

THE RELATIONSHIP BETWEEN MOTHERS' STRESS LEVEL  
AND ANXIETY RATINGS OF THEIR CHILDREN

by

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## ABSTRACT

Anxiety disorders can affect up to 21% of children, with a wide range of negative consequences on academic performance and interpersonal relationships. Recently, there has been an emphasis on the prevention of childhood anxiety, especially considering that anxiety disorders in children often go unnoticed, and treatment is not sought. Identifying risk and protective factors is important in developing prevention programs. A lower stress level in mothers has been theorized to be one variable that may protect against childhood anxiety.

In this regard, the present study was designed to examine the relationship between mothers' stress level and anxiety ratings of their children, and determine whether level of maternal stress is significantly correlated with ratings of child anxiety by both mothers and teachers. The study also examined whether there are significant differences between child anxiety scores related to child's gender, ethnicity, or mother's marital status, or interaction effects between these variables and mothers' stress level on child anxiety.

Data were collected from the mothers and teachers of 64 first grade children. Mothers completed Parental Stress Index – Short Form (PSI-SF), and both mothers and teachers completed the Child Behavior Checklist (CBCL), and data was analyzed using Pearson product moment correlations and Analyses of Variance, as well as regression analyses. Results indicated that ratings of child anxiety on the CBCL by both mothers and teachers were significantly positively correlated with mothers' stress scores on the PSI. It was also found that, in addition to child anxiety problems, child ADHD problems

and oppositional/defiant problems made a significant contribution to explaining the total stress scores of mothers.

Differences between groups existed relating to mothers' marital status, with children of single mothers having significantly higher anxiety scores, as rated by their mothers. However, differences did not exist relating to child's ethnicity and child's gender. Findings of this study have important implications regarding prevention programs, and highlight the fact that children may be negatively impacted by high levels of maternal stress. Further exploration of the consequences of high levels of maternal stress is needed to gain an understanding of the long-term effects of mothers' stress on their children.

## CHAPTER 1

### INTRODUCTION

Anxiety disorders are among the most commonly occurring psychiatric disorders of childhood, with specific phobia, separation anxiety disorder, and overanxious/generalized anxiety disorder occurring more frequently than other anxiety disorders (Ollendick & King, 1998). It is estimated that at least one child in every average elementary school class of 30 children will have an anxiety disorder of some type (Cartwright-Hatton, McNicol, & Doubleday, 2006). While children having anxiety disorders are less likely than those having other behavior disorders to receive mental health services, in many cases severe consequences may result in areas such as academic and interpersonal functioning, especially if left untreated (Donovan & Spence, 2000).

In regard to such areas of academic functioning as reading and math achievement, one study showed that first-grade children with high levels of anxiety were, respectively, 7.7 and 2.4 times more likely to be in the lowest quartile (Bernstein, Borchardt, & Perwien, 1996). Children with anxiety problems have been found to have higher drop-out rates, poorer problem solving skills, unpopularity, and lower peer interactions (Dadds & Barrett, 2001; Rapee, 2002). In addition, a comorbid diagnosis is common, with anxiety disorders being associated with other behavioral and emotional problems such as depression and disruptive behavior disorders (Ollendick, King, & Muris, 2002).

Moreover, research has shown that anxiety in childhood is likely to persist into adolescence and adulthood (Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004). Longitudinal studies have indicated that 50 – 70% of children who

meet the diagnostic criteria for an anxiety disorder will retain the diagnosis two years later (McLoone, Hudson, & Rapee, 2006) and almost half continue to meet criteria eight years after onset (Keller, et al., 1992). As children grow older, chronic anxiety has been found to be associated with a range of negative effects such as reduced social interaction, dropping out of school, unemployment, high medical costs, alcohol abuse, and suicide (Rapee, 2002). Dadds and Barrett (2001) report that “estimates from the recent Burden of Disease Project (Murray & Lopez, 1996) suggest that anxiety disorders represent one of the most significant health problems in terms of global burden of disease, exceeding the vast majority of physical health problems” (p. 1000).

Anxiety disorders tend to be more common in females than males; however, the research literature suggests a possibility of changes in gender ratios across ages, whereby anxiety in young children is more common in boys than girls, and anxiety in older children and adolescents is more common in girls than boys (Vasey & Ollendick, 2000). There are also changes in the type of fears and anxieties, frequency, and reactions as children grow older (Barrios & O’Dell, 1998).

Certain groups of children may be considered at greater risk to develop mental health problems, such as anxiety disorders. Children from divorced or single parent families have been shown to exhibit externalizing disorder symptoms such as increased levels of aggression, noncompliant behavior, lack of self-regulation, antisocial behavior, and low social responsibility (Hetherington & Stanley-Hagan, 1999). In addition, divorce is also associated with symptoms of internalizing disorders such as anxiety and depression. As more than 45% of marriages end in divorce, and over one million

children per year see their parents divorce (Wallerstein, Lewis, & Blakeslee, 2000), a vast number of children may be negatively impacted in the areas of mental health, behavior, social skills, adjustment, and academic achievement (Dubow, Schmidt, McBride, Edwards, & Merk, 1993).

Given the high prevalence rates of anxiety disorders in children, which ranges from 10 to 21% (McLoone, Hudson, & Rapee, 2006), and the severity of impairments across all areas of life, efforts to identify early predictors of anxiety are needed (Grover, Ginsburg, & Ialongo, 2005). Identification of these early predictors would then lead to the development of prevention programs. Current research suggests that prevention is preferable to treatment (Donovan & Spence, 2000). Especially considering that children suffering from anxiety disorders are often unnoticed by teachers and parents since they are nondisruptive and compliant, interventions may not occur until after the disorder is well established, with severe adverse effects on relationships and academic performance. Prevention strategies that make use of information regarding known risk and protective factors may effectively reduce the negative academic, social, and emotional consequences of anxiety on children.

Current research indicates that both parental/familial and environmental factors play a role in the development of increased anxiety levels in children. For example, a recent study by Grover and colleagues (2005) found that children who experienced a more negative family environment, including factors such as marital difficulties, serious family illness, and parental psychopathology, had significantly higher levels of anxiety in both the first and seventh grades. Parental stress, which has been shown to be related to

negative parent-child interactions and emotional maladjustment in children (Pianta, Egeland, & Stroufe, 1990), is another family variable that may be associated with childhood anxiety.

#### Purpose of the Present Study

The research on anxiety disorders in children indicates that anxiety is a prevalent problem with a wide range of serious negative consequences. Studies also show that a number of risk factors have been implicated in the development of anxiety disorders in children (Dadds & Barrett, 2001). Determining risk factors, as well as protective factors, associated with specific disorders is important in developing and implementing prevention programs that can contribute to reducing adverse outcomes in children, and improve social-emotional and academic functioning. Since anxiety in children may be difficult and costly to treat, prevention techniques may be considered as preferable (Donovan & Spence, 2002).

Research studies have found maternal stress to be associated with social/emotional maladjustment in children (e.g. Pianta & Egeland, 1990). Parental stress may also affect caregiving behavior, and may lead to both externalizing and internalizing problems in children. Early identification of stressful parent-child systems is important in order to initiate appropriate prevention programs that can decrease mental health problems during childhood and adolescence (Abidin, 1995). In this regard, research addressing maternal stress level as a possible factor associated with their children's anxiety is a logical next step in this area of research.

The purpose of the present study was, therefore, to examine the relationship between mothers' stress level and anxiety ratings of their children, and determine whether level of maternal stress was significantly correlated with ratings of child anxiety by both mothers and teachers. In addition, the study examined whether there was a significant difference between child anxiety scores related to child's gender, ethnicity, and marital status of their mother, and whether there was an interaction effect between these variables and mothers' stress level on child anxiety. The hypotheses that were tested in the present study were the following:

#### Hypotheses

1. There is no significant ( $p < .05$ ) correlation between mothers' stress scores and child's anxiety scores as rated by their mother and their teacher.
- 2a. There is no significant ( $p < .05$ ) interaction effect between mothers' marital status (Single vs. Married) and mothers' stress level (High vs. Low) on child's anxiety scores as rated by their mother and their teacher.
- 2b. There is no significant ( $p < .05$ ) difference between children of single mothers and children of married mothers on child's anxiety scores (rated by mother and teacher).
- 3a. There is no significant ( $p < .05$ ) interaction effect between child's ethnicity (Caucasian vs. Hispanic vs. Other [African-American or Asian]) and mothers' stress level (High vs. Low) on child's anxiety level as rated by their mother and their teacher.

3b. There is no significant ( $p < .05$ ) difference between children of different ethnic groups (Caucasian, Hispanic, or Other [African-American or Asian]) on child's anxiety scores (rated by mother and teacher).

4a. There is no significant ( $p < .05$ ) interaction effect between child's gender (Male vs. Female) and mothers' stress level (High vs. Low) on child's anxiety level as rated by their mother and their teacher.

4b. There is no significant ( $p < .05$ ) difference between male and female children on child's anxiety scores (rated by mother and teacher).

## CHAPTER 2

### REVIEW OF THE LITERATURE

This chapter reviews the literature on childhood anxiety disorders, their characteristics and prevalence, and developmental, gender, and cultural issues. Etiological theories and assessment procedures, as well as risk and protective factors will be discussed. The literature on parental stress, negative effects of divorce on children, and prevention of child mental health problems will also be reviewed.

#### *Characteristics and Prevalence of Childhood Anxiety Disorders*

Fears and anxieties refer to a complex pattern of responses to a real or imagined threat, including motor, subjective, and physiological reactions (Barrios & O'Dell, 1998). Symptoms of the motor component of children's fears and anxieties, which are related to performance impairment, include escape, avoidance, trembling, clinging, and crying. Symptoms of the subjective component, which are related to phenomenological distress, include reports of terror, helplessness, impending harm, thoughts of danger, thoughts of being hurt, and images of monsters. Finally, symptoms of the physiological component, which are related to somatovisceral arousal, include increases in heart rate, pulse volume, respiration, muscle tension, numbness, and dizziness (Barrios & O'Dell, 1998).

In order to differentiate various anxiety disorders, one must utilize the diagnostic criteria provided in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-R) (American Psychiatric Association, 2000). The criteria for diagnosis of the three most common anxiety disorders in childhood will be discussed.

*Specific Phobia.* The DSM-IV states that the criteria for Specific Phobia are the following: a marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation; exposure to the phobic stimulus provokes an immediate anxiety response (in children, anxiety may be expressed by crying, tantrums, freezing, or clinging); the person recognizes that the fear is excessive or unreasonable (may not apply to children); the phobic situation is avoided, or endured with intense anxiety or distress; the avoidance, anxious anticipation, or distress interferes significantly with the person's normal functioning; and in individuals under 18 years, the duration is at least six months.

*Separation Anxiety Disorder.* The criteria for Separation Anxiety Disorder include developmentally inappropriate and excessive anxiety concerning separation from home or from those to whom the individual is attached. Three or more of the following symptoms must be present: recurrent excessive distress when separation from home or major attachment figures occurs or is anticipated; persistent and excessive worry about losing, or about possible harm befalling, major attachment figures; persistent and excessive worry that an untoward event will lead to separation from a major attachment figure (getting lost or kidnapped); persistent reluctance or refusal to go to school or elsewhere because of fear of separation; persistently and excessively fearful or reluctant to be alone or without major attachment figures at home or without significant adults in other settings; persistent reluctance or refusal to go to sleep without being near a major attachment figure or to sleep away from home; repeated nightmares involving the theme of separation; and repeated complaints of physical symptoms when separation from

major attachment figures occurs or is anticipated. The duration of these symptoms is at least four weeks, with onset being before 18 years of age, and symptoms causing significant distress or impairment of functioning (DSM-IV-R, APA, 2000).

*Generalized Anxiety Disorder.* Finally, the diagnostic criteria for Generalized Anxiety Disorder include excessive anxiety and worry about a number of events or activities; difficulty controlling the worry; anxiety and worry are associated with three of these symptoms: restlessness or feeling keyed up or on edge, being easily fatigued, difficulty concentrating or mind going blank, irritability, muscle tension, or sleep disturbance; and the anxiety, worry, or physical symptoms cause clinically significant distress or impairment in functioning (DSM-IV-R, APA, 2000). The DSM-IV notes that Generalized Anxiety Disorder may be overdiagnosed in children. It must be determined that the worries are not better explained by another childhood anxiety disorder.

Other anxiety disorders that may occur in childhood or adolescence include: Social Phobia, characterized by fear of anxiety and embarrassment relating to social or performance situations; Panic Disorder, characterized by recurrent panic attacks (sudden onset of intense apprehension, fearfulness, or terror accompanied by physical symptoms of distress such as difficulty breathing and heart palpitations, outside of situations of real danger) and apprehension about future attacks; Agoraphobia, characterized by fear and avoidance of situations in which escape may be embarrassing or difficult; Obsessive-Compulsive Disorder, characterized by persistent, intrusive thoughts, and repetitive behaviors commonly focused on a theme of contamination by germs or harm befalling a

loved one; and Posttraumatic Stress Disorder, characterized by persistent re-experiencing of traumatic events with symptoms of arousal (Dadds & Barrett, 2001).

According to recent research, the prevalence of anxiety disorders in children ranges from 10 to 21% (McLoone, Hudson, & Rapee, 2006). Dadds and Barrett (2001) report that about 8% of children may require clinical treatment for anxiety disorders. A study by Last, Strauss, and Francis (1987) found that in a clinic-referred sample, significant phobias were present in about 15% of children and adolescents, and 64% of these children diagnosed with specific phobia also had at least one comorbid diagnosis including overanxious disorder, social phobia, obsessive-compulsive disorder, panic disorder, major depressive disorder, dysthymia, and oppositional defiant disorder. Another study of clinically-referred anxious children and adolescents found that 72% had one or more additional diagnoses (Silverman, Kurtines, Ginsburg, Weems, Rabian, & Serafini, 1999). In community samples, however, comorbidity is less frequent for phobic disorders, although other types of anxiety disorders tend to overlap with both internalizing and externalizing disorders (Ollendick et al., 2002).

As previously mentioned, the most commonly diagnosed anxiety disorders are overanxious/generalized anxiety disorder, separation anxiety disorder, and specific phobia, which occur in around 5% of children. Other disorders such as social phobia, agoraphobia, and panic disorder are much less prevalent, with rates of occurrence well below 2% (Ollendick et al., 2002). Research studies may vary in reported prevalence rates of childhood anxiety and phobic disorders due to criterion definitions for diagnosis, functional impairment, and differences in ascertainment practices (Ollendick et al., 2002).

### *Definitional Issues*

The literature on childhood fears and anxieties lacks agreement on the definitions of certain terms. For example, many different terms may be used to describe the same reaction, such as fear, phobia, anxiety, and avoidance behavior (Morris & Kratochwill, 1983; 1998). According to Morris and Kratochwill (1983), fears are emotions that occur as an immediate response to a specific threat, while anxiety is a reaction such as worry, apprehension, or uneasiness regarding the possible occurrence of a negative situation or event. Rachman (1978) notes that the distinction between fear and anxiety is the ability or inability, respectively, to identify the source of apprehension. Anxiety may be thought of as an unpleasant feeling that is not due to any obvious threat, and consists of a combination of physiological, behavioral, and cognitive components (Dadds & Barrett, 2001). Children who experience problems with anxiety may be characterized by restlessness, feeling on edge or keyed up, somatic complaints, unrealistic and excessive worry, need for reassurance, self-consciousness, fatigue, difficulty concentrating, irritable mood, school refusal, avoidance of social situations, phobias, panic attacks, or obsessions/compulsions (Dadds & Barrett, 2001).

### *Developmental Issues*

When discussing anxiety disorders in childhood and adolescence, it is important to consider developmental issues that may pertain to the disorder. First, an important contrast must be made between “normal” fears and anxieties and “clinical” fears, or “phobias”. Research indicates that nearly all children experience some type of fear during their development (Ollendick et al., 2002). According to Morris and Kratochwill

(1983, 1998), these normal fears are age-related, transitory, and of short duration.

Typical childhood fears will vary in intensity and frequency, and are generally adaptive. For example, many young children demonstrate fear reactions to loud noises, strangers, darkness, and separation (Ollindick et al., 2002).

In contrast to normal childhood fears, a phobia can be defined as a fear that is out of proportion to the demands of the situation, cannot be explained or reasoned away, is beyond voluntary control, and leads to avoidance of the feared situation (Marks, 1969); and also persists over an extended period of time, is unadaptive, and is not age- or stage-specific (Miller, Barrett, & Hampe, 1974; Morris & Kratochwill, 1983, 1998). Since fears and anxieties can be considered a normal part of childhood and adolescence, it must be determined that a fear is maladaptive before attempting to utilize treatment methods.

In addition, the literature has identified patterns regarding increasing age and changes in the foci, frequency, and form of fears and anxieties of children (Barrios & O'Dell, 1998). For young infants, feared stimuli are usually situations relating to changes in the environment such as loud noises, heights, or loss of support, while for toddler-age children, typical fears involve strangers, separation, and novel stimuli (Dadds & Barrett, 2001). Younger school-age children's fears focus on animals, darkness, and supernatural beings, whereas older school-age children's fears focus on school-related events, physical injury, or parental punishment. For adolescents, the focus of fears is on school performance, physical illness, social comparison, and personal adequacy, as well as political, economic, and sexual matters (Dadds & Barrett, 2001).

Research shows that children can develop certain fears after they have reached a specific maturational stage (Muris et al., 2002). For example, fear of heights is dependent upon a child's locomotor development, and separation anxiety develops only after a child has developed object permanence for faces. This helps explain why there are changes in feared stimuli as a child grows older and develops new skills and cognitive abilities.

In addition to differences in feared stimuli at various developmental stages, there is also a difference in frequency of fears. According to Barrios & O'Dell (1998), with increasing age, there is a decrease in the number of fears and anxieties children display. Gullone (2000) states that younger children (8-10 years-of-age) usually report more fears than older children (11-13 years-of-age) or adolescents (14-16 years-of-age), although some studies indicate a peak in number of fears in early adolescence with a subsequent decline. It is important to note that symptoms of anxiety may worsen over time, with older children reporting higher levels of anxiety than younger children with the same diagnosis (Kendall, 1994). However, other research reports that the level of fear may diminish over time, with adolescents indicating a decrease in intensity of fear. This finding may not be due to an actual decrease in intensity, but to adolescents' ability to regulate expression of fear (Gullone, 2000).

Lastly, there is a change in the form that a fear reaction to a stimulus takes, as children grow older. For example, as a response to separation from an attachment figure, young children may display overt opposition or have nightmares, while older children may complain of physical symptoms (Francis, Last, & Strauss, 1987). Also, anxiety

problems may persist as a child grows older, but the diagnosed disorder may change. For example, a child diagnosed with separation anxiety disorder in early childhood may be diagnosed with panic disorder or agoraphobia later in life (Dadds & Barrett, 2001).

It is important to consider developmental issues when differentiating between various categories of anxiety disorders in children and adolescents. The common age of onset varies for different disorders, and is related to the cognitive and psychosocial developmental of the child. For example, separation anxiety has a fairly early age of onset (ages 6-9), and generalized anxiety disorder usually onsets by the middle school years (ages 10-12) (Albano & Kendall, 2002). Social phobia, which is characterized by fear of embarrassment and anxiety when exposed to social or performance situations, is not usually diagnosed until adolescence (Dadds & Barrett, 2001). This is because, according to Piaget, children do not reach the stage of formal operational thought until around 11 years-old (Bjorklund, 2005). This stage is characterized by the ability to think abstractly, as well as egocentricity of the adolescent, and the idea of constantly playing to an imaginary audience. Adolescents' responses to embarrassing situations were found to be related to age and formal operational abilities, indicating that younger children are not cognitively capable of recognizing socially embarrassing situations. Therefore, social phobia is not commonly found in children prior to reaching adolescence (Dadds & Barrett).

### *Gender Differences*

In addition to developmental issues regarding childhood fears and anxieties, there are also issues relating to gender differences. In general, girls are found to report more

anxiety symptoms than boys, and this finding holds true across most cultures (Ollendick et al., 2002). Research indicates that over-all females are approximately one and a half to two times more likely to have an anxiety disorder than males (Breton, et al., 1999). A study by Gullone and King (1993) found that girls reported both a significantly higher number of fears and a higher level of intensity of fears, as compared to boys. However, the research literature suggests a possibility of changes in gender differences across ages (Vasey & Ollendick, 2000). One study that compared gender-by-age interactions found girls to have a higher rate of anxiety than boys in the 9- to 11-year-old and 12- to 14-year-old group, but not in the 6- to 8-year-old group (Breton et al., 1999).

Regarding types of anxieties, fears related to safety, death, and danger have been found to be more frequent and intense in girls (Ollendick, Yang, Dong, Xia, & Lin, 1995). On the Fear Survey Schedule for Children and Adolescents-II (FSSC-II), the items that discriminated most strongly between boys and girls included fears of spiders, mice, creepy houses, being alone, and having bad dreams (Gullone & King, 1993).

One explanation for the gender differences found in child anxiety and fears relates to gender role orientation, or the development of masculine or feminine traits and behaviors (Ollendick et al., 1995). Expressing fearfulness is more consistent with the feminine gender role, and socialization and child-rearing practices may reinforce this behavior in girls. In the same manner, expressing fear may be less tolerated or accepted in boys, since it is inconsistent with the masculine gender role, and boys are encouraged to be brave in fearful situations (Ginsburg & Silverman, 2000). In addition to male gender role expectations, another reason that girls may be more likely to be diagnosed

with anxiety disorders is that teachers and parents may be more likely to attend to externalizing symptoms of behavioral disorders in boys, as opposed to internalizing symptoms such as anxiety (Essau et al., 2004).

### *Cultural Differences*

Limited cross-cultural research on childhood anxieties and related fears has been published. In one study, Last & Perrin (1993) compared anxiety disorders in African-American and Caucasian children, and found that the most prevalent disorders in both groups were separation anxiety, overanxious disorder, and phobias, with Caucasian children having higher severity ratings. Differences, however, between the Caucasian and African-American children were found in the higher rate of school refusal in the Caucasian children, and a higher rate of posttraumatic stress disorder in the African-American children. Moreover, in terms of those children from lower socioeconomic backgrounds who were diagnosed as having PTSD, 21.1% were African American, and 3.4% were Caucasian (Last & Perrin, 1993).

Another study investigated the differences in anxiety symptoms between Japanese and German youth (Essau et al., 2004). Results of this study indicated that German children scored significantly higher on symptoms of separation anxiety, social phobia, obsessive compulsive disorder, and generalized anxiety disorder, while Japanese children scored significantly higher on symptoms of physical injury fear. These findings contrasted with the expectation that Japanese children would report higher levels of anxiety due to the cultural values of self-discipline, politeness, attentiveness to others, and accommodation to social expectations. A study by Ollendick, Yang, King, Dong,

and Akande (1996) found that Nigerian and Chinese children reported higher levels of social-evaluative and safety fears than American and Australian children, perhaps due to cultural values of obedience, self-control, compliance to social rules, and emotional restraint.

With respect to Caucasian versus Hispanic children, Ginsburg and Silverman (1996) found that Hispanic and Caucasian children presenting with anxiety disorders were relatively similar, with the only significant difference being that Hispanic youth were more likely to be diagnosed with separation anxiety disorder than Caucasian youth. This finding may relate to the traditional Hispanic value of interdependence over independence (Ginsburg & Silverman, 1996).

#### *Etiology of Childhood Anxiety Disorders*

The theoretical literature regarding the etiology of children's fears and anxieties is quite varied. While some researchers purport that fears and anxieties are consequences of learning experiences (e.g. Watson & Rayner, 1920; Mowrer, 1939), others argue that an evolutionary predisposition leads to certain fears (e.g. Seligman, 1971; Öhman, Erixon, & Löffberg, 1975). Research has also suggested that genetics and environmental factors are important considerations in the etiology of childhood fears and anxieties (e.g. Muris et al., 2002). These different theoretical perspectives have led some writers to suggest that the development of childhood anxiety disorders appears to involve an interaction between biological, psychological, and environmental variables (Donovan & Spence, 2000).

*Behavioral Perspective.* From a behavioral perspective, fears and anxieties are assumed to be acquired through learning experiences. For example, Watson and Rayner

(1920) demonstrated that neutral stimuli may become fear-evoking stimuli through the process of classical conditioning. Specifically, they established a conditioned emotional response to a white rat (a neutral stimulus) by visually presenting it to an infant while simultaneously making a loud sound (a fear-producing stimulus) by striking a steel bar. The infant's fear reaction was to jump violently, fall over to the side, turn away, and whimper or cry. After a number of joint presentations of the rat with the loud noise, the presentation of the rat alone led to the same fear response. In addition, the conditioned fear response was demonstrated when the infant was presented with stimuli similar to the white rat, such as a rabbit, fur coat, and Santa Claus mask (Watson & Rayner, 1920).

Mowrer's two-factor learning theory (Mowrer, 1939) suggests that anxiety is a learned response, which occurs in situations that in the past have been followed by injury or pain. This theory involves two components: classical conditioning and instrumental learning. In the classical conditioning phase, a fear response is established through the pairing of a neutral stimulus with a painful or fearful experience. In the instrumental learning phase, the organism is reinforced for avoidance of the conditioned stimulus because it leads to the reduction of fear and anxiety. Therefore, fear is a mediational factor between the conditioned stimulus and the avoidance of a specific situation (Mowrer, 1939).

Wolpe's technique of systematic desensitization (Wolpe, 1969) is related to Mowrer's theory, and can be used to extinguish the avoidance response in individuals with anxiety disorders. Systematic desensitization views fears and phobias as conditioned responses that can be unlearned through counter-conditioning procedures,

and involves induction of a response incompatible with fear, such as relaxation; development of an anxiety-evoking hierarchy; and the systematic pairing of items in the hierarchy with the incompatible response, so as the avoidance response does not occur.

Bandura's "social learning theory" (Bandura, 1969) indicates that observation of other people's behavior and its consequences, rather than direct experience, can also lead to learning. Emotional responses are thought to be conditioned vicariously by witnessing the affective reactions of others experiencing either enjoyable or distressing situations. In relation to the development of fears and anxieties, it is suggested that individuals can vicariously acquire fears of certain stimuli through observing others being hurt by, or responding with fear, to the stimuli. Support for vicarious learning of fear and anxiety responses is indicated in the successful use of modeling procedures to reduce phobic and anxious reactions. This method involves the observation of modeled approach behavior toward a feared stimulus without adverse consequences (Ollendick & King, 1998). It was noted that the more closely the child resembled the model regarding age, fear level, and previous experience with the feared stimulus, the more positive the treatment outcome (Barrios & O'Dell, 1998).

The "three-pathways to fear theory" (Rachman, 1977) suggests that the classical conditioning theory of fear is an inadequate explanation, and that other learning experiences may lead to the acquisition of fear, including modeling (i.e., vicarious learning) and negative information transmission. Rachman's theory proposes that information-giving and instructional processes may be responsible for the acquisition of certain fears. Information given by parents and peers during a child's early years may

provide the basis for many common everyday fears, which are more likely mild than severe. The theory of acquisition of fears through information transmission, as well as through vicarious learning, allows for explanation of fears of situations or objects that an individual has never actually encountered.

*Fear Predisposition Perspective.* An alternative etiological theory maintains that childhood fears and anxieties are not due to direct or indirect learning experiences, but that fears are evolutionary-relevant (Seligman, 1971). Since fear of certain stimuli facilitates survival of the species, fear responses are said to occur instinctively in individuals. There is no traumatic pairing of a conditioned stimulus with an unconditioned stimulus, and negative information is not required for the development of fear. This theory may be used to explain those childhood fears that seem to exist without a conditioning experience, and apparently have always been present.

A study by Menzies and Clarke (1993) found that 2% of parents of water-phobic children attributed the fear to a direct conditioning experience, 26% attributed it to a vicarious conditioning experience, and 56% believed the fear to be present from the child's initial contact with water. These results support the non-associative account, which ascertains that fear of some stimuli can develop without any prior negative experience with the stimuli. While the initial fear response to these evolutionary-relevant stimuli normally lessens over time as a result of repeated, safe exposures to the stimuli, some individuals will remain fearful from the first experience with the stimuli (Menzies & Clarke, 1993).

*Genetic and Biological Perspective.* Genetic influences are also thought to contribute to the etiology of fears and anxieties, and twin studies and family prevalence studies provide evidence of a familial factor. A study by Torgersen (1983) examined the occurrence of anxiety disorders (panic disorder, agoraphobia, obsessive-compulsive disorder, and generalized anxiety disorder) in monozygotic and dizygotic twins, and found that overall concordance was 34% for monozygotic twins and 17% for dizygotic twins. Turner, Beidel, and Costello (1987) evaluated children of anxiety disorder patients, and determined that the offspring of these patients were more than 7 times as likely to be diagnosed with a DSM anxiety disorder than children of normal parents. While there is clearly strong support for hereditary transmission of anxiety disorders, it may be the case that it is more of a generalized predisposition or vulnerability rather than a genetic influence for a specific anxiety disorder (Turner et al, 1987).

*Environmental Stressors Perspective.* It is apparent that while genetics play some role in the etiology of fears and anxieties, environmental factors also contribute to the development of anxiety disorders, and may determine whether a genetic vulnerability culminates in a specific anxiety disorder (e.g. Muris, et. al., 2002). For example, environmental stress, such as exposure to traumatic or negative life events, is associated with the occurrence of anxiety symptoms in children. Compared to children with low levels of anxiety, those with high levels of anxiety reported a significantly higher number of environmental stressors (Bernstein & Borchardt, 1991). However, many children experience negative life events without developing anxiety problems, which indicates that other variables may interact with environmental factors. For example, effects of

traumatic events and environmental stressors have been shown to be mediated by parent-child relations and child temperament (Dadds & Barrett, 2001).

*Psychoanalytic Perspective.* From a psychoanalytic perspective, fears and anxieties are viewed as overt manifestations of a deeper underlying fear, which is presumed to be sexual in nature. This underlying, or latent, fear is unconsciously changed into a symbolically representative fear that is more acceptable and less threatening. According to Freud, phobias never occur if an individual has a normal sexual adjustment. The main basis for Freud's psychoanalytic theory of fears is the case of little Hans, who was a five-year-old boy with a fear of horses (Freud, 1909). Although Freud only saw the boy once, communication with the boy's father allowed for analysis of Hans' fear. Freud interpreted the fear of horses as fear of the father, whom the boy thought would punish him (with castration) for having sexual desires for his mother. Many researchers have disputed the basis of Freud's theory (e.g. Wolpe & Rachman, 1960) due to unreliable testimony and lack of scientific methodology and evidence. Rachman (1978) asserts that psychoanalysis cannot provide a satisfactory general theory of fear, as only a small percentage of fears may be categorized as symbolic expressions of sexual conflicts or problems.

*Adlerian Perspective.* Individual Psychology, a theoretical approach developed by Alfred Adler, views psychopathology as a mistaken lifestyle originating from feelings of inferiority, rather than as a mental illness. Maladaptive behavior is goal-oriented, and strives toward achieving superiority (Adler, 1964). According to Adler, the basis for the lifestyle develops in the first five years of life, during which children may have

experiences that influence adult neurosis. Fears in childhood, as other neurotic problems, are considered to be related to the goal of superiority. For example, Adler (1964) discusses a man with a fear of high buildings who appears to strive for superiority by desiring to be in a dangerous situation and overcoming the impulse to jump from a window. Another example of the development of fear is the case of a man who feared going outdoors. The fear of mixing with strangers was described by Adler as produced by the motive of excluding all situations in which one is not the center of attention.

### *Risk Factors*

Risk factors are variables whose presence increases the likelihood of an individual developing a disorder, and may be biological, environmental, or psychological in nature. These factors may predict the onset, severity, and duration of psychological disorders (Donovan & Spence, 2000). Risk factors that have been implicated for childhood anxiety disorders include insecure attachment styles, a behaviorally inhibited temperament, parenting style characteristics, and family environment characteristics (Dadds & Barrett, 2001).

According to attachment theory (Bowlby, 1973), the quality of early attachment affects the way children react to new people and situations, whereby the relationship with the primary caregiver is manifested in subsequent interactions with others. An anxious attachment may develop in infants who are exposed to inconsistent, chaotic, neglectful, or rejecting caregiver behaviors. A pattern of anxious/resistant attachment is characterized by a combination of seeking contact with caregivers and pushing away from them. Alternatively, an anxious/avoidant attachment style is characterized by

turning away from caregivers, rather than going to them in stressful situations. Research has indicated that patterns of anxious attachment are related to a greater frequency of behavioral and emotional problems later in life. For example, one study found that infants with anxious/resistant attachment styles were more likely to develop an anxiety disorder in childhood or adolescence (Warren, Huston, Egeland, & Sroufe, 1997). Children's anxious behavior is thought to be related to the lack of an available and accessible caretaker in the role of comforter and protector early in life.

Temperament may be conceptualized as an individual-difference factor that accounts for the consistency of responses across situations (Rapee, 2002). The expression of an individual's temperament derives from a combination of genetic and environmental factors. One temperamental style that has been identified by the research is a withdrawn, or behaviorally inhibited style, characterized by shyness, timidity, and emotional restraint when exposed to unfamiliar situations, as well as an avoidant pattern of coping (Dadds & Barrett, 2001). A study by Kagen (1997) found that children demonstrating inhibited and withdrawn temperamental styles were more likely to develop an anxiety disorder during childhood. Another study by Biederman and colleagues (1993), involving a 3-year follow-up of children with and without behavioral inhibition, also found support for behavioral inhibition as a risk factor for anxiety disorders.

Research has shown overwhelming support for the involvement of parenting in the development of childhood anxiety disorders (Rapee, 2002). In a review of childrearing practices and parenting styles associated with both anxiety and depression, two main factors emerged: rejection and control (Rapee, 1997). Rejection involves

behavior and attitudes related to criticism or negative or hostile feelings by the parent toward the child. Control relates to behaviors intended to protect the child from possible harm, which may reduce individuality and autonomy. The vast majority of studies comparing childrearing patterns in anxious and nonanxious subjects found that clinically anxious subjects describe their parents as more rejecting and controlling than nonclinical subjects. In determining whether differences exist between specific anxiety disorders, few differences have been found, apart from greater rejection and control for social phobic subjects, as compared to agoraphobic subjects (Rapee, 1997).

An inhibited temperament may be associated itself with parental overinvolvement, as mothers of inhibited children scored higher on overinvolvement/overprotection, and mothers of withdrawn children were more likely to use more directive and coercive management styles (Rapee, 2002). Parental overcontrol may interfere with children's acquisition of effective problem-solving skills and ability to deal with stressful situations and may undermine children's belief in their ability to succeed in challenging situations (Donovan & Spence, 2000).

While children of mothers with anxiety disorders are at risk for developing anxiety problems themselves, genetics and biology alone do not explain the familial component of the disorder. Parental behavior of anxious mothers may contribute to the transmission of anxiety from parent to child (Turner, Beidel, Roberson-Nay, & Tervo, 2003). Parents with an anxiety disorder report a family environment that is low on expressiveness (family members are less likely to openly express feelings) and low in cohesion (less communication, help, and support of family members) (Turner et al.,

2003). A study by Whaley and colleagues found that behavior displayed by anxious mothers during interactions with their children displayed less warmth and positivity, and was more criticizing and catastrophizing than controls, as well as less granting of autonomy (Whaley, Pinto, & Sigman, 1999).

From a learning theory perspective, parental behavior may affect children in other ways; for example, by modeling avoidant solutions and reinforcing anxiety behavior in children (Donovan & Spence, 2000). According to Ollendick and Hirshfeld-Becker (2002), parents may model fear of social situations and social avoidance, which may influence social avoidance in the child. In addition, anxious parents may be less likely to facilitate social interactions for their children, such as arranging play dates. They may also be restricted in their ability to help children deal with social anxiety, and may express expectations of negative social evaluation (Ollendick & Hirshfeld-Becker, 2002).

Studies have shown that maladaptive family relations are a probable occurrence in families of anxious youth. For example, the family environments of anxious children are characterized by poor communication and problem-solving, high levels of conflict and control, lack of support and cohesion, and limited participation in recreational and social activities (Ginsburg, Silverman, & Kurtines, 1995). Other characteristics of the family environment that may put a child at risk for anxiety problems are those low in sociability and high in shyness, where the family may attempt to isolate the child from ordinary social experiences (Dadds & Barrett, 2001).

Clearly, there are a number of risk factors connected to the development of anxiety in children and adolescents. Not only must individual factors be considered, but

the interactions between various risk factors, as well. In order to gain a more in depth understanding of the etiology of childhood anxiety disorders, further research is need on the associated risk factors in this area. In addition, Rapee (2002) suggests that selective interventions directed at prevention of anxiety disorders require the identification of clear and modifiable risk factors.

### *Protective Factors*

In addition to risk factors, which may contribute to the development of childhood anxiety, there are also protective factors, which contribute to resilience. These variables, which may be intrinsic to the child or part of their environment, may protect against a disorder by directly affecting the disorder, decreasing the likelihood of negative chain reactions, or preventing or buffering against the risk factor (Coie et al., 1993). According to Donovan and Spence (2000), the search for protective factors associated with anxiety in children has not been as rigorous as the search for risk factors. Currently, there is research that supports coping skills and social support as protective factors in the development of anxiety.

Coping skills are methods that are used to deal with negative or aversive situations, and may be categorized as problem-focused, avoidant, or emotion-focused (Donovan & Spence, 2000). While problem-focused coping strategies directly attend to the effect of the problem using positive self-talk or information-seeking, emotion-focused strategies concentrate on the level of distress associated with the problem, and avoidant coping strategies focus on avoiding or escaping the problem. Evidence suggests that emotion-focused and avoidant coping strategies may be associated with higher levels of

anxiety in childhood (Donovan & Spence, 2000). For example, Ebata and Moos (1991) found that youth who used avoidant coping styles had elevated scores on anxiety and depression measures.

Research also indicates that social support is an important protective factor in the development of anxiety, whereas higher levels of social support are associated with lower levels of anxiety in the incidence of stressful or traumatic life events (Donovan & Spence, 2000). For example, social support was found to be a significant moderating variable between stressful life events and anxiety problems in a population of special education children (Quamma & Greenberg, 1994). In addition, a study of children from divorced families found that higher ratings of overall support were associated with lower levels of anxiety and worry (Cowen, Pedro-Carroll, & Allport-Gillis, 1990). Another study (White, Bruce, Farrell, & Kliewer, 1998) found a strong negative relationship between level of family social support and anxiety level in children exposed to community violence.

While there is strong support for the protective factors mentioned, it is suggested that the possibility of additional protective factors in the area of childhood anxiety needs to be explored (Donovan & Spence, 2000). Research in this area is critical in the development of appropriate and effective prevention programs for childhood anxiety disorders. Through the modifying of risk factors and the promotion of protective factors, the prevention of anxiety in childhood will become more possible.

### *Assessment of Anxiety*

According to Silverman and Ollendick (2005), the purposes or goals of assessment of childhood anxiety include screening, diagnosing, identifying and quantifying symptoms and behaviors, identifying and quantifying controlling variables or assessing contextual variables, and evaluating and monitoring treatment outcome and mediators or moderators. When assessing childhood anxiety problems, it is important to consider whether the nature of the problem is in fact unrealistic anxiety, rather than fear or worry as a reaction to a real threat. In addition, assessment procedures should have a developmental perspective, which allows the problems to be related to developmental expectations. Finally, it is necessary to bear in mind multiple informants, formats, and settings in the assessment of anxiety symptoms (Dadds & Barrett, 2001).

The assessment of anxiety symptoms in children and adolescents should incorporate a number of different procedures. These procedures may include structured clinical interviews, rating scales (self-report, parent, teacher, or clinician ratings), direct observational methods, and self-monitoring of behaviors and accompanying cognitions, and physiological measures (Dadds & Barrett, 2001).

*Clinical Interview.* The most widely used method of assessment for childhood psychological problems is the clinical interview (Silverman & Ollendick, 2005). Semi-structured and structured interview schedules are most often used for diagnosing disorders such as anxiety, and are beneficial in identifying and quantifying children's symptoms and behaviors. The Anxiety Disorders Interview Schedule for Children (ADIS; Silverman & Nelles, 1988) is one of the most commonly used structured clinical

interviews for assessing anxiety in children, and contains questions that relate to the DSM categories. The ADIS provides a form to be used with the child, and one for parents (Dadds & Barrett, 2001).

The reliability of interviews may vary significantly due to factors such as skills of the interviewer, source of information, and age of interviewees. The validity of interviews is currently considered unknown, although some data confirm convergent validity with standardized checklists such as the Child Behavior Checklist (CBCL; Achenbach, 1991) (Dadds & Barrett, 2001). The use of structured clinical interviews has crucial implications for treatment. In order to determine the most efficacious evidence-based treatment for a child, one must first be certain that the child is suffering mainly from anxiety, and also what specific type of anxiety disorder it is (Silverman & Ollendick, 2005).

*Rating Scales.* Rating scales are also used in the assessment of childhood anxiety to identify symptoms and quantify a child's level of anxiety in terms of amount, degree, or magnitude (Silverman & Ollendick, 2005). Rating scales are generally considered well tested in the areas of internal consistency and test-retest reliability, and also possess concurrent validity with related constructs, although discriminative validity is questioned (Perrin & Last, 1992). Rating scales may obtain information from the child or adolescent (self-report) or from parents and teachers. However, there is often low concordance between child and parent reports of anxiety symptoms (Bernstein, Borchardt, & Perwien, 1996). The most utilized rating scales for anxiety include the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985), the Fear Survey

Schedule for Children – Revised (FSSC-R; Ollendick, 1983), the State-Trait Anxiety Inventory for Children (STAIC; Spielberger, 1973), the Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher et al., 1999), and the Child Behavior Checklist (CBCL; Achenbach, 1991).

*Direct Observation.* It is also possible to indirectly measure anxiety and fear through direct observational methods. An estimate of the level of anxiety may be obtained through the measurement of behaviors a child or adolescent engages in when faced with threat-related stimuli (Dadds & Barrett, 2001). For example, the Behavioral Avoidance Test (BAT) involves exposing a child to stimuli related to specific fears under controlled conditions and recording reactions, which are considered to reflect anxiety level (Dadds & Barrett, 2001). Although direct observational methods of assessing anxiety are less frequently used than other methods, they do have clinical utility and may be especially useful with young, preschool-age children who have difficulty verbally expressing the level of their anxiety (Silverman & Ollendick, 2005).

*Self-Monitoring.* Self-monitoring procedures are used when an individual observes and records his or her own behaviors (Shapiro & Skinner, 1993). These procedures may be used to provide data on the range and frequency of anxious events and responses to the occurrence of such events. Compliance may be a problem with self-monitoring, and data collected by persons themselves may be subject to potential bias. However, it is beneficial in yielding information relating to specific anxiety evoking events and accompanying behaviors and cognitions (Beidel, Neal, & Lederer, 1991).

*Physiological Procedures.* Finally, physiological measures focus on the biological variables associated with the autonomic nervous system such as heart rate, blood pressure, and galvanic skin response (Morris & Kratochwill, 1998). These procedures may be used to measure anxiety in children and adolescents, although expertise and experience are necessary and data may not be accurate (Dadds & Barrett, 2001).

Throughout the assessment process, consideration should be given to DSM-IV criteria for specific disorders, comorbidity with other disorders, developmental and cultural characteristics of the child, and the deviation from normal anxieties and fears that are present in all children. Additionally, assessment of anxiety should examine factors that may be involved in the development and maintenance of the problem, such as social learning factors (conditioned responses to previously neutral stimuli, patterns of avoidance and anxious responding), cognitive factors (negative outcome expectations, low self-esteem, over-attention to potential threat), physiological and temperamental factors (behavioral inhibition, physiological arousal associated with anxiety and avoidance), family factors (stability of relationships, anxiety problems in other family members), and peer support and social skills (opportunities to develop supportive peer relationships) (Dadds & Barrett, 2001).

### *Parental Stress*

According to Pipp-Siegel, Sedey, and Yoshinaga-Itano (2002), stress can be defined as “physiological, cognitive, or emotional strain or tension” (p.1). Individuals with children may experience stress due to a number of factors; in fact, parenting itself

may be considered a stressful life event (Mash & Johnston, 1983). According to Abidin (1995), the three main sources of parental stress are child characteristics, parent characteristics, and situational/demographic life stress. Child characteristics are those qualities that make it difficult for parents to fulfill parental roles; for example, distractibility and hyperactivity, inability to adjust to changes in environment, demandingness, or unhappy mood. Parent characteristics are those related to the parent's functioning, such as incompetence, isolation, role restriction, lack of attachment to child, and lack of support from spouse. Situational and demographic variables are related to stressful circumstances beyond the parent's control such as the death of a relative or loss of a job (Abidin, 1995). High levels of parental stress have been associated with negative outcomes for both parents and children. For example, parenting stress has been found to be related to low parenting satisfaction, higher levels of symptoms of parent psychopathology, parent abusive behavior, and insecure attachment in children (Smith, Oliver, & Innocenti, 2001).

Research studies have also indicated that parental stress affects parenting behaviors, such as the ability to interact sensitively and appropriately with their child, which may influence the child's emotional development (Conger, Wallace, Sun, Simons, McLoyd, & Brody, 2002). For example, results from a study by Pianta and Egeland (1990) showed a significant negative relationship between maternal stress and mother-child interactions and caregiving behavior. These researchers also found that there was more of a significant negative impact on the mother-daughter relationship than on the mother-son relationship, where mothers experiencing high levels of stress were found to

interact with their daughters in a severely maladaptive manner. Moreover, Kwok, Haine, Sandler, Ayers, Wolchick, and Tein (2005) suggest that parental stress may prevent positive parenting, which in turn may lead to an increase of mental health problems in children.

A study by Pianta, Egeland, and Sroufe (1990) found that personal stress of mothers was significantly associated with externalizing problems in boys, and with internalizing and externalizing problems in girls. In this study, maternal stress was also predictive of ratings of girls' cognitive competence by their classroom teachers. Another study indicated that maternal characteristics, including parenting stress, played a key role in child functioning, including the child's total social adjustment, as well as levels of anxiety/withdrawal (Abidin, Jenkins, & McGaughey, 1992). Although there is some evidence that boys respond more negatively to life stress, it may be possible that girls are equally affected, but the effects are masked by a more internalizing style of coping.

A meta-analysis by Rothbaum and Weisz (1994) found that in studies of parent-child relations, there is more likely to be a focus on child outcomes relating to externalizing problems. A number of caregiving factors, including parental rejection and parental unresponsiveness, are associated with externalizing behaviors in children, with a stronger link between the level of parental caregiving and the externalizing behaviors of boys versus girls. Findings also indicate a stronger parent-child association for older children than younger children, and for mothers than fathers (Rothbaum & Weisz, 1994).

Scaramella, Conger, and Simons (1999) found that children who are constantly subjected to hostile, unsupportive, and coercive parenting are expected to be at increased

risk for developing externalizing problems, whereas parental involvement and warmth are associated with lower rates of externalizing problems. Warm and supportive parenting may also be related to lower levels of internalizing symptoms. In this regard, Scaramella et. al. (1999) suggest that if parents help establish feelings of security, safety, and worthiness in adolescents, these feelings should counteract the child's feelings of depression and anxiety.

With regard to families experiencing economic hardship, research has suggested that there is a significant relationship between the emotional distress of caregivers and child maladjustment (Conger et. al., 2002). The relationship between the emotional distress of caregivers and child maladjustment has also been shown in divorced and remarried families (Hetherington, Bridges, & Insabella, 1998). Studies show that the level of parental stress may be related to the number of parents in the household, with single mothers reporting higher levels of parental stress (Antshel & Joseph, 2006). However, while parental strain, distress, and diminished well-being are associated with divorce, by two years after the event, women show more psychological well-being than those who remain in marriages with severe conflict (Hetherington et. al., 1998). In fact, a study by Weinraub and Wolf (1983) found that while single mothers experience more stress and receive less support from their social network, their ability to handle their children was similar to married mothers, and there were no significant differences in mother-child interactions between the two groups.

In addition to affecting caregiving behavior, parental stress may also be related to attachment style in infants. Ascertaining the determinants of insecure attachments is

important, as this type of attachment is associated with negative child developmental outcomes (Jarvis & Creasey, 1991). For example, according to attachment theory (Bowlby, 1973), a sensitive, responsive, and available caregiver is necessary for a secure attachment to be developed. Jarvis and Creasey (1991) propose that their findings suggest that high levels of stress may prevent a parent from providing an environment conducive to the development of secure attachment. They further suggest that educating parents on effective coping strategies may mediate the impact of stress, and benefit parent-child interactions.

Recent research has found that a number of variables appear to moderate parenting stress, including socio-economic status, the gender and age of the child (boys may be perceived as more stressful than girls, and older children more stressful than younger children), and maternal characteristics such as age and education (older and less educated parents may be more stressed). Single mother households also are more likely to report higher levels of parenting stress (Antshel & Joseph, 2006).

#### *Assessment of Parental Stress*

Since parental stress is found to be an important factor relating to children's emotional and behavioral development, reliable and valid measures of stress are necessary. One of the most widely used instruments is the Parenting Stress Index (PSI; Abidin, 1995). The short form of this instrument consists of 36 items that yield a total score and three subscale scores: *Parental Distress*, *Parent-Child Dysfunctional Interaction*, and *Difficult Child*. Items are rated on a 5-point scale from strongly disagree to strongly agree. Higher scores on this measure indicate higher levels of stress. Internal

consistency reliability alpha coefficients are .91 for the total scale, and .80 to .87 for the subscales (Abidin, 1995). An assessment of everyday stress can be determined using the Everyday Stressors Index (ESI; Hall, Williams, & Greenberg, 1985). This scale has 20 items that focus on common problems faced on a daily basis, such as financial concerns, role overload, parenting worries, employment problems, and interpersonal conflict. Items are rated on a 4-point scale from “not bothered at all” to “bothered a great deal,” with a higher total score indicating more everyday stress. Alpha coefficients range from .80 to .83 (Hall et. al., 1985). Another measure of typical everyday events in parenting is the Parenting Daily Hassles scale (PDH; Crnic & Greenberg, 1990), which consists of 20 items rated on frequency of occurrence and degree or intensity of hassle. Higher scores signify greater frequency and intensity of daily hassles. Alpha coefficients are .81 for the *Frequency* scale, and .90 for the *Intensity* scale (Crnic & Greenberg, 1990).

Other measures associated with parental stress are parenting attitudes, parenting sense of competence, family functioning, and social support. Parenting attitudes can be assessed using the Adult-Adolescent Parenting Inventory (AAPI; Bavolek, 1989). This measure has 36 items representing four domains including empathy towards children’s needs and parental expectations of the child’s development. Lower scores represent less favorable parenting attitudes. Alpha coefficients range from .75 to .86 (Bavolek, 1989). Parenting sense of competence can be measured using the Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 2001). This is a 17-item measure with two subscales: *Parenting Satisfaction* and *Parenting Sense of Efficacy*. Higher scores indicate perceived greater competence. The alpha coefficient is .79 for the

total score, .75 for the *Satisfaction* subscale, and .76 for the *Efficacy* subscale (Gibaud-Wallston & Wandersman, 2001).

Family functioning can be determined using the Self-Report Family Inventory (SFI; Beavers & Hampson, 2000). This instrument has 36 items that represent five domains: health/competence, conflict, cohesion, leadership, and emotional expressiveness. Items are rated on a 5-point scale from “Yes, fits our family well” to “No, does not fit our family”. Lower scores on this scale signify greater competence in functioning. Alpha coefficients for the SFI range from .78 to .85 (Beavers & Hampson, 2000). Social support can be assessed using the Social Provisions Scale (SPS; Cutrona, 1989). This instrument consists of 24 items that represent six areas: guidance, reliable alliance, attachment, social integration, reassurance of worth, and opportunity to provide nurturance. Higher scores indicate more positive conditions. Reliability for this scale ranges from .87 to .91 (Cutrona, 1989).

#### *Parenting Stress Research and Prevention of Child Mental Health Problems*

Determining the relationship between parental stress and specific behavioral/emotional problems in children has important clinical implications in regard to implementation of treatment as well as prevention programs. Early identification of stressful parent-child systems is important in order to initiate appropriate prevention programs that can decrease mental health problems during childhood and adolescence (Abidin, 1995). In providing treatment for some children, a service provider may first need to help parents manage their stress levels (Smith, Oliver, & Innocenti, 2001).

Incorporating stress reduction techniques and stress management skills into treatment programs may enhance treatment efficacy (Harrison, Richman, & Vittimberga, 2000).

For example, a study by Barrett, Dadds, and Rapee (1996) found that implementing treatment for children with anxiety disorders that included a family component consisting of teaching parents how to deal with their own anxiety responses as well as training in behavior modification procedures and communication and problem solving skills was more effective than cognitive-behavioral therapy without the family component. In addition, results indicated that younger children responded better to the family treatment as compared to older children, and females responded better as compared to males, indicating that improving parenting skills may be more beneficial for girls and for younger children (Barrett, Dadds, & Rapee, 1996).

Research also suggests that prevention is preferable to treatment (Donovan & Spence, 2000). Prevention strategies can make use of information regarding risk and protective factors that are associated with childhood anxiety in order to effectively reduce the number of children who are diagnosed as having an anxiety disorder. One main reason for a focus on prevention of children's anxiety disorders is that these disorders may go unnoticed by teachers and parents (Donovan & Spence, 2000). In contrast to children with externalizing disorders, anxious children are nondisruptive and compliant, and others may not realize the child is suffering, or that the problem is serious. Kendall (1994) notes that while adults obtain treatment for children with aggressive behavior, children who are socially withdrawn are often overlooked. Since many children are not

identified as having an anxiety disorder, they are not receiving the necessary treatment to alleviate the problem.

Additionally, anxiety experienced in childhood may recur or persist in adolescence and adulthood (Cartwright-Hatton et al., 2004). Some children who receive treatment for anxiety disorders do so only after the disorder is well established, with severe adverse effects on relationships and academic performance that are difficult to undo (Donovan & Spence, 2000). Research also shows that treatment is ineffective for many children with anxiety disorders (Kendall, 1994), and may be extremely costly. An emphasis on prevention of childhood anxiety disorders would eliminate many of the adverse consequences anxious children must cope with. Research that identifies risk factors associated with childhood anxiety disorders can be used to develop prevention programs aimed at modifying these risks, and preventing the development of severe anxiety (Rapee, 2002). As high levels of parental stress may be associated with risk of developing an anxiety disorder in childhood, it is one area that prevention programs could focus on.

#### *Negative Outcomes in Children of Divorced/Single Parent Families*

Certain groups of children may be considered at greater risk to develop mental health problems, such as anxiety disorders. One group that may be at greater risk is children of divorced or single parent families. In today's society, more than 45% of marriages end in divorce, with divorce rates being even higher in remarriages than in first marriages (Hetherington & Stanley-Hagan, 1999). This suggests that a vast number of children have been, and will continue to be, exposed to a divorce situation; in fact, since

1970, over one million children per year have seen their parents divorce (Wallerstein, Lewis, & Blakeslee, 2000). Numerous researchers have found short-term and long-term negative effects of parental divorce on children and adolescents, and these effects may be sustained into adulthood (e.g. Hetherington & Stanley-Hagan, 1999; Wallerstein, Lewis, & Blakeslee, 2000).

Mental health, behavior, social skills, adjustment, and academic achievement have all been shown to be negatively impacted by divorce (Dubow, Schmidt, McBride, Edwards, & Merk, 1993). Research has also shown that children of single parent families are more likely to exhibit problem behavior, show poor educational achievement, drop out of high school, and have increased health problems (Ricciuti, 2004).

In addition, children of divorce have been found to exhibit increased levels of aggression, as well as other externalizing disorder symptoms such as noncompliant behavior, lack of self-regulation, antisocial behavior, and low social responsibility (Hetherington & Stanley-Hagan, 1999). Divorce is also associated with symptoms of internalizing disorders such as anxiety and depression. One study found that children from divorced families had significantly higher levels of anxiety and depression on self-reported measures, as well as significantly higher levels of internalizing and externalizing behavior problems, as reported by parents and teachers (Dong, Wang, & Ollendick, 2002). Difficulties in social relationships are also common, such as problems interacting with parents, peers, and teachers (Hetherington & Stanley-Hagan, 1999). In general, children of divorce are less well adjusted socially, emotionally, and academically as compared to children of intact families (Wolchik, Tein, Sandler, & Doyle, 2002).

In adolescence, those who experienced parental divorce are more likely to drop out of school, become pregnant, engage in antisocial or delinquent behavior, and be referred for clinical treatment (Hetherington & Stanley-Hagan, 1999). As adolescents and young adults, girls from divorced families (who have been overburdened with extra family responsibility) may have a sense of inadequacy and failure despite successes, may exhibit compulsive or inappropriate caretaking, and may be drawn to emotionally needy partners. When compared to peers who grew up in intact families, adults who experienced divorce in the family are less likely to have attended or completed college, and are more likely to be unemployed, on welfare, or have fewer financial resources. These adults are also more likely to have problems forming and maintaining relationships, including relationships with siblings and peers, as well as marital relationships (Hetherington & Stanley-Hagan, 1999).

Both children and parents have been found to rate divorce as one of their most stressful life events (Davies & Cummings, 1994). Clearly, children of divorced families may be negatively affected in terms of mental health, social adjustment, and academic functioning. However, while agreement exists that the significant changes in family structure and functioning brought about by divorce can lead to differences when comparing the adjustment of children from divorced versus nondivorced families, there is not a consensus on the size and significance of these differences (e.g. Amato & Keith, 1991; Wallerstein, Lewis, & Blakeslee, 2000).

It is generally agreed that some children who experience a divorce in the family appear to be negatively impacted, while others appear able to handle the situation much

easier. It is also noted that many children exhibit initial difficulties, but are able to make a significant recovery over time (Chase-Lansdale, Cherlin, & Kiernan, 1995). One of the major areas of research that investigates the differences in children's reactions to adverse life events is the risk and resiliency model, which attempts to identify factors that protect children from harmful effects, as well as factors that increase the vulnerability of children to a negative impact of high stress situations.

In regard to coping with a divorce in the family, certain protective factors have been identified. Hetherington and Stanley-Hagan (1999) note that age, gender, and personality, as well as environmental factors, play a role in the way a child responds to the divorce. While findings are inconsistent, there is some support for the position that younger children are more negatively affected by divorce, since they may be more likely to blame themselves and fear abandonment and have less access to social support. There are also inconsistencies in the findings on gender differences in responses to divorce. Some studies show girls from divorced families as having greater behavior problems in adolescence than boys, although some girls seem to be enhanced by dealing with the challenges of responsibility and independence that follow divorce (Hetherington & Stanley-Hagan, 1999). Situational factors that may impact children's adjustment following a divorce include level of parental conflict, parents' ability to provide a safe environment for the child and engage in positive and consistent parenting, and availability of outside support for the child (Wyman, Cowen, Hightower, & Pedro-Carroll, 1985).

As the literature has shown, children can be affected in different ways by a parental divorce (e.g. Hetherington & Stanley-Hagan, 1999; Amato & Keith, 1991). While some factors put a child more at risk for maladaptive, negative outcomes, including both externalizing and internalizing disorders; other factors work to protect the child, and lead to a more positive outcome. Research which determines which factors play a role in each of these outcomes is crucial to help children avoid serious adverse consequences.

In summary, anxiety disorders are among the most prevalent childhood mental health disorders, affecting up to 21% of children. The most commonly diagnosed anxiety disorders are overanxious/generalized anxiety disorder, separation anxiety disorder, and specific phobia, which are consistent across cultures. Anxiety disorders tend to be more common in females than males, and in younger children than older children, although it is noted that there are changes in the type of fears, frequency, and reactions as children grow older. Children of divorced/single parent families are more likely to have increased levels of anxiety, as compared to children of married parents (Dong et al., 2002). Adverse consequences of anxiety may significantly impact a child's academic performance, social functioning, and family relationships, and cause severe personal distress (Grover, Ginsburg, & Ialongo, 2005).

Recent research emphasizes the importance of identifying early risk factors or predictors of anxiety to facilitate the development of prevention programs. Studies show that both environmental and parental/familial factors contribute to increases in children's anxiety. High levels of maternal stress, a factor shown to negatively impact caregiving

behavior, may be associated with child mental health problems, although research is limited on the relationship between maternal stress and child anxiety. Determining this relationship will be beneficial in supporting efforts to reduce anxiety disorders in children and adolescents.

## CHAPTER 3

### METHOD

#### *Participants*

The mothers and teachers of 306 first grade students from a large suburban school district in southern Arizona were randomly selected from the school district's database to participate in the study. This district is comprised of 17 schools with over 13,000 students. The area served by the district encompasses 550 square miles and includes a population of approximately 35,000. The population is comprised of 19.6% Hispanic, 71.7% Caucasian, 2.9% African-American, 2.5% Asian, 2.1% Native American, and 1.1% other ethnicity. Eighty-three percent of the population speaks English only, and 17% speaks a language other than English. Of those who speak another language, 70% also speak English "very well." The median family income is \$56,718, with 90.3% of the population having attained a high school diploma, and 29.1% having attained a Bachelor's degree or higher (<http://www.maranausd.org/info.html>).

Mothers were chosen as participants in the study as they are the primary caregiver in the majority of families, and the instrument that was used to measure parental stress was standardized with mothers. Mothers of children aged 6 or 7 years were chosen based on the ages of children in the standardization samples of the instruments being used. In this sample, 81.3% of mothers were married, and 18.8% were single, including those who were divorced, widowed, or never married. Of the mothers' children, 51.6% were male, and 48.4% were female. Regarding ethnicity, the mothers selected whether their child fell into one of the following categories: Caucasian, Hispanic, African-American, Asian,

Native American, or Other Ethnicity. Of the mothers' children, 68.8% were Caucasian and 18.8% were Hispanic. Due to low percentages in the African-American and Asian groups, these were combined for a total of 12.5% in the "Other Ethnicity" category. See Table 1 for a summary of the demographic data of the sample.

Table 1

*Demographic Characteristics of the Sample*

Demographic Variable	Frequency	% of Sample
Child's Gender:		
Male	33	51.6%
Female	31	48.4%
Ethnicity:		
Caucasian	44	68.8%
Hispanic	12	18.8%
Other	8	12.5%
Marital Status of Mother:		
Married	52	81.3%
Single	12	18.8%

Permission to conduct the study in the school district was granted by the Director of Research and Evaluation for the District (see Appendix A). The Human Subjects Protection Program at the University of Arizona approved the study prior to the recruitment of participants (see Appendix B). A written letter requesting participation in the study was sent out to 306 mothers of first graders (see Appendix C), and a postcard

was returned from 72 mothers (23.5% return), indicating agreement to participate in the study. Following receipt of the postcard, a packet containing the informed consent form, the two parent survey instruments, and a self-addressed stamped envelope in which to return the surveys to the researcher, was sent to the mother. The teacher survey instruments were sent to each child's teacher after the signed consent forms and survey instruments were returned from the mother. Complete data (all three survey instruments) were collected for a total of 64 participants.

### *Survey Instruments*

All mothers completed the *Child Behavior Checklist* (Achenbach, 2001) and the *Parental Stress Index – Short Form* (Abidin, 1990). All teachers completed the *Teacher's Report Form* of the *Child Behavior Checklist* (Achenbach, 2001).

The Child Behavior Checklist (CBCL). The CBCL (Achenbach, 2001) for ages 6-18 was used to obtain information regarding a child's competences, functioning, and problems (Achenbach & Rescorla, 2001). The instrument is administered to parents, and consists of 120 items, which can be completed in approximately 15 to 20 minutes. The checklist to be completed by the parent includes demographic information, competence items, and ratings of their child's behavioral, emotional, and social problems. The *Competence Profile* includes an *Activities Scale* relating to the child's participation in sports, recreational activities, and jobs and chores; a *Social Scale* relating to the child's participation in organizations, number of close friends, how well the child gets along with others, and how well the child works and plays alone; and a *School Scale* relating to the

child's performance in academic subjects, receipt of special services, and school problems (Achenbach & Rescorla, 2001).

The CBCL *Syndrome Profile* indicates how a child compares with a national normative sample on eight syndrome scales: *Anxious/Depressed*, *Withdrawn/Depressed*, *Somatic Complaints*, *Social Problems*, *Thought Problems*, *Attention Problems*, *Rule-Breaking Behavior*, and *Aggressive Behavior*. The syndrome scales are comprised of problem items that tend to occur together (Achenbach & Rescorla, 2001). Items are rated as 0, 1, or 2, and total scores for each syndrome scale are computed by adding the scores for each item in that scale. High scores on these scales indicate clinically important deviance from the norm. Two broad groupings of syndromes are *Internalizing* (problems mainly within the self) and *Externalizing* (problems that mainly involve conflicts with others). The *Total Problem* score is a sum of the scores on specific problem items. Scales for scoring the CBCL in terms of a formal diagnostic system have also been constructed. Mental health professionals have judged items on these scales to be consistent with DSM-IV diagnostic categories (Achenbach & Rescorla, 2001). For example, the *Anxiety Problems* scale consists of items rated as very consistent with Generalized Anxiety Disorder, Separation Anxiety Disorder, and Specific Phobia.

The normative sample for the CBCL consisted of 1,753 nonreferred children from 40 states and the District of Columbia (Achenbach & Rescorla, 2001). Norms were constructed separately for each gender at ages 6 – 11 and 12 – 18, to account for possible age and gender differences. In the normative sample, 52% of children were boys and 48% were girls; 51% were middle class, 3% were upper class, and 16% were lower class;

and 60% were White, 20% were African American, 9% were Latino, and 12% were mixed ethnicity or other. The mother was the respondent for 72% of the children, the father for 23%, and other for 5% of the children (Achenbach & Rescorla, 2001).

The reliability of the CBCL has been found to be very high. For example, the test-retest reliability for the specific problem item scores of the CBCL was .95, and the inter-interviewer reliability was .96. For the scale scores, the internal consistency was measured using Cronbach's alpha, which ranged from .78 to .97. The test-retest reliability for the scale scores was computed using Pearson correlations, and ranged from .82 to .94 (Achenbach & Rescorla, 2001). The criterion validity of the CBCL is supported by multiple regressions, odds ratios, and discriminant analyses, which demonstrate significant discrimination between referred and nonreferred children. The construct validity of the CBCL is supported by associations with other instruments and with DSM criteria. The correlations between CBCL scales and the Conners Rating Scales range from .71 to .85. The correlations between the CBCL Internalizing, Externalizing, and Total Problems scales and the Behavior Assessment System for Children (BASC) scales range from .74 to .89 (Achenbach & Rescorla, 2001).

In addition to the CBCL, which is completed by parents, the Teacher's Report Form of the Child Behavior Checklist (TRF; Achenbach, 2001) was used to obtain information from the child's teacher regarding the child's functioning in school. The TRF contains items relating to academic and adaptive functioning, which are scored on the *Adaptive Functioning Profile*. This form also asks respondents to rate behavioral, emotional, and social problems from 0 to 2, and yields syndrome scale scores, as well as

Internalizing, Externalizing, Total Problems, and DSM-oriented scale scores, which can be compared to the scores from the CBCL. The internal consistency alpha coefficient for the TRF is .90 for the Total Adaptive scale, and ranges from .72 to .95 for the empirically based problem scales. For the DSM-oriented scales of the TRF, alpha coefficients range from .73 to .94. In regard to test-retest reliability, the mean  $r$  was .90 for the adaptive and empirically based problem scales, and .85 for the DSM-oriented scales (Achenbach & Rescorla, 2001).

The comparison of the CBCL with the TRF can be used to pinpoint similarities and differences in functioning across situations and interaction partners (Achenbach & Rescorla, 2001). It should be noted that when multiple informants are used to rate problem behaviors, there is often a low rate of agreement. For example, the cross-informant agreement on the empirically based problem scale scores of the CBCL and the TRF ranges from .15 to .44, with a mean  $r$  of .29. The agreement on the DSM-oriented scale scores ranges from .12 to .42, with a mean  $r$  of .29 (Achenbach & Rescorla, 2001). When comparing ratings by pairs of teachers on the TRF, the mean  $r$ s were .49 for the Academic and Adaptive scales, .60 for the empirically based problem scales, and .58 for the DSM-oriented scales (Achenbach & Rescorla, 2001).

The Parental Stress Index-Short Form (PSI-SF). The PSI-SF (Abidin, 1990) assesses parents' perceptions of their stress related to parenting. This instrument contains 36 items, and takes approximately ten minutes to complete. The test items yield a *Total Stress* score, and three subscale scores: *Parental Distress*, *Parent-Child Dysfunctional Interaction*, and *Difficult Child*. Each item is rated on a Likert scale from 1 (strongly

disagree) to 5 (strongly agree). Subscales consist of 12 items, and yield scores ranging from 12 to 60. Total scores range from 36 to 180, with higher scores indicating greater levels of stress.

The *Parental Distress* subscale measures the distress a parent is experiencing in his or her role as a parent, which is related to an impaired sense of parenting competence, restrictions on other life roles, conflict with the child's other parent, lack of social support, and presence of depression (Abidin, 1995). The *Parent-Child Dysfunction Interaction* subscale focuses on the extent to which the parent feels that the child is a negative element in the parent's life in that that parent feels abused or rejected by the child, disappointed and alienated in the child, the child does not meet expectations, and parent-child interactions are not reinforcing. High scores on this scale indicate that the parent-child bond is threatened or has never been established (Abidin, 1995). The *Difficult Child* subscale focuses on the behavioral characteristics of the child. High scores indicate that the parent is having difficulty managing the child's behavior in terms of setting limits or gaining cooperation (Abidin, 1995). The *Total Stress* score provides an indication of the overall level of stress the parent is experiencing within the role as a parent.

The PSI-SF, which was derived from exploratory factor analyses of the full PSI, is considered a psychometrically sound instrument, with the total scores from both versions being highly correlated ( $r = .94$ ) (Reitman, Currier, & Stickle, 2002). The PSI construction was based on a theoretical model of the determinants of dysfunctional parenting, which posited that parental stress was a function of certain child

characteristics, parental characteristics, and situational variables. Test items were developed through a comprehensive research literature review, clinical experiences, pilot testing, and ratings by professionals (Abidin, 1995).

The test-retest reliability of the PSI-SF *Total Stress* scale was found to be .84, and internal consistency reliability (using Cronbach's alpha) was found to be .91. Test-retest reliability for the subscales ranged from .68 to .85, and internal consistency reliability of the subscales ranged from .80 to .87 (Abidin, 1995). Validity of the PSI is demonstrated by associations with other measures. For example, significant negative correlations existed with the PSI and the Parenting Sense of Competence, the Inventory of Parent Experiences, the Maternal Social Support Index, and the Family Adaptability and Cohesion Scale (Abidin, 1995).

The standardization sample consisted of 800 participants, with 53% being male, and 57% being female. The age of the children ranged from 10 months to 7 years, with the mean age being 3.6 years. The mean age of the mother was 32.4 years (Abidin, 1995). Although 88% of the standardization sample for the PSI-SF was married, and 87% was Caucasian, studies have shown that the PSI-SF is also appropriate for use with samples of African -Americans, single parents, and parents of lower SES (Reitman, et. al, 2002). In addition, the cross-cultural utility of the PSI has been supported for Hispanic populations by a study by Solis and Abidin (1991), which evaluated the psychometric properties of the Spanish-version PSI. The internal consistency, as well as the discriminant criterion validity, was found to be acceptable and comparable to the original PSI.

### *Dependent Measures*

The dependent measures for the study were the following:

1. *Anxiety Problems* score on the CBCL Parent Report
2. *Anxiety Problems* score on the CBCL Teacher Report
3. *Total Stress* score on the PSI-SF
4. PSI-SF *Total Stress* “cut off” percentile score, which categorizes scores into two groups: high stress and low stress (i.e., high stress scores are those at or above the 85<sup>th</sup> percentile, low scores are those at or below the 25<sup>th</sup> percentile)

### *Procedure*

A written letter requesting participation in the study was sent out to 306 mothers of first graders. Seventy-two mothers agreed to participate in the study, and were sent a packet containing the informed consent form, the Child Behavior Checklist (Achenbach, 2001), and the Parental Stress Index – Short Form (Abidin, 1990), to be completed and returned to the researcher in an enclosed self-addressed stamped envelope. The Teacher’s Report Form of the Child Behavior Checklist (Achenbach, 2001) was sent to each child’s teacher after the signed consent forms and survey instruments were returned from the mother. The survey instruments were coded to correspond with demographic information such as ethnicity, gender of child, and marital status of mother. Names of participants or other personal identifying information was not requested or connected to the survey responses. Sixty-four complete surveys were returned.

### *Data Analyses*

Data analyses were conducted using the *SPSS for Windows* statistical package 15.0 (SPSS, 2006), and included descriptive statistics such as means and standard deviations of scores, as well as inferential statistics, such as analyses of variance. Pearson product moment correlation coefficients were computed to examine the relationship between predictor and criterion variables (i.e., mothers' stress level and child's anxiety ratings). Analyses of variance (ANOVA) and *t*-tests were conducted to test for significant differences between groups, relating to marital status of mother (Single [divorced, widowed or never married] vs. Married), ethnicity of child (Caucasian, Hispanic, or Other [African-American or Asian]), and gender of child, on child anxiety scores. Interaction effects between these factors and mothers' stress level (High vs. Low) on ratings of child anxiety (by both mother and teacher) were also evaluated. In addition, multiple regression analyses were conducted to further examine the predictors of mothers' stress level scores, using the six subscale scores of the CBCL (*Anxiety Problems, Affective Problems, Somatic Problems, ADHD Problems, Oppositional Defiant Problems, and Conduct Problems*).

## CHAPTER 4

### RESULTS

The results of the statistical data analyses conducted to test the research hypotheses are presented in this chapter. Results are presented by hypothesis, and tables summarize the relevant data.

This study examined mothers' marital status, child's gender, and child's ethnicity in relation to the following dependent measures: (a) *Anxiety Problems* score on the CBCL Parent Report (i.e. sum of responses to 6 items comprising this Index), (b) *Anxiety Problems* score on the CBCL Teacher Report (i.e., sum of responses to 6 items comprising this Index), (c) *Total Stress* score on the PSI (i.e., sum of responses to 36 items indicating the overall level of stress the parent is experiencing within the role as a parent), and (d) PSI-SF *Total Stress* "cut off" percentile score, which transformed scores into a categorical variable of "high stress" or "low stress" (i.e., high stress scores are those at or above the 85<sup>th</sup> percentile, low score are those at or below the 25<sup>th</sup> percentile).

#### *Hypothesis 1: Maternal Stress Level and Children's Anxiety Scores*

The means and standard deviations of scores on each of the three assessment instruments are presented in Table 2. For each of the following correlational hypotheses, two-tailed significance tests were conducted, and *p* values are noted. Hypothesis 1 predicted that higher scores on the PSI-SF would not be significantly ( $p < .05$ ) associated with higher scores on the CBCL-Parent Report *Anxiety Problems* scale. A Pearson product moment correlation coefficient calculated between mothers' stress, as measured

by the PSI-SF *Total Stress* score, and child's anxiety, as measured by the CBCL-Parent Report *Anxiety Problems* score, was significant,  $r = .67, p < .01$  (see Table 3).

Hypothesis 1 also predicted that higher scores on the PSI-SF would not be significantly ( $p < .05$ ) associated with higher scores on the CBCL-Teacher Report *Anxiety Problems* scale. A Pearson product moment correlation coefficient calculated between mothers' stress, as measured by the PSI-SF *Total Stress* score, and child's anxiety, as measured by the CBCL-Teacher Report *Anxiety Problems* score, was significant,  $r = .63, p < .01$  (see Table 3).

Table 2

*Means and Standard Deviations of Assessment Instruments*

Instrument	<i>M</i>	<i>SD</i>	<i>N</i>
CBCL – P <i>Anxiety Problems</i>	1.92	2.13	64
CBCL – T <i>Anxiety Problems</i>	1.06	1.57	64
PSI-SF <i>Total Stress</i>	76.22	23.77	64

*Note:* CBCL – P = Child Behavior Checklist, Parent Report; CBCL – T = Child Behavior Checklist – Teacher Report; PSI-SF = Parental Stress Index – Short Form

Table 3

*Correlations Between Anxiety Problems Scores and Total Stress Scores*

	PSI-SF	CBCL – P	CBCL –T
PSI-SF	1	.67**	.63**
CBCL – P	.67**	1	.74**
CBCL – T	.63**	.74**	1

*Note:* PSI-SF = Parental Stress Index – Short Form *Total Stress Score*; CBCL – P = Child Behavior Checklist *Anxiety Problems Score* –Parent Report; CBCL – T = Child Behavior Checklist *Anxiety Problems Score* –Teacher Report

\*\* $p < .01$ , two-tailed

*Predictors of Mothers' Stress Levels*

Additional exploratory analyses were conducted that were not part of the original hypotheses in order to determine other child factors, in addition to child anxiety, that may be associated with mothers' stress. A multiple regression analysis was conducted where the dependent variable was the *Total Stress* score on the PSI, and the independent variables were the six DSM-oriented subscales: *Anxiety Problems*, *Affective Problems*, *Somatic Problems*, *ADHD Problems*, *Oppositional Defiant Problems*, and *Conduct Problems* scores on the CBCL –Parent Report. Results indicated that the overall model was significant,  $R = .81$ ,  $F(6, 57) = 17.63$ ,  $p < .01$ , and accounted for 65% of the variance in *Total Stress* (PSI) scores. *T*-tests of the standardized regression coefficients (Beta weights) were significant for *Anxiety Problems*,  $\beta = .32$ ,  $t = 2.57$ ,  $p < .05$ ; *ADHD Problems*,  $\beta = .35$ ,  $t = 2.51$ ,  $p < .05$ ; and *Oppositional Defiant Problems*,  $\beta = .40$ ,  $t =$

2.56,  $p < .05$ , indicating that these subscale variables on the CBCL-P made a significant contribution to explaining *Total Stress* (PSI) scores (see Table 4).

Table 4

*Summary of Regression Analysis for CBCL-P Subscale Variables Predicting Mothers'*

*Total Stress Level*

CBCL-P Variables	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>
Anxiety Problems	3.56	1.38	.32	2.57*
Affective Problems	-1.39	1.13	-.14	-1.22
Somatic Problems	-1.98	1.58	-.11	-1.25
ADHD Problems	2.00	.79	.35	2.51*
ODD Problems	3.57	1.39	.40	2.56*
Conduct Problems	-.17	1.00	-.02	-.17

\* $p < .05$ , one-tailed

A multiple regression analysis was also conducted using the CBCL -Teacher Report where the dependent variable was the *Total Stress* score on the PSI, and the independent variables were the *Anxiety Problems*, *Affective Problems*, *Somatic Problems*, *ADHD Problems*, *Oppositional Defiant Problems*, and *Conduct Problems* scores on the CBCL -T. Results indicated that the overall model was significant,  $R = .79$ ,  $F(6, 57) = 16.39$ ,  $p < .01$ , and accounted for 63% of the variance in *Total Stress* (PSI) scores. *T*-tests of the standardized regression coefficients (Beta weights) were significant for *Anxiety Problems*,  $\beta = .35$ ,  $t = 3.46$ ,  $p < .01$  and *ADHD Problems*,  $\beta = .51$ ,  $t = 3.59$ ,  $p <$

.01, indicating that these subscale variables on the CBCL-T made a significant contribution to explaining *Total Stress* (PSI) scores (see Table 5).

Table 5

*Summary of Regression Analysis for CBCL-T Subscale Variables Predicting Mothers'*

*Total Stress Level*

CBCL-T Variables	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>
Anxiety Problems	5.41	1.56	.35	3.46**
Affective Problems	-2.64	1.82	-.17	-1.45
Somatic Problems	-3.82	6.92	-.04	-.55
ADHD Problems	1.88	.52	.51	3.59**
ODD Problems	1.64	1.78	.14	.92
Conduct Problems	.24	1.19	.03	.20

\*\* $p < .01$ , one-tailed

In addition, Pearson product moment correlations were conducted to determine the level of association between mother and teacher reports on CBCL *Anxiety Problems*, *Affective Problems*, *Somatic Problems*, *ADHD Problems*, *Oppositional Defiant Problems*, and *Conduct Problems*. Significant correlations were found between ratings on all subscales except *Somatic Problems*. Table 6 presents a summary of the correlations between the mother and teacher raters.

Table 6

*Correlations Between Mother and Teacher Ratings on CBCL Subscales*

CBCL Subscale Variables	Pearson <i>r</i>	<i>N</i>
Anxiety Problems	.74**	64
Affective Problems	.71**	64
Somatic Problems	.15	64
ADHD Problems	.83**	64
Oppositional Defiant Problems	.55**	64
Conduct Problems	.71**	64

\*\* $p < .01$ , two-tailed

*Hypothesis 2: Maternal Stress, Children's Anxiety Scores, and Mothers' Marital Status*

The means and standard deviations of *Anxiety Problems* scores (mother and teacher report) by Maternal Stress Level and Mothers' Marital Status are presented in Tables 7 and 8. For each of the following hypotheses, either a two-tailed independent *t*-test or a two-way analysis of variance (ANOVA) was conducted.

Hypothesis 2a predicted that there would be no significant interaction effect between mothers' marital status and mothers' stress level on child's anxiety as rated by their mother and their teacher. A two-way ANOVA was conducted on the *Anxiety Problems* score from the CBCL-Parent Version for Level of Stress (high vs. low) x Marital Status of Mother (single vs. married). Results indicated no significant interaction effect,  $F(1, 45) = 1.21, p > .05$ .

Table 7

*Means and Standard Deviations of CBCL-P Anxiety Problems Scores By Maternal Stress Level and Mothers' Marital Status*

Stress Level	Marital Status	<i>M</i>	<i>SD</i>	<i>N</i>
High	Single	5.14	1.95	7
	Married	2.93	2.18	15
Low	Single	1.33	.57	3
	Married	.43	.67	21
Total	Single	3.58	2.50	10
	Married	1.50	1.86	36
	Total	2.02	2.28	46

Table 8

*Means and Standard Deviations of CBCL-T Anxiety Problems Scores By Maternal Stress Level and Mothers' Marital Status*

Stress Level	Marital Status	<i>M</i>	<i>SD</i>	<i>N</i>
High	Single	2.71	1.89	7
	Married	1.87	1.88	15
Low	Single	.00	.00	3
	Married	.24	.43	21
Total	Single	1.90	2.02	10
	Married	.92	1.48	36
	Total	1.13	1.64	46

A two-way ANOVA was also conducted on the *Anxiety Problems* score from the CBCL-T for Level of Stress (high vs. low) x Marital Status of Mother (single vs. married). Results indicated no significant interaction effect,  $F(1, 45) = 1.11, p > .05$ .

Hypothesis 2b predicted that there would be no significant difference between children of single mothers and children of married mothers on *Anxiety Problems* scores. An independent *t*-test (two-tailed) was conducted on the *Anxiety Problems* score from the CBCL-Parent Report for Marital Status of Mother (single vs. married). Results indicated a significant difference between the two groups with children of single mothers having significantly higher *Anxiety Problems* scores than children of married mothers,  $t(1, 62) = 3.20, p < .01$ .

An independent *t*-test (two-tailed) was also conducted on the *Anxiety Problems* scores from the CBCL-Teacher Report for Marital Status of Mother (single vs. married). Results indicated that children of single mothers had higher, but not significant, *Anxiety Problems* scores than children of married mothers,  $t(1, 62) = 1.92, p = .05$ .

*Hypothesis 3: Maternal Stress, Children's Anxiety Scores, and Children's Ethnicity*

The means and standard deviations of CBCL *Anxiety Problems* scores (mother and teacher report) by Maternal Stress Level and Child's Ethnicity are presented in Tables 9 and 10. For each of the following hypotheses, either a one-way ANOVA or a two-way ANOVA was conducted.

Hypothesis 3a predicted that there would be no significant interaction effect between child's ethnicity and mothers' stress level on child's anxiety as rated by their mother and teacher. A two-way ANOVA was conducted on the *Anxiety Problems* score from the CBCL-Parent Report for Level of Stress (high vs. low) x Child's Ethnicity (Caucasian, Hispanic, or Other). Results indicated no significant interaction effect,  $F(2, 45) = .418, p > .05$ .

A two-way ANOVA was also conducted on the *Anxiety Problems* score from the CBCL-Teacher Report for Level of Stress (high vs. low) x Child's Ethnicity (Caucasian, Hispanic, or Other). Results indicated no significant interaction effect,  $F(2, 45) = .024, p > .05$ .

Hypothesis 3b predicted that there would be no significant difference between children of different ethnic groups (Caucasian, Hispanic, or Other) on *Anxiety Problems* scores. A one-way ANOVA was conducted on the *Anxiety Problems* score from the

Table 9

*Means and Standard Deviations of CBCL-P Anxiety Problems Scores By Maternal Stress Level and Child's Ethnicity*

Stress Level	Child Ethnicity	<i>M</i>	<i>SD</i>	<i>N</i>
High	Caucasian	3.45	2.42	11
	Hispanic	3.17	2.78	6
	Other	4.60	1.51	5
Low	Caucasian	.65	.74	20
	Hispanic	.00	.00	3
	Other	.00	.00	1
Total	Caucasian	1.65	2.04	31
	Hispanic	2.11	2.71	9
	Other	3.83	2.31	6
	Total	2.02	2.28	46

Table 10

*Means and Standard Deviations of CBCL-T Anxiety Problems Scores By Maternal Stress Level and Child's Ethnicity*

Stress Level	Child Ethnicity	<i>M</i>	<i>SD</i>	<i>N</i>
High	Caucasian	2.27	1.90	11
	Hispanic	1.83	2.40	6
	Other	2.20	1.48	5
Low	Caucasian	.25	.44	20
	Hispanic	.00	.00	3
	Other	.00	.00	1
Total	Caucasian	.97	1.51	31
	Hispanic	1.22	2.10	9
	Other	1.83	1.60	6
	Total	1.13	1.64	46

CBCL-Parent Report x Child's Ethnicity (Caucasian, Hispanic, or Other). Results indicated no significant differences between groups,  $F(2, 61) = 2.09, p > .05$ .

A one-way ANOVA was also conducted on the *Anxiety Problems* scores from the CBCL-Teacher Report x Child's Ethnicity (Caucasian, Hispanic, or Other). Results indicated no significant differences between groups,  $F(2, 61) = .34, p > .05$ .

*Hypothesis 4: Maternal Stress, Children's Anxiety Scores, and Children's Gender*

The means and standard deviations of *Anxiety Problems* scores (mother and teacher report) by Maternal Stress Level and Child's Gender are presented in Tables 11 and 12. For each of the following hypotheses, either an independent *t*-test (two-tailed) or a two-way ANOVA was conducted.

Hypothesis 4a predicted that there would be no significant interaction effect between child's gender and mothers' stress level on child's anxiety as rated by their mother and teacher. A two-way ANOVA was conducted on the *Anxiety Problems* score from the CBCL-Parent Report for Level of Stress (high vs. low) x Child's Gender (male vs. female). Results indicated no significant interaction effect,  $F(1, 45) = 3.36, p > .05$ .

A two-way ANOVA was also conducted on the *Anxiety Problems* score from the CBCL-Teacher Report for Level of Stress (high vs. low) x Child's Gender (male vs. female). Results indicated no significant interaction effect,  $F(1, 45) = 1.96, p > .05$ .

Hypothesis 4b predicted that there would be no significant difference between male and female children on child's anxiety as rated by their mother and teacher. An independent *T*-test (two-tailed) was conducted on the *Anxiety Problems* score from the CBCL-Parent Report for Child's Gender (male vs. female). Results indicated no significant differences between groups,  $t(1, 62) = 1.00, p > .05$ .

An independent *T*-test (two-tailed) was also conducted on the *Anxiety Problems* score from the CBCL-Teacher Report x Child's Gender (male vs. female). Results indicated no significant differences between groups,  $t(1, 62) = 1.10, p > .05$ .

Table 11

*Means and Standard Deviations of CBCL-P Anxiety Problems Scores By Maternal Stress Level and Child's Gender*

Stress Level	Child's Gender	<i>M</i>	<i>SD</i>	<i>N</i>
High	Male	4.38	2.39	13
	Female	2.56	1.81	9
Low	Male	.58	.66	12
	Female	.50	.79	12
Total	Male	2.56	2.61	25
	Female	1.38	1.65	21
	Total	2.02	2.28	46

Table 12

*Means and Standard Deviations of CBCL-T Anxiety Problems Scores By Maternal Stress Level and Child's Gender*

Stress Level	Child's Gender	<i>M</i>	<i>SD</i>	<i>N</i>
High	Male	2.62	2.06	13
	Female	1.44	1.42	9
Low	Male	.25	.45	12
	Female	.17	.38	12
Total	Male	1.48	1.91	25
	Female	.71	1.14	21
	Total	1.13	1.64	46

## CHAPTER 5

### DISCUSSION

This chapter presents a summary of the results of the study, and how these findings relate to the current literature on mothers' stress and anxiety levels in their children. Limitations and implications of the study are discussed, as well as directions for future research.

The purpose of the present study was to examine the relationship between mothers' stress level and anxiety ratings of their children, and determine whether level of maternal stress was significantly correlated with ratings of child anxiety by both mothers and teachers. In addition, the study examined whether there was a significant difference between child anxiety scores related to child's gender, ethnicity, and marital status of their mother, and whether there was a significant interaction effect between these variables and mothers' stress level on child anxiety.

#### *Maternal Stress and Child's Anxiety*

With regard to the relationship between mothers' stress level and child's anxiety, results indicated a significant positive correlation between the two variables. The anxiety ratings of children by both their mothers and their teachers were higher when their mothers reported higher levels of stress. In addition, the present results showed that mothers' ratings of their respective child's anxiety problems, ADHD problems, and oppositional defiant problems were significantly related to explaining mothers' heightened stress level scores. Moreover, teacher ratings of child's anxiety problems and ADHD problems were significantly related to mothers' elevated stress level scores.

Thus, these findings are not solely based on parent ratings of children's anxiety and other problems related to the CBCL DSM-oriented scales, but also on teacher ratings of the same scales. Utilizing both mother and teacher ratings addresses the issue of highly stressed mothers possibly having a more negative perception of their children's behavior.

These findings are also consistent with previous research indicating that maternal stress is associated with both internalizing and externalizing problems in children (Pianta, et al., 1990). Research also indicates that parenting stress has a negative impact on the well being of parents, children, and parent-child relationships, although it is unclear whether parenting behavior mediates the relationship between parental stress and child mental health problems, or if parental stress relates more directly to children's behavior problems (Crnic et al., 2005).

#### *Mothers' Marital Status Differences*

With respect to mothers' marital status, children of single mothers were found to have significantly higher anxiety problems scores, as rated by their mothers, when compared to children of married mothers. These findings are consistent with prior research indicating increased academic, behavioral, and emotional problems in children of divorced/single parent families (Ricciuti, 2004). However, it should be noted that the research literature also suggests that behavior problems in children in single parent families are associated with lowered income level of these parents, as well as lowered educational attainment (Ricciuti, 2004). Given that data on income level and highest grade level achieved were not collected in the present study, no conclusions can be drawn regarding this matter. It should also be noted that no significant differences were found

between teacher anxiety ratings of children of single mothers versus children of married mothers, or between high versus low maternal stress level and mothers' marital status on child's anxiety scores.

#### *Child's Ethnicity Differences*

Regarding child's ethnicity, the anxiety scores of children of different ethnic groups were not significantly different, and the interaction between child's ethnicity and maternal stress level on child's anxiety scores was not significant. These findings are consistent with previous research that has found the prevalence of anxiety disorders in children to be relatively similar across ethnic groups. However, some differences between ethnic groups have been noted in terms of the types of fears or anxieties, as well as in the expression of anxiety. For example, Hispanic youth have been found to be more likely to be diagnosed as having Separation Anxiety Disorder (Ginsburg & Silverman, 1996), Caucasian children as having a higher rate of school refusal, and African-American children as having a higher rate of PTSD (Last & Perrin, 1993).

#### *Child's Gender Differences*

In regard to child's gender, the anxiety scores of male and female children were not found to be significantly different. Moreover, the interaction between child's gender and maternal stress level on child's anxiety scores was not significant. However, while not significantly different, the mean scores for anxiety problems of children were found to be higher for male children than females on both mother and teacher ratings. This finding, if supported in subsequent research, is inconsistent with previous research on childhood anxiety and gender (e.g., Morris & Kratochwill, 1983, 1998; Ollendick et al.,

2002) which has reported higher levels of anxiety in females as compared to males. However, the current findings may, in fact, not be contradictory, as the literature suggests a possibility of changes in anxiety levels in males versus females across ages (Vasey & Ollendick, 2000). For example, one study that compared gender-by-age interactions found girls to have a higher rate of anxiety than boys in the 9- to 11-year-old and 12- to 14-year-old group, but not in the 6- to 8-year-old group (Breton et al., 1999). In addition, Generalized Anxiety Disorder (GAD) in children has been found to be more prevalent among boys than girls, while in adolescents it is more prevalent in girls than boys (Vasey & Ollendick, 2000). As the children in the present study were 6 to 7 years old, findings relating to gender may need further investigation.

#### *Limitations of the Present Study*

While the present study provides some insight into the impact of maternal stress on child's anxiety levels, several limitations must be noted. First, the sample size was small ( $n = 64$ ), due to a low response rate for consent forms. Only 23.5% of the total sample agreed to participate in the study, and 20.9% of the total sample returned the completed surveys. This small sample size increases the risk of Type II error in statistical analyses, and limits the extent to which the results can be generalized to other populations. It is also possible that the members of the sample that chose to participate in the study differed from those who did not participate. For example, more highly stressed mothers may not have responded. In addition, when the sample was divided into groups for between-subject analysis, there were an unequal number of participants in each group.

For example, there were 52 participants who were married, compared to 12 participants who were single.

Additionally, this study included anxiety scores of children as rated by their mothers and their teachers, but did not include a self-report of anxiety measure. Due to the young age of the children (age 6 to 7 years), a self-report scale of the Child Behavior Checklist was not available, although one is available for youth age 11 to 18 years. Also, the fact that a number of different mothers each rated their respective children may have increased rater bias as error in the study.

Finally, cause and effect relationships cannot be determined through correlational studies, so while it was determined that high levels of maternal stress are associated with higher levels of child anxiety, it is unknown whether high levels of mothers' stress actually causes increased child anxiety, or if other variables are having an effect on the relationship. Many other variables, which were not measured in the present study, could potentially be impacting the relationship between mothers' stress and child anxiety.

#### *Implications and Future Directions for Research*

This study indicates a number of theoretical and clinical implications that exist in regard to mothers' stress levels and child anxiety. In relation to the theory of risk/resiliency factors, the results of the study suggest that high levels of maternal stress may increase the likelihood of a child having elevated levels of anxiety, or, conversely, that low levels of maternal stress may protect against increased levels of anxiety in children.

Recently, there has been an emphasis on the prevention of childhood mental health problems, such as anxiety disorders. Morris and colleagues accentuate the importance of early identification of childhood anxiety, in order to take preventive measures to reduce negative consequences (Morris, Kratochwill, Schoenfield, & Auster, in press). Research suggests that prevention is preferable to treatment because treatment is often ineffective, may be extremely costly, and may occur only after a disorder is well-established and severely affecting functioning. In addition, children's anxiety may go unnoticed by teachers and parents because anxious children are nondisruptive and compliant (Donovan & Spence, 2000).

As the results of this study indicate a relationship between high levels of maternal stress and child anxiety, prevention programs may incorporate teaching stress reduction methods and stress management skills for parents. Studies on children's externalizing disorders indicate that providing support to parents with high stress levels may play a critical role in improving child functioning (Blader, 2006; Treacy, Tripp, & Baird, 2005). Additionally, a prevention program targeting internalizing symptoms in early adolescence that included a parent component found significantly reduced levels of depression and anxiety in participants compared to controls, and noted that parents have the ability to influence children long after interventions end (Gillham et al., 2006). This research highlights the long-term benefits of incorporating parents into prevention and intervention programs for their children, perhaps by assisting parents in dealing with high levels of stress.

In terms of future research, the present study highlights a need for additional studies on the topic of mothers' stress levels and outcomes in children. There is a need to replicate the current study, and determine if findings are supported, and there is also a need for studies focusing on additional outcome measures in children, such as depression or externalizing symptoms such as oppositional defiant or conduct problems. Future studies could examine the relationship between maternal stress and child anxiety in populations such as adoptive families or Gay/Lesbian parents, as well as in older children, such as middle or high school age, and could include a self-report rating of anxiety for these children. In addition, changes in anxiety levels in males versus females across ages warrants additional study.

Further exploration of the consequences of high levels of maternal stress is also needed, such as a longitudinal study of children of "highly stressed" mothers, in order to gain an understanding of the long-term effects of mothers' stress on their children. Future research should also include studies focused on variables that may mediate the relationship between mothers' stress level and child anxiety, such as child coping skills or outside support.

APPENDIX A  
SCHOOL DISTRICT'S AUTHORIZATION LETTER

MARANA UNIFIED SCHOOL DISTRICT  
11279 W. Grier Road • Marna, Arizona 85653 • (526 M2-3243

GOVERNING BOARD

Patricia A. Teager. =cider  
Maribel Lopez. Vice ?-Sent  
Bill Kuhn. Member  
Dan Post, Member  
Albert Siqueiros. ELL.. Member

ADMINISTRATION

Dennis W. Dearden, Superintendent  
Carolyn Dumler, Assistant Superintendent  
Jan Truitt, PdD., Assistant Superintendent  
Dan Comoro, Chief Financial Officer

January 4, 2007

Mr. Pete Manspeaker  
Program Coordinator  
Human Subjects Protection Program  
1350 N. Vine Ave.  
Tucson. AZ 85724

Dear Mr. Manspeaker,

Nicole Anderson has submitted a research proposal to the Manna Unified School District. I have completed a review of Ms. Anderson's proposal and am pleased to inform you that the Manna Unified School District is pleased to participate in her study, *"The Relationship Between M a t a s ' S t r e s s L e v e l and Anu'etRatrag's of Their Chi/drat"* The district hereby grants Ms. Anderson permission to conduct her research district-wide.

Of course, any decision to participate directly in her study rests solely with prospective participants. I am confident that, given the consent forms submitted with the IRB packet, Ms. Anderson will be sure to obtain her participants' informed consent. I will work closely with Ms. Anderson to provide the district support necessary for a successful research study.

As collaborators on this research project, we expect that any results and conclusions drawn from the data will be shared in written form, and possible preservation form, at the conclusion of the study. We are excited about the added value Ms. Anderson is bringing to the district with respect to her doctoral research.

With Best Regards,



Brett A. Kramer, PhD  
Director of Research and Evaluation  
Manna Unified School District

APPENDIX B

HUMAN SUBJECTS PROTECTION PROGRAM APPROVAL

Human Subjects Protection  
THE UNIVERSITY OF ARIZONA

## ARIZONA.

TUCSON ARIZONA

1350 N. Vine Avenue  
P.O. Box 245137  
Tucson, AZ 857243137 (520)36264721

Internet: www.trbarcon.edu

January 15, 2007

Nicole E. Anderson  
Dept. of Special Education, Rehabilitation and School Psychology  
College of Education SERSP  
P.O. Box 210069

BSC: B07.008 THE RELATIONSHIP BETWEEN MOTHERS' STRESS LEVEL AND ANXIETY RATINGS OF THEIR CHILDREN

Dear Ms. Anderson:

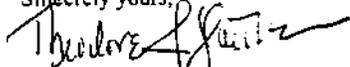
We received your research proposal as cited above. The procedures to be followed in this study pose no more than minimal risk to participating subjects and have been reviewed by the Institutional Review Board (IRB) through an Expedited Review procedure as cited in the regulations issued by the U.S. Department of Health and Human Services [45 CFR Part 46.110(b)(1)] based on their inclusion under research category 7. As this is not a treatment intervention study, the IRB has waived the statement of Alternative Treatments in the consent form as allowed by 45 CFR 46.116(d)(2). Although full Committee review is not required, a brief summary of the project procedures is submitted to the Committee for Mel: endorsement and/or comment, if any, after administrative approval is granted. This project is approved with an expiration date of 15 January 2008. Please make copies of the attached IRB stamped consent documents to distribute to your subjects.

The Institutional Review Board (IRB) of the University of Arizona has a current *Federalwide Assurance* of compliance, FWA00004218, which is on file with the Department of Health and Human Services and covers this activity.

Approval is granted with the understanding that no further changes or additions will be made to the procedures followed without the knowledge and approval of the Human Subjects Committee (IRB) and your College or Departmental Review Committee. Any research related physical or psychological harm to any subject must also be reported to each committee.

A university policy requires that all signed subject consent forms be kept in a permanent file in an area designated for that purpose by the Decan or Head or comparable authority. This will assure their accessibility in the event that university officials require the information and the principal investigator is unavailable for some reason.

Sincerely yours,



Theodore J. Glatfelter, PhD.  
Chair, Social and Behavioral Sciences Human Subjects Committee

TJG/rf

Cc: Departmental/College Review Committee

APPENDIX C  
PARTICIPANT RECRUITMENT LETTERS

# THE UNIVERSITY OF ARIZONA

Dear Parent,

My name is Nicole Anderson, and I am a doctoral student at the University of Arizona in the department of Special Education, Rehabilitation, and School Psychology. I am requesting your participation in my research study on anxiety in children and its relationship to mothers' stress levels.

Although anxiety disorders are among the most commonly occurring psychiatric disorders of childhood, adversely affecting academic and interpersonal functioning, they often go unnoticed by parents and teachers. In order to develop and implement effective prevention programs that can reduce these negative consequences, it is necessary to determine the risk and protective factors that are associated with childhood anxiety. Research indicates that parents' stress affects parent/child interactions, and there is currently a need for research that addresses level of parental stress as a possible protective factor for anxiety in children.

Your participation in this study would require completing two surveys, the Child Behavior Checklist and the Parental Stress Index — Short Form, which would take approximately 30 minutes. In addition, your child's teacher would complete the Teacher Rating Form of the Child Behavior Checklist. All materials will be sent to you in the mail, and returned to the University of Arizona in an attached envelope. Your name will not be connected to survey responses, and all data collected will remain confidential. Please read the enclosed consent form carefully, and if you do agree to participate, please sign and return the form in the attached prepaid envelope. If you have any questions or need further information about this study, please do not hesitate to contact me at 621-3086 or [nea@email.arizona.edu](mailto:nea@email.arizona.edu). Thank you in advance for your participation.

Sincerely,

Nicole E. Anderson  
Ph.D. Candidate  
University of Arizona

Richard J. Morris, Ph.D.  
Professor, School Psychology Program  
University of Arizona

THE UNIVERSITY  
OF ARIZONA®

Dear Teacher,

Thank you for agreeing to fill out this rating form on \_\_\_\_ (child's name) \_\_\_\_ . The mother of this child has agreed to participate in a study on the relationship between mothers' stress level and anxiety ratings of their children. Both mothers and teachers are being asked to fill out the Child Behavior Checklist in order to obtain information regarding the child's competencies, functioning, and problems; with the level of anxiety being looked at specifically in this study. Please answer the items as well as you can, excluding sections IX and X, even if you lack full information. Scores on individual items will be combined to identify general patterns of behavior. Please do not put the child's name on the form.

After you complete this form, please place it in the attached stamped and addressed envelope and mail it back to us at The University of Arizona. For your information, this project has been approved by the University's Institutional Review Board and by the Director of Research and Evaluation for the Marana Unified School District, and the child's parent has given written consent to participate in this research. If you have any questions about completing this rating form, please do not hesitate to contact Ms. Anderson, the Primary Investigator for the study, at 621-3086 or [nea@email.arizona.edu](mailto:nea@email.arizona.edu). Thank you.

Sincerely,

Nicole E. Anderson  
Ph.D. Candidate  
University of Arizona

Richard J. Morris, Ph.D.  
Professor, School Psychology Program  
University of Arizona

APPENDIX D  
SUBJECT'S CONSENT FORM

APPROVED BY UNNERSRY OF AZ IRS T''S STAMP  
 MUST APPEAR ON ALL DOCUMENTS USED TO  
 GENSENT SUBJECTS. DATE: / a (RATION: /  
 / 5.22

### SUBJECTS CONSENT FORM (Parent Version)

Project Title: The Relationshi<sup>p</sup> Between Mothers Stress Level and Anxiety Ratings of Their Children

You are being asked to read the following material to ensure that you are informed of the nature of this research study and of how you will participate in it, if you consent to do so. Signing this form will indicate that you have been so informed and that you give your consent. Federal regulations require written informed consent prior to participation in this research study so that you can know the nature and risks of your participation and can decide to participate or not participate in a free and informed manner.

#### PURPOSE

You are being invited to panicipme voluntarily in the above-titled research project. The purpose of this project is to examine the relationship between mothers' stress level and anxiety ratings of their children, and determine whether high levels of parental stress are associated with high levels of child anxiety, as rated by both mothers and teachers. In addition, the present study will examine whether differences exist relating to child's gender, ethnicity, or marital status of mother.

#### SELECTION CRITERIA

The Principal Investigator or a member of her study staff will discuss the requirements for participation in this study with you. To be eligible to participate, you must have a child between the ages of 6 and 7 years who cannily resides with *you*, and who attends school in the Manna Unified School District. There 'e no other exclusionary criteria for participation. A total of 100 mothers and teachers will be involved in this study. Names and addresses of parents of first grade children were provided by the Director of Research and Evaluation for the Manna Unified School District, who has approved this study.

#### PROCEDURE(S)

The following information describes *your* participation in this study, which will last up to one hour: A demographic information sheet will be filled out, which will contain items relating to age, gender, and ethnicity of the child, and marital status of the mother. This information will be matched to the two questionnaires by a numeric coding system, so that names are never attached to the information being collected Nat, the Child Behavior Checklist (CBCL) will be filled out by both the child's mother and taper, which can be completed in approximately 15 to 20 minutes. This instrument will be used to obtain information regarding the child's competences, functioning, and problems. The *Actuary Problems* Scale will be used as a measure of the child's *level* of anxiety. Finally, the Parented Stress Index — Short form (PSI-SF) will be filled out by the mother, which can be completed M approximately ten minutes. *The Total Stress* score on this instrument will be used as a mean\_ of the overall level of stress the mother is experiencing. MI surveys will be returned to the = h e r by mail in a self-addressed stamped envelope. Data provided by the teacher will not be s l e d with the parent, and data provided by the parent will

not be shared with the teacher

#### RISKS

Data provided to the researcher will initially be linked to identifying information, which involves a slight risk of breach of privacy and confidentiality. However, steps have been taken to avoid such a breach, by using a coding system of the data provided so that names and other personal information are not connected to survey responses. There are no other foreseeable risks involved with participation in this study.

#### BENEFITS

Benefits associated with this research include participants obtaining information regarding their stress levels, and the anxiety levels of their children. In addition, determining whether there is a relationship between these two variables will be important in developing and implementing prevention programs *for* childhood anxiety disorders.

#### CONFIDENTIALITY

Information provided by participants in this study will be completely confidential. The identities of the participants will not be directly associated with the survey information, and will be matched using a numeric coding system. The data base of names and addresses of participants will be permanently deleted upon completion of the research study. Access to the data will be limited to the Principal Investigator, Nicole E. Anderson, and the Advisor to the study, Dr. Richard I. Moms.

#### PARTICIPATION COSTS AND SUBJECT COMPENSATION

There is no cost to you for participating except your time. You will not be compensated for your participation.

#### CONTACTS

You can obtain further information about the research or voice concerns or complaints regarding the research by calling the Principal Investigator, Nicole E. Anderson, Ph.D. Candidate, at (520) 621-3086. *If you* have questions concerning *your* rights as a research participant, have questions, complaints, or concerns, and can't reach the Principal Investigator, *or you* want to talk with someone other than the investigator, you may call the University of Arizona Human Subjects Protection Program office at (520) 626-6721. (If out of state, use the toll-free number 1-866-278-1455.. *If you* would like to contact the Human Subjects Protection Program by email, please use the following email address [term://www.irb.arizona.edu/snlngestio~p](mailto://www.irb.arizona.edu/snlngestio~p).

#### AUTHORIZATION

Before giving my consent by signing this form, the methods, inconveniences, risks, and benefits have been explained to me and my questions have been answered. I may ask questions at any time and I am free to withdraw from the project at any time without

causing bad feelings. My participation in this project may be ended by the investigator for reasons that would be explained. New information developed during the course of this study which may affect my willingness to continue in this research project will be given to me as it becomes available. This consent form will be filed in an area designated by the Human Subjects Committee with access restricted by the principal investigator, Nicole E. Anderson, Ph.D. Candidate, or authorized representative of the Department of Special Education, Rehabilitation, and School Psychology. I do not give up any of my legal rights by signing this form. A copy of this signed consent form will *be given* to me.

Subject's Signature \_\_\_\_\_ Date \_\_\_\_\_

Parent/Legal Guardian (if necessary) \_\_\_\_\_ Date \_\_\_\_\_

Witness (if necessary) \_\_\_\_\_ Date \_\_\_\_\_

**INVESTIGATOR'S AFFIDAVIT**

Either I have or my agent has carefully explained to the subject the name of the above project. I hereby certify that to the best of my knowledge the person who signed this consent form was informed of the nature, demands, benefits, and risks involved in his/her participation.

Signature of Presenter \_\_\_\_\_ Date \_\_\_\_\_

Signature of Investigator \_\_\_\_\_ Date \_\_\_\_\_

APPROVED BY UNIVERSITY OF AZ IRB THIS  
 STAMP MUST APPEAR ON ALL DOCUMENTS  
 USED TO CONSENT SUBJECTS. DATE:  
 \_\_\_\_\_<sup>11/18/07</sup>\_\_\_\_\_ WPIRATION:  
 \_\_\_\_\_ I/IS/ay

### SUBJECT'S CONSENT FORM (Teacher Version)

Project Title: The Relationship Between Mothers' Stress Level and Anxiety Ratings of Their Children

You are being asked to read the following material to ensure that you are informed *of* the nature *of* this research study and *of* how you will participate in it. *if* you consent to do so. Signing this *form* will indicate that you have been so informed and that you give *your* consent. Federal regulations require written informed consent prior to participation in this research study so that you can know the nature and risks of your participation and can decide to participate or not participate in a free and informed manner.

#### PURPOSE

You are being invited to participate voluntarily in the above-titled research project. The purpose of this project is to examine the relationship between mothers' stress level and anxiety ratings of their children, and determine whether *high* levels *of* parental stress are associated with high levels of child anxiety, as rated by both mothers and teachers. In addition, the present study will examine whether differences exist relating to child's gender, ethnicity, or marital status of mother.

#### SELECTION CRITERIA

The Principal Investigator or a member of her study staff will discuss the requirements for participation in this study with you. To be eligible to participate, you must be the teacher of a child between the ages of 6 and 7 years in the Marana Unified School District whose parent has consented to participate in this study. There are no other exclusionary criteria for participation. A total of 100 mothers and teachers will be involved in this study. Names and addresses of parents of first grade children were provided by the Director of Research and Evaluation for the Marana Unified School District, who has approved this study.

#### PROCEDURE(S)

The following information describes your participation in this study. which will last up to 30 minutes: A demographic information sheet will be filled out by the parent, which will contain items relating to age, gender, and ethnicity *of* the child, and marital slams *of* the mother. This information will be matched to the two questionnaires by a numeric coding system, so that names are never attached to the information being collected. Next, the Child Behavior Checklist (CBCL) will be filled out by both the child's mother and teacher, *which* can be completed in approximately 15 to 20 *minutes*. This instrument will be used to obtain information regarding the child's competences, functioning, and problems. The *Anxiety Problems Scale* will be used as a measure of the child's level of anxiety. Finally, the Parental Stress Index — Short form (PSI-SF) will be filled out by the mother, which can be completed in approximately ten minutes.

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Page 1 of3      Subject's Initials

*Total Stress* score on this instrument will be used as a measure of the overall level of stress the mother is experiencing. All surveys will be returned to the researcher by mail in a self-addressed stamped envelope. Data provided by the teacher will not be shared with the parent, and data provided by the parent will not be shared with the teacher.'

#### RISKS

Data provided to the researcher will initially be linked to identifying information, which involves a slight risk of breach of privacy and confidentiality. However, steps have been taken to avoid such a breach, by using a coding system of the data provided so that names and other personal information are not connected to survey responses. There are no other foreseeable risks involved with participation in this study.

#### BENEFITS

Benefits associated with this research include participants obtaining information regarding their stress levels, and the anxiety levels of their children. In addition, determining whether there is a relationship between these two variables will be important in developing and implementing prevention programs for childhood anxiety disorders.

#### CONFIDENTIALITY

Information provided by participants in this study will be completely confidential. The identities of the participants will not be directly associated with the survey information, and will be matched using a numeric coding system. The data base of names and addresses of participants will be permanently deleted upon completion of the research study. Access to the data will be limited to the Principal Investigator, Nicole E. Anderson, and the Advisor to the study, Dr. Richard I. Morris.

#### PARTICIPATION COSTS AND SUBJECT COMPENSATION

There is no cost to you for participating except your time. You will not be compensated for your participation.

#### CONTACTS

You can obtain further information about the research or voice concerns or complaints regarding the *research* by calling the Principal Investigator, Nicole E. Anderson, Ph.D. Candidate, at (520) 621-3086. If you have questions concerning your rights as a research participant, *have* questions, complaints, or concerns, and can't reach the Principal Investigator, or you want to talk with someone other than the investigator, you may call the University of Arizona Human Subjects Protection Program office at (520) 626-6721. (If out of state, use the toll-free number 1-866-278-1455.) If you would like to contact the Human Subjects Protection Program by email, please use the following email address: [impa/www.irb.arizona.edu/~ju'sug~estionsp2](mailto:impa/www.irb.arizona.edu/~ju'sug~estionsp2).

**AUTHORIZATION**

Before giving my consent by signing this form, the methods, inconveniences, risks, and benefits have been explained to me and my questions have been answered. I may ask questions at any time and I am free to withdraw from the project at any time without causing bad feelings. My participation in this project may be ended by the investigator for reasons that would be explained. New information developed during the course of this study which may affect my willingness to continue in this research project will be given to me as it becomes available. This consent form will be filed in an area designated by the Human Subjects Committee with access restricted by the principal investigator, Nicole E. Anderson, Ph.D. Candidate, or authorized representative of the Department of Special Education, Rehabilitation, and School Psychology. I do not give up any of my legal rights by signing this form. A copy of this signed consent form will be given to me.

Subject's Signature \_\_\_\_\_ Date \_\_\_\_\_

Parent/Legal Guardian Of necessary) \_\_\_\_\_ Date \_\_\_\_\_

Witness Of necessary) \_\_\_\_\_ Date \_\_\_\_\_

**INVESTIGATOR'S *AFFIDAVIT*:**

Either I have or my agent has carefully explained to the subject the nature of the above project. I hereby certify that to the best of my knowledge the person who signed this consent form was informed of the nature, demands, benefits, and risks involved in his/her participation.

Signature of Presenter \_\_\_\_\_ Date \_\_\_\_\_

Signature of Investigator \_\_\_\_\_ Date \_\_\_\_\_

APPENDIX E  
CHILD BEHAVIOR CHECKLIST – PARENT VERSION

**NSDC**  
 Please print **CHILD BEHAVIOR CHECKLIST FOR AGES 6-18** For child use only

CHILD'S FULL NAME: \_\_\_\_\_ First: \_\_\_\_\_ Middle: \_\_\_\_\_ Last: \_\_\_\_\_

PARENTS' USUAL TYPE OF WORK, when it not working now (Please be specific — for example, auto mechanic, night school teacher, computer hacker, wife/queen, shoe salesman, any, several): \_\_\_\_\_

CHILD'S GENDER:  Boy  Girl CHILD'S AGE: \_\_\_\_\_ CHILD'S ETHNIC GROUP OR RACE: \_\_\_\_\_

FATHER'S TYPE OF WORK: \_\_\_\_\_ MOTHER'S TYPE OF WORK: \_\_\_\_\_

PARENTS' USUAL TYPE OF WORK, when it not working now (Please be specific — for example, auto mechanic, night school teacher, computer hacker, wife/queen, shoe salesman, any, several): \_\_\_\_\_

THIS FORM FILLED OUT BY: \_\_\_\_\_ (print your full name)

DATE: \_\_\_\_\_ CHILD'S BIRTHDATE: \_\_\_\_\_

GRATEFUL:  Yes  No Your gender:  Male  Female Your relation to the child: \_\_\_\_\_

NOT ATTENDING SCHOOL:  Yes  No  Biological Parent  Step Parent  Grandparent  Adoptive Parent  Fost. Parent  Other (specify): \_\_\_\_\_

**I. Please list the sports your child most likes to take part in. For example: swimming, baseball, cycling, skateboarding, hiking, fishing, etc.**  None

	Compared to others of the same age, about how much time does he/she spend in each?				Compared to others of the same age, how well does he/she do each one?			
	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average	Don't Know
a. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**II. Please list your child's favorite hobbies, activities, and games, other than sports. For example: reading, dolls, books, painting, cards, computers, singing, etc. (Do not include listening to radio or TV.)**  None

	Compared to others of the same age, about how much time does he/she spend in each?				Compared to others of the same age, how well does he/she do each one?			
	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average	Don't Know
a. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**III. Please list any organizations, clubs, teams, or groups your child belongs to.**  None

	Compared to others of the same age, how active is he/she in each?			
	Less Active	Average	More Active	Don't Know
a. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**IV. Please list any jobs or chores your child has. For example: paper route, babysitting, mowing, bed-making, ironing, etc. (Include both paid and unpaid jobs and chores.)**  None

	Compared to others of the same age, how well does he/she carry them out?			
	Below Average	Average	Above Average	Don't Know
a. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Be sure you answered all items. Thank you for your help.**

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Please print. Be sure to answer all items.

V. 1. About how many close friends does your child have? (Do not include brothers & sisters)  
 None  1  2 or 3  4 or more

2. About how many times a week does your child do things with any friends outside of regular school hours?  
 (Do not include brothers & sisters)  Less than 1  1 or 2  3 or more

VI. Compared to others of his/her age, how well does your child:

	Worse	Average	Better	<input type="checkbox"/> Also includes brothers & sisters
a. Get along with mother, brothers & sisters?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b. Get along with other kids?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c. Get along with father, parents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d. Play and work alone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

VII. Performance in academic subjects.  Child not attend school because \_\_\_\_\_

Check a box for each subject that child takes	Falling	Below Average	Average	Above Average
a. Reading, English or Language Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. History or Social Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Arithmetic or Math	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Does your child receive special education or remedial services or attend a special class or special school?  
 No  Yes—kind of services, class, or school: \_\_\_\_\_

3. Has your child repeated any grades?  No  Yes—grades and reasons: \_\_\_\_\_

4. Has your child had any academic or other problems in school?  No  Yes—please describe: \_\_\_\_\_

When did these problems start? \_\_\_\_\_

Have these problems ended?  No  Yes—when? \_\_\_\_\_

Does your child have any illness or disability (either physical or mental)?  No  Yes—please describe: \_\_\_\_\_

What concerns you most about your child?  
 \_\_\_\_\_  
 \_\_\_\_\_

Please describe the best things about your child.  
 \_\_\_\_\_  
 \_\_\_\_\_

Please print. Be sure to answer all items.

Below is a list of items that describe children and youths. For each item that describes your child now or within the past 6 months please circle the 0, 1, or 2 that best describes your child. Circle the 1 if the item is somewhat or sometimes true of your child. If the item is not true of your child, circle the 0. Please answer all items as well as you can, even if some do not seem to apply to your child.

0 = Not True as far as you know			1 = Somewhat or Sometimes True			2 = Very True or Often True				
0	1	2	1. Acts too young for his/her age	0	1	2	32. Feels neglected or left out	0	1	2
0	1	2	2. Comes around without parents' approval (describe: _____)	0	1	2	33. Feels or complains that no one loves or cares for him/her	0	1	2
0	1	2	3. Argues a lot	0	1	2	34. Feels others are out to get him/her	0	1	2
0	1	2	4. Has to wash things he/she starts	0	1	2	35. Feels worthless or inferior	0	1	2
0	1	2	5. There is very little he/she enjoys	0	1	2	36. Gets hurt a lot, accident-prone	0	1	2
0	1	2	6. Bowel movements outside toilet	0	1	2	37. Gets in many fights	0	1	2
0	1	2	7. Beggings/boasting	0	1	2	38. Gets teased a lot	0	1	2
0	1	2	8. Can't concentrate, can't pay attention for long	0	1	2	39. Hangs around with others who get in trouble	0	1	2
0	1	2	9. Can't get the other kind of things in thoughts, obsessions (describe: _____)	0	1	2	40. Hears sounds or voices that aren't there (describe: _____)	0	1	2
0	1	2	10. Can't or won't rest/stop, or hyperactive	0	1	2	41. Impulsive choices without thinking	0	1	2
0	1	2	11. Clings to adults or too dependent	0	1	2	42. Would rather be alone than with others	0	1	2
0	1	2	12. Can't stand or loneliness	0	1	2	43. Lying or cheating	0	1	2
0	1	2	13. Confused or seems to be in a fog	0	1	2	44. Bites fingernails	0	1	2
0	1	2	14. Gets a tic	0	1	2	45. Nervous, jittery, or tense	0	1	2
0	1	2	15. Cruel to animals	0	1	2	46. Nervous moments or twitching (describe: _____)	0	1	2
0	1	2	16. Clings, clinging, or meanness to others	0	1	2	47. Nightmares	0	1	2
0	1	2	17. Daydreams or gets lost in his/her thoughts	0	1	2	48. Not liked by other kids	0	1	2
0	1	2	18. Deliberately harms self or attempts suicide	0	1	2	49. Constipated, doesn't move bowels	0	1	2
0	1	2	19. Overlays a lot of attention	0	1	2	50. Too fearful or anxious	0	1	2
0	1	2	20. Destroyer of other's things	0	1	2	51. Feels dizzy or lightheaded	0	1	2
0	1	2	21. Destroys things belonging to other family or others	0	1	2	52. Feels too guilty	0	1	2
0	1	2	22. Unobedient at home	0	1	2	53. Overeating	0	1	2
0	1	2	23. Disobedient at school	0	1	2	54. Overwhelmed without good reason	0	1	2
0	1	2	24. Doesn't eat well	0	1	2	55. Overweight	0	1	2
0	1	2	25. Doesn't get along with other kids	0	1	2	56. Physical problems without known medical cause:	0	1	2
0	1	2	26. Doesn't seem to feel guilty after misbehaving	0	1	2	a. Aches or pains (not stomach or headaches)	0	1	2
0	1	2	27. Easily jealous	0	1	2	b. Headaches	0	1	2
0	1	2	28. Breaks rules at home, school, or elsewhere	0	1	2	c. Nausea, feels sick	0	1	2
0	1	2	29. Hears certain animals, situations, or places, other than school (describe: _____)	0	1	2	d. Problems with eyes (not if corrected by glasses) (describe: _____)	0	1	2
0	1	2	30. Feels lonely at school	0	1	2	e. Rashes or other skin problems	0	1	2
0	1	2	31. Feels as if he might think or do something bad	0	1	2	f. Stomachaches	0	1	2
						g. Vomiting, throwing up	0	1	2	
						h. Other (describe: _____)	0	1	2	

PAGE 3 Be sure you answered all items. They are other side.

Please print. Be sure to answer all items.

0 = Not True (as far as you know)    1 = Somewhat or Sometimes True    2 = Very True or Often True

<p>0 1 2 57. Physically attacks people</p> <p>0 1 2 58. Picks nose, skin, or other parts of body (describe) _____</p> <p>0 1 2 59. Plays with own sex parts in public</p> <p>0 1 2 60. Plays with own sex parts too much</p> <p>0 1 2 61. Poor school work</p> <p>0 1 2 62. Poorly controlled or clumsy</p> <p>0 1 2 63. Prefers being with older kids</p> <p>0 1 2 64. Prefers being with younger kids</p> <p>0 1 2 65. Refuses to talk</p> <p>0 1 2 66. Repeats certain acts over and over; compulsive (describe) _____</p> <p>0 1 2 67. Runs away from home</p> <p>0 1 2 68. Screams a lot</p> <p>0 1 2 69. Secretive; hides things to see?</p> <p>0 1 2 70. Sees things that aren't there (describe) _____</p> <p>0 1 2 71. Self-conscious or easily embarrassed</p> <p>0 1 2 72. Sets fires</p> <p>0 1 2 73. Sexual problems (describe) _____</p> <p>0 1 2 74. Showing off or bragging</p> <p>0 1 2 75. Too shy or timid</p> <p>0 1 2 76. Sleeps less than most kids</p> <p>0 1 2 77. Sleeps more than most kids during day and/or night (describe) _____</p> <p>0 1 2 78. Inattentive or easily distracted</p> <p>0 1 2 79. Speech problem (describe) _____</p> <p>0 1 2 80. Stands by self</p> <p>0 1 2 81. Steals at home</p> <p>0 1 2 82. Steals outside the home</p> <p>0 1 2 83. Says a lot of things he/she doesn't need (describe) _____</p>	<p>0 1 2 84. Strange behavior (describe) _____</p> <p>0 1 2 85. Strange ideas (describe) _____</p> <p>0 1 2 86. Stomach, upset, or irritate</p> <p>0 1 2 87. Sudden changes in mood or feelings</p> <p>0 1 2 88. Suits a lot</p> <p>0 1 2 89. Suspicious</p> <p>0 1 2 90. Swearing or obscene language</p> <p>0 1 2 91. Talks about killing self</p> <p>0 1 2 92. Talks or writes in school (describe) _____</p> <p>0 1 2 93. Talks too much</p> <p>0 1 2 94. Teases a lot</p> <p>0 1 2 95. Temper tantrums or hot temper</p> <p>0 1 2 96. Thinks about sex too much</p> <p>0 1 2 97. Threatens people</p> <p>0 1 2 98. Thumb-sucking</p> <p>0 1 2 99. Smokes, chews, or sniffs tobacco</p> <p>0 1 2 100. Trouble sleeping (describe) _____</p> <p>0 1 2 101. Truancy, skips school</p> <p>0 1 2 102. Underactive, slow moving, or lacks energy</p> <p>0 1 2 103. Unhappy, sad, or depressed</p> <p>0 1 2 104. Unusually quiet</p> <p>0 1 2 105. Uses drugs for nonmedical purposes (don't include alcohol or tobacco) (describe) _____</p> <p>0 1 2 106. Vandalism</p> <p>0 1 2 107. Wets self during the day</p> <p>0 1 2 108. Wets the bed</p> <p>0 1 2 109. Whining</p> <p>0 1 2 110. Wishes to be of opposite sex</p> <p>0 1 2 111. Withdrawn, doesn't get involved with others</p> <p>0 1 2 112. Worries</p> <p>113. Please write in any problems your child has that were not listed above:</p> <p>0 1 2 _____</p> <p>0 1 2 _____</p> <p>0 1 2 _____</p>
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APPENDIX F

CHILD BEHAVIOR CHECKLIST- TEACHER'S REPORT FORM



## TEACHER'S REPORT FORM FOR AGES 6-18

 For extra sheets  
 click

Your answers will be used to compare the pupil with other pupils whose teachers have completed similar forms. The information from this form will also be used for comparison with other information about this pupil. Please answer as well as you can, even if you have full information. Scores on these public forms will be compared to identify general patterns of behavior. Feel free to print additional comments beside each item and in the spaces provided on page 2. *Please print, and answer all items.*

PUPIL'S FULL NAME First _____ Middle _____ Last _____		PARENTS' USUAL TYPE OF WORK, even if not working now (Please be specific — for example, auto mechanic, high school teacher, homemaker, laborer, etc.) (See page 2, also subject, only if relevant)
PUPIL'S GENDER: <input type="checkbox"/> Boy <input type="checkbox"/> Girl		
PUPIL'S AGE: _____		FATHER'S TYPE OF WORK: _____
MOTHER'S TYPE OF WORK: _____		MOTHER'S TYPE OF WORK: _____
INQUIRY DATE Mo. _____ Day _____ Yr. _____	PUPIL'S BIRTHDATE (if known) Mo. _____ Day _____ Yr. _____	THIS FORM FILLED OUT BY: (not your G/Name)
NAME OF SCHOOL	NAME AND ADDRESS OF SCHOOL	You are a(n): <input type="checkbox"/> Male <input type="checkbox"/> Female Your role at the school: <input type="checkbox"/> Classroom Teacher <input type="checkbox"/> Counselor <input type="checkbox"/> Special Educator <input type="checkbox"/> Administrator <input type="checkbox"/> Teacher's Aide <input type="checkbox"/> Other (specify): _____

I. For how many months have you known this pupil? \_\_\_\_\_ months

II. How well do you know him/her? 1.  Not Well 2.  Moderately Well 3.  Very Well

III. How much time does he/she spend in your class or service per week?

IV. What kind of class or service is it? (Please be specific, e.g., regular 5th grade, 7th grade math, learning disability, counseling, etc.)

V. Has he/she ever been referred for special class, placement, services, or tutoring?  
 Don't Know 0.  No 1.  Yes — what kind and when?

VI. Has he/she repeated any grades?  Don't Know 0.  No 1.  Yes \_\_\_\_\_ grades and reasons:

VII. Current academic performance — list academic subjects and check one that indicates pupil's performance for each subject:

Academic subject	1. Far below grade	2. Somewhat below grade	3. At grade level	4. Somewhat above grade	5. Far above grade
1. _____	<input type="checkbox"/>				
2. _____	<input type="checkbox"/>				
3. _____	<input type="checkbox"/>				
4. _____	<input type="checkbox"/>				
5. _____	<input type="checkbox"/>				
6. _____	<input type="checkbox"/>				

*Be sure you answered all items. Then see other side.*

Please print. Be sure to answer all items.

VIII. Compared to typical pupils of the same age:	1. Much less	2. Somewhat less	3. Slightly less	4. About average	5. Slightly more	6. Somewhat more	7. Much more
1. How hard is he/she working?	<input type="checkbox"/>						
2. How appropriately is he/she behaving?	<input type="checkbox"/>						
3. How much is he/she learning?	<input type="checkbox"/>						
4. How happy is he/she?	<input type="checkbox"/>						

IX. Most recent achievement test scores (optional):			Percentile or grade level obtained
Name of test	Subject	Date	

X. IQ, readiness, or aptitude tests (optional):		
Name of test	Date	IQ or equivalent scores

Does this pupil have any illness or disability (either physical or mental)?  No  Yes—please describe:

What concerns you most about this pupil?

Please describe the best things about this pupil:

Please feel free to write any comments about this pupil's work, behavior, or potential, using extra pages if necessary.

Please print. Be sure to answer all items.

Below is a list of items that describe pupils. For each item that describes the pupil now or within the past 2 months, please circle the 2 if the item is very true or often true of the pupil. Circle the 1 if the item is somewhat or sometimes true of the pupil. If the item is not true of the pupil, circle the 0. Please answer all items as well as you can, even if you do not seem to apply to this pupil.

0 = Not True (as far as you know)    1 = Somewhat or Sometimes True    2 = Very True or Often True

0	1	2	1. Acts too young for his/her age	0	1	2	34. Feels chairs are put together too tight
0	1	2	2. Hurts or makes other kids feel bad in class	0	1	2	35. Feels worthless or inferior
0	1	2	3. Argues a lot	0	1	2	36. Gets hurt a lot, accident-prone
0	1	2	4. Fails to finish things he/she starts	0	1	2	37. Gets in many fights
0	1	2	5. There is very little that he/she can do	0	1	2	38. Gets teased a lot
0	1	2	6. Defiant, talks back to staff	0	1	2	39. Hangs around with others who get in trouble
0	1	2	7. Bragging, boasting	0	1	2	40. Hears sounds or voices that aren't there (describe: _____)
0	1	2	8. Can't concentrate, can't pay attention for long	0	1	2	41. Impulsive or gets without thinking
0	1	2	9. Can't get his/her mind on school thoughts, distractions (describe: _____)	0	1	2	42. Would rather be alone than with other's
0	1	2	10. Can't sit still, restless, or fidgets a lot	0	1	2	43. Lying or cheating
0	1	2	11. Clings to adults or too dependent	0	1	2	44. Bites fingernails
0	1	2	12. Compares or envious	0	1	2	45. Nervous, high strung or tense
0	1	2	13. Confused or seems to be a little	0	1	2	46. Nervous movements or twitching (describe: _____)
0	1	2	14. Cries a lot	0	1	2	47. Overconfident or rude
0	1	2	15. Fidgets	0	1	2	48. Not happy, cheerless
0	1	2	16. Cruel, bully, or mean to other children	0	1	2	49. Has difficulty learning
0	1	2	17. Daydreams or gets lost in his/her thoughts	0	1	2	50. Too fearful or anxious
0	1	2	18. Deliberately harms someone or his outside	0	1	2	51. Feels dizzy or lightheaded
0	1	2	19. Demands a lot of attention	0	1	2	52. Feels too guilty
0	1	2	20. Destroys his/her own things	0	1	2	53. Talks out of turn
0	1	2	21. Damages property belonging to others	0	1	2	54. Over-tired without good reason
0	1	2	22. Difficultly following directions	0	1	2	55. Overweight
0	1	2	23. Disobedient at school	0	1	2	56. Physical problems <u>without known medical cause:</u>
0	1	2	24. Disrupts other pupils	0	1	2	a. Aches or pains (not stomach or headaches)
0	1	2	25. Doesn't get along with other pupils	0	1	2	b. Headaches
0	1	2	25. Doesn't seem to feel guilty when mistaking	0	1	2	c. Nausea, feels sick
0	1	2	26. Family problems	0	1	2	d. Eye problems (not if corrected by glasses) (describe: _____)
0	1	2	26. Breaks school rules	0	1	2	e. Rash(es) or other skin problems
0	1	2	27. Feels certain adults, students, or places other than school describe	0	1	2	f. Stomachaches
0	1	2	30. Feels going to school	0	1	2	g. Vomiting, throwing up
0	1	2	31. Feels he/she might think of doing something bad	0	1	2	h. Other (describe: _____)
0	1	2	32. Feels he/she has to be perfect				
0	1	2	33. Feels or complains that he/she is a "number"				

Be sure you answered all items. Then see other side.

*Please print. Be sure to answer all items.*

0 = Not True (as far as you know)    1 = Somewhat or Sometimes True    2 = Very True or Often True

0	1	2	57. Physically attacks people	0	1	2	94. Strange behavior (describe): _____
0	1	2	58. Picks nose, skin, or other parts of body (describe): _____	0	1	2	95. Strange ideas (describe): _____
0	1	2	59. Sleeps in class	0	1	2	96. Stutter, stilted, or incoherent
0	1	2	60. Apathetic or unmotivated	0	1	2	97. Sudden changes in mood or feelings
0	1	2	61. Frowns a lot	0	1	2	98. Talks a lot
0	1	2	62. Poorly coordinated or clumsy	0	1	2	99. Suspicious
0	1	2	63. Prefers being with older children or youths	0	1	2	100. Swearing or obscene language
0	1	2	64. Prefers being with younger children	0	1	2	101. Talks about killing self
0	1	2	65. Refuses to talk	0	1	2	102. Uncontrollable, not working up to potential
0	1	2	66. Repeats certain acts over and over; compulsions (describe): _____	0	1	2	103. Talks too much
0	1	2	67. Disrupts class discipline	0	1	2	104. Talks a lot
0	1	2	68. Screams a lot	0	1	2	105. Temper tantrums or not temper
0	1	2	69. Secretive, locks things to self	0	1	2	106. Seems preoccupied with sex
0	1	2	70. Hears things that aren't there (describe): _____	0	1	2	107. Threatens people
0	1	2	71. Self-conscious or easily embarrassed	0	1	2	108. Tardy in school or class
0	1	2	72. Messy work	0	1	2	109. Smokes, chews, or sniffs tobacco
0	1	2	73. Behaves irresponsibly (describe): _____	0	1	2	110. Fails to carry out assigned tasks
0	1	2	74. Showing off or clowning	0	1	2	111. Inactivity or unexplained absence
0	1	2	75. Too shy or timid	0	1	2	112. Unproductive, slow moving, or lacks energy
0	1	2	76. Explosive and unpredictable behavior	0	1	2	113. Unhappy, sad, or depressed
0	1	2	77. Demands must be met immediately, easily frustrated	0	1	2	114. Unusually late
0	1	2	78. Inattentive or easily distracted	0	1	2	115. Uses alcohol or drugs for nonmedical purposes (don't include tobacco) (describe): _____
0	1	2	79. Speech problem (describe): _____	0	1	2	105. Overly anxious to please
0	1	2	80. Stares blankly	0	1	2	107. Dislikes school
0	1	2	81. Feels hurt when criticized	0	1	2	108. Is afraid of making mistakes
0	1	2	82. Steals	0	1	2	109. Whining
0	1	2	83. Scans up too many things and lets them go; messy (describe): _____	0	1	2	110. Unclean personal appearance
				0	1	2	111. Withdrawn, doesn't get involved with others
				0	1	2	112. Worn-out
				0	1	2	113. Please write in any problems the subject has that were not listed above.
				0	1	2	_____
				0	1	2	_____
				0	1	2	_____

PAGE 4      *Please be sure you answered all items.*

APPENDIX G

PARENTAL STRESS INDEX – SHORT FORM

Name \_\_\_\_\_ Gender \_\_\_\_\_ Date of birth \_\_\_\_\_ Ethnic group \_\_\_\_\_ Marital status \_\_\_\_\_  
 Child's name \_\_\_\_\_ Child's gender \_\_\_\_\_ Child's date of birth \_\_\_\_\_ Today's date \_\_\_\_\_

SA = Strongly Agree    A = Agree    NS = Not Sure    D = Disagree    SD = Strongly Disagree

- |   |    |   |    |   |    |
|---|----|---|----|---|----|
| 1. I often have the feeling that I can not handle things very well.   | SA | A | NS | D | SD |
| 2. I find myself giving up more of my life to meet my children's needs than I ever expected.                          | SA | A | NS | D | SD |
| 3. I feel trapped by my responsibilities as a parent.   | SA | A | NS | D | SD |
| 4. Since having this child, I have been unable to do new and different things.  | SA | A | NS | D | SD |
| 5. Since having a child, I feel that I am almost never able to do things that I like to do.                           | SA | A | NS | D | SD |
| 6. I am unhappy with the last purchase of clothing I made for myself.   | SA | A | NS | D | SD |
| 7. There are quite a few things that bother me about my life.   | SA | A | NS | D | SD |
| 8. Having a child has caused more problems than I expected in my relationship with my spouse (or male/female friend). | SA | A | NS | D | SD |
| 9. I feel alone and without friends.  | SA | A | NS | D | SD |
| 10. When I go to a party, I usually expect not to enjoy myself.   | SA | A | NS | D | SD |
| 11. I am not as interested in people as I used to be.   | SA | A | NS | D | SD |
| 12. I don't enjoy things as I used to.  | SA | A | NS | D | SD |
| 13. My child rarely does things for me that make me feel good.  | SA | A | NS | D | SD |
| 14. Sometimes I feel my child doesn't like me and doesn't want to be close to me.                                     | SA | A | NS | D | SD |
| 15. My child dislikes me much less than I expected.   | SA | A | NS | D | SD |
| 16. When I do things for my child, I get the feeling that my efforts are not appreciated very much.                   | SA | A | NS | D | SD |
| 17. When playing, my child doesn't often giggle or laugh.   | SA | A | NS | D | SD |
| 18. My child doesn't seem to learn as quickly as most children.   | SA | A | NS | D | SD |
| 19. My child doesn't seem to smile as much as most children.  | SA | A | NS | D | SD |
| 20. My child is not able to do as much as I expected.   | SA | A | NS | D | SD |
| 21. It takes a long time and it's very hard for my child to get used to new things.                                   | SA | A | NS | D | SD |
- For the next statement, choose your response from the choices "1" to "5" below.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 22. I feel that I am:                           | 1 | 2 | 3 | 4 | 5 |
| 1. not very good at being a parent              |   |   |   |   |   |
| 2. a person who has some trouble being a parent |   |   |   |   |   |
| 3. an average parent                            |   |   |   |   |   |
| 4. a better than average parent                 |   |   |   |   |   |
| 5. a very good parent                           |   |   |   |   |   |
- |   |    |   |    |   |    |
|---|----|---|----|---|----|
| 23. I expected to have closer and warmer feelings for my child than I do and this bothers me. | SA | A | NS | D | SD |
| 24. Sometimes my child does things that bother me just to be mean.                            | SA | A | NS | D | SD |
| 25. My child seems to cry or fuss more often than most children.                              | SA | A | NS | D | SD |
| 26. My child generally wakes up in a bad mood.  | SA | A | NS | D | SD |
| 27. I feel that my child is very moody and easily upset.                                      | SA | A | NS | D | SD |
| 28. My child does a few things which bother me a great deal.                                  | SA | A | NS | D | SD |
| 29. My child reacts very strongly when something happens that my child doesn't like.          | SA | A | NS | D | SD |
| 30. My child gets upset easily over the smallest thing.                                       | SA | A | NS | D | SD |
| 31. My child's sleeping or eating schedule was much harder to establish than I expected.      | SA | A | NS | D | SD |
- For the next statement, choose your response from the choices "1" to "5" below.
- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 32. I have found my getting my child to do something or stop doing something is: | 1 | 2 | 3 | 4 | 5 |
| 1. much harder than I expected   |   |   |   |   |   |
| 2. somewhat harder than I expected   |   |   |   |   |   |
| 3. about as hard as I expected   |   |   |   |   |   |
| 4. somewhat easier than I expected   |   |   |   |   |   |
| 5. much easier than I expected   |   |   |   |   |   |

For the next statement, choose your response from the choices "10+" to "1-3."

- |   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| 33. Think carefully and count the number of things which your child does that bother you.<br>For example: Awakes, refuses to sleep, overactive, cries, disrupts, fights, whines, etc. | 10+ | 8-9 | 6-7 | 4-5 | 1-3 |
| 34. There are some things my child does that really bother me a lot.  | SA  | A   | MS  | D   | SD  |
| 35. My child turned out to be more of a problem than I had expected.  | SA  | A   | MS  | D   | SD  |
| 36. My child makes more demands on me than most children.   | SA  | A   | MS  | D   | SD  |

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## REFERENCES

- Abidin, R.R. (1995). *Parenting Stress Index Professional Manual* (3<sup>rd</sup> ed.). Lutz, Florida: Psychological Assessment Resources, Inc.
- Abidin, R.R., Jenkins, C.L., McGaughey, M.C. (1992). The relationship of early family variables to children's subsequent behavioral adjustment. *Journal of Clinical Child Psychology, 21*, 60-69.
- Achenbach, T.M., & Rescorla, L.A. (2001). *Manual for the ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.
- Adler, A. (1964). *Problems of neurosis: A book of case histories*. P. Mairet (Ed.) New York: Harper & Row.
- Albano, A.M., & Kendall, P.C. (2002). Cognitive behavioural therapy for children and adolescents with anxiety disorders: Clinical research advances. *International Review of Psychiatry, 14*, 129-134.
- Amato, P.R., & Keith, B. (1991). Parental divorce and the well-being of children: A meta-analysis. *Psychological Bulletin, 110*, 26-46.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental Disorders* (4<sup>th</sup> ed.). Washington, DC: Author.
- Anthony, L.G., Anthony, B.J., Glanville, D.N., Naiman, D.Q., Waander, C., & Shaffer, S. The relationship between parenting stress, parenting behaviour, and preschoolers' social competence and behaviour problems in the classroom. *Infant and Child Development, 14*, 133-154.
- Antshel, K.M., & Joseph, G.R. (2006). Maternal stress in nonverbal learning disorder: A comparison with reading disorder. *Journal of Learning Disabilities, 39*, 194-205.
- Bandura, A. (1969). *Principles of Behavior Modification*. New York: Holt, Rinehart, and Winston, Inc.
- Barrett, P.M., Dadds, M.R., & Rapee, R.M. (1996). Family treatment of childhood anxiety: A controlled trial. *Journal of Consulting and Clinical Psychology, 64*, 333-342.
- Barrios, B.A., & O'Dell, S.L. (1998). Fears and anxieties. In E.J. Mash & R.A. Barkley, (Eds.), *Treatment of childhood disorders* (2<sup>nd</sup> ed., pp.249-337). New York: Guilford Press.

- Beavers, R., & Hampton, R.B. (2000). The Beavers systems model of family functioning. *Journal of Family Therapy*, 22, 128-143.
- Beidel, D.C., Neal, A.M., & Lederer, A.S. (1991). The feasibility and validity of a daily diary for the assessment of anxiety in children. *Behavior Therapy*, 22, 505-517.
- Bernstein, G.A., Borchardt, C.M., & Perwien, A.R. (1996). Anxiety disorders in children and adolescents: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35, 1110-1119.
- Biederman, J., Rosenbaum, J.F., Bolduc-Murphy, E.A., Faraone, S.V., Chaloff, J., Hirshfeld, D.R., & Kagan, J. (1993). A 3-year follow-up of children with and without behavioral inhibition. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32, 814-821.
- Bjorklund, D.F. (2005). *Children's thinking: Cognitive development and individual differences* (4<sup>th</sup> ed.). Belmont, CA: Wadsworth.
- Blader, J.C. (2006). Which family factors predict children's externalizing behaviors following discharge from psychiatric inpatient treatment? *Journal of Child Psychology and Psychiatry*, 47, 1133-1142.
- Breton, J.J., Bergeron, L., Valla, J.P., Berthiaume, C., Gaudet, N., Lambert, J., et al. (1999). Quebec Child Mental Health Survey: Prevalence of DSM-III-R mental health disorders. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 40, 375-384.
- Cartwright-Hatton, S., McNicol, K., & Doubleday, E. (2006). Anxiety in a neglected population: Prevalence of anxiety disorders in pre-adolescent children. *Clinical Psychology Review*, 26, 817-833.
- Cartwright-Hatton, S., Roberts, C., Chitsabesan, P., Fothergill, C., & Harrington, R. (2004). Systematic review of the efficacy of cognitive behaviour therapies for childhood and adolescent anxiety disorders. *British Journal of Clinical Psychology*, 43, 421-436.
- Chase-Lansdale, P.L., Cherlin, A.J., & Kiernan, K.E. (1995). The long-term effects of parental divorce on the mental health of young adults: A developmental perspective. *Child Development*, 66, 1614-1634.
- Coie, J.D., Watt, N.F., West, S.G., Hawkins, J.D., Asarnow, J.R., Markman, H.J., Ramey, S.L., Shure, M.B., & Long, B. (1993). The science of prevention. *American Psychologist*, 48, 1013-1022.

- Conger, R.D., Wallace, L.E., Sun, Y., McLoyd, V.C., & Brody, G.H. (2002). Economic pressure in African American Families: A replication of the family stress model. *Developmental Psychology, 38*, 179-193.
- Crnic, K.A., Gaze, C., & Hoffman, C. (2005). Cumulative parenting stress across the preschool period: Relations to maternal parenting and child behaviour at age 5. *Infant and Child Development, 14*, 117-132.
- Crnic, K.A., & Greenberg, M.T. (1990). Minor parenting stresses with young children. *Child Development, 61*, 1628-1637.
- Cutrona, C.E. (1989). Ratings of social support by adolescents and adult informants: Degree of correspondence and prediction of depressive symptoms. *Journal of Personality and Social Psychology, 57*, 723-730.
- Dadds, M.R., & Barrett, P.M. (2001). Practitioner review: Psychological management of anxiety disorders in childhood. *Journal of Child Psychology and Psychiatry, 42*, 999-1011.
- Davies, P.T. & Cummings, E.M. (1994). Marital conflict and child adjustment: An emotional insecurity hypothesis. *Psychological Bulletin, 116*, 387-411.
- Dong, Q., Wang, Y., & Ollendick, T.H. (2002). Consequences of divorce on the adjustment of children in China. *Journal of Clinical Child and Adolescent Psychology, 31*, 101-110.
- Donovan, C.L. & Spence, S.H. (2000). Prevention of childhood anxiety disorders. *Clinical Psychology Review, 20*, 509-531.
- Dubow, E.F., Schmidt, D., McBride, J., Edwards, S., & Merk, F.L. Teaching children to cope with stressful experiences: Initial implementation and evaluation of a primary prevention program. *Journal of Clinical Child Psychology, 22*, 428-440.
- Essau, C.A., Sakano, Y., Ishikawa, S., & Sasagawa, S. (2004). Anxiety symptoms in Japanese and in German children. *Behaviour Research and Therapy, 42*, 601-612.
- Francis, G., Last, C.G., & Strauss, C.C. (1987). Expression of separation anxiety disorder: The roles of age and gender. *Child Psychiatry and Human Development, 18*, 82-89.
- Freud, S. (1909). Analysis of a phobia in a five-year-old boy. In *Collected Papers, Vol. III*. London: Hogarth Press, 1957.

- Gillham, J.E., Reivich, K.J., Freres, D.R., Lascher, M., Litzinger, S., Shatte, A., et al. (2006). School-based prevention of depression and anxiety symptoms in early adolescence: A pilot of a parent intervention component. *School Psychology Quarterly, 21*, 323-348.
- Ginsburg, G.S., & Silverman, W.K. (1996). Phobic and anxiety disorders in Hispanic and Caucasian youth. *Journal of Anxiety Disorders, 10*, 517-528.
- Ginsburg, G.S., & Silverman, W.K. (2000). Gender role orientation and fearfulness in children with anxiety disorders. *Journal of Anxiety Disorders, 14*, 57-67.
- Ginsburg, G.S., Silverman, W.K., & Kurtines, W.K. Family involvement in treating children with phobic and anxiety disorders: A look ahead. *Clinical Psychology Review, 15*, 457-473.
- Grover, R.L., Ginsburg, G.S., & Ialongo, N. (2005). Childhood predictors of anxiety symptoms: A longitudinal study. *Child Psychiatry and Human Development, 36*, 133-151.
- Gullone, E. (2000). The development of normal fear: A century of research. *Clinical Psychology Review, 20*, 429-451.
- Gullone, E., & King, N. J. (1993). The fears of youth in the 1990s: Contemporary normative data. *The Journal of Genetic Psychology, 154*, 137-153.
- Hall, L.A., Williams, C.A., & Greenberg, R.S. (1985). Supports, stressors, and depressive symptoms in low-income mothers of young children. *American Journal of Public Health, 75*, 518-522.
- Harrison, K.A., Richman, G.S., & Vittimberga, G.L. (2000). Parental stress in grandparents versus parents raising children with behavior problems. *Journal of Family Issues, 21*, 262-270.
- Hetherington, E.M., Bridges, M., & Insabella, G.M. (1998). What matters? What does not? Five perspectives on the association between marital transitions and children's adjustment. *American Psychologist, 53*, 167-184.
- Hetherington, E.M. & Stanley-Hagan, M. (1999). The adjustment of children with divorced parents: A risk and resiliency perspective. *Journal of Child Psychology and Psychiatry, 40*, 129-140.
- Jarvis, P.A., & Creasey, G.L. (1991). Parental stress, coping, and attachment, in families with an 18-month-old infant. *Infant Behavior and Development, 14*, 383-395.

- Kagan, J. (1997). Temperament and the reactions to unfamiliarity. *Child Development*, 68, 139-143.
- Kendall, P.C. (1994). Treating anxiety disorders in children: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 62, 100-110.
- Keller, M.B., Lavori, P., Wunder, J., Beardslee, W.R., Schwartz, C.E., & Roth, J. (1992). Chronic course of anxiety disorders in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31, 595-599.
- Kwok, O., Haine, R.A., Sandler, I.N., Ayers, T.S., Wolchik, S.A., & Tein, J. (2005). Positive parenting as a mediator of the relations between parental psychological distress and mental health problems of parentally bereaved children. *Journal of Clinical Child and Adolescent Psychology*, 34, 260-271.
- Last, C.G., & Perrin, S. (1993). Anxiety disorders in African-American and white children. *Journal of Abnormal Child Psychology*, 21, 153-164.
- Last, C.G., Strauss, C.C., & Francis, G. (1987). Comorbidity among childhood anxiety disorders. *Journal of Nervous and Mental Disease*, 175, 726-730.
- Marks, I.M. (1969). *Fears and phobias*. New York: Academic Press.
- Mash, E.J., & Johnston, C. (1983). Parental perceptions of child behavior problems, parenting self-esteem, and mothers' reported stress on younger and older hyperactive and normal children. *Journal of Consulting and Clinical Psychology*, 51, 86-99.
- McLoone, J., Hudson, J.L., & Rapee, R.M. (2006). Treating anxiety disorders in a school setting. *Education and Treatment of Children*, 29, 219-242.
- Menzies, R.G., & Clarke, J.C. (1993). The etiology of childhood water phobia. *Behavior Research and Therapy*, 31, 499-501.
- Miller, L.C., Barrett, C.L., & Hampe, E. (1974). Phobias of childhood in a prescientific era. In A Davids (Ed.), *Child personality and psychopathology: Current topics* (pp. 89-134). New York: Wiley.
- Morris, R.J., & Kratochwill, T.R. (1983). *Treating children's fears and phobias: A behavioral approach*. New York: Pergamon Press.
- Morris, R.J., & Kratochwill, T.R. (1998). Childhood fears and phobias. In R.J. Morris & T.R. Kratochwill, (Eds.), *The practice of child therapy* (3<sup>rd</sup> ed., pp. 91-131). Needham Heights, MA: Allyn & Bacon.

- Morris, R.J., Kratochwill, T.R., Schoenfield, G., & Auster, E.R. Childhood fears, phobias, and related anxieties. (in press). In R.J. Morris & T.R. Kratochwill, (Eds.), *The practice of child therapy* (4th ed., pp. 93-141). Needham Heights, MA: Allyn & Bacon.
- Mowrer, O.H. (1939). A stimulus-response analysis of anxiety and its role as a reinforcing agent. *Psychological Review*, *46*, 553-565.
- Muris, P., Merckelbach, H., de Jong, P.J., & Ollendick, T.H. (2002). The etiology of specific fears and phobias in children: A critique of the non-associative account. *Behaviour Research and Therapy*, *40*, 185-195.
- Öhman, A., Erixon, G., & Löfberg, I. (1975). Phobias and preparedness: Phobic versus neutral pictures as conditioned stimuli for human autonomic responses. *Journal of Abnormal Psychology*, *84*, 41-45.
- Ollendick, T.H., & Hirshfeld-Becker, D.R. (2002). The developmental psychopathology of social anxiety disorder. *Biological Psychiatry*, *51*, 44-58.
- Ollendick, T.H., & King, N.J. (1998). Empirically supported treatments for children with phobic and anxiety disorders: Current status. *Journal of Clinical Child Psychology*, *27*, 156-167.
- Ollendick, T.H., King, N.J., & Muris, P. (2002). Fears and phobias in children: Phenomenology, epidemiology, and etiology. *Child and Adolescent Mental Health*, *7*, 98-106.
- Ollendick, T.H., Yang, B., Dong, Q., Xia, Y., & Lin, L. (1995). Perceptions of fear in other children and adolescents: The role of gender and friendship status. *Journal of Abnormal Child Psychology*, *23*, 439-452.
- Ollendick, T.H., Yang, B., King, N.J., Dong, Q., & Akande, A. (1996). Fears in American, Australian, Chinese, and Nigerian children and adolescents: A cross-cultural study. *Journal of Child Psychology and Psychiatry*, *37*, 213-220.
- Perrin, S., & Last, C. (1992). Do childhood anxiety measures measure anxiety? *Journal of Abnormal Child Psychology*, *20*, 567-578.
- Pianta, R.C. & Egeland, B. (1990). Life stress and parenting outcomes in a disadvantaged sample: Results of the mother-child interaction project. *Journal of Clinical Child Psychology*, *19*, 329-336.
- Pianta, R.C., Egeland, B., & Sroufe, L.A. (1991). Maternal stress and children's development: Prediction of school outcomes and identification of protective

- factors. In J. Rolf, A. Masten, D. Cicchetti, K.H. Nuechterlein, & S. Weinraub (Eds.), *Risk and protective factors in the development of psychopathology* (pp.215-235). New York: Cambridge University Press.
- Pipp-Siegel, Sedey, A.L. & Yoshinaga-Itano. (2002). Predictors of parental stress in mothers of young children with hearing loss. *Journal of Deaf Studies and Deaf Education, 7*, 1-17.
- Quamma, J.P., & Greenberg, M.T. (1994). Children's experience of life stress: The role of family social support and social problem-solving skills as protective factors. *Journal of Clinical Child Psychology, 23*, 295-305.
- Rachman, S. (1977). The conditioning theory of fear acquisition: A critical examination. *Behavior Research and Therapy, 15*, 375-387.
- Rachman, S. (1978). *Fear and Courage*. San Francisco: W.H. Freeman and Company.
- Rapee, R.M. (1997). Potential role of childrearing practices in the development of anxiety and depression. *Clinical Psychology Review, 17*, 47-67.
- Rapee, R.M. (2002). The development and modification of temperamental risk for anxiety disorders: Prevention of a lifetime of anxiety? *Biological Psychiatry, 52*, 947-957.
- Reitman, D., Currier, R.O., & Stickle, T.R. (2002). A critical evaluation of the Parenting Stress Index-Short Form (PSI-SF) in a Head Start population. *Journal of Clinical Child and Adolescent Psychology, 31*, 384-392.
- Ricciuti, H.N. Single parenthood, achievement, and problem behavior in White, Black, and Hispanic children. *Journal of Educational Research, 97*, 196-206.
- Rothbaum, F., & Weisz, J.R. (1994). Parental caregiving and child externalizing behavior in nonclinical samples: A meta-analysis. *Psychological Bulletin, 116*, 55-74.
- Scaramella, L.V., Conger, R.D., & Simons, R.L. (1999). Parental protective influences and gender-specific increases in adolescent internalizing and externalizing problems. *Journal of Research on Adolescence, 9*, 111-141.
- Shapiro, E.S., & Skinner, C.H. (1993). Childhood behavioral assessment and diagnosis. In T.R. Kratochwill & R.J. Morris (Eds.), *Handbook of psychotherapy with children and adolescents* (pp. 75-107). Massachusetts: Allyn and Bacon.

- Silverman, W.K., Kurtines, W.M., Ginsburg, G.S., Weems, C.F., Rabian, B., & Serafini, L.T. (1999). Contingency management, self-control, and education support in the treatment of childhood phobic disorders: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 67*, 675-687.
- Silverman, W.K., & Ollendick, T.H. (2005). Evidence-based assessment of anxiety and its disorders in children and adolescents. *Journal of Clinical Child and Adolescent Psychology, 34*, 380-411.
- Siqueland, L., Kendall, P.C., & Steinberg, L. (1996). Anxiety in children: Perceived family environments and observed family interaction. *Journal of Clinical Child Psychology, 25*, 225-237.
- Smith, T.B., Oliver, M.N.I., & Innocenti, M.S. (2001). Parenting stress in families of children with disabilities. *American Journal of Orthopsychiatry, 71*, 257-261.
- Treacy, L., Tripp, G., & Baird, A. (2005). Parent stress management training for Attention-Deficit/Hyperactivity Disorder. *Behavior Therapy, 36*, 223-233.
- Turner, S.M., Beidel, D.C., Roberson-Nay, R., & Tervo, K. (2003). Parenting behaviors in parents with anxiety disorders. *Behaviour Research and Therapy, 41*, 541-554.
- Vasey, M.W., & Ollendick, T.H. (2000). Anxiety. In A.J. Sameroff, M. Lewis, & S.M. Miller (Eds.), *Handbook of developmental psychopathology* (2<sup>nd</sup> ed, pp. 511-529). New York: Kluwer Academic/Plenum Publishers.
- Wallerstein, J.S., Lewis, J.M., & Blakeslee, S. (2000). The unexpected legacy of divorce: A 25 year landmark study. New York: Hyperion.
- Warren, S.L., Huston, L., Egeland, B., & Sroufe, L.A. (1997). Child and adolescent anxiety disorders and early attachment. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 637-644.
- Watson, J.B., & Rayner, R. (1920). Conditioned emotional reactions. *Journal of Experimental Psychology, 3*, 1-14.
- Whaley, S.E., Pinto, A., & Sigman, M. (1999). Characterizing interactions between anxious mothers and their children. *Journal of Consulting and Clinical Psychology, 67*, 826-836.
- White, K.S., Bruce, S.E., Farrell, A.D., & Kliwer, W. (1998). Impact of exposure to community violence on anxiety: A longitudinal study of family social support as a protective factor for urban children. *Journal of Child and Family Studies, 7*, 187-203.

- Wolchik, S.A., Tein, J., Sandler, I.N., & Doyle, K.W. (2002). Fear of abandonment as a mediator of the relations between divorce stressors and mother-child relationship quality and children's adjustment problems. *Journal of Abnormal Child Psychology, 30*, 401-418.
- Wolpe, J. (1969). *The practice of behavior therapy*. New York: Pergamon Press.
- Wolpe, J., & Rachman, S. (1960). Psychoanalytic "evidence": A critique based on Freud's case of little Hans. *Journal of Nervous and Mental Disease, 131*, 135-148.
- Wyman, P.A., Cowen, E.L., Hightower, A.D., & Pedro-Carroll, J.L. (1985). Perceived competence, self-esteem, and anxiety in latency-aged children of divorce. *Journal of Clinical Child Psychology, 14*, 20-26.