- Ask students to make connections between the apple and each of their own feelings (self-to-world connections). What does this teach us about how we should handle each other's feelings? Allow students to think/pair/share, and bring their comments back to the group.
- Be sure that students understand that you cannot always tell on the outside that someone is hurting. If you have said something hurtful to someone, then the result is that you have hurt their feelings whether they show it or not.

### Rubric for Anxiety Identification and Management (Lessons 1 & 2)

Student Name	Engaged in relaxation exercises	Demonstrated understanding of incompatibility between anxiety and relaxation	Identified and mapped “yucky feelings”	Demonstrated understanding of the positive and negative role of “yucky feelings”

### Rubric for Social Skills (Lessons 3 & 4)

Student Name	Demonstrated ability to understand conflict and signs that someone may be getting angry	Able to successfully complete the Peace Walk	Demonstrated understanding of the needs of others	Demonstrated understanding of the correct circumstances for helping

### Rubric for Social Decision Making (Lessons 5 & 6)

Student Name	Contributed to the discussion working towards the choice of Planet B	Demonstrated understanding of relationship between the Martian problem and the classroom	Contributed both positive and negative statements in the apple activity	Demonstrated self to world connection

### Criteria for Rubric

Criteria clearly evident



Criteria somewhat evident



Criteria not evident



(Ismailos, 2013)

## SECTION SEVEN: RESOURCES

**\*\*\* NOTE: All resources and their descriptions retrieved directly from [www.amazon.com](http://www.amazon.com) 2012**

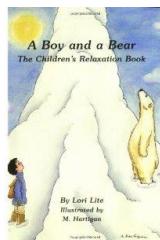
### Part I: Children's Books



**Angry Octopus: An Anger Management story introducing active progressive muscular relaxation and deep breathing.**

by Max Stasuyk

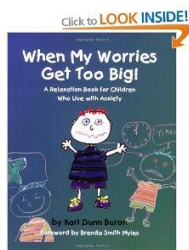
Children love to unwind and relax with this fun exercise known as progressive muscular relaxation. Children relate to the angry octopus in this story as the sea child shows him how to take a deep breath, calm down, and manage his anger. This effective stress and anger management technique focuses awareness on various muscle groups and breath to create a complete resting of the mind and body. This story is also available on Indigo Ocean Dreams Audio/CD. Progressive Muscular Relaxation can lower stress and anxiety levels. It can be used to decrease pain and anger. This engaging story quiets the mind and relaxes the body so your child can let go of anger and fall asleep peacefully. This is one of four stories featured on the Indigo Ocean Dreams CD, along with Sea Otter Cove, Affirmation Weaver, and Bubble Riding.



**A Boy and a Bear: The children's relaxation book**

by Lori Lite

*A Boy and a Bear* teaches young children how to relax and calm themselves. Written for children 3 - 10 years old, this book tells the story of a young boy who encounters a polar bear while they are both climbing a snow covered mountain. The boy and bear become friends and learn an important lesson in relaxation together. As the bear watches the boy breathing, children mirror their movements and learn valuable breathing skills to enhance their own relaxation. Children will not only enjoy the story, but will benefit by learning a self-calming technique to reduce stress, prepare for sleep, and improve self-confidence.



## When my worries get too big: A relaxation book for children who live with anxiety

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by Kari D. Buron

The thought of losing control can cause major problems for children who live with anxiety. Now, parents, teachers and children have a helpful tool that gives young children an opportunity to explore their own feelings with parents or teachers as they react to events in their daily lives. Engaging and easy to read, this illustrated children's book is filled with opportunities for children to participate in developing their own self-calming strategies. Children who use the simple strategies in this charming book, illustrated by the author, will find themselves relaxed and ready to focus on work or play!

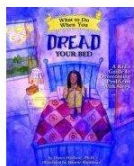


## Nobody's Perfect: A story for children about perfectionism

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by E. F. Burns

Sally Sanders is good at everything she does, or so it seems. Secretly she is afraid that if she can't do something well, or be the best, she will feel like a failure. She is scared that she is not "good enough." As a perfectionist, hitting the wrong note at a piano recital, or not making the soccer team feels like the end of the world! Gradually, through the help of her teachers and mother, Sally learns to have fun and not worry so much about being the best. She realizes that making mistakes is a part of learning, and that doing her best is good enough.

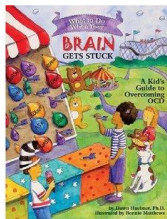


## What to do when you dread your bed: A kid's guide to overcoming problems with sleep

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by Dawn Huebner

*What to Do When You Dread Your Bed* guides children and their parents through the cognitive-behavioral techniques used to treat problems with sleep. Fears, busy brains, restless bodies, and overdependence on parents are all tackled as children gain the skills they need for more peaceful nights. This interactive self-help book is the complete resource for educating, motivating, and empowering children to fall asleep and stay asleep--like magic!

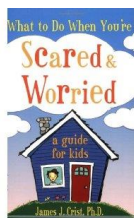


## What to do when your brain gets stuck: A kid's guide to overcoming OCD

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by Dawn Huebner

What To Do When Your Brain Gets Stuck guides children and their parents through the cognitive-behavioral techniques used to treat Obsessive Compulsive Disorder. Revealing OCD in a whole new light, this interactive self-help book turns kids into super-sleuths who can recognize OCD's tricks. Engaging examples, activities, and step-by-step instructions help children master the skills needed to break free from the sticky thoughts and urges of OCD, and live happier lives. This is the complete resource for educating, motivating, and empowering children to work toward change.

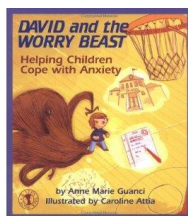


## What to do when you're scared & worried: A guide for kids

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by James Christ

From a dread of spiders to panic attacks, kids have worries and fears, just like adults. This is a book kids can turn to when they need advice, reassurance, and ideas. They'll find out where fears and worries come from, practice Fear Chasers and Worry Erasers, and learn to seek help for hard-to-handle fears they can't manage on their own.



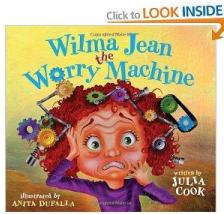
## David and the worry beast: Helping children cope with anxiety

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by Anne Marie Guanchi

Learning to deal with anxiety is an important step in a child's healthy, emotional growth. Conquering fears, and not avoiding them, is the lesson imparted in this addition to the "Let's Talk" series, complete with helpful hints for both parents and children to banish the "worry beast" forever.





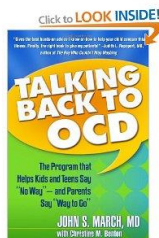
## Wilma Jean the worry machine

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by Julia Cook

(Grades 2-5) Anxiety is a subjective sense of worry, apprehension, and/or fear. It is considered to be the number one health problem in America. Although quite common, anxiety disorders in children are often misdiagnosed and overlooked. Everyone feels fear, worry and apprehension from time to time, but when these feelings prevent a person from doing what he/she wants and/or needs to do, anxiety becomes a disability. This fun and humorous book addresses the problem of anxiety in a way that relates to children of all ages. It offers creative strategies for parents and teachers to use that can lessen the severity of anxiety. The goal of the book is to give children the tools needed to feel more in control of their anxiety. For those worries that are not in anyone's control (i.e. the weather,) a worry that is introduced. A fun read for Wilmas of all ages! Softcover, 32 pages.

## Part II: Parent and Teacher Books



### Talking back to OCD: The program that helps kids and teens say “no way” – and parents say “Way to go”

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by John S. March MD MPH

No one wants to get rid of obsessive-compulsive disorder more than someone who has it. That's why *Talking Back to OCD* puts kids and teens in charge. Dr. John March's eight-step program has already helped thousands of young people show the disorder that it doesn't call the shots--*they do*.

This uniquely designed volume is really two books in one. Each chapter begins with a section that helps young readers zero in on specific problems and develop skills they can use to tune out obsessions and resist compulsions. Dr. March demonstrates how to:

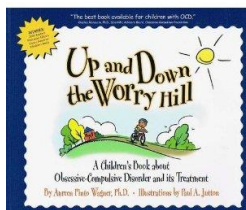
- \*Create a nickname for the illness to remember that OCD isn't you
- \*Make a symptom chart so you can plan when and where to start talking back
- \*Break the disorder's rules about the rituals

The pages that follow the instructions for kids and teens show their parents how to be supportive without getting in the way, including tips for:

- \*Separating the OCD from your son or daughter
- \*Asking your child's permission to stop helping with rituals
- \*Offering praise without imposing expectations

After just a few months' practice, your family will get back to spending time on things that matter, instead of following pointless orders from the illness. The next time OCD butts in, you'll be prepared to boss back--and show an unwelcome visitor to the door.

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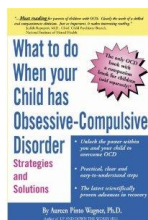


## Up and down the worry hill: A children's book about obsessive-compulsive disorder and its treatment

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by Aureen Pinto Wagner PhD

Over one million children and adolescents in the US suffer from Obsessive-Compulsive Disorder (OCD), a baffling illness that can be debilitating for the child in school, with friends and family. Help is now available! Cognitive-Behavioral Therapy (CBT) is the gold standard of treatment for OCD, and offers youngsters and their families the path to mastery over OCD. In this uniquely creative and heart-warming book, Dr. Wagner, an internationally recognized expert in the treatment of childhood OCD, uses the powerful real-life metaphor of the Worry Hill to describe OCD and its treatment clearly and simply through the eyes of a child. Children and adults will identify with Casey's struggle with OCD, his sense of hope when he learns about treatment, his relief that neither he nor his parents are to blame, and eventually, his victory over OCD. Parents and Professionals can use this book alone or together with the companion book, "What to do when your Child has Obsessive-Compulsive Disorder." This is the only children's OCD book that has a companion book for parents.

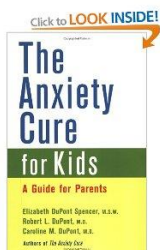


## What to do when your child has obsessive-compulsive disorder: Strategies and solutions

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by Aureen Pinto Wagner PhD

There are over one million children in the US who suffer from Obsessive-Compulsive Disorder. These children often have uncontrollable worries and engage in seemingly senseless rituals. Parents and school professionals often feel helpless and frustrated as they struggle to understand and help the child stop the bizarre doubts and habits that take over the child's mind and life. Now, there is hope and help. Dr. Aureen Wagner brings you the latest scientific advances in the treatment of this beguiling disorder along with her many years of experience in treating children and teenagers. Using the metaphor of the Worry Hill, for which she has received international recognition, Dr. Wagner presents a powerful step-by-step approach that countless children have used successfully to triumph over OCD. Her skill, compassion and expert guidance will provide new hope, energy and resolve to help children and their caregivers conquer OCD. Designed to be used alone or with the children's integrated companion book: Up and Down the Worry Hill.



## The Anxiety Cure for Kids

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About the authors:

Elizabeth DuPont Spencer, M.S.W., is a mother and social worker who deals primarily with anxiety disorders in her private practice and research.

Robert L. DuPont, M.D., has practiced psychiatry for thirty-three years. He was the founding president of the Anxiety Disorders Association of America as well as the first director of the National Institute on Drug Abuse. Dr. DuPont has had extensive media experience.

Caroline M. DuPont, M.D., is a psychiatrist and the president of DuPont Clinical Research. She is also on the faculty of the Johns Hopkins School of Medicine. Elizabeth and Caroline are Robert's daughters; all three are authors of *The Anxiety Cure*.

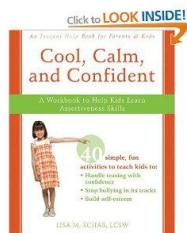
A comforting, practical guide to helping your child deal with anxiety

Fear, worry, stomach pains, self-doubt-- these are all classic symptoms of anxiety in children and teenagers. Anxiety affects both boys and girls, regardless of age, size, intelligence, or family specifics. And the only way your family can be free of anxiety is to confront it every time it appears. This book will show you how.

The bestselling authors of *The Anxiety Cure* present a reassuring guide to help adults and children understand the way anxiety works. Using characters such as the Dragon and the Wizard, *The Anxiety Cure for Kids* explains how to overcome the negative impacts of anxiety and turn anxiety into a positive opportunity for the whole family. It outlines specific action steps to regain full control of your anxious child's life. You'll learn how to communicate effectively with your child, help him or her confront fear, and boost your child's feelings of accomplishment and self-esteem. The book also includes helpful advice for anyone who works with anxious children, such as teachers, coaches, therapists, and school nurses. The plentiful exercises and tips reveal how to:

- \* Recognize the symptoms of anxiety in your child
- \* Evaluate your child's need for medication and/or therapy
- \* Utilize a journal to gain a clear perspective
- \* Assess the role of your family in anxiety disorders
- \* Set goals for the future-- including what to do if anxiety returns

Overcoming anxiety in children takes time and persistence-- but it can be done. By making changes little by little, your child can get well and stay well. The lessons in *The Anxiety Cure for Kids* have helped many children break free from anxiety and, with your family's help, your child will too.



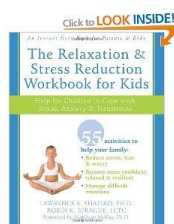
## Cool, calm, and confident: A workbook to help kids learn assertiveness skills

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by Lisa Schab

Self-assured, assertive kids are not only less likely to be picked on by their peers, they're also less likely to bully others. But it's not always easy for children to find a healthy middle ground between passivity and aggression. If your child is a frequent target for bullies, or has begun to tease and take advantage of other kids, the easy and effective activities in *Cool, Calm, and Confident* can help. These simple exercises help children stand up for themselves without coming across as aggressive, learn to be both kind and assertive, and develop self-confidence and a positive self-image. Using this workbook is an easy and effective way to instill self-esteem in both passive and aggressive children—a strength that will prove invaluable in childhood, in their teenage years, and throughout their lives. Help children to:

- \* Learn the difference between passive, aggressive, and assertive behavior
- \* Behave in ways that discourage teasing
- \* Understand their rights and stand up for themselves
- \* Stay calm and learn skills for managing anger
- \* Make real and lasting friendships.

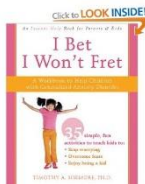


## The relaxation and stress reduction workbook for kids: Help for children to cope with stress, anxiety, and transition

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by Lawrence Shapiro and Robin Sprague

Children pay close attention to their parents' moods. When parents feel upset, their kids may become anxious, and when parents wind down, children also get the chance to relax. When you feel overwhelmed and stressed, it can be hard to help your child feel balanced. 'The Relaxation & Stress Reduction Workbook for Kids', written by two child therapists, offers more than fifty activities you can do together as a family to help you and your child replace stressful and anxious feelings with feelings of optimism, confidence, and joy. You'll learn proven relaxation techniques, including deep breathing, guided imagery, mindfulness, and yoga, and then receive guidance for teaching them to your child. Your child will also discover how taking time to do art and creative projects can create a sense of fulfillment and calm. By completing just one ten-minute activity from this workbook each day, you'll make relaxation a family habit that will stay with both you and your child for a lifetime.

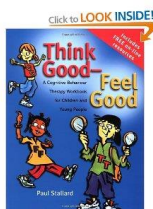


## **I bet I won't fret: A workbook to help children with generalized anxiety disorder**

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by Timothy Sisemore

We like to think of childhood as a carefree time, but for the many children with anxiety disorders it's anything but. Generalized anxiety disorder (GAD) is one of the most common anxiety disorders in children. It causes intense worry and anxiety that can disrupt emotional, academic, and social development. The good news is that GAD is highly treatable and children can be taught to manage and even overcome it. Child psychologist, Timothy Sisemore specializes in helping anxious children and in “I Bet I Won't Fret” he gives kids fun and engaging exercises to help them relieve anxiety and worry, change anxiety-inducing self-talk, and communicate their feelings. These activities can be done on their own or as part of a therapy program, and are appropriate for kids between the ages of six and twelve.



## **Think good – feel good: A cognitive behaviour therapy workbook for children and young people**

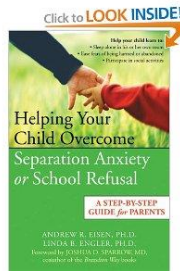
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by Paul Stallard

*Think Good — Feel Good* is an exciting and pioneering new practical resource in print and on the internet for undertaking CBT with children and young people. The materials have been developed by the author and trialled extensively in clinical work with children and young people presenting with a range of psychological problems.

Paul Stallard introduces his resource by covering the basic theory and rationale behind CBT and how the workbook should be used. An attractive and lively workbook follows which covers the core elements used in CBT programmes but conveys these ideas to children and young people in an understandable way and uses real life examples familiar to them. The concepts introduced to the children can be applied to their own unique set of problems through the series of practical exercises and worksheets.

- 10 modules can be used as a complete programme, or adapted for individual use
- Little else available for this age range
- Can be used as homework or self-help material



## Helping Your Child Overcome Separation Anxiety or School Refusal

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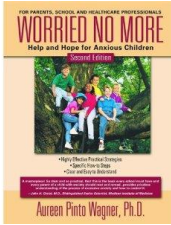
by Andrew R. Eisen, Linda B. Engler, & Joshua Sparrow

### Effective Tools for Parents

Does your child cling to you whenever you try to leave? Does he or she react strongly to the thought of being left alone? Psychologists call this kind of behavior separation anxiety, and it's usually a normal part of your child's developmental process — one that they outgrow. Sometimes, though, extreme or persistent kinds of separation anxiety can make life difficult for both you and your child. In some cases, separation anxiety issues can lead a child to be reluctant to get ready for school or, worse, to simply refuse to go at all. This behavior, called school refusal, comes with its own set of challenges. This book shows you how to identify when your child's separation anxiety or school refusal is more than just a phase and offers effective tools that you can use to manage your child's anxiety. Real-life stories about other children facing these challenges will help you keep your situation in perspective and remember that, with patience and persistence, your child will overcome his or her anxiety.

After reading this book, you will be able to:

- Identify your child's unique safety needs
- Empower him or her with simple and effective coping skills
- Guide your child to better sleep, more comfortable alone time, and regular school attendance
- Monitor your progress and tap additional resources as you need them



## Worried no more: Help and hope for anxious children

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by Aureen Pinto Wagner PhD

About 13% or over 6.5 million children and adolescents in the US suffer from serious anxiety, making it the most common emotional problem in youngsters. Anxiety in youngsters is commonly misdiagnosed as attention-deficit disorder (ADD). The good news is that anxiety is the most treatable emotional problem. Success rates with early recognition and proper treatment are excellent! Countless parents, schools and healthcare professionals have come to rely on *Worried No More* to help youngsters with anxiety reclaim the joys of childhood. In her landmark and highly acclaimed book, Dr. Aureen Wagner brings scientifically proven and time tested cognitive-behavioral strategies into the everyday lives of children and families. Her creative, warm and user-friendly approach appeals to children and adults alike. She identifies the red flags and early warning signs of anxiety, and how to tell normal from problem anxiety. *Worried No More* is packed with information and valuable step-by-step guidance to help children cope with worry, school refusal, separation anxiety, excessive shyness, panic, disasters and tragedies, phobias, obsessions and compulsions.



**Part III: WEBSITES**

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URL	DESCRIPTION
<a href="http://www.kidshelpphone.ca">www.kidshelpphone.ca</a>	A Canadian site for children and adolescents to find information as well as help, if needed. By following the links on the left side under “information booth”, the section entitled “feelings” covers basic information about anxiety written for children to understand.
<a href="http://www.kidshelp.org">www.kidshelp.org</a>	A website offering information and support to children, adolescents, parents, and educators. Follow the appropriate link for the resources required.
<a href="http://www.anxietybc.com">www.anxietybc.com</a>	A site from British Columbia, Canada offering information, support, and resources for children, adolescents, parents, and educators.
<a href="http://www.childanxiety.net">www.childanxiety.net</a>	A site devoted to information, links, and resources for children, parents, and educators on all topics related to childhood anxiety.
<a href="http://www.selectivemutismcenter.org">www.selectivemutismcenter.org</a>	A site devoted specifically to selective mutism, run by Dr. Elisa Shipon-Blum, a physician and clinical psychologist.
<a href="http://www.therapyanimals.org">www.therapyanimals.org</a>	Information regarding the use of therapy animals.

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## CHAPTER FIVE: SUMMARY OF THE PROJECT

This project was set out with the primary goal to provide educators with a handbook, including current information supported empirically, regarding the growing concern with anxiety in young children. Secondly, the handbook was intended to provide educators with easy-to-follow lesson plans and resources to use in the classroom to support children suffering with anxiety, as well as to provide the entire classroom with excellent exposure and activities highlighting relaxation strategies, character education, and social awareness amongst their peers.

The final handbook is a resource based on a theoretical framework, supported by empirical research, and guided by the input of primary educators in the field participating in a *Needs Assessment Questionnaire*, through which insights and suggestions were provided. The handbook begins with an introduction of the problems encountered by children who suffer from anxiety. The next chapter then describes the types of anxiety most frequently encountered by young children, followed by a chapter offering easy-to-read charts that provide the most commonly recognized symptoms in each of these anxiety disorders. The following chapter outlines the most frequently used interventions as provided by a comprehensive literature search of empirical studies. The handbook goes on to describe the role of schools in the intervention of pediatric anxiety, as suggested by current empirical studies. It also offers information and strategies to deal with situational anxiety in the classroom.

The handbook offers a series of six lesson plans that can be used individually, or combined as a serial program in the classroom. These lessons are further supported with a



list of available children's literature, and adult resources and websites providing further information and assistance in addressing anxiety in children.

### **Evaluation of the Handbook**

All participants were provided with a copy of *Anxiety in the Primary Classroom: A Handbook for Educators*, as well as an *Evaluative Questionnaire* (see Appendix B).

After having read through the handbook, each participant responded to the following questions in the evaluation. The first section of the questionnaire was designed as a Likert scale offering the options of: *strongly agree*, *agree*, *unsure*, *disagree*, and *strongly disagree*. These questions and individual responses are outlined below.

1. I feel that the handbook was clearly laid out and easy to follow.
  - Participant 1 and 2 indicated *strongly agree*, and Participant 3 indicated *agree*.
2. I feel that the handbook covered the topics I had hoped to have addressed.
  - Participant 1 and 3 indicated *agree*, and Participant 2 indicated *strongly agree*.
3. I now feel more confident in my ability to recognize the symptoms of anxiety in children.
  - Participant 1 indicated *strongly agree*, and Participant 2 and 3 indicated *agree*.
4. I now feel more confident in my knowledge and understanding of the importance of early intervention and treatment of anxiety in children.
  - Participant 1 and 2 indicated *strongly agree*, and Participant 3 indicated *agree*.

5. It is likely that I would use the information from this handbook in my classroom.
  - Participant 1 and 2 indicated *strongly agree*. Participant 1 went further to indicate two plus signs in addition to *strongly agree*. Participant 3 indicated *agree*.
6. It is likely that I would use the lesson plans included in this handbook in my classroom.
  - Participant 1 and 2 indicated *strongly agree*, Participant 3 indicated *unsure*.

In the second section of the *Evaluative Questionnaire*, two open-ended questions were presented for reflective comments. The first question asked participants to comment on the aspects of the handbook that they felt were its strengths.

The evaluation of Participant 1 indicated appreciation for a well-organized and informative handbook that was easy to read and still well supported by current research. The lesson plans were described as engaging, beneficial, and easy to adapt to multiple grades including Junior and Senior Kindergarten. Participant 1 commented on the usefulness of the list of resources and literature to support teachers as well as parents, and indicated that the handbook was a useful resource that would be incorporated into their future classrooms.

Participant 2 commented that text boxes with the point form descriptions and indicators of anxiety were very helpful, allowing a quick reference. Participant 2 also felt the lesson plans were extremely well laid out and easy to follow, and also commented that the lesson plans could easily be used in multiple grades. Participant 2 felt that they

could use these lesson plans in their future classrooms, and commented on their appreciation of the list of books and resources made available at the end of the handbook.

Participant 3 chose not to include any comments in the evaluation.

The second question asked participants to offer any additional feedback or suggestions which could offer improvements to this handbook regarding its organization, content, thoroughness, usefulness, or any other aspect they felt inclined to comment on.

Participant 1 offered valuable additional considerations regarding strategies for supporting issues of anxiety in the classroom. These suggestions included arts-based interventions such as:

- Music Therapy – including the use of music in the classroom to influence the moods of students, commenting on the perceived calming effect music has on anxious feelings
- Art Therapy – commented on the usefulness of working through anxiety-producing issues with a visual arts medium
- Yoga – as a class activity to minimize anxiety and stress

Additionally, Participant 1 commented on the usefulness of the school-based *Friends* program as suggested in the handbook, but adds that the classroom management strategies and activities found in *Tribes* are also beneficial and worthy of mention.

Finally, Participant 1 mentioned the use of the “Peace Walk” found in Lesson 3 as extremely useful, and something they would like to incorporate as a permanent fixture in the classroom, providing an easy-to-follow model for peer-based conflict resolution.

Participant 2 also felt the handbook was well done, and specifically commented on the section which included the descriptions of the types of anxiety. It was particularly

appreciated that this section did not overwhelm the reader with information. Participant 2, however, felt that because of a personal lack of knowledge in this area, the section on treatment was difficult to understand. Participant 2 further commented that this section was important and should be included in the handbook.

Participant 3 chose not to include any comments in the evaluation.

### **Implications for Practice**

The handbook is laid out as a practical resource offering current and empirically grounded information regarding the field of anxiety in young children. Because of its simple structure, and incorporation of resources and lesson plans, it is easy to follow and utilize in the classroom by primary educators. Educators are given ample examples of age-appropriate classroom literature for teaching about anxiety, and supporting children struggling with issues of anxiety. Furthermore, the handbook allows educators to easily support parents of children struggling with anxiety through the information offered, as well as the resources provided. The additional resources are designed to augment understanding in the field of pediatric anxiety, and provide strategies as well as avenues of support to both educators and parents.

The handbook is created to be useful in multiple ways, thereby providing solutions to needs at various levels. Aside from providing information and quick reference charts, the handbook allows for the use of individual lesson plans, or all six lessons plans used sequentially as a unit. The lesson plans in this handbook are created in an inclusive manner, and therefore applicable to all students in the classroom. Students who do not suffer with issues of anxiety will learn about students who do, and all students will focus on positive character-building strategies that will enhance the

respectful and positive interaction encouraged in the classroom. A classroom that provides a safe learning environment to all students is highly beneficial to children suffering with anxiety disorders.

The handbook was created using the feedback provided by participants in the *Needs Assessment Questionnaire*, thereby contributing to a comprehensive and practical final product. It would appear from the participant responses in the *Evaluative Questionnaire*, that the participant with the least amount of teaching experience derived the greatest benefit from the handbook. Perhaps, more experienced teachers have received some professional development in the field of anxiety, or perhaps their experience has allowed them to gain the confidence, and slowly accumulate strategies over time. Clearly, however, all participants felt a strong need for the handbook as indicated in the needs assessment, and appreciated the product during evaluation. All participants felt that they were better equipped to address issues of anxiety in the classroom after reading the handbook, and felt they would use the handbook in their classrooms in the future.

It would be reasonable to recommend presentation of this information to principals in the boards of education, highlighting both the problem of anxiety amongst young children, and the future implications of this anxiety if left without early intervention.

### **Limitations of the Project**

This project is situated in a single board of education using 3 teacher participants that represent only two schools in the district school board. Clearly, the findings from their responses cannot be assumed to represent their schools, boards, or the profession in

general. Additionally, the project was intended to be a broad overview of anxiety. Because of the varied nature of the different categories of anxiety, it would clearly be more beneficial to focus on each category of anxiety individually to fully understand its symptoms, challenges, and expected outcomes.

Furthermore, the effectiveness of the handbook has not been empirically tested, and therefore, there is no evidence that it is an effective tool producing positive results for the purposes of information or support for educators of children struggling with issues of anxiety in their classrooms.

### **Recommendations for Future Research**

Due to the overwhelmingly positive response to this handbook by the 3 participants who completed both the needs assessment and the evaluative questionnaire, it would be reasonable to expand the scope of this project. The research on anxiety in young children clearly demonstrates an increasing number of children suffering with anxiety. The research also clearly lays out a strong trend of complications and comorbidity in the future path for these young children if the anxiety is not treated.

This handbook is focused specifically on the primary grades. Due to significant differences in developmental skills between primary and junior level students, the lessons presented would not be appropriate for more advanced junior students. Issues with anxiety do, however, progress and develop as the child ages and it is, therefore, important to expand the resources in this handbook to include children and adolescents.

Moreover, there is excellent evidence demonstrating the strong positive role that can be taken by the schools in combatting anxiety in young children. In the face of the strong evidence presented on the importance of addressing issues of anxiety in young

children, it would seem reasonable to involve various boards of education in a program that equips teachers with the information and resources required to support these children in the classroom, as well as to implement a school-based anxiety prevention/intervention program that supports strong inter- and intra-personal skills in young children paired with an equitable classroom management program focusing on character education and social justice from any early age.

### **Conclusion**

This project examined the current research regarding anxiety in young children, and the role of the school in the early identification and support of these children. An extensive and current literature review was completed, and information regarding the various forms of anxiety encountered by children was identified. Furthermore, recent empirical studies regarding the identification and intervention offered to these children were discussed. A *Needs Assessment Questionnaire* was distributed to primary educators who voluntarily participated to identify issues of anxiety in the classrooms, and their knowledge of the subject. The results of the literature review, and the *Needs Assessment Questionnaire* were jointly used to create a handbook for elementary school educators to provide information, strategies, and resources for supporting children suffering with anxiety in their classrooms. The handbook was presented to the same participants who completed the *Needs Assessment Questionnaire* for evaluation. The participants all felt the handbook was a useful tool that enhanced their understanding of anxiety in young children, and felt that they would use the lesson plans and resources presented in the handbook.

All children deserve the right to attend school and achieve an education in a safe and supportive learning environment. In order for children with anxiety to participate fully, educators must heighten their level of awareness of the problems faced by these children, and the symptoms that indicate their levels of distress. Similarly, all children in the classroom must be guided to an attitude of understanding, respect, and support for one another's individual differences and struggles.

Children who suffer with issues of anxiety also need to be guided into an understanding of what is happening to their bodies, and why it is happening. Through respectful guidance, education, and understanding, these children have an opportunity to establish coping strategies, and overcome their anxiety through proper intervention and treatment, thereby decreasing the likelihood of developing further affective disorders later in life, and increasing the likelihood of pursuing their goals, and living life to their potential.



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**Appendix A**

**Needs Assessment Questionnaire**



## Anxiety in the Primary Classroom

### - A Needs Assessment for a Handbook for Elementary Educators -



Ismailos, 2013

Anxiety is a common problem faced by children of all ages. It often goes silently unnoticed by adult caregivers and teachers, but the effects of this disorder on the child can often be debilitating (Mychailyszyn et al., 2011; Rockhill et al., 2010; Tomb & Hunter, 2004). Current research shows that there is much that can be done in the form of early intervention to enable the child to understand and master techniques and skills that will positively impact their daily social interactions (Angelosante, Colognori, Goldstein, & Warner, 2011; Balle & Tortella-Feliu, 2010). Evidence-based research indicates that the prognosis is good when intervention and treatment is introduced early (Rockhill et al., 2010). On the contrary, when these children go unnoticed and undiagnosed for an extended period of time, they have a significantly greater risk of developing future affective disorders, struggling with relationships, experiencing lower levels of education, greater incidence of school non-completion, and poorer physical health due to comorbid disorders and ailments (Angelosante et al., 2011; Rockhill et al., 2010).

Parents often avoid seeking consultation for their children suffering with anxiety disorders for numerous reasons, including fear of social stigma, lack of financial resources, or proximity to treatment sources (Angelosante et al., 2011; Elkins, McHugh, Santucci, & Barlow, 2011; Manassis et al., 2010). Parents who sense an anxiety-related problem with their child are often likely to approach and discuss their concerns with the child's classroom teacher. Evidence-based research supports the introduction of school-based anxiety programs that are made available to all students (Elkins et al., 2011; Sklad, Diekstra, DeRitter, & Ben, 2012). Their effectiveness is empirically demonstrated, and their inclusive nature eliminates the fear of judgement for those truly in need of help (Forman & Barakat, 2011; Mychailyszyn et al., 2011). Furthermore, these programs are effective and have been demonstrated to create a health cost savings to the community by addressing problems in children and youth before they can develop into deep-seated and often life-long disorders needing expensive and frequent treatments in adulthood (Angelosante et al., 2011; Elkins et al., 2011; Forman & Barakat, 2011; Manassis, 2010).

The handbook developed in this current project will be designed based on the data from this Needs Assessment and a comprehensive review of empirical research on

anxiety. The purpose of the handbook will be to provide current information to educators regarding anxiety in children.

**All information gathered is strictly confidential. You are requested not to enter any identifying information for yourself, co-workers, schools, or school districts. A participant number will be assigned to each questionnaire to ensure anonymity. You are not obliged to answer any questions you do not feel inclined to.** Once the questionnaires have been completed, please enclose in the stamped, addressed envelope and place in the mail.

Your assistance in the process of developing this handbook is valuable and very much appreciated. The answers from the following questionnaire will be used to design and develop both the topics covered, and the content and climate of the lesson plans.

With sincere thanks,

Linda Ismailos  
M.Ed. Candidate  
(Teaching, Learning, & Development)  
Brock University

## Needs Assessment Questionnaire

Participant #1



Completion Date: \_\_\_\_\_

Current Grade(s) of Instruction: \_\_\_\_\_

Previous Grade(s) of Instruction: \_\_\_\_\_

Number of Years Elementary Teaching Experience: \_\_\_\_\_

1. Which of the following markers do you believe to be likely indicators or risk factors of anxiety in a child?

Please check the answers that apply:

- crying when dropped off at school
- frequent need to go to the bathroom, especially early in the day
- frequent complaints of tummy aches
- muscle tension
- excessive sweating
- complaints of feeling jittery, or visibly trembling
- frequent headaches
- negative affect
- withdrawal from social interaction
- avoidant behaviour
- hypervigilant in unfamiliar situations
- spending majority of time observing rather than participating
- negative attention bias to threat
- peer exclusion/rejection
- victimization/bullying

Comments:-

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2. Do you feel that shyness is related to anxiety? (Yes or No) \_\_\_\_\_  
If you answered yes above, explain briefly the possible connection.

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3. Do you feel confident in your ability to recognize the symptoms of anxiety in children in your classroom? (Yes or No) \_\_\_\_\_

**Briefly offer any comments on your level of confidence. Please include experience, training, or other.**

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**4. What would be your course of action if you were to suspect a child suffering from anxiety in your classroom? Check all answers that might apply.**

- Contact and discuss with the parent(s).**
- Discuss with the school principal.**
- Discuss with the Learning Resource Teacher.**
- Initiate procedure to bring the situation to the attention of the in-school team.**
- Other (describe briefly below)**

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**5. Would you be inclined to initiate any intervention directly with the child? (Yes or No) \_\_\_\_\_**

**If so, briefly describe the steps you might take personally with the child in your classroom. If not, briefly comment on any reasons.**

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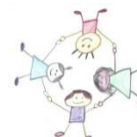
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Please circle the response that most accurately reflects your feeling on the following statements:

- a) I feel that there is a strong sense of awareness on the part of teachers in our schools regarding the increasing problems encountered by children suffering with symptoms of anxiety.

*Strongly Agree      Agree      Unsure      Disagree      Strongly Disagree*

- b) I feel confident in my ability to recognize children suffering with symptoms of anxiety in my classroom.

*Strongly Agree      Agree      Unsure      Disagree      Strongly Disagree*

- c) I feel confident in my ability to offer assistance to these children through proper referrals.

*Strongly Agree      Agree      Unsure      Disagree      Strongly Disagree*

- d) I feel confident in my ability to offer assistance to these children through strategies I can implement in my own classroom.

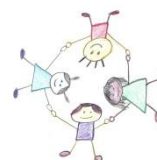
*Strongly Agree      Agree      Unsure      Disagree      Strongly Disagree*

- e) I feel that there is adequate training provided to teachers to identify issues regarding anxiety in children in our schools.

*Strongly Agree      Agree      Unsure      Disagree      Strongly Disagree*

- f) I feel that there is adequate training provided to teachers regarding strategies and possible intervention available in assisting children suffering with symptoms of anxiety.

*Strongly Agree      Agree      Unsure      Disagree      Strongly Disagree*



6. Do you feel that a handbook detailing information about anxiety in primary school aged children would be a useful tool to teachers in the classroom? (Why or why not)

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7. Please provide a list of topics that you would like to see included in the handbook.

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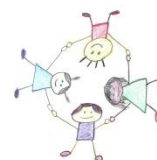
8. What type of activities and lesson plans do you feel would be practical to incorporate into the classroom? Do you feel that such a resource would be a useful tool for teachers?

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## References

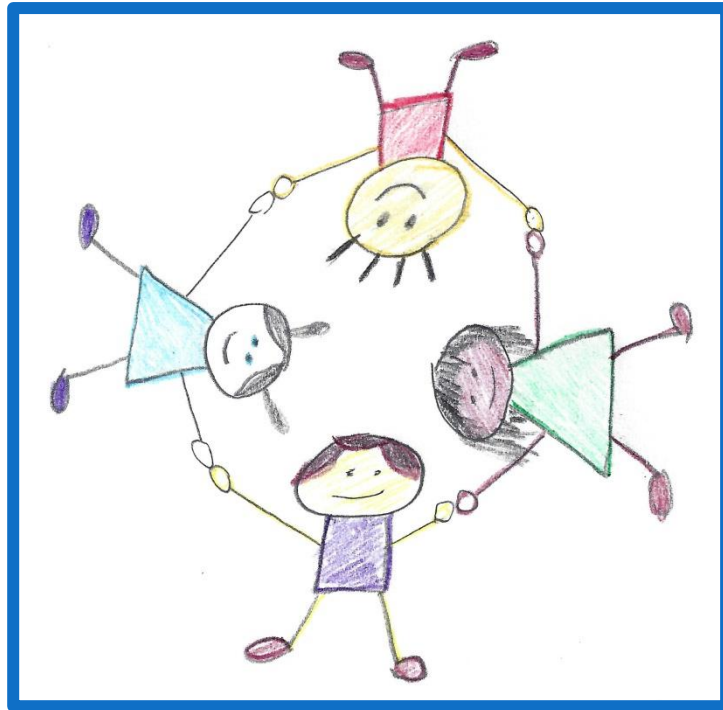
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**Appendix B**

**Handbook Evaluative Questionnaire**

**An Evaluative Questionnaire for:**  
*Anxiety in the Primary Classroom: A Handbook for Elementary  
Educators*



Ismailos, 2013

Several weeks ago you kindly agreed to complete a needs assessment questionnaire regarding a handbook for educators on the topic of anxiety in the elementary classroom. The purpose of the handbook was to provide current information to educators regarding anxiety in children. Since that time, your feedback has been amalgamated with several other educators completing the same questionnaire, and your combined suggestions have been a tremendous support in the organization and completion of *Anxiety in the Primary Classroom: A Handbook for Elementary Educators*.

I would like to ask for your participation once again at this time in the evaluation of the completed handbook. A brief questionnaire is attached providing you the opportunity to give feedback regarding the content, thoroughness, usefulness, and organization of the handbook. Once again, please be advised that you are under no obligation to answer any of the questions. Your feedback is valuable, but it is important that you at no time feel that you are under any obligation to answer anything that you are not comfortable with.

**All information gathered is strictly confidential. You are requested not to enter any identifying information for yourself, co-workers, schools, or school districts. A participant number will be assigned to each evaluation to ensure anonymity. You are not obliged to answer any questions you do not feel inclined to.** Once the questionnaire has been completed, please enclose in the stamped, addressed envelope and place in the mail.

Allow me at this time, to express my sincere gratitude for your willing participation and valuable input into this project. Thank you for the time and effort you extended so generously.

With sincere thanks,

Linda Ismailos  
M.Ed. Candidate  
(Teaching, Learning, & Development)  
Brock University

**Evaluative Assessment****Participant #1**

**Completion Date:** \_\_\_\_\_

**Current Grade(s) of Instruction:** \_\_\_\_\_

**Previous Grade(s) of Instruction:** \_\_\_\_\_

**Number of Years Elementary Teaching Experience:** \_\_\_\_\_

Please circle the response that most accurately reflects your feelings on the following statements:

- a) **I feel that the handbook was clearly laid out and easy to follow.**

*Strongly Agree*      *Agree*      *Unsure*      *Disagree*      *Strongly Disagree*

- b) **I feel that the handbook covered the topics I had hoped to have addressed.**

*Strongly Agree*      *Agree*      *Unsure*      *Disagree*      *Strongly Disagree*

- c) **I now feel more confident in my ability to recognize the symptoms anxiety in children.**

*Strongly Agree*      *Agree*      *Unsure*      *Disagree*      *Strongly Disagree*

- d) **I now feel more confident in my knowledge and understanding of the importance of early intervention and treatment of anxiety in children.**

*Strongly Agree*      *Agree*      *Unsure*      *Disagree*      *Strongly Disagree*

- e) **It is likely that I would use the information from this handbook in my classroom.**

*Strongly Agree*      *Agree*      *Unsure*      *Disagree*      *Strongly Disagree*

- f) **It is likely that I would use the lesson plans included in this handbook in my classroom.**

*Strongly Agree*      *Agree*      *Unsure*      *Disagree*      *Strongly Disagree*

**Please comment on the aspects of this handbook that you feel were its strengths.**

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**Please offer any additional feedback or suggestions which could offer improvements to this handbook regarding organization, content, thoroughness, usefulness, or any other aspect you feel inclined to comment on.**

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