# SYMPTOMS OF ANXIETY AND DEPRESSION IN CHILDREN AND ADOLESCENTS: THE IMPACT OF RESIDENTIAL FIRE

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This study examined symptoms of anxiety and depression in 99 children and adolescents following a residential fire. Children and their parents completed self-administered questionnaires regarding the fire and their current functioning. The most commonly experienced symptoms were worry/ oversensitivity, anhedonia, negative mood, and fear of failure and criticism. There were no significant ethnic differences across symptomology. Exposure was directly related to parental report of child internalizing behaviors, whereas loss was unrelated to symptoms. Level of support (general and fire related) and active coping were directly associated with positive child adjustment. The impact of negative life events was related to poorer functioning. Overall, a child's environment and coping strategy appear to be the best predictors of adjustment following a residential fire.

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# CHAPTER 1

## INTRODUCTION

The potential impact of traumatic or negative life events on child functioning has become an avenue for research and understanding in recent years. Specifically, a review of the literature indicates that there is a relationship between negative life events and symptoms of anxiety and depression in children. In children, the experience of stress and trauma can lead to a wide range of unfavorable behavioral and emotional consequences. A review of the controlled studies regarding disasters has indicated that there is approximately a 17% increase in the incidence of psychopathology across adult and child samples following exposure to a disaster (Rubonis & Bickman, 1991). Negative life events such as fire, hurricanes, lightening, motor-vehicle accidents, earthquakes, and war have all been found to be related to anxious and depressive symptomology, particularly Post Traumatic Stress Disorder (PTSD). Previous literature indicates that children who have experienced a negative life event have been found to report fears, avoidant behaviors, re-experiencing, PTSD symptoms, sleep difficulties, irritability, depression, and anxiety (Dollinger, O'Donnell, & Staley, 1984; Gordan & Maida, 1989; Jones, Frary, Cunningham, & Weddle, 1993; Jones & Ribbe, 1991; Jones, Ribbe, & Cunningham, 1991; Keppel-Benson, Ollendick, & Benson, 2002; Krim, 1983; Vernberg, LaGreca, Silverman, & Prinstein, 1996). However, most of these studies have focused on specific diagnosis of anxiety or depressive disorders in children impacted by a negative event, rather than the symptoms themselves. For example, many symptoms of anxiety that have been reported in the research are reported in respect to PTSD diagnosis. In particular, very little research has examined these symptoms following a residential fire.

The goal of this study was to examine the relationship between a negative life event, residential fire, and symptoms of anxiety and depression in children. It was hypothesized that for all children the most commonly experienced anxious, depressive, and behavioral symptoms after the fire will be worry/ oversensitivity (nervousness, irritability) and physiological complaints (hyper-vigilance, sleep disturbances), negative mood (sadness), and internalizing behaviors (withdrawal, avoidance), respectively.

In addition, the relationship between loss and symptoms of anxiety and depression in children who experienced a residential fire has been minimally researched. The present study defined loss by the emotional, physical, and social impact the fire had on the child. Previous literature has indicated that disasters classified as uncontrollable, unpredictable, involving high threat, fear, and impact have been found to negatively affect levels of received support, individual psychological distress, and community resources (Baum, 1987; Gibbs, 1989). Therefore, it was predicted that children who experienced greater loss following the fire would endorse a greater number of anxious and depressive symptoms. Similarly, it was hypothesized that exposure to the fire will also be directly related to symptomology following the fire. In addition, it was predicted that greater exposure and greater loss would also be related to the presence of internalizing behaviors and fears in the children.

Based on previous research, it was also hypothesized that these relationships may be moderated by the child's level of social support, coping abilities, and the impact of life events. It may be that higher social support, effective coping strategies, and the impact of positive life events or lack of negative life events will be directly related to positive psychological adjustment following the fire. The potential roles that gender, ethnicity, SES, family structure, and age may play as additional moderators to these relationships was also evaluated.

Throughout the literature there appears to be a shortage of studies examining psychological constructs in minority populations. In particular, the prevalence and incidence of anxiety and depression across different ethnic backgrounds has not been sufficiently researched (Safren, Gonzalez, Horner, Leung, Heimberg, & Juster, 2000). Similarly, little research exists examining the similarities and differences between African American children and European American children in terms of how they respond to a negative life event. Of the studies that do address these issues, the sample sizes for African American children are small, usually less than 20% of the entire sample. Thus, no accurate comparisons can be made between the reactions of African American and European American children. In addition, few conclusions can be drawn regarding psychological functioning of African American children.

In the present study there is almost an equal distribution of African American and European American children. Thus, this study will provide insight as to the similarities and differences between these two ethnic groups in regard to how children respond to a negative life event, namely residential fire. Of the available literature, some studies indicate that in general African American children report higher levels of fear and worry when compared to other ethnic groups (Lapouse & Monk, 1959; Silverman, La Greca, & Wasserstein, 1995). When these constructs were investigated in the context on negative life events, some studies found higher distress levels in European American children (Jones et al., 1993) whereas others found African Americans to have higher levels of distress (Lonigan, Shannon, Finch, Daugherty, & Taylor, 1991; Shannon, Lonigan, Finch, & Taylor, 1994). Based on these findings, it is hypothesized that African American and European American children will differ in terms of levels of anxiety and depression following a residential fire. It is predicted that African American children will

endorse more anxious and depressive symptoms, fears, and internalizing behaviors when compared to European American children.

However, investigation of ethnic differences in anxiety and depression is important for future research. Based on the lack of previous research regarding ethnicity and these constructs, the inconsistencies across existing findings, and the small sample sizes of ethnic groups in previous studies, clarity for ethnicity research regarding these constructs has not been established. Therefore, results from the present study should be interpreted with caution Additional research needs to be conducted in this area in order to gain an understanding as to the role of ethnicity in anxiety and depression.

Overall, this study will contribute to the general understanding of how children respond to a negative life event, such as residential fire. If researchers can identify specific symptoms in children that are prevalent after a fire, effective interventions can be developed to decrease the frequency, intensity, and duration of these symptoms and facilitate coping. Additionally, this information will help parents and teachers to identify and be sensitive to certain child behaviors following a fire and enable them to provide the child with the support and guidance they need so that these symptoms are not exacerbated. This work will also provide insight as to possible environmental and social risk factors for negative adjustment following a traumatic event.

## Anxiety in Children

The most prevalent and common form of psychiatric disorders in children and adolescents are anxiety disorders (Bernstein & Borchardt, 1991). Although, anxiety development is part of the normative process in childhood, for some children this process becomes pathological. Approximately 5-13% of children, ages 8-18 years, meet diagnosis for an anxiety disorder (Costello & Angold, 1995). The prevalence of anxiety varies as a function of age. In

children, anxiety can be characterized by many of the following: persistent worry, over-sensitivity in social situations, avoidance, withdrawal, negative cognitions, emotional dysregulation, and low thresholds for threat (Vasey & Ollendick, 2000). In general, anxiety disorders have an onset in childhood or adolescence and tend to be chronic through adulthood (Barlow, 1988).

Barlow defined anxiety as involving a " state of 'helplessness' because of perceived inability to predict, control, or obtain desired results in certain upcoming situations or contexts" (Barlow, 1991, p.60). He believed that anxiety was both affective and cognitive in nature. It is characterized by a sense of lacking control, self-attention focus, and high negative affect. In fact, issues of control appear to be a central theme to the emergence of anxiety (Barlow, 1988; Barlow, Chorpita, & Turovsky, 1996).

Anxiety has also been described as a dysphoric, aversive feeling, similar to fear (Reed, Carter, & Miller, 1992). However, there appears to be no true distinction between anxiety and fear. There is considerable overlap between the two in terms of physiological reactions and a feeling of nervousness (Barrios & Hartmann, 1988; Nietzel, Bernstein, & Russell, 1988). Much research with children has used the terms "anxiety" and "fear" interchangeably (Laurent, Hadler, & Stark, 1994). However, some have argued that the distinction between anxiety and fear is grounded in orientation, present versus future. For example, fear appears to be an "alarm response" to a present threat, whereas anxiety involves a perceived uncontrollability over future events and occurs in both the absence and presence of a threat (Barlow, 1988). Overall, severe or clinical anxiety is differentiated from normal anxiety in terms of symptoms and the degree to which the anxiety interferes with an individuals everyday functioning (Beidel & Turner, 1984; Gullone, King, & Ollendick 2001).

According to the Diagnostic and Statistical Manual of Mental Disorder fourth edition, text revision (DSM-IV-TR, 2000) dysfunctional or excessive worry is also characteristic of anxiety disorders. Worry involves persistent ideas or thoughts about possible negative events or future outcomes. A study conducted by Silverman et al. (1995), examined the relationship between anxiety and worry in a community sample of elementary school children. The sample included 273 children (132 females and 141 males) aged 7 to 12 years. The ethnic composition of this sample was as follows: 54% European American, 33% African American, 12% Hispanic, and 1% Asian. Results indicated that children reported worrying most about school, personal harm, and health. These children also had a tendency to worry about improbable or uncommon events. Results also indicated that young females demonstrated more worry in areas pertaining to social and academic abilities than males did. African American children were also found to report more intense worries when compared to children of other ethnic origins. Additionally, ethnic differences were found for specific type of worries. African American children were more likely to worry about things pertaining to family, war, and personal harm than both Hispanic and European American children. However, Hispanic and African American children worried more about health issues than European American children did. Overall, in a school setting, a relationship between anxiety and worry was found. Additionally, the descriptors of worry, intensity and frequency of thoughts or events, served as discriminators between those children classified as having either low or high levels of anxiety. Therefore, anxiety and worry may exist together or independently (Silverman, et al.).

Overall, anxiety may actually be characterized by inappropriate regulation of emotions. This is because unreasonable fear and excessive worry, which are characteristic of anxiety disorders, are patterns of emotional dysregulation. Southam-Grow and Kendall (2000) conducted

a study to examine the emotional understanding of children being treated for anxiety. The children, 8 females and 9 males between the ages of 7.5 and 14 years, were patients at the Child and Adolescent Anxiety Disorders Clinic at Temple University, and all met criteria for an Axis I anxiety disorder as assessed by the Anxiety Disorders Interview Scale for Children (ADIS-IV-C/P). Control participants, 8 females and 13 males between the ages of 8 and 15.3 years, were recruited from a local school. Results indicated that the anxious children were less developed in terms of understanding changing and hiding of emotions than children in the control group. Anxious children may have a poor understanding of emotional regulation. This finding is consistent with adult research, which suggests that high trait anxiety and the existence of an anxiety disorder is associated with negative affect, negative attribution style, and low mood-regulation expectancy (Catanzaro, 1993; Jolly, Dyck, Kramer, & Wherry, 1994). However, both groups were equally developed in terms of understanding multiple emotions and emotional cues. This finding is inconsistent with previous research and may be explained by the characteristics of this specific study, such as small sample size, characteristics of the sample, and limited age range (Southam-Grow et al. & Kendall).

Fear seems to be characteristic of anxiety in children. In general, fears in childhood are common and part of the normal developmental process. However, for some children these fears become excessive and may lead to the development of anxiety symptoms or disorders. Ollendick (1983a) examined the relative strength and incidence of fears in a community sample of 126 children (66 females and 60 males) aged 7 to 18 years. Results indicated that females were more likely to report higher incidence and strength of fears than males. Females reported an average of approximately 16 fears, whereas males reported an average of approximately 8 fears. Younger

children were also found to report more fears than older children. However, fears pertaining to natural events, social issues, and injury were common across all ages (Ollendick).

Previous literature has indicated that the prevalence and types of fears and worries differ across ethnic backgrounds. For example, Lapouse and Monk (1959) examined worries and fears in 482 children, aged 6-12 years. Of the sample, 85% were European American and 15% were African American. Results indicated that African American mothers reported higher levels of worries and fears in their children when compared to the reports of mothers of European American children. In particular, African American mothers reported that their children had more fears pertaining to weather, animals, people, germs, and other people's possessions (Lapouse & Monk). However, Neal, Lilly, and Zakis (1993) found that African American children and European American children appear to report similar fears. In a sample of 124 European American children and 109 African American children, aged 6 to 12 years, of lower socioeconomic status, both groups were found to endorse 8 of the same common fears out of 11. Intensity ratings for fears were also very similar across these two groups (Neal, et al.; Safren et al., 2000).

The onset of Post Traumatic Stress Disorder (PTSD), a type of anxiety disorder, is a common response after experiencing a traumatic life event. PTSD usually occurs after direct exposure to an event in which the life or integrity of oneself or someone else is threatened, or after learning of another person's experience regarding a similar threat. PTSD can occur at any age and lifetime prevalence rates for adults, living in the United States, is approximately 8%. The primary symptoms of PTSD are persistent and include avoidance of things associated with the event, lack of general receptiveness, increased arousal, and re-experiencing the trauma. These symptoms usually appear within 3 months following the trauma and vary in severity and

duration. This disorder causes significant impairment or distress in the individuals social, emotional, and cognitive functioning (DSM-IV-TR, 2000).

A three-year longitudinal study was conducted by Gullone et al. (2001) to examine the stability of anxiety over time in children and adolescents. The children and adolescents were recruited from a larger study investigating normative fear (Gullone & King, 1992, 1993). The sample consisted of 68 children (38 females and 30 males), between the ages of 10 and 18 years, who lived in Victoria, Australia. The Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985), subtitled "What I Think and Feel," is a self-report measure that was used to assess anxiety. The Fear Survey Schedule for Children (FSSC-II; Gullone & King, 1992), also a self-report measure, was used to assess fear. Results indicated that self-reported anxiety decreases with age. Younger children and females were found to report higher levels of anxiety than older children and males. Physiological signs of anxiety were also found to decrease over time in younger children, but not older children. Overall, levels of anxiety at the beginning of the study were predictive of anxiety levels after three years (Albano, Chorpita, & Barlow, 1996; Gullone et al., 2001).

## Child Depression

Depression as a syndrome is described as having a persistent state of dysphoria or sadness and is often accompanied by internalizing symptoms such as social withdrawal, self-blame for problems, low self-esteem, loss of pleasure in activities, and having negative perceptions of the self and others. Feelings of depression are often accompanied by feelings of helplessness, which Seligman describes as the perception of having little to no control over the environment (Seligman & Peterson, 1986). Although at one time thought to only affect adults, it

is now widely acknowledged that children experience depressive symptoms as well (Gershon, Hamovit, Guroff, & Nurnbergeer, 1987; Klerman et al., 1985).

The introduction of depressive disorders in childhood and adolescence into the Diagnostic and Statistical Manual of Mental Disorders third edition (DSM –III, 1980) marked the beginnings of a new understanding of depression as a disorder. Prior to the DSM-III, these disorders were not considered to occur in childhood and adolescence (Allen-Meares, 1987). Current prevalence rates of depressive symptomology in youth vary by the age group being studied and the diagnostic criteria being used. Collapsing across child and adolescent samples, rates of 6% to 8% are commonly reported for major depression (Offord et al., 1987; Bird et al., 1988) and rates are as high as 20% when sub-clinical levels of depression are considered (Cooper & Goodyer, 1993). When self-report measures rather than diagnostic criteria are used, 10% to 30% of children and adolescents have scores higher than the "high" cut-off scores (Albert & Beck, 1975; Garrison, Jackson, Marsteller, McKeown & Addy, 1990; Reinherz et al., 1989; Roberts, Lewinsohn, & Seeley, 1991). Additionally, prior to adolescence, there are no gender differences in terms of prevalence rates for depression. However, in adolescence and adulthood depression is twice as common in females when compared to their male counterparts (DSM-IV-TR, 2000).

Rates of depression have also been found to vary across different ethnic groups. Results of Epidemiologic Catchment Area Study indicated that lifetime prevalence rates for depression in African Americans, Hispanics, and European Americans were 3.1%, 4.4%, and 5.1% respectively. The National Comorbidity Survey also found that African Americans had lower current and lifetime prevalence rates that European Americans. However, debate exists as to whether the current measures to assess depression are appropriate and reliable across different

ethnic groups. Therefore, more research is needed to investigate prevalence rates of depression in these groups (Kessler, et al., 1994; Turner & Hersen, 1997; Weissman, Bruce, Leaf, Florio, & Holzer, 1991).

In general, there are three broad categories of depressive symptoms. First, cognitive symptoms include low self-esteem, guilt, difficulty in decision-making and maintaining concentration, and negative thoughts. The second category of symptoms are mood symptoms, these include feeling worried, irritable, sad, empty, or helpless. Lastly, vegetative symptoms include insomnia, lack of appetite, agitation, social withdrawal, and fatigue (Turner & Hersen, 1997). However, some evidence suggests that depressive symptomology varies with age. For example, irritability, somatic symptoms, and social withdrawal are more common in childhood. In contrast, delusions, hypersomnia, and psychomotor retardation are more common in adulthood and adolescence. In addition, culture plays a role in the diagnosis, presentation, and symptoms of depression. This is because the classification and experience of depression may be culturally defined (DSM-IV-TR, 2000).

Following the lead of research on depression in adulthood, behavioral and cognitive models of depression have dominated the study of depression in children. Consequently, the behavioral and cognitive characteristics associated with depressive symptoms in childhood are well documented. Beck, Rush, Shaw, and Emery (1979) found that depressed individuals have more negative perceptions of others, themselves, and the world, when compared to non-depressed individuals. Together these perceptions can cause feelings of hopelessness or helplessness and ultimately depression (Allen-Meares, 1987). Additionally, cognitive factors such as weak locus of control, low self-esteem, and illogical beliefs were all found to be predictive of depression (Lewinsohn, Hoberman, & Rosenbaum, 1988). Each individual has his

or her own cognitive styles and vulnerabilities, which are made up of personality structures with an organized set of beliefs. If these vulnerabilities interact with negative life experiences, the individual's risk for depression can increase (Turner & Hersen, 1997).

In adolescents, depression may develop from ineffective coping abilities when confronted with negative stress. Highland (1979) proposed a four-stage model for this theory of depression: denial, anxiety, anger, and depression. The depression stage marks the person's inability to cope with negative stress (Allen-Meares, 1987). However, an environment that is supportive and responsive to the child's needs may serve as a buffer to the child's ineffective coping strategies. By reducing the child's emotional vulnerability, the child's chances for developing depression are reduced. In contrast, an environment that is characterized as stressful, unresponsive, disorganized, and unsupportive can contribute to the development of depression. According to social learning theory, an insufficient environment, which does not provide adequate opportunity for growth and development or reinforcement of abilities may also produce, learned helplessness (Allen-Meares).

Previous research has examined the influence of negative life events and social support on the development of depression. Brown and Harris (1978) found that the presence of depression could be counterbalanced by the presence of a strong social support system. In addition, an increase in depressive symptomatology could be predicted by frequency of any negative life event in the past year and perceived social support (Wethington & Kessler, 1986). The presence of a supportive individual was also found to decrease the likelihood of developing depression following a negative life event (Costello & Angold, 1988). Thus, social support may buffer the effects of negative life events (Turner & Hersen, 1997).

Throughout the literature, there exists considerable debate over how to characterize the relationship between anxiety and depression. This confusion exists for many different reasons. For example, many definitions have been provided for both anxiety and depression, some definitions refer to symptoms or diagnostics, whereas others refer to mood states (Clark & Watson, 1991). Therefore, how the constructs relate to one another may vary by the manner in which the constructs are defined. Previous studies examining the relationship between anxiety and depression have also used different measures and populations. Thus, study comparisons are very difficult. In addition, the measures use to assess either depression or anxiety generally include items specific to anxiety or depression, but also include items that both share (Murphy, Marelich, & Hoffman, 2000).

Currently, there are three general theories to characterize the relationship between anxiety and depression. One theory suggests that the two constructs exist independently of one another. A different theory argues that the two constructs are indistinguishable and so highly correlated that they signify the presence of a single underlying factor. Yet, another theory indicates that the two constructs possess unique qualities, but also shared qualities. For all three theories, there exists some degree of support and some degree of uncertainty (Boyd, & Gullone, 1997; Murphy, et al., 2000).

Boyd and Gullone (1997) found that depression and anxiety exist independently during adolescence. However, other theorists have suggested that there is considerable overlap between the constructs of anxiety and depression. This is the basis for the tripartite model of anxiety and depression (Clark & Watson, 1991; Lerner et al., 1999; Seligman & Ollendick, 1998). According to this model, anxiety and depression both share a common constituent, negative affectivity, but also have features unique to each of them (Seligman & Ollendick). Clark and Watson (1991)

proposed that physiological arousal was indicative of anxiety, whereas low positive affect was indicative of depression. In addition, negative affectivity was theorized to be a shared factor between anxiety and depression (Joiner & Lonigan, 1999). They also suggested that the relationship between anxiety and depression may be based on common distress symptomology rather than disorder overlap. A study conducted by Lerner and colleagues (1999) found anxious and depressive statements in a sample of children to be related, but also to have significant differences. Similarly, a large sample of non-clinical adolescents also found similarities between the two constructs. However, factor analysis demonstrated that the two constructs loaded on discrete factors (Boyd & Gullone, 1997). Murphy et al. (2000) found that for children whose mothers had been diagnosed with HIV or AIDS, child depression and anxiety had both distinctive qualities and common features, conceptualized as negative affectivity (Murphy et al.).

## Family Environment

Family environment is perhaps the strongest influence on a growing child's social, emotional, and cognitive well-being. Thus, early childhood environment can play a pivotal role in the development of later anxiety or depression (Albano et al., 1996). A child's home life, as well as their interactions and relationships with their parents directly influence the way they see the world and themselves. Children develop a sense of control, stability, closeness, and individuality from these experiences. If these needs are not met sufficiently, the child may develop negative cognitions of the world and themselves. Thus, the child's likelihood of developing a form of psychopathology in order to cope with the world or negative events increases (Albano et al.; Costello, & Angold, 1995). Overall, a child's family environment can serve a protective function or contribute risk to the child's development of psychopathology (Allen-Meares, 1987).

## Anxiety

According to the Basic Behavioral Task Force of the National Advisory Mental Health Council (1996), parenting has an impact on a child's emotional development. One aspect of parenting is acceptance, nurturing, and warmth. The second aspect is consists of caregiver involvement, control, and structure. In particular, either empathy and affective management or punitive and manipulative parenting, usually involving affirmation of power, characterizes this aspect. Whichever aspects parents choose to adopt into their parental behaviors can have an impact on their child's propensity towards anxiety development (Gullone, et al., 2001). However, it is important to note that culture has an important impact on parenting. For example, the typical classifications used to assess parenting may be embedded in the dominant culture, and thus, inapplicable to other cultures (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987).

Stark, Humphrey, Crook, and Lewis (1990) conducted a study to examine how children, who had been diagnosed with an anxiety or depressive disorder, perceived their families. The sample consisted of 51 children (37 females and 14 males) aged 9.6 to 14.75 years. Of the sample, 90% was European American, 4% was African American, 2% was Hispanic, and 4% was of other ethnic origins. Results indicated that children with either a depressive or an anxiety disorder both viewed their families as enmeshed and involving more conflict. This is consistent with previous studies, which found high levels of family conflict to be related to the onset of adolescent anxiety disorders (Manassis, 2000; Rueter, Scaramella, Wallace, & Conger, 1999). Additionally, these families were also characterized as being less democratic in making decisions, restrictive in children's expression, lacking in support, and incohesive when compared to the families of children without these disorders (Siqueland, Kendall, & Steinberg, 1996).

A study conducted by Siqueland et al. (1996) yielded similar results. They examined family interactions in European American families with an anxious child and without an anxious child. Children in the clinical group were referred to the Child and Adolescent Anxiety Disorders Clinic at Temple University. This group was made up of 4 females and 13 males between the age of 9 and 12.5 years. The control group consisted of 10 females and 17 males between the age of 9 years 11 months and 12 years 10 months. Results indicated that parents of children with anxiety disorders were less likely to grant autonomy, or encourage the child's individuality in a family discussion task, when compared to the control group. Anxious children also tended to rate their parents as less accepting than control children. However, parents with anxious children and control parents did not differ on the way they rated themselves for acceptance and control. The researchers postulated two theories regarding the results. First, the child senses of a lack of tolerance for sharing of his or her feelings or views within the family. Secondly, the child has difficulty trying to comprehend the discrepancy between their view of themselves and their parents view of them. A combination of these two theories may lead to the development of anxiety disorders or anxiety maintenance (Siqueland et al.).

Dadds, Barrett, Rapee, and Ryan (1996) found that during problem-solving discussions, parents of anxious children were more likely to reinforce their child's avoidant solutions when compared to the parents of controls. The child's use of avoidant solutions after the discussion was correlated with this reinforcement from the parents. Thus, parental behaviors may contribute to the maintenance of a child's anxiety. Krohne and Hock (1991) investigated the relationship between restrictive parental interactions and child anxiety in a sample of 47 mother-child pairs (23 females and 24 males). The children in the sample ranged in age from 10 to 13 years. The interactions between the mother and child were observed during a problem-solving task. Results

indicated that childhood anxiety was related to over controlled and restrictive parenting. Mothers of high-anxious females were found to be more restrictive when compared to mothers of low-anxious females (Krohne & Hock). Additionally, results suggested that parental investment in teaching problem-solving solutions may be negatively related to anxiety development (Vasey & Ollendick, 2000).

It appears that parental and familial psychopathology are risk factors for the development of child anxiety. For example, Last, Hersen, Kazdin, Orvaschel, and Perrin (1991) examined the prevalence of anxiety disorders in family members of anxious children. The sample consisted of 94 children (48 females and 46 males) aged 5-18 years with an anxiety disorder, 58 children (9 females and 49 males) aged 5-10 years with Attention Deficit Disorder with Hyperactivity (ADHD), and 87 children (50 females and 37 males) aged 5-18 years with no history of a psychological illness. Results found a higher prevalence of anxiety in relatives of children with anxiety disorders when compared to controls and ADHD children. A study involving 59 children (24 females and 38 males) aged 7 to 12 years, was conducted to examine the relationship between child fears and parental psychopathology. The study included 16 control children and 43 children with a parent who had an anxiety disorder. Of the total sample, 54 were European American and 5 were African American. Results from the Fear Survey Schedule for Children Revised (FSSC-R; Ollendick, 1983b) indicated that children who had a parent with an anxiety disorder were found to have higher incidence of intense fears, worries, somatizations, and were more withdrawn when compared to controls (Turner, Beidel, Costello, 1987). However, it is unclear how anxiety is transmitted in the psychosocial realm. King, Hamilton, and Ollendick (1988) postulated that children might mimic the anxieties and fears they see in their parents.

Some parents reinforce these behaviors and thus perpetuate the child's cycle of avoidant and anxious behaviors (Albano, et al., 1996).

Depression

Theoretical and empirical efforts have been made to incorporate contextual factors such as the family environment into models of childhood depression (Stark, Humphrey, Laurent, Livingston, & Christopher, 1993). Specifically, child depressive symptoms have been found to be directly related to disturbances in parent-child interactions (Stark, Ostrander, Kurowski, Swearer, & Bowen, 1995). Inpatient adolescent reports (24 female anxiety neurotics and 24 female neurotic depressive) of parent child interactions suggest the presence of parental rejection (Lamont, Fischoff, & Gottlieb, 1976) and insecure parental attachments (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990). A conflictual interaction pattern involving parental oscillations between rejection and overprotection as a response to child achievement has been documented in several studies involving depressed youth (Slipp, 1984; Parker, 1979).

Children's perceptions of family relationships have been shown to be linked to symptoms of depression. In a review of the literature, Kaslow, Deering, and Racusin (1994) examined the relationship between children's perception of the family environment and their report of depression. Results of these studies indicated that depressed children perceived their families as less cohesive, less supportive, and more negative than non-depressed children. These children characterized their families as high in expressed negative emotion, and emotionally aloof, lacking emotional warmth, highly controlling, and having more conflict than control families. Problems related to effective communication and conflict resolution also tended to be more common in families with a depressed child (Barrera & Garrison-Jones, 1992; 1988; Cole & McPherson, 1993; Feldman, Rubenstein, & Rubin, 1988; Forehand, McCombe, Long, Brody, &

Fauber, 1988; Friedrich, Reams, & Jacobs,1988; Garrison, Jackson, Marstellar, McKeown, & Addy, 1990; Puig-Antich et al., 1985a, 1985b; Slavin & Rainer, 1990). Depressed children have been found to describe their parents as abusive and as using parenting styles that are inconsistent (Coyne, Downey, & Boergers, 1992).

Asarnow, Goldstein, Tompson, and Guthrie (1993) compared depressed and non-depressed children to determine the family characteristics most strongly associated with child depression. The subjects included a sample of depressed psychiatric children and results were obtained as part of a one-year follow up study. The authors found that those children who characterized their homes as hostile, critical, or having high levels of emotional expression, expressed more severe depressive symptoms. The frequency of physical and verbal aggression was found to be more prevalent during interfamilial conflict in the families with a depressed child. Conflict resolution difficulties as well as lack of positive communication in family interactions were also found to be related to child depressive symptoms (Kaslow et al., 1994).

The relationships between adolescent depressive symptoms and family adaptability, cohesion, and social support were investigated by Cumsille and Epstein (1994). The sample for this study consisted of families from an outpatient clinic who were participating in family and marital therapy. Child depression was found to be related to low levels of cohesion within the family. This study also found that adolescent's satisfaction with adaptability and cohesion within their families was the strongest predictor of depressive symptoms. However, because this was not a longitudinal study, the direction of these relationships is unclear (Cumsille & Epstein).

## Parental Emotional Distress and Report of Child Symptomology

### Anxiety

Krain and Kendall (2000) conducted a study to examine the effect of parental emotional distress on parent reports of child anxiety. The participants were children who were being treated for an anxiety disorder at the Child and Adolescent Anxiety Disorders Clinic at Temple University over the course of a 6-year period. Consistent with previous research, results indicated that parents were more likely to report higher levels of anxiety in their children than children self-reported. Children with high levels of anxiety, particularly social anxiety, tend to report less distress and fewer symptoms when compared to their parents' reports (Beidel & Turner, 1998). Older children were also found to have higher levels of anxiety than younger children. Parental reports of anxiety were more highly correlated with the self-reports of younger children when compared to the reports of older children. Father's reports were found to be better predictors of anxiety in their sons than in their daughters. Additionally, parental emotional distress, in particular depression, was found to be positively related to parents' report of their child's level of anxiety (Krain & Kendall).

### Depression

Griest, Wells, and Forehand (1979) found that maternal depression was a significant predictor of the mother's perception of the child. The more depressed the mother, the higher the mother rated the child's depression. A study conducted by Frick, Silverthorn, and Evans (1994) found that for older children, both child and parent reports of the child's depression were related to the mother's history of anxiety (Krain & Kendall, 2000).

## Child Responses to Negative Life Events

### Residential Fire

Every year approximately 2.3 million residential fires occur in the United States (Federal Emergency Management Agency, 1993). Among individuals ages 0 to 19 years, the sixth

leading cause of injury and death are consequences of burns and fires (Division of Injury Control, Center for Environmental Health and Injury Control, Centers for Disease Control, 1990).

A study conducted by Jones and Ribbe (1991) examined the psychosocial consequences of residential fire. In their pilot study, eight children and adolescent victims were included along with 12 adult victims of residential fires. Results indicated that perceived severity of the event varied across children and their parents. Similarly, the fire victims reported Post Traumatic Stress Disorder (PTSD) symptoms, anxiety, fear, and depression similar to other individuals who have been exposed to disasters. A second study was conducted using 38 males who attended a boarding school, which had recently experienced a dormitory fire. Residents were exposed to the fire, and non-residents were not. Results suggested that the experience of a residential fire may lead to symptoms of psychological disorders. For example, higher levels of PTSD symptomatology were found in those individuals who were exposed to the fire when compared to those who were not exposed to the fire. Thus, higher symptomatology rates may be related to loss of property, degree of personal threat, and physical proximity to the fire. However, many non-residents also experienced some PTSD symptoms and continued to experience these symptoms four months after the event. Therefore, it appears that the occurrence of a residential fire may lead to symptoms of distress regardless of exposure (Jones & Ribbe).

Another study conducted by Jones et al. (1991) examined the psychosocial adjustment difficulties of children and adolescents who had been exposed to a wildfire. Thirteen children (9 females and 4 males); aged 7-11 years, ten adolescents (7 females and 3 males); aged 13-18 years, and their parents were assessed two months after exposure to the fire. Of this sample, 10 children and 7 adolescents were European American, 2 adolescents were African American, and

3 children and one adolescent were Mexican American. A control group, including nine children (5 females and 4 males) and one male adolescent from the same area was assessed and matched with the fire group on the basis of SES, age, gender, and fire insurance. Of the control sample, 4 were European American, 2 were African American, 3 were Mexican American, and 1 was African Mexican American. Results indicated that the children exposed to the fire reported a greater number of PTSD symptoms and distress. However, the reported levels of PTSD are considered mild. The fire group reported more avoidant behaviors when dealing with stressful life events. Thus, exposure to the fire appears to have affected children emotionally (Jones et al.).

Krim (1983) examined the impact of residential fires on families. This longitudinal study included 149 mothers and their children who had been relocated to hotel shelters as a result of the fire. Some participants were relocated because they experienced the fire, whereas others were located for emergency purposes. The sample consisted of Hispanic and African American mothers and children. Results indicated that those individuals who experienced the fire reported more emotional and behavioral problems following the fire when compared to individuals who did not. For example, mothers and their children reported symptoms such as nervousness, anxiety, denial, sleep and eating difficulties, nightmares, and depression. In addition, these symptoms tended to persist for up to three months. The psychological well-being of children and their mothers was also found to be directly related to the amount of loss or damage that they had experienced. Both mothers and children appeared to be anxious and scared about being homeless and seemed concerned with finding a new home. Children also demonstrated a fear of being alone. Additionally, after the fire, parents tended to be emotionally unresponsive to their children. In some cases, the fires also resulted in family separations. A study conducted in

Australia after a brush fire also indicated that symptomatology was predicted better by family disruption after the fire than the fire itself (Jones et al., 1991; McFarlane, 1987).

Hurricanes

Following a natural disaster, symptoms of PTSD appear to be the most commonly expressed form of psychological distress in children. In children, the stress derived from traumatic or stressful events may be physically manifested as headaches, guilt, stomachaches, omen formation, or scary dreams without a recognizable content (American Psychological Association, 2000).

A study by Jones et al. (1993) was conducted to examine the psychological effects of Hurricane Andrew on elementary and middle school children. A four-factor model proposed by Green and colleagues (1991) was used to predict distress. The first factor was personal attributes of the individual, which consisted of demographic information. The second factor was aspects of the environment (prior to and after the event), which included life events, social support, life change, and family changes. The third factor was the characteristics of the stressor, which incorporated resulting deaths, life-threat, physical harm, and loss. The fourth factor was the types of coping mechanisms employed to deal with the stressor, such as avoidance, intrusive thoughts, cognitive appraisal, and conceptualization of the stressor (Green et al.).

The sample consisted of 213 children and adolescents (127 females, 84 males, and 2 unknown) between the ages of 8 and 15 years. Of the sample, 82 were European American, 71 were African American, 31 were Hispanic, 4 were Asian American, and 25 were of other ethnic backgrounds. All the children were assessed 6 months following the Hurricane. Results indicated that assessment of event severity and life threat predicted levels of distress. Thus, how an individual perceives the event in terms of vulnerability and stress may actually predict their

psychological response to the event better than the event itself. However, extent of injury or loss was not found to be predictive of distress. Ironically, symptoms of avoidance were not found in the sample. This may be because the children had to face the negative results of the Hurricane every day in their communities (damaged homes, debris, public buildings). Thus, the effects of the Hurricane could not be avoided. Individual characteristics of the children were found to have an effect on the child's distress. For example, females and elementary school children tended to have higher levels of distress when compared to males and middle school children, respectively. European American children were also found to have higher distress levels than African American children. However, Lonigan and colleagues (1991) found African American children to have higher levels of PTSD symptomology and anxiety. Thus, ethnicity may act as a mediator between negative life events and psychological distress (Jones et al, 1993).

Based on previous literature, Vernberg et al. (1996) formed a similar four-factor model in order to predict how a child may respond to natural disasters. The first factor involves exposure to the traumatic event, and includes life threat and loss disruption. Exposure appears to influence a child's coping abilities as well as the social support they receive. Another study, which investigated children's reaction to Hurricane Hugo, indicated that damage to the home and more frightening experiences during the hurricane were related to higher levels of symptomatology (Lonigan et al., 1991, 1994; Shannon et al., 1994; Vernberg, et al.).

The second factor is the individual characteristics of the child, such as age, ethnicity, and gender. These factors may also influence a child's coping abilities and connection to social support. Several researchers have found gender differences in response to traumatic events. The impact of traumatic events may also vary by ethnicity (Vernberg et al., 1996). For example, Shannon et al. (1994) examined symptoms of PTSD in children who were exposed to a

Hurricane. The sample consisted of 5,687 children (2,900 females and 2,787 males) aged 9 to 19 years. Of the sample, 67.3% was European American, 25.8% was African American, 3.6% was Asian, 1.4% was Hispanic, and 1.9% was of other ethnic origins. Results indicated that self-reported PTSD symptomatology was higher for females, African Americans, and younger children when compared to the symptomatology for males, European American and other minorities, and older children, respectively. Specifically, females, African Americans, and younger children were more likely to report symptoms of re-experiencing the event, avoidance of stimuli related to the trauma, and increased arousal (Shannon et al.).

The third factor includes the characteristics of the social environment. In general, individuals with strong social support networks are better able to cope with stressors when compared to others without these networks (Cohen & Willis, 1985). However, the effectiveness of social support relationships varies by the type of support provided, the nature of the stressor, and the individual providing the support (Wilcox & Vernberg, 1985). Thus, different people within the child's life may fill the child's needs following a traumatic event by providing various forms of support. Overall, a larger support system is more beneficial than a smaller system (Vernberg et al., 1996).

The fourth factor is the child's coping. Overall, the child's coping abilities appears to be related to the other three factors. This is because a negative event can affect a child's life in multiple ways and cause continuing disturbances. Coping abilities also seem to have a bi-directional relationship with symptoms of psychological distress. For example, the implementation of coping strategies following a negative event can influence adjustment and levels of distress. The presence of distress symptoms can also affect an individual's use of coping mechanisms (Compas, Worsham, & Ey, 1992; Vernberg et al., 1996).

Vernberg et al. (1996) conducted a study to examine their four-factor model. Participants included over 1,000 elementary school children who had been exposed to Hurricane Andrew. Results indicated that the four-factors accounted for over 60% of the variability in self-reported PTSD symptomatology, 3 months after the event. Specifically, each factor improved the prediction of overall PTSD symptoms. Most of the children reported mild psychological distress related to the disaster that was concurrent with PTSD symptomatology. However, more than half of the sample reported moderate to severe symptomatology. Thus, many children were still having difficulty processing and coping with the traumatic event. The most prominent PTSD symptoms that were reported involved re-experiencing the event, such as repetitive, intrusive thoughts or bad dreams. Gender was the only child characteristic for which differences in symptoms were found. Females reported higher rates of symptomatology than males. No ethnic differences in symptomatology were found. Results indicated that levels of psychological distress were directly related to the use of coping strategies, even when the effects of social support, demographic characteristics of the child, and exposure were considered. Four types of coping strategies were identified: positive, wishful thinking, social withdrawal, and blame-anger. The use of coping strategies was positively related to PTSD symptomatology. Therefore, it appears that upon exposure to a traumatic event, multiple coping strategies, positive and negative, may initially arise to deal with the distress. This may be because children are still learning how to cope with new situations. In the study, the least frequently used coping strategy was blame-anger (Vernberg et al.).

### Lightening Strike

A study conducted by Dollinger et al. (1984) investigated fears of children who had been exposed to a lightening disaster with fears of a matched sample. The children exposed to the

lightening disaster were participating in a soccer game when a lighting bolt struck. One child was killed and other children were injured. This sample of children was matched for age, SES, and gender with a normative sample derived from a study by Staley and O'Donnell (1984). Each child exposed to the lightening was matched with two children from the normative sample, yielding 29 (6 females and 23 males) in the lightening group and 58 in the control group. Of the samples, 28 in the lightening group were European American. All children were between the ages of 10 and 13 years old. Children and their parents were interviewed within two months of the event. Researchers investigated whether the fear generalization gradient predicted children's fear development through classical conditioning. Findings indicated that more fears were reported by mothers and children in the exposed group. Data supported the theory that the point of maximum amplitude of the unconditioned stimulus will elicit the greatest fear. In particular, fears of death, disasters, noise, sleep, and bodily penetration were more evident in the exposed group. Thus, exposure to a traumatic event not only increases fear of the event, but also of other related events or things. Results also indicated that stimuli, which were unrelated to the event, did not elicit fear (Dollinger et al.).

Dollinger and colleagues (1984) reported that the exposed group endorsed more intense fears than the entire normative sample. Fifty percent of the exposed children reported fears of parents getting a divorce, hail, lightening, death of a family member, dying, getting hit by a car, or being unable to breathe. For all of these fears, none were endorsed by more than 30% of the children in the control sample. Children's reported fears were also found to correlate with the child's perceived emotional distress regarding the event as rated by an interviewer (Dollinger et al.).

Motor Vehicle Accidents

A study conducted by Milgram, Toubiana, Klingman, Raviv, and Goldstein (1988) examined PTSD symptoms in child survivors of a school bus accident. Results indicated that gender (females reported more symptoms than males), previous distressing experiences, and assessment of harm or threat were predictive of PTSD symptoms. However, child's age, degree of injury, and type of accident were not predictive of symptomology. Half of the children met PTSD criteria one month after the incident (Keppel-Benson et al., 2002).

A study conducted by Keppel-Benson et al. (2002) examined the responses of children nine months after they had been involved in a motor vehicle accident. The sample included 50 children ages 7 to 16 years. Results indicated that 10% met simple phobia criteria according to the Diagnostic Interview for Children and Adolescents (DICA-R-C), 14% met PTSD criteria, and 26% of the sample reported moderate to severe levels of trauma. In particular, more than half of the children indicated having at least one re-experiencing symptom; intrusive thoughts about the accident were the most common symptom. Additionally, almost half of the children reported some type of avoidant symptom; avoidance of situations related to the accident and forgetting issues pertaining to the accident were the most common. Sleep difficulties and irritability were also frequently reported. Overall, approximately 65% of the children reported experiencing at least one PTSD symptom.

Social support and prior history of accidents were all found to be predictive of PTSD symptoms. It appears that social support may serve as protective function against psychopathology and avoidance by helping the child to cope with the immediate impact of the event. For example, children who reported high levels of social support indicated than many individuals provided reassurance, comfort, and talked to them about the event. In particular, talking about the event was reported as providing the most support, compared to the other

methods of helping. Additionally, children who had prior experiences involving accidents appeared to have fewer symptoms than did children without a prior history of accidents. Thus, a history of accidents may serve a protective function, such that after the initial experience, the negative impact of similar experiences on the child's psychological well-being seems to diminish. However, contrary to the results of Milgram and colleagues (1988), degree of injury was also found to be a predictor of PTSD symptomology (Keppel-Benson et al., 2002).

Earthquakes

A pilot study conducted by Gordon and Maida (1989) investigated the responses of both parents and their children to an earthquake. The sample consisted of 30 parents (27 mothers, 1 father, and 1 grandmother) and 30 children (22 females and 8 males) between the ages of 7-13. Of the sample, 40% was Hispanic, 33% was European American, 20% was African American, and 7% was American Indian. Results indicated that 80% of the children reported being "very frightened" during the event. Perhaps this is because a majority of the children did not know what was happening, they did not recognize the event as an earthquake. Over half of the children reported that they looked to their parents for emotional support and told their parents any fears that they had. Most children, 80%, indicated that talking about the earthquake helped them to feel better. In particular, expressing their feelings and talking tended to reduce their fears. However, 87% of children continued thinking about the event or having intrusive thoughts and 40% still reported feeling frightened three to five months after the earthquake. In general, specific fears and sleep disturbances were the most commonly reported symptoms after the event. Over time, these symptoms did lessen, however in over half of the children these symptoms continued 3 to 5 months after the event. In addition, the study compared those in the sample who did not seek professional counseling (14 families) with those who did seek

counseling (16 families). Results indicated the individuals in the clinic sample reported more behavioral disturbances immediately after the event than those who were not seeking counseling (Gordon & Maida).

## Child Adjustment to Negative Life Events

Current literature has suggested that maternal psychological well-being, close family relationships, and responsive parenting may help a child to adjust positively when confronted with negative events (Punamaki, Qouta, & El Sarraj, 1997a). If parents are emotionally supportive or affectionate and offer effective disciplining, they may protect the child from negative consequences. Thus, parents may be able to directly control their child's psychological adjustment to a stress (Punamaki, et al.).

### Family Environment

Garbarino (1992) found that deep positive attachments to family members and parents ability to provide their children with a sense of stability was associated with children's ability to cope with traumatic and stressful events. Additionally, a study conducted after the Gulf War missile attacks indicated that children's reported use of active coping strategies was directly related to the frequency of positive emotional expressions demonstrated by the parent (Bat-Zion & Levy-Shiff, 1993). Previous research has also suggested that the more children were exposed to traumatic events the more they tended to perceive both their parent's parenting as rejecting or punitive (Punamaki, Qouta, & El Sarraj, 1997b). This is because feelings of uncontrollability early in life may lead to the development of anxiety in childhood. Much research has indicated that early experiences involving a perceived lack of control may lead to cognitions of helplessness and anxiety (Barlow, 1991). However, an environment that is perceived as

controllable may also serve as a protective factor against anxiety (Albano et al., 1996; Vasey & Ollendick, 2000).

The relations between perceived parenting by the child, children's intellectual and cognitive resources, children's political activity, exposure to traumatic events and psychological adjustment were examined in a sample of 108 Palestinian children (53 females and 55 males) between the ages of 11-12 years old (Punamaki, et al., 1997a). Overall, results indicated that psychological adjustment difficulties were related to more experiences involving a traumatic event. This relationship can be explained by two mediating pathways. First, a child's experiences involving traumatic events increased his or her political activity, which was related to difficulties in adjustment. Secondly, the experience of traumatic events increased the child's tendency to characterize their parent's parenting negatively. Parenting classified as rejecting, controlling, lacking in love, and punitive was related to adjustment problems. Results also indicated that negative consequences of a traumatic event can be moderated by parenting that is perceived positively and characterized by affection. However, regardless of perceived parenting, exposure to traumatic events was related to adjustment problems (Punamaki, et al.).

In addition, exposure to a traumatic event also decreased the child's creative, cognitive, and intellectual resources thereby leading to more adjustment difficulties in the absence of responsive parenting. In general, females reported more resources than males did. However, males were more likely to perceive their parents as using controlling, punitive, or rejecting parenting styles than females (Punamaki et al., 1997b).

Social Support

Kaplan, Cassel, and Gore (1977) conceptualized social support as the extent to which essential social needs are met via the individual's interactions with others. When a personal crisis

or traumatic life event occurs, a child's social support network can play a pivotal role in his or her ability to cope with the event, as well as on their psychological well-being. For example, Macksoud and Nazar (1993) found that families who were able to contact friends and relatives during a traumatic event had children who reported less mental health symptoms than children with remote families (Llabre & Hadi, 1997).

A study conducted by Llabre and Hadi (1997) examined social support as both a mediator and a moderator in the relationship between traumatic experiences and children's level of distress. The sample included 151 Kuwaiti children between the ages of 9 and 13 years. One hundred and twelve of the children (51 females and 55 males) experienced some level of trauma, pertaining to loss of a parent, during the Gulf War. Additionally, a control group of 39 children, age and gender matched, was included. Results indicated that social support moderates the relationship between trauma and health and psychological symptoms. Gender appeared to operate jointly with social support as a moderator. For example, those females in the trauma group that indicated having high levels of social support were comparable to control females in terms of depression, health problems, and PTSD symptomatolgy. Conversely, females in the trauma group who reported receiving low levels of social support had the highest levels of distress across all groups. Thus, it appears that social support can act as a "buffer" against the negative consequences of trauma on psychological and health outcomes. Social support may provide these children with the resources necessary to control stress levels and process the event without experiencing psychological distress (Llabre & Hadi).

Additional findings were obtained when social support was not included as a moderating factor. Higher levels of PTSD symptomatology in the trauma group were found for males when compared to females. The exclusion of social support helped to explain this finding because in

general males reported receiving less social support than females. In addition, males in the trauma group experienced more depression and PTSD symptoms when compared to males in the control group; this relationship was not moderated by social support. Overall, females tend to experience more psychological distress or symptoms when exposed to a trauma than males, even if males had greater exposure to war-like experiences (Klingman, 1992; Macksoud & Nazar, 1993; Llabre & Hadi, 1997).

A study conducted by Prinstein, La Greca, Vernberg, and Silverman (1996) investigated the types of coping assistance children received after Hurricane Andrew. The sample consisted of 506 children who were in either third, fourth, or fifth grade. The children's schools were located in areas moderately or severely affected by the Hurricane. The use of coping assistance as a means to help these children cope with the event was evaluated. Three types of assistance were included: distraction, emotional processing, and reinstitution of familiar routines and roles. Distraction involves an emotion-focused approach and may help children deal with both emotional and trauma-related distress. An example of distraction is playing music or a game when the child starts to feel bad, in order to reduce upsetting thoughts. Emotional processing involves coping with emotional difficulties. If these emotions are not processed, they may manifest in other ways, such as nightmares, phobias, irritability, distress about the stressor, and concentration difficulties. Methods of emotional processing of negative events include repetitive and controlled exposure to stimuli that are related to the event (Rachman, 1980; Vernberg & Vogel, 1993). Reinstitution of routines and roles involves a form of problem-focused coping, in which attempts are made to gain some form of stability or sense of control over the traumatic event (Prinstein et al.).

According to the children's reports, reinstitution of routines and roles was the form of coping assistance they received most frequently, followed by distraction and emotional processing. In particular, emotional processing games such as re-enacting the event or drawing pictures about the Hurricane were reportedly used infrequently. However, those children who reported higher levels of PTSD symptomology indicated that they received coping assistance in the forms of distraction and emotional processing the most frequently. This assistance was received from friends and parents. In general, children reported that their parents provided the most support through the use reinstitution of routines and roles and through distraction. The children's friends were found to provide the most emotional processing assistance (Prinstein et al., 1996).

Child Coping Strategies

Prior research has suggested that attempts by the child to regulate negative emotions that accompany stressful events and efforts to change the source of stress through cognitive or behavioral means play important roles in reducing negative consequences of stressful situations or events (Compas, 1987a).

Descriptions for coping and its classification can be found throughout the literature. One conceptualization of coping focuses on the method of coping. Active attempts to resolve stress are separated into cognitive and behavioral strategies. Attempts to reduce emotional distress or avoid the stressor are examined separately (Lazarus, 1966; Moos, 1977). Active- cognitive coping involves attempts to manage one's thinking or perception of the stress accompanied by the event. Active-behavioral coping involves behavioral actions employed to cope directly with the problem and deal with any of its consequences. Avoidance coping refers to indirect attempts

to reduce emotional distress through behavioral practices or active avoidance of facing the problem (Billings & Moos, 1980).

Another conceptualization of coping involves the focus of coping; emotion-focused versus problem-focused coping (Antonovsky, 1979; Lazarus, 1980, Pearlin, & Schooler, 1978). Emotion-focused involves the use of cognitive or emotional responses in order to maintain an emotional balance and deal with the emotional effects of the stressor. Problem-focused coping includes the use of one's behaviors in order to reduce or alter the source of the stress (Billings & Moos, 1980).

A study conducted by Compas, Malcarne, and Fondacaro (1988) investigated the strategies that children and young adolescents use to cope with stressful events. Their sample was 98% European American and included 130 children (73 females and 57 males), ages 10 to 14 years, who were enrolled in either the sixth, seventh, or eighth grade. All the children were asked to report the strategies that they used to cope with recent academic and interpersonal stressors, as well as any alternative solutions that they had formulated. Results indicated that the use of emotion-focused alternatives increased with children's grade. Eighth graders formulated more emotion-focused strategies than both the seventh and sixth graders. Alternatively, the use of problem focused alternatives decreased with children's grade. Eighth graders formulated less problem-focused alternatives than both seventh and sixth graders. Upon dealing with academic stressors, females were also more likely to use emotion-focused coping than males were across all ages. Additionally, children and young adolescents may have more consistency across different situations in terms of their coping when compared to adults and older adolescents (Compas et al.).

Compas and colleagues (1988) found that children who were less able to use or formulate problem-focused coping strategies experienced more difficulty in adjusting to the stressor. In addition, the formulation and use of emotion-focused coping was positively related to behavioral and emotional adjustment difficulties. Therefore, a child's coping strategy when dealing with a stressor can serve as either a protective or risk factor for emotional and behavioral problems (Compas et al.).

A study conducted by Asarnow, Carlson, and Guthrie (1987) investigated the cognitive factors associated with depression and suicidal behavior in 8-13 year-old psychiatric patients. Results indicated that when compared to non-depressed children, depressed children perceived themselves to be less cognitively competent, had a lower self-esteem, and higher levels of hopelessness. Some depressed children with comorbid conduct disorders also evidenced higher rates of behavioral coping strategies characterized by physical aggression. Children who endorsed suicidal behaviors were less likely to endorse active coping styles when compared to non-suicidal children. Perhaps this is because suicidal children are unable to generate cognitive strategies to regulate their affect and behaviors immediately following a stressful event. Suicidal children were also more likely to perceive their home environments as stressful and unsupportive. In addition, these environments were perceived as involving weak control, little cohesion, unsupportive, stressful, and high in conflict. A sense of hopelessness was associated with both higher suicidal ideation and depression severity (Asarnow et al.).

## Coping and Social Support

A study by Billings and Moos (1980) examined coping mechanisms and social support in a non-clinical adult population. The sample consisted of 194 families (mean age; 43.5 years for women and 45 years for men) in which both partners participated. Of the sample, approximately

82% was European American, 5.4% was Mexican American, 3.7% was Asian American, 3.5% was African American, and 5.8% was of other ethnic origins. The participants responses were based on how they coped with a recent stressful event or personal crisis. Results indicated that active-cognitive and active-behavioral strategies were used more frequently than avoidance strategies. The use of problem-focused coping was reported more than the use of emotion-focused coping. Additionally, men were less likely to use emotion-focused, active-behavioral, or avoidance coping than woman were. Income was also positively related to the use of active-cognitive, problem-focused coping, and active-behavioral (Billings & Moos).

Social support or resources was found to moderate the relationship between personal functioning and stressful life events (Billings & Moos, 1980). This relationship is maintained after the effects of coping and negative events were controlled. Social support and coping were also found to moderate the relationship between stressful events and personal functioning. For men, coping strategies were more strongly related to functioning than were social resources. However, for women, quality of resources was more predictive of functioning than the quantity of resources. Women were also more likely to use avoidant forms of coping, which is related to more negative impairments, than were men. Overall, income and education level appeared to be positively related to the use of more “effective” coping strategies (Billings & Moos).

## The Present Study

The purpose of the present study was to examine symptoms of anxiety and depression in children who were impacted by a residential fire. The current study was part of a larger cross-sequential study, in which participants, within three months following a residential fire, were initially interviewed about their experiences regarding the event. Participants were reassessed at 7-10 months and again at 12 months following the fire. The present study included data from the

first interviews with participants. The dependent variables were symptoms of anxiety, symptoms of depression, behaviors (internalizing and externalizing), and fears. The independent variables were exposure and loss. Loss was defined by the emotional, physical, and social impact the fire had on the child.

It was hypothesized that for all children the most commonly experienced anxious, depressive, and behavioral symptoms after the fire will be worry/ oversensitivity (nervousness, irritability) and physiological complaints (hyper-vigilance, sleep disturbances), negative mood (sadness), and internalizing behaviors (withdrawal, avoidance), respectively. Secondly, it was predicted that exposure would be directly related to psychological functioning. Similarly, it was theorized that children who experienced greater psychological, physical, and emotional loss following the fire would endorse a greater number of anxious and depressive symptoms, internalizing behaviors, and fears. It was also hypothesized that these relationships would be moderated by the social support the child receives, the child's coping abilities, and the impact of positive and negative events in the child's life. It was believed that higher social support, effective coping strategies, and the impact of positive life events or lack of impact from negative life events would be directly related to positive adjustment following the fire. It was also hypothesized that ethnicity would serve as a moderating variable, such that African American children would endorse more anxious and depressive symptoms, fears, and internalizing behaviors when compared to European American children. The roles that gender, SES, and age play as additional moderators to these relationships was also evaluated.

# CHAPTER 2

# METHOD

## Participants

Participants included 99 children/ adolescents and their parents who participated in a larger study examining the impact of residential fire on children and their families (see Jones & Ollendick, 2002). All the participants experienced a residential fire and lived in areas surrounding the following cities: Atlanta, Georgia, Charleston; South Carolina, Richmond and Blacksburg; Virginia, and Charlotte; North Carolina. The residential fires experienced by the participants in the study varied in terms of severity. In order to be included into the study, the participants had to have experienced at least a 25% loss to personal items or their home because of the fire. However, some experienced a greater loss. Level of exposure was also variant in the sample, 52 (52.5%) of the children were home during the time of the fire and 44 (44.4%) were not at home. Reports of 52 children indicated that 13 (13.1%) thought that they might die during the fire. Additionally, of 96 children, 16 (16.2%) reported being very upset about things since the fire occurred.

Only one child per family was included; in those families with more than one child between the ages of 8 and 16 at the time of the fire, the child with the most recent birthday was included (Jones & Ollendick, 2002). Children ranged from age 8 to 17 years, with a mean age of 11.78 years ($SD$ = 2.80). The means, sample sizes, range, standard deviations, observed minimum, observed maximum, skewness, standard error, kurtosis, and percentages across child age are displayed in Table 1. Fifty-four of the children were female (54.5%); and 45 were male (45.5%). Of the sample, 56 were African American (56.6%) and 43 were European American (43.4%). Within the sample, 24 were single-parent families (24.2%), 42 were partnered

(cohabiting, married, divorced-remarried, widowed-remarried) families (42.4%), 26 were of other (widowed, separated, divorced) family types (26.3%), and 7 were unknown (7.1%). The average maternal education level was high school graduate and the average family annual income was 28, 516. Regarding Socioeconomic Status (SES), 36 (36.4%) participants within the sample were of lower SES, 31 (31.3%) were of upper SES, and 32 (32.3%) were of unknown SES. Tables for all demographic variables (gender, ethnicity, maternal education, type of family structure, SES) are displayed in Table 2.

Measures

*Demographic information*. A demographics questionnaire was completed by the child's parent. This questionnaire was used to assess parental and child age, gender, socioeconomic status (SES), and ethnicity. In addition, information regarding parental education level, family structure, annual family income, and possible contacts was also obtained. The Education Factor classification of Hollingshead's (1975) index of social status was used as the basis for coding maternal education. Education level was coded on a 7-point scale: 1 = less than $7^{th}$ grade, 2 = junior high school ($9^{th}$ grade), 3 = partial high school ($10^{th}$ or $11^{th}$ grade), 4 = high school graduate, 5 = partial college (at least 1 year) or specialized training, 6 = college or university graduation, and 7 = graduate degree.

*Anxiety symptoms*. The Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985), subtitled "What I Think and Feel," is a self-report measure, which was given to each child to measure chronic anxiety. The RCMAS consists of 37 mutually exclusive items (9 lie-items and 28 anxiety-items). The child responds "yes" or "no" to the items based upon whether or not the item describes their actions or feelings. It is formatted from the Manifest Anxiety Scale for Adults (Taylor, 1951). The RCMAS yields one total anxiety score and four

subscale scores: physiological anxiety, worry/ oversensitivity, social concerns/ concentration, and lie (Reynolds & Richman).

The RCMAS has been evaluated on American children ages 6 to 19 years. Results also suggest that the RCMAS has adequate psychometric properties to be used with Nigerian children and that items do not appear to be culturally bound (Pela & Reynolds, 1982). The reliability and validity of the measure has been supported by previous research. The Kuder-Richardson coefficient ranges between .80 (Pela & Reynolds) and .85 (Reynolds & Richmond, 1978). The anxiety scale internal consistency reliabilities were reported in the mid .80's (Reynolds, 1981) and reliability estimates for coefficient alphas were reported in the low .80's (Pela & Reynolds, 1982). Test-retest reliability was reported to be approximately .98 for a 3-week period and .68 after 9 months (Pela & Reynolds; Reynolds, 1981). Evidence of construct and concurrent validity has also been found. Reynolds (1980) examined the convergent and divergent validity of the RCMAS by comparing it with another measure of anxiety, the State Trait Anxiety Inventory for Children (Spielberger, 1973). Results indicated that the RCMAS correlated .85 with the STAIC trait scale and .24 with the state scale. Therefore, the RCMAS appears to be a valid measure of chronic anxiety, which exists independently of situational related anxiety (Reynolds, 1980, Reynolds & Richman, 1985; Gullone, King, & Ollendick, 2001).

*Depressive symptoms*. The Child Depression Index (CDI; Kovacs, 1985) is a 27-item self- report questionnaire, which was completed by each child as a means of assessing symptoms related to depression. Each item is arranged in three sentences (i.e., I hate myself, I do not like myself, or I like myself), and each sentence correlates to a level of depression: severe depression, moderate depression, or absence of depression. The child is asked to pick the sentence from each group/ item that best describes their feelings or ideas recently. Each item was then scored on a 3-

point scale (ranging from 0 to 2). Items in the CDI load on five factors of depression: negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative self-esteem. A score is obtained for each factor, and then responses for all factor scales are summed to yield a total depression score ranging from 0 to 54. These scores are then standardized and converted to T-scores (Kazdin, 1988; Kovacs, 1992).

The CDI is normed on children ages 7-17 and norms are provided based on age and gender. The CDI is a widely used measure of depression in children and has good psychometric properties. The CDI has been found to demonstrate adequate internal consistency, greater than .80, and moderate test-retest reliability. There is also a moderate correlation between the five factors, between .34 and .59. A stronger correlation exists between the individual factors and the total depression score, between .55 and .82 (Kazdin, 1988; Kovacs. 1992).

The CDI has been found to have good discriminant validity. It was found to discriminate between children with depression and children with other diagnosis (Kovacs, 1983, 1985), as well as hospitalized and normal children (Saylor, Finch, Spirito, & Bennett, 1984). However, results of a discriminant functional analysis revealed that the CDI was able to accurately identify nonclinical cases, but not clinical cases (Kovacs, 1992). Concurrent validity for the CDI has also been supported. Depression on the CDI was found to be correlated with the Piers-Harris Children's Self-Concept Scale (Friedman & Butler, 1979) and self-esteem on the Coopersmith Inventory (Green, 1980). Additionally, the CDI is highly correlated with clinical interview depression measures (Carlson & Cantwell, 1979; Garber, 1984).

*Fear.* The Fear Survey Schedule for Children- R (FSSC-R; Ollendick, 1983b) was given to each child in order to identify individual specific fear sensitivities. It is useful with phobic children as a means of examining the fearful objects and situations, which lead to avoidant

behaviors. The FSSC-R is a self-report measure originally derived from Scherer and Nakamura's (1968) Fear Survey Schedule for Children. It contains 80 items, which are rated on a 3-point scale (none, some, a lot). The measure indicates the number of extreme fears a child possesses, as well as an overall fearfulness score. Six subscale scores can also be obtained based on type of fear; medical fears, failure and criticism, minor injury and small animals, danger and death, other, and the unknown. These subscale scores can be summed to yield a total fear score (Ollendick).

The FSSC-R was developed and validated on a sample of children ages 8-11 years of age from two geographically diverse regions of the United States. Cronbach's alpha internal consistency reliability coefficients for factor subscales varied between .57 and .89. Of the subscales, failure and criticism fears possessed higher coefficients and medical fears were associated with lower coefficients. The total fearfulness alpha coefficient score is above .90 (Friedman, Campbell, & Okifuji, 1991; King, Gullone, & Ollendick, 1992; Ollendick, 1983b; Ollendick, King, & Frary, 1989). Test-retest reliability for overall fearfulness score is approximately .82 for one week, .85 for two weeks, and .62 for three months (King & Ollendick, 1992; Ollendick, 1983). Subscale and total scores have been found to be stable over one and two week periods, but to decrease over a three-month period of time (King & Ollendick, 1992; Ollendick, 1983b).

The FSSC-R is normed on children between the ages of 7 and 16 years old in both the United States and Australia. Earlier studies using the FSSC-R indicated that females and younger children tended to report higher levels of fearfulness than males and older children (Ollendick, 1983a; Ollendick et al., 1989). Specific fear items and factor subscales have been found to be related to specific anxiety disorders and phobias (Last, Francis, & Strauss, 1989; Weems,

Silverman, Saavedra, Pina, & Lumpkin, 1999). Thus, indicating the convergent and divergent validity of the FSSC-R. The FSSC-R has also been used to investigate the effectiveness of certain treatments in anxious and fearful children (Barrett, Dadds, & Rapee, 1996; Kendall, 1994; Kendall, Flannery-Shroeder, Panichelli-Mindel, Southam-Gerow, Henin, & Warman, 1997). Fearfulness levels on the FSSC-R were related to avoidant coping techniques, negative attribution styles, and life stressors (Ollendick, Langley, Jones, & Kephart, 2001; Ollendick, 1983a).

*Internalizing and externalizing behaviors*. The Child Behavior Checklist (CBCL; Achenbach, 1991) was completed by the parent (CBCL 4-18) and the Youth Self-Report version (YSR) by the child, if aged 11 or older, in order to assess the child's behavioral competencies and problems within the past 6 months. The CBCL uses a rating system to examine withdrawal, resistance, and internalizing/externalizing behaviors. The CBCL also indicates the child's social problems and level of anxiety. The CBCL is a checklist of 113 items, which reflect behavioral problems, as well as a social competency checklist, which has seven parts. Response to items is based on a three options: 0= true of the child, 1= somewhat or sometimes true, 2= very true or often true. Items in the CBCL cluster into behavioral patterns, syndromes, which are similar to DSM-IV categories. The broad-band internalizing, externalizing, and total behavior scales will be used in this study (Achenbach, 1991; Doll, 2002; Furlong & Wood, 2002).

The CBCL (4-18) is normed for children ages 2-18. Reliability estimates for resulting behavioral patterns, syndromes, across referred and non-referred average an internal consistency of .80 and one week test-retest reliability above .80. Inter-parental agreement coefficients average .66 overall and .76 for total problems. Reliability of broad-band behavioral scales has one-week test-retest and alpha internal consistency coefficients above .89; internalizing = .89 and

.90, externalizing = .93 and .93, and total problems = .93 and .96, respectively. The CBCL (4-18) is empirically based and the behaviors included have been found to differentiate between normal and clinic-referred children. The CBCL (4-18) has concurrent validity, it is highly correlated with other measures of child behavior. The CBCL (4-18) also has discriminant validity; the Social Competency and Total Problems scores can differentiate between normal and clinic-referred children (Achenbach, 1991; Doll, 2002; Furlong, & Wood, 2002).

The YSR is normed for children ages 11-18. The items on the YSR are based on the CBCL items. Reliability estimates for resulting behavioral patterns, syndromes, across referred and non-referred average an internal consistency of .80 and one week test-retest reliability of .72. After seven-months, there was a decline in test-retest reliability, reliability averages .49. Reliability estimates of broad-band behavioral scales average one-week test-retest and alpha internal consistency coefficients of .80; internalizing = .80 and .90, externalizing= .81 and .89, and total problems = .79 and .95, respectively. The YSR has content validity, most of the items can discriminate between referred and non-referred youths when matched on demographics. Criterion validity is also supported, after the demographic effects are removed, referred and non-referred youths can be differentiated using the YSR's quantitative scale scores. Each scale in the YSR has cut-points to distinguish between clinical and non-clinical samples. In order to account for children who score on the periphery of the cut-points, borderline clinical ranges were developed for each scale (Achenbach, 1991).

*Loss.* The Resource Loss Questionnaire (RLQ; Freedy, Shaw, Jarrell, & Masters, 1992) a 53-item self-report measure was completed by the child's parent as a means of assessing resource loss. This scale is a modification of a previous 74-item scale (Hobfoll, Lilly, & Jackson, 1991). For the purpose of this study, the RLQ was adapted to assess loss following a fire. The

parent is provided with a list of resources and asked to rate the extent to which he or she experienced a loss of that resource due to the fire. Response to the items is based on a 5-point scale: 0= no loss, 1= a little bit of loss, 2 = a moderate amount of loss, 3 = quite a bit of loss, and 4=extreme amount of loss. The RLQ was designed to specifically assess loss following a natural disaster and contains four resource loss scales based on the Conservation of Resources Stress Model (COR; Hobfoll, 1989). The four scales were derived from average loss scores: object loss (possessions), condition loss (relationships with others), personal characteristics (aspects of personality, feelings about the self, feelings of control), and energy loss (time, organization, finances). Additionally, for the purpose of the larger study, one more scale was added to the original measure, total loss for pet. However, this scale consists of only one item and it will not be examined in this study. The scales are mutually exclusive, and participants receive a score on each scale. There is also a total score, which is the sum of the participant's 4-scale scores (Freedy et al.).

The RLQ was normed for adults ages 19- 68. Reported test-retest reliability for loss is moderate, between .55 and .64, for the 74-item scale (Hobfoll et al., 1991). Exploratory analysis also revealed that factors of loss (i.e. financial, personal/support) were discrete, individuals reported particular losses, rather than global (Hobfoll, et. al., 1991). Thus, the construct validity of the RLQ is supported. Analysis conducted with the original 52-items also has found high correlations between the total loss scale and the four other scales, r= 0.68 to 0.92 (Freedy et al., 1992).

The Resource Loss Scale (RLS; Freedy et al., 1992) is a modified version of the RLQ for children and adolescents. The RLS contains 47-items and is verbally administered to the child by an interviewer. The child is asked, "Due to the fire have you experienced any loss of…….?" The

child responds yes or no. If the child responds yes, he or she is asked "Did you experience a little, some, or a lot of loss of……..?" This response is rated on a 4-point scale: 0= not applicable, 1= a little, 2= some, 3= a lot. This scale contains the five resource loss scales that were included in the RLQ.

*Exposure.* The Fire Related Traumatic Events Scale (FRTE; Vernberg, La Greca, Silverman, & Prinstein, 1996; adapted by Jones & Ollendick, 1996), subtitled, "What Happened To You During and After the Fire," a semi-structured child interview was utilized in order to assess the child's exposure to the fire as well as their experiences during the fire. For the purpose of this study the information gathered from this measure will be used for descriptive purposes regarding the child's feelings during the fire and their location at the time of the fire (home or not at home).

The FRTE was developed from the Hurricane Related Traumatic Events Scale (HURTE; Vernberg et al., 1996). The HURTE was developed from interviews with children and their families regarding their experiences with Hurricane Andrew and other post-disaster diagnostic interviews. The HURTE included 17-items regarding experiences during the Hurricane; 6-items regarding specific occurrences during the Hurricane, 1-item regarding an important cognitive or emotional experience, and 10-items pertaining to the objective events in the period after the disaster, in particular levels of loss. All items were answered "yes" or "no." The items on the HURTE were adapted to assess exposure to fire on the FRTE. Reliability and validity information on the HURTE is unavailable (Vernberg et al.).

*Coping.* The How I Coped Under Pressure Scale (HICUPS; Ayers, Sandler, West, & Roosa, 1996; Sandler, Kim-Bae, & MacKinnon, 2000) is a 45-item self-report questionnaire, which was completed by each child in order to assess the child's use of coping strategies in

specific situations, the fire. The items on the HICUPS are derived from The Children's Coping Strategy Checklist (CCSC; Program for Prevention Research, 1991). In contrast to the CCSC, HICUPS items are written in the past tense and children are asked to focus on one specific event rather than dispositional coping behaviors. On the HICUPS, the child is presented with a list of statements expressing thoughts, feelings, and actions. He or she is then asked to indicate the extent to which he or she thought about or did the activities in the items in order to feel better after the fire. Response to the items is based on a 4-point Likert-type scale: 1= not at all, 2 = a little, 3 = somewhat, and 4= a lot. Items on the HICUPS form 11 subscales and load on four factors of coping: Avoidant, Distraction, Active, and Support Seeking (Ayers et al., 1996).

This study focused on a two-factor model of coping, on the HICUPS, which was previously found to be related to children's psychological functioning (Sandler, Tein, & West, 1994). The first factor is active coping, which consists of 16 items. These items refer to cognitive decision making, direct problem solving, seeking understanding, and positive cognitive restructuring. The second factor is avoidant coping, which consists of 8-items. These items include avoidant actions and cognitive avoidance. Reported coefficient alphas for active and avoidant coping are .94 and .87, respectively (Sandler, Kim-Bae, & MacKinnon, 2000).

The HICUPS is normed on children ages 9-13 years. Reliability estimates for the 11 subscales range from .57 to .74. The HICUPS is also moderately to highly correlated with the CCSC, subscale correlations ranged from .42 to .62 (Ayers et al., 1996).

*Social support*. The Dubow Social Support Scale for Children (SSS-C; Dubow & Ullman, 1989) is a self-report measure to assess the child's perceived level of support and their relationships with others. The SSS-C is a modified version of the social support appraisals scales on the Survey of Children's Social Support (SOCSS; Dubow & Ullman). The SSS-C examines

three sources of support: family, teachers, and friends. For the purpose of this study, the SSS-C was adapted and includes 12-items. The first 9-items assess generalized support from different sources. The last 3-items were designed for this study to assess support regarding the fire. On the SSS-C, the child's is presented with a statement that describes two types of children and then asks a question ("Some kids' teachers are mean to them, but other kids' teachers are not. Are your teachers mean to you?"). The child then responds to the question. Response is based on 5-choices: always, most of the time, sometimes, hardly ever, and never. The SSS-C contains 6-factor scales and 2-totals: family scale, teacher scale, friends scale, total support score, family fire item, teacher fire item, and friends fire item, and total fire support. The two total scores are based on the sum of the family, friends, and teacher scales. The total scores will be used for the purposes of this study.

*Life events.* The Life Events Checklist (LEC; Johnson & McCutcheon, 1980), a self-report measure, was adapted for this study as a means of assessing a child's negative life experiences in the year prior to the fire. The adapted LEC consists of 28-items (the original LEC consists of 46-items) addressing the occurrence and impact of these events, as well as the child's perceptions. Additionally, the LEC has four spaces where additional significant events, which were not present within the items, can be included and rated. The events on the LEC are classified as either "good" or "bad" and the level of impact the event had on the child's life is rated on a 4-point scale, where 0 = "none," 1= "some," 2= "moderate," and 3= "great." Impact ratings on the positive events can be summed to yield a positive change score and similarly, ratings on the negative events can be summed to yield a negative change score. For the purposes of this study, the two change scores will be used. The positive and negative change scores can also be summed to yield a total change score (Johnson & McCutcheon).

The LEC has been found to have both discriminant and predictive validity. The negative change scores on the LEC can be used to differentiate clinical and non-clinical samples and is unrelated to social desirability (Wenet, 1979). Higher negative change score was also related to depression and anxiety, internal locus of control, and maladjustment (Johnson & McCutcheon, 1980). Reported two-week test-retest reliabilities are ample for positive and negative life change scores, .69 and .72 respectively. Test-retest reliabilities for the relative impact of positive and negative events were found to be .71 for the former, and .76 for the latter (Brand & Johnson, 1982).

Procedures

*Recruitment.* Some families were recruited from fire incident reports obtained by the Fire Department. Fire Departments were contacted with an information letter and provided with a return postcard. When a return postcard was received, that department was contacted and facets of the project were explained. The department was then asked to fax or send incident reports on the regular basis. Families were also recruited through project information given to fire victims by the Red Cross and news reports.

*Assessing incident reports for inclusion criteria*. Within three days of receiving an incident report, the report was assessed for location of fire (must be residential) and for damage. At least 25% of the residential property must have been destroyed in order to be included into the study (Exceptions to this rule were made if the fire started in the child's bedroom or the child was injured). If this criterion was not met, the report was destroyed.

If both the location and damage criteria were met, a packet consisting of a flyer, a letter, and a return postcard, was sent to the family. The flyers provided information regarding the study as well as a contact number. For all packets that were sent, the name of the recipient and

the date was recorded for tracking purposes. The incident reports were filed for three months; after three months, reports for individuals who were not participating in the study were destroyed. Incident reports for individuals who were participating in the study were saved and filed.

*Screening for child criteria.* Five days after the packets were sent out, graduate students called the families who met the previous two criteria. The purpose of the phone calls was to assess for a third criteria, if the individual had at least one child between the age of 8 and 16 years. If the individual had more than one child between ages 8-16, the child with the most recent birthday was included (If another child was more involved with the fire, the child with the most recent birthday was deferred and the other child was invited to participate). Individuals who did not have children between ages 8-16 were excluded. If all three criteria were met, and the family agreed to participate, the family was included in the study.

*Data collection.* Interviews with the parent and child were scheduled approximately one to three months after the fire. Prior to the interview, each participant was assigned a 7-digit number, which served as his or her identity for the study, in order to maintain confidentiality. Interviews were then conducted in children's homes, Red Cross offices, libraries, and churches by trained graduate students. Two trained graduate students conducted the interviews; one student interviewed the child while the other student interviewed the parent. The interview took approximately three hours to complete.

Upon arrival, the parent and their child were provided with a consent/assent form, which required a signature. The parent was asked to complete a consent form for their own participation as well as that of their child, assent was also obtained from each child. The forms included a description of the purpose, procedure, possible risks, and the methods taken to ensure that

confidentiality is maintained. The graduate student also described the risks, benefits, confidentiality procedure, and the concept of voluntary permission to the child and their parents to ensure that all participants understood the study and how to answer any questions. They were also informed that for their participation and time, they would receive $75 compensation for each interview. Furthermore, if the participant traveled for the interview under 100 miles (one-way) they would be given an additional $50 and if the participant traveled over 100 miles (one-way) they would be given an additional $100. The parent also signed a release waiver in order to allow the researcher to obtain information from the child's teachers, doctors, and therapists.

If the child and parent agreed to continue with the study, the parent was provided with a demographics questionnaire to complete. During the course of the assessment, the children and their parents were given an unstructured interview in which they told a story about their perceptions of the fire. In addition, they were provided with instructions and given self-report measures to complete regarding their experiences related to the fire as well as their psychological functioning. All measures were completed under supervision of a graduate student. The entire interview took approximately three hours to complete.

At the completion of the interview, the parent was reminded that the interviewer would be back for a follow-up in approximately six months, seven to ten months after the fire, and a date was tentatively scheduled. A business card for the Fire Grant project was then given to the parent with the date of the next scheduled interview on it. The current study will examine data from only a portion of the first completed interview.

# CHAPTER 3

# RESULTS

## Descriptive Statistics

For all categorical and continuous variables (exposure, overall loss, type of loss, anxious symptoms, depressive symptoms, internalizing and externalizing behaviors, type of fears, impact of positive and negative life events, type of coping style, and source of social support), sample sizes, means, standard deviations, observed minimum, observed maximum, skewness, standard error, kurtosis, and percentages were calculated. These statistics were computed for all variable scales within each instrument (FRTE, RLS, RLQ, RCMAS, CDI, CBCL, YSR, FSSC-R, LEC, HICUPS, and SSS-C) and are presented in Tables 3-13. These results serve as descriptive data pertaining to the sample.

This descriptive data was used to examine the most commonly reported anxious, depressive, and behavioral symptoms across all children following a residential fire. Results indicate that the most commonly reported anxiety symptom was worry/ oversensitivity ($M$ = 4.48, $SD$ = 3.65), followed by physiological ($M$ = 3.39, $SD$ = 2.89) and concentration ($M$ = 2.17, $SD$ = 2.09). All paired samples t-tests across anxiety symptoms were significant, $p$ <.01. With regard to depressive symptoms, the most commonly experienced symptom was anhedonia ($M$ = 3.24, $SD$ = 2.82), and subsequently negative mood ($M$ = 2.08, $SD$ = 1.89), interpersonal problems ($M$ = .72, $SD$ = 1.01), ineffectiveness ($M$ = 1.27, $SD$ = 1.48), and negative self-esteem ($M$ = 1.14, $SD$ = 1.53). All paired samples t-tests across depressive symptoms were significant, $p$ <.02, with one exception. There was no significant difference across report of ineffectiveness and negative self-esteem, $p$ =.39. Children reported slightly lower levels of internalizing symptoms ($M$ = 47.89, $SD$ = 12.50) when compared to their parents ($M$ = 50.05, $SD$ = 13.19). However, this

finding was not significant, $t$ (50) = 1.16 $p$ = .25. Externalizing symptoms were equally reported by both children and their parents, $t$ (50) = .21, $p$ = .83. There were no significant differences across internalizing and externalizing symptoms for both child, $t$ (52) = -1.35, $p$ = .18, and parent report, $t$ (90) = -.46, $p$ = .65. In addition, fear of failure and criticism ($M$ = 34.51, $SD$ = 8.49) was the most commonly reported fear, followed by the unknown ($M$ = 26.24, $SD$ = 6.56), minor injury/ small animal ($M$ = 26.12, $SD$ = 7.03), danger and death ($M$ = 23.16, $SD$ = 6.68), medical fears ($M$ = 6.31, $SD$ = 1.98), and other ($M$ = 7.76, $SD$ = 1.85). All paired samples t-test comparisons across type of fear were significant, $p$ <.01, with one exception. Fear of the unknown was not significantly different from fear of minor injury/ small animal, $p$ = .82.

Reliability was calculated for each assessment measure. Across all measures, internal consistency was high. Results were as follows: RLS á = .8565, RLQ á = .9448, CDI á = .8469, FSSC-R á = .9658, RCMAS á = .8387, SSC-R á = .9287, and HICUPS á = .9236. Alphas were not calculated for the LEC because there were too few cases.

Item-total correlations, and alpha-if-item-dropped were also computed across all scales for each measure. Item-total correlations were reviewed and were within an acceptable range across all measures with the exception of the RLQ. The RLQ had an item-total correlation range of -.005 to .76; specific items of concern are questions 1 and 48. Results of item-total correlations and alpha-if-item-dropped are displayed in Table 14. The univariate z-test was also calculated for all scale distributions to determine the significance of any deviations from the normal distribution using kurtosis/ SE kurtosis> 1.96 and skewness/ SE skewness> 1.96.

Inferential Statistics

For all frequency data (number of anxious symptoms, depressive symptoms, internalizing behaviors, externalizing behaviors, positive life events, negative life events, and fears), gender

differences were examined. A series of independent samples t-tests were run using gender as the independent variable and depression total, fear total, two internalizing symptom totals (1 parental report total and 1 child report total), two externalizing symptom totals (1 parental report total and 1 child report total), and anxiety total as the dependent variables. Results indicated significant differences across parental report of internalizing behaviors, $t$ (89) = -2.078, $p$ =.04, Partial Eta Squared = .04. Specifically more internalizing behaviors were reported for males ($M$ = 53.17, $SD$ = 14.70) when compared to females ($M$ = 47.50, $SD$ = 11.32). There were no significant differences across child report of internalizing symptoms. In addition, gender differences across total support regarding the fire approached significance, $t$ (92) = 1.98, $p$ =.05, Partial Eta Squared = .04. Such that females ($M$ = 8.43, $SD$ = 2.71) may receive more social support following a fire than males ($M$ = 7.28, $SD$ = 2.92). There were no other significant gender differences.

A series of independent samples t-tests was run across all additional measures to investigate whether any gender differences (2 levels) are present. Results indicated a significant gender difference across exposure, $t$ (94) = 2.15, $p$ =.03, Partial Eta Squared = .05. More females reported being at home at the time of the fire ($N$ =52, $M$ = 1.56, $SD$ = 0.50) when compared to males ($N$ =44, $M$ = 1.34, $SD$ = 0.48).

*Dependent variables and demographics.* A series of t-tests and ANOVA's were computed for each dependent variable total to ensure that ethnicity (2 levels; European American and African American); maternal education (2 levels; no college (less than 7$^{th}$ grade, junior high school, partial high school, high school graduate) college or beyond (partial college, college or university graduate, and graduate professional training); family structure (3 levels; single, partnered (cohabiting, married, divorced-remarried, and widowed-remarried) and other (widowed, separated, divorced); and SES (lower, upper) were not moderators, mediators, or

covariates. For all t-tests and ANOVA's, the dependent variable totals were used; depression total, fear total, two internalizing symptom totals (parent and child report), two externalizing symptom totals (parent and child report), and anxiety total.

It was hypothesized that there would be group differences across ethnicity, such that African American children will endorse more anxious and depressive symptoms, fears, and internalizing behaviors when compared to European American children. This hypothesis was tested using an independent samples t-test to examine the relationship between ethnicity and the dependent variables totals. Results did not support the hypothesis, no significant ethnic differences were found across the dependent variables.

An independent samples t-test was conducted to examine the relationship between maternal education (2 levels) and the dependent variables totals. Results did not indicate any significant differences across maternal education. A one-way ANOVA was also run to investigate the relationship between maternal education utilizing all 7 levels and the dependent variable totals. Results indicated that there is a significant difference across maternal education for total depression, $F$ (5,81) = 2.67, $p$ = .03. Post Hoc analysis using the Bonferroni, $p$ = .04, revealed that children whose mother's had a partial high school education ($N$ = 14, $M$ = 12.14, $SD$ = 8.05) reported more depressive symptoms when compared to children whose mother's were college or university graduates ($N$ = 10, $M$ = 3.60, $SD$ = 3.17).

In order to examine the relationship between family structure (3 levels) and the dependent variable totals a one-way ANOVA was run. Results were not significant. In addition, a one-way ANOVA was run utilizing all 8 levels of family structure. Results were also not significant.

An independent samples t-test was conducted to explore the relationship between SES and the dependent variable totals. For the purpose of this analysis, SES was divided into two levels, lower and upper, based on the median annual income for the sample (*Median* = 22,000). Families whose incomes were above the median were considered to be of upper SES and families with incomes that were equal to or below the median were considered to be of lower SES. Results indicated that there was a significant difference across SES for total anxiety, $t$ (63) = 2.41, $p$ = .02. Specifically, children who were of a lower SES ($N$ = 36, $M$= 12.79, $SD$ = 9.28) endorsed more anxiety symptoms when compared to children of upper SES ($N$ = 29, $M$= *7.93*, $SD$ = 6.28). In addition, a difference across SES for total depression approached significance, $t$ (60) = 1.99, $p$ = .05. Therefore, children of lower SES ($N$ = 35, $M$= *10.18*, $SD$ = 7.39) may experience more depressive symptoms when compared to children of an upper SES ($N$ = 27, $M$=*6.74*, $SD$ = 5.77).

*Relationship between ethnicity and the independent variables*. A two-way contingency table analysis was conducted to examine the relationships between ethnicity (2 levels: European American and African American), and both exposure (2 levels: at home and not at home) and loss (2 levels: high and low). Results indicated that ethnicity was unrelated to both exposure, $X^2$ (1, $N$ = 96) = 1.25, $p$ = .27, Phi = .11, and loss, $X^2$ (1, $N$ = 99) = 3.29, $p$ = .07, Phi = -.18.

*Factor/ scale correlations*. A series of correlations were computed to determine if the factors on the RLS and RLQ were highly correlated. The factor correlations ranged from .04 to .44 on the RLS and .35 to .80 on the RLQ. Due to the variability across factor correlations, the relative factors were used as predictors for loss. Correlations were also computed to determine if each factor is correlated with the total factor score for loss. Correlations between the total score

and factor scores ranged from .54 to .76 on the RLS and .79 to .87 on the RLQ. Results are displayed in Table 15.

Within scales correlations were run for the following measures: RCMAS, CDI, CBCL, YSR, FSSC-R, HICUPS, SSS-C, and LEC. The correlations between individual factors and total scores were also examined. The results are displayed in Table 16. Additionally, correlations across scales that measure similar characteristics or constructs were computed. Results indicate that correlations range from .07 to .67. The presence of moderate across scale correlations suggests that the CDI and YSR are correlating similarly within constructs and between constructs. These moderate correlations across anxiety, depression, and behavioral scales challenge the convergent and divergent validity of these measures. Across scale correlations above .50 are presented in Table 17.

*Correlations across parent and child reports*. Correlations were conducted between the RLS and RLQ and the CBCL and YSR. The purpose of these correlations was to assess if there are differences between parental and child report of the same construct. A linear regression analysis was conducted to examine the strength of the relationship between the RLS and RLQ. There is a direct relationship between the RLQ and RLS across total loss, $F$ (1,65) = 13.08, $p <$ .01. The correlation between the RLS and RLQ on total loss was .41. Approximately 15.5% of the variance of the RLS was accounted for by its relationship with the RLQ. Paired samples t-tests were also conducted across the RLS and RLQ on object, condition, personal characteristic, and energy loss. Results indicated a significant difference between object loss on the RLQ and RLS, $F$ (1,65) = 67.83, $p <$ .01. Children reported lower levels of object loss ($N$ =67, $M$ = 7.76, $SD$ = 4.69) when compared to parental report of object loss ($N$ =67, $M$ = 24.34, $SD$ = 11.23).

The RLQ was not completed by the entire sample, therefore; only the RLS was used as a measure of loss in the analysis.

Regression analysis was conducted to examine the strength of the relationship between the CBCL and YSR on internalizing, externalizing, and total symptoms. There was a direct relationship between the CBCL and YSR across internalizing symptoms, $F$ (1,49) = 4.39, $p$ = .04, and total symptoms, $F$ (1,48) = 4.57, $p$ =.04. There was not a significant relationship between the two measures across externalizing symptoms. The correlations between the CBCL and YSR on internalizing and total symptoms were .29 and .30, respectively. Approximately 6.4% of the variance in internalizing symptoms, and 6.8% of the variance in total symptoms on the CBCL was accounted for by its relationship with the YSR. These two measures were not highly correlated, therefore; both measures will be evaluated separately throughout the analysis.

*Relationship between loss and exposure*. For the purpose of analysis, loss was divided into 2 levels, low and high, using the mean loss total score on the RLS ($M$ = 14.53, $SD$ =8.46). Scores that were above the mean were considered high loss and scores that were below the mean were considered low loss. A two-way contingency table analysis was conducted to examine the relationship between loss (2 levels: high and low) and exposure (2 levels: at home and not at home). Results indicate that loss and exposure were significantly related, $X^2$ (1, $N$ = 96) = 4.75, $p$ = .029, Phi = .22. The proportion of high loss for individuals who were at home and not at home, were .34 and .57, respectively.

An ANOVA was calculated to further examine the relationships between exposure (2 levels) and loss. For the purpose of the ANOVA, loss was composed of four scales (object, condition, personal characteristics, and energy). Homogeneity of variances was assumed across the child report of object loss, but not across the adult report. Results indicate a significant

relationship between exposure and object loss as reported by the child, $F$ (1,94) = 14.48, $p$ < .01, and the parent, $F$ (1,65) = 16.11, $p$ < .01. Specifically, children who were not at home during the fire ($N$ =44, $M$ = 9.39, $SD$ = 4.26) reported higher object loss when compared to children who were at home during the fire ($N$ =52, $M$ = 6.00, $SD$ = 4.41). Similarly, parents of children who were not at home during the fire ($N$ =34, $M$ = 29.24, $SD$ = 6.55) reported higher object loss than parents of children who were at home during the fire ($N$ =33, $M$ = 19.30, $SD$ = 12.81).

*Relationships between the dependent and independent variables*. A 2 x 2 MANOVA was run using the dependent variable totals to examine if there is an interaction between loss (2 level) and exposure (2 levels). For the purpose of this analysis, two separate 2 x 2 MANOVA's were conducted, one used the dependent variables reported by the child and one used the dependent variables reported by the parent. Results indicated that the interaction between loss and exposure on total anxiety was significant, $F$ (1, 43) = 4.47, $p$ = .04, Partial Eta Squared = .09. There were no other significant findings.

A series of independent samples t-test were also run to answer the research question: Is there a relationship between resource loss and symptoms of anxiety and depression in children impacted by a residential fire? It is predicted that those children who experienced a greater loss of resources are more likely to possess anxious and depressive symptoms, and evidence internalizing behaviors and fears than children who experienced a lesser loss. Therefore, resource loss will be directly related to anxious and depressive symptomology following a residential fire. For the purpose of this analysis, loss consisted of two levels, low and high. Results did not indicate any significant differences across loss.

In addition, differences in the dependent variables as a function of exposure were examined in a series of independent samples t-tests. It is hypothesized that exposure will be

highly correlated with symptoms of anxiety and depression. Children who are exposed to the fire will be more likely to demonstrate symptoms of anxiety and depression, internalizing behaviors, and fears when compared to children who were not exposed. Results indicated that there was a significant relationship between level of exposure (2 levels) and parental report of child internalizing symptoms, $t$ (86) = 2.48, $p$ = .02. Specifically, more internalizing symptoms were reported for children who were at home during the fire ($N$ = 48, $M$ =53.29, $SD$ = 13.73) when compared to children who were not at home ($N$= 40, $M$ =46.43, $SD$ = 11.88). There were no other significant differences across exposure.

A series of multiple regressions was conducted to evaluate how well the four loss scales and exposure predicted the dependent variable totals. Results indicated that the linear combination of loss and exposure was significantly related to parental report of child internalizing symptoms, $F$ (5, 82) = 2.41, $p$ = .04). Approximately 8% of the variance in internalizing symptoms on the CBCL was accounted for by the linear combination of loss and exposure. Only the partial correlations between internalizing symptoms and both personal characteristic loss ($p < .05$) and exposure ($p < .01$) were significant. Personal characteristic loss and exposure independently accounted for 3.4% and 6.7% of the variance in internalizing symptoms, respectively.

*Relationship between the independent, dependent, and moderating variables*. A total of eight MANCOVA's were calculated to examine the relationships between each individual independent variable, loss and exposure; and the three proposed moderators, social support, coping style, and life events; and the four dependent variables, anxious symptoms, depressive symptoms, behaviors, and fears. For each independent variable, 4 MANCOVA's were calculated, one for each dependent variable. The purpose of the MANCOVA's is to determine if

these factors act as covariates or moderators to the relationships between the two independent variables and the four dependent variables. It is hypothesized that the relationships between resource loss and psychological symptoms, and exposure and psychological symptoms will be strengthened by the impact of negative life events that the child has experienced during the year of the fire. Similarly, it is also predicted that high social support and effective child coping styles will be associated with positive adjustment following a residential fire.

For the purpose of this analysis, loss, as assessed by the RLS, consisted of two levels (high and low) and exposure, as measured by the FRTE, two levels (at home, not at home). The mean loss score served as the cut-off score between high and low loss. In addition, social support, as measured by the SSS-C, consisted of two scales (total support and total fire support), coping style, as measured by the HICUPS, two scales (active and avoidant coping), and the impact of life events, two scales (positive life change and negative life change). The three moderators were treated as covariates in the analysis. Four MANCOVA's were computed to examine the relationship between loss, the moderators, and each of the 4 dependent variables. Four additional MANCOVA's were calculated to examine the relationship between exposure, the moderators, and the 4 dependent variables.

The first MANCOVA examined the relationship between loss and anxious symptoms (3 scales: physiological, worry/ oversensitivity, and concentration) measured by the RCMAS. The main effect of loss on anxiety when covarying the impact of negative life events was significant for anxious concentration, $F$ (1, 81) = 5.33, $p$ =.02, Beta = .12. Similarly, the main effect of loss on anxiety when covarying total support was significant for worry/ oversensitivity, $F$ (1, 81) = 4.91, $p$ =.03, Beta = -18; and total anxiety, $F$ (1, 81) = 4.78, $p$ =.03, Beta = -.38. Additionally, the

main effect for loss when covarying total support regarding the fire approached significance for worry/ oversensitivity, $F$ (1, 81) = 3.93, $p$ = .05, Beta = -.29.

The second MANCOVA examined the relationship between loss and depressive symptoms (5 factors: negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative self-esteem) as assessed by the CDI. The main effect of loss on depressive symptoms when covarying perceived impact of negative life events was significant for negative mood, $F$ (1, 81) = 7.78, $p$ <.01, Beta = .12; ineffectiveness, $F$ (1, 81) = 13.05, $p$ <.01, Beta = .14; anhedonia, $F$ (1, 81) = 5.79, $p$ =.02, Beta = .17; negative self-esteem, $F$ (1, 81) = 8.25, $p$ =.01, Beta = .10; and total depression, $F$ (1, 81) = 12.61, $p$ <.01, Beta = .57. The main effect of loss on depressive symptoms when covarying an active coping style was significant for interpersonal problems, $F$ (1, 81) = 7.23, $p$ <.01, Beta = -.15; and anhedonia, $F$ (1, 81) = 4.19, $p$ =.04, Beta = -.37. Additionally, the main effect of loss on depressive symptoms when covarying an avoidant coping strategy was significant for interpersonal problems, $F$ (1, 81) = 7.05, $p$ =.01, Beta = .20. Lastly, the main effect of loss on depressive symptoms when covarying total support was significant for negative mood, $F$ (1, 81) = 6.24, $p$ =.02, Beta = -.10; negative self-esteem, $F$ (1, 81) = 8.62, $p$ <.01, Beta = -.10; and total depression, $F$ (1, 81) = 5.05, $p$ =.03, Beta = -.31.

The third MANCOVA examined the relationship between loss and behaviors (2 factors: internalizing and externalizing) measured by the CBCL and YSR. The main effect of loss on behaviors when covarying the impact of negative events was significant for child report of internalizing, $F$ (1, 38) = 6.40, $p$ =.02, Beta = .97; externalizing, $F$ (1, 38) = 8.12, $p$<.01, Beta = 1.27; and total symptoms, $F$ (1, 38) = 11.68, $p$ <.01, Beta = 1.34.

The fourth MANCOVA examined the relationship between loss and fears (6 factors: failure and criticism, unknown, minor injury/ small animals, danger and death, medical fears,

other) as evaluated by the FSSC-R. The main effect of loss on fears when covarying the perceived impact of negative life events was significant for fear of failure and criticism, $F$ (1, 84) = 6.56, $p$ =.01, Beta = .53; the unknown, $F$ (1, 84) = 10.89, $p$<.01, Beta = .50; minor injury/small animals, $F$ (1, 84) = 4.18, $p$ =.04, Beta = .37; and total fear, $F$ (1, 84) = 8.05, $p$ <.01, Beta = 1.85. The main effect of loss on fears when covarying total support regarding the fire was significant for fear of failure and criticism, $F$ (1, 84) = 8.48, $p$ <.01, Beta = -.98; the unknown, $F$ (1, 84) = 10.52, $p$ <.01, Beta = -.81; minor injury/small animals, $F$ (1, 84) = 4.29, $p$ =.04, Beta = -.62; medical fears, $F$ (1, 84) = 11.66, $p$<.01, Beta = -.28; other, $F$ (1, 84) = 7.31, $p$ <.01, Beta = -.20; and total fear, $F$ (1, 84) = 9.53, $p$ <01, Beta = -3.28.

These four MANCOVA's were repeated using exposure as the independent variable. The main effect of exposure on anxiety when covarying the impact of negative life events was significant for anxious concentration, $F$ (1, 78) = 4.25, $p$ =.04, Beta = .11. The main effect of exposure on anxiety when covarying total support was significant for symptoms of worry/ oversensitivity, $F$ (1, 78) = 5.28, $p$ =.02, Beta = -.20; and total anxiety, $F$ (1, 78) = 4.46, $p$ =.04, Beta = -.39. Additionally, the main effect of exposure on anxiety when covarying total support regarding the fire was significant for symptoms of worry/ oversensitivity, $F$ (1, 78) = 4.68, $p$ =.03, Beta = -.32; and total anxiety, $F$ (1, 78) = 4.11, $p$ <.05, Beta = -.63.

In terms of depressive symptoms, the main effect of exposure when covarying the impact of negative life events was significant for negative mood, $F$ (1, 78) = 6.60, $p$ =.01, Beta = .11; ineffectiveness, $F$ (1, 78) = 12.14, $p$ <.01, Beta = .13; anhedonia, $F$ (1, 78) = 5.27, $p$ =.02, Beta = .16; negative self-esteem, $F$ (1, 78) = 8.31, $p$ <.01, Beta = .10; and total depression, $F$ (1, 78) = 11.07, $p$<.01, Beta = .52. The main effect of exposure on depressive symptoms when covarying an active coping style was significant for interpersonal problems, $F$ (1, 78) = 6.22, $p$ =.02, Beta =

-.28; and anhedonia, $F$ (1, 78) = 3.96, $p$ =.05, Beta = -.63. In addition, the main effect of exposure on depressive symptoms when covarying an avoidant strategy of coping was significant for interpersonal problems, $F$ (1, 78) = 6.00, $p$ =.02, Beta = .25. Lastly, the main effect of exposure on depressive symptoms when covarying total support was significant for negative mood, $F$ (1, 78) = 5.62, $p$ =.02, Beta = -.10; negative self-esteem, $F$ (1, 78) = 9.70, $p$ <.01, Beta = -.11; and total depression, $F$ (1, 78) = 4.93, $p$ =.03, Beta = -.33.

Upon examining child behaviors, the main effect of exposure when covarying the impact of negative life events was significant for child report of internalizing, $F$ (1, 36) = 8.89, $p$ <.01, Beta = 1.01; externalizing, $F$ (1, 36) = 9.69, $p$ <.01, Beta = 1.23; and total symptoms, $F$ (1, 36) = 15.34, $p$ <.01, Beta = 1.33.

In reference to child fears, the main effect of exposure when covarying the impact of negative life events was significant for fear of failure and criticism, $F$ (1, 81) = 6.63, $p$ =.01, Beta = .51; the unknown, $F$ (1, 81) = 8.82, $p$ <.01, Beta = .45; minor injury/small animals, $F$ (1, 81) = 4.57, $p$ =.04, Beta = .38; medical fears, $F$ (1, 81) = 3.98, $p$ =.05, Beta = .10; and total fear, $F$ (1, 81) = 7.57, $p$ <.01, Beta = 1.74. The main effect of exposure on fear when covarying total support regarding the fire was significant for fear of failure and criticism, $F$ (1, 81) =6.52, $p$ <.01, Beta = -.85; the unknown, $F$ (1, 81) =9.99, $p$ <.01, Beta = -.81; medical fears, $F$ (1, 81) =10.37, $p$ <.01, Beta = -.27; other, $F$ (1, 81) = 7.21, $p$ < .01, Beta = -.20; and total fear, $F$ (1, 81) = 8.01, $p$ <.01, Beta = -3.04.

The influence of ethnicity, as possible moderator, was also explored in the 8 MANCOVA's. Ethnicity was not found to serve as a covariate between loss, exposure, and the four dependent variables.

*Effect sizes for the relationship between the independent, dependent, and moderating variables.* To further investigate the significant findings additional MANOVA's or univariate ANOVA's, when applicable, were conducted by examining low and high scores on the moderators. Specifically, scores on the impact of negative life events, total support, support regarding the fire, active coping, and avoidant coping were split into two groups, high and low, using the median. Scores at or above the median were considered high and scores below the median were considered low. Results are displayed in Table 18.

*Relationship between independent variables and moderators and dependent variables and moderators*. Partial correlation analysis was conducted to examine the relationships between the two independent variables, loss and exposure, and the three moderators, social support, coping style, and life events. The moderators were entered one at a time, two at a time, and then all three. The purpose of this analysis is to assess for multi-collinearity between the independent variables and the moderators. Results indicate that all zero-order correlations were at or below .30. Thus, there is no significant overlap across variables. A series of correlations was also run to examine the relationships between the three moderators and the four dependent variable totals. Results indicated child self-report of internalizing symptoms and total depression were moderately correlated with the impact of negative life events. In addition, total anxiety and total depression were moderately related to total support. These relationships warrant future investigation.

Correlation matrices were also computed in order to further examine the relationships between the three moderators and both the independent and dependent variables. Correlations were conducted using all the dependent variable scales. For the purpose of the analysis, loss was composed of four scales and exposure consisted of two levels. The ranges of the correlations

between the moderators and both the independent and dependent variable scales are displayed in Table 19.

# CHAPTER 4

# DISCUSSION

## Research Findings

The researcher's hypothesis that across all children the most commonly reported anxious, depressive, and behavior symptoms are worry/ oversensitivity and physiological complaints, negative mood, and internalizing behaviors, respectively, was partially supported. Regarding anxiety, worry/ oversensitivity and physiological symptoms were reported more frequently than concentration difficulties. Similarly, Keppel-Benson et al. (2002) found that approximately 50% of children involved in a motor vehicle accident reported experiencing distressful symptoms including avoidance, sleep difficulties, irritability, and PTSD symptomology 9 months after the accident occurred. Specific fears and sleep disturbances have also been commonly reported by children who experienced an earthquake (Gordon & Maida, 1989). In the current study, the most common fear described was fear of failure and criticism. In addition, anhedonia and negative mood were the two most commonly experienced depressive symptoms. However, the frequency of internalizing and externalizing symptoms experienced by the children was equal across child and parent reports. Although, results indicate that parents did report slightly higher levels of internalizing symptoms when compared to their children, this difference was not significant.

Results suggest that there are gender differences with regard to parental report of how children respond to a residential fire. Specifically, parents reported more internalizing symptoms for males when compared to females. There were no gender differences across child reports. This finding is inconsistent with previous research, which suggests that when exposed to a traumatic event; female children experience higher psychological distress levels and rates of PTSD symptomology when compared to male children (Jones et al., 1993; Shannon et al., 1994;

Vernberg et al., 1996; Llabre & Hadi, 1997). It may be that due to a cultural gender biases, these parents may have been less sensitive to internalizing behaviors in their daughters. Results also indicate that females receive slightly higher social support following the fire than males were. However, this comparison only approached significance. This finding may also explain the higher incidence of internalizing symptoms found in males, namely, that they are not receiving as much support as their female counterparts. This finding is comparable to those of Llabre and Hadi's (1997) regarding adjustment to traumatic experiences in the Gulf War. Within the current study, exposure was also greatest in the female population, such that more females reported being home at the time of the fire when compared to males.

The researcher's hypothesis that African American children will endorse more anxious and depressive symptoms, fears, and internalizing behaviors when compared to European-American children was not supported. Specifically, no ethnic differences were found across symptomology. It may be that an ethnic difference does exist, and that the measures used in this study were unable to discover it because of a lack of cultural sensitivity. However, Vernberg et al. (1996) yielded similar conclusions regarding adjustment to a hurricane. Overall, the influence of ethnicity on child adjustment is unclear in the literature. Specifically, one study, regarding a hurricane, indicated that European American children experienced higher level of distress when compared to African American children (Jones et al., 1993). However, other studies have found African American children to have higher levels of PTSD symptomology and anxiety when compared to European American children (Lonigan et al., 1991; Shannon et al., 1994). Results of the current study also indicate that ethnicity is not related to level of exposure.

Results suggest that familial demographics may influence how children respond to a residential fire. For example, children whose mother had a partial high school education reported

more depressive symptoms when compared to children whose mother's graduated from college or a university. In addition, children who were of a lower SES endorsed more anxiety symptoms when compared to children of upper SES. Similarly, results suggest that children of lower SES may also experience more depressive symptoms when compared to children of an upper SES. However, this finding only approached significance. It may be that families of these children receive less social and financial support after the fire when compared to families of higher SES. Thus, the child and his or her family may experience difficulties coping with the aftermath of a fire. In addition, a child's family structure was found to be unrelated to symptomology.

A child's level of exposure to a residential fire appears to be related to perceptions of loss. Namely, children who were not at home during the fire and their parents both reported higher material loss when compared to the reports of children, who were home at the time of the fire, and their parents. Overall, children reported lower levels of material loss when compared to their parents. It may be that families who were home at the time of the fire were able to remove some possessions from their homes or notify emergency help to prevent the fire from spreading, whereas families who were not at home were unable to do this.

It was also predicted that those children who experienced a greater loss of resources are more likely to possess anxious and depressive symptoms, and evidence internalizing behaviors and fears than children who experienced a lesser loss. This hypothesis was not supported; loss (high or low) was not related to child symptomology. It could be that these children received social and financial resources to help them cope with or replace their losses, and thus, were minimally affected by the extent of loss they sustained. There is great variability in the literature regarding the influence of personal loss on adjustment following a traumatic event. For example, some researchers have indicated that there is a direct relationship between loss and both child

psychological adjustment following a residential fire (Krim, 1983) and PTSD symptomology after a motor vehicle accident (Keppel-Benson et al., 2002). However, similar to the findings of the current study, other researchers found loss/ injury to be unrelated to child distress after experiencing a hurricane (Jones et al., 1993) or motor vehicle accident (Milgram et al., 1988). Some research postulates that a combination of personal loss and the child's actual experience and/or perception of the event may better explain the child's adjustment following traumatic event. Specifically, several studies have also found that residential damage and more frightening experiences during a hurricane were related to higher symptomology (Lonigan et al., 1991, 1994; Shannon et al., 1994; Vernberg et al., 1996).

The hypotheses that children who are exposed to the fire will be more likely to demonstrate symptoms of anxiety and depression, internalizing behaviors, and fears when compared to children who were not directly exposed to the fire was partially supported. Results indicated that parents of children who were at home during the time of the fire reported that their child evidenced more internalizing behaviors when compared to parents of children who were not at home during the fire. However, exposure was not related to symptoms of anxiety, depression, or fears. In contrast, previous findings have indicated that exposure to a residential fire is associated with higher levels of child PTSD symptomology, distress, and avoidance of stressful events (Jones & Ribbe, 1991; Jones et al., 1991). Additionally, children exposed to a fire evidence greater nervousness, anxiety, denial, sleep and eating difficulties, nightmares, and depression when compared to children who were not directly exposed (Krim, 1983). Trauma research, regarding the aftermath of a lightening strike, has also suggested that the frequency and intensity of child fears and emotional distress are directly related to exposure to the traumatic event (Dollinger et al., 1984). It may be that the children in this study, who were exposed to a

residential fire, did not feel a sense of personal threat and thus were not greatly affected by their experience.

The combination of a child's level of loss and exposure appears to affect a child's total anxiety. Specifically, for children who were home at the time of the fire, those who experienced less loss evidenced higher overall anxiety. For children who were not at home during the fire, greater loss was associated with higher overall anxiety.

The hypothesis that the relationships between resource loss and psychological symptoms, and exposure and psychological symptoms will be strengthened by the perceived impact of negative life events, that the child has experienced during the year of the fire, was supported. Specifically, for children who were greatly impacted by negative life events, the amount of loss and exposure were more strongly related to child symptomology. Results indicated that the influence of both loss and exposure on child symptoms of anxious concentration, negative mood, ineffectiveness, anhedonia, negative self-esteem, and total depression was contingent upon the perceived impact of negative life events experienced by the child. Similarly, this finding was also supported for child self-report of their internalizing, externalizing, and total behavior symptoms. Regarding child fears, the influence of both loss and exposure on fear of failure and criticism, the unknown, minor injury/ small animals, and total fear were also dependent upon the impact of these events. The affect of exposure on medical fears was also mitigated by the negative events. Examination of the effect sizes across low and high levels of the impact of negative life events also indicated support for the influential role of negative life events in moderating between loss and symptoms of anhedonia, as well as child report of internalizing and total behaviors. It appears that life changes after a traumatic event have a significant affect on child adjustment and may serve as a protective or risk factor to the development of symptomology.

It was also predicted that high social support and effective child coping styles would be associated with positive adjustment following the fire. This proposed relationship was supported. Specifically, the effects of both loss and exposure on the child's symptoms of worry/ oversensitivity, negative mood, negative self-esteem, total depression, and total anxiety were impacted by the total support that the child received. Total support regarding the fire also directly influenced the relationship between exposure and child worry/oversensitiviity symptoms and total anxiety, and had a slight influence on the relationship between loss and child worry/ oversensitivity; although, this finding was not significant. The impact of both loss and exposure on fears of failure and criticism, the unknown, other, medical, and total fear was also mitigated by the total support the child received regarding the fire. This support also affected the relationship between fear of minor injury/ small animals and loss. Social support, in general or regarding the fire, appears to moderate most symptoms in a positive manner. However, it may also have a negative impact on some other symptoms.

These findings suggest that social support may serve as a "buffer" between a traumatic event and psychological adjustment. Namely that encouraging children to express their feelings and helping to normalize their emotions after a traumatic event, may lead to positive adjustment, regardless of their actual experience. This conclusion is consistent with previous findings, which suggest that individuals who have strong social support networks are better able to cope with stressors when compared to individuals without these networks (Cohen & Willis, 1985). Mackoud and Nazar (1993) also concluded that children in families who were able to contact friends or relatives for social support reported less psychological problems following a traumatic event compared to children whose families did not have these contacts. Similarly, with regard to female children who had experienced a trauma, lack of social support has been found to be

associated with higher distress (Llabre & Hadi, 1997). In addition, social support was also found to be a predictor of adjustment following a motor vehicle accident (Keppel-Benson et al., 2002).

The influence of both loss and exposure on child anhedonia and interpersonal problems was conditional upon a child's active coping style. An avoidant coping style was also found to affect the impact of both loss and exposure on interpersonal problems. It may be that avoidant coping may moderate some symptoms, but may also have some negative impact on other symptomology. Therefore, use of either an avoidant or active coping style influenced interpersonal problems. Similarly, Vernberg et al. (1996) found that child psychological distress was directly related to the use of coping strategies in general, and that this relationship was independent of the child's social support, level of exposure, and demographics. Overall, results of the current study are comparable to prior conclusions that both social support and coping serve as covariates to the relationship between individual functioning and stressful life events (Billings & Moos, 1980).

Regarding the possible moderating effects of child demographics, ethnicity was not found to influence the relationship between loss and symptoms, and exposure and symptoms.

With regard to measurement validity and reliability, it is important to note that on item-total correlations for the RLQ the range was -.005 to .76. Specific items that loaded poorly were items 1 and 48. Item 1 referred to loss of personal transportation and item 48 referred to loss of loyalty of friends. The poor loading of these items may be due to the low incidence of reported loss of personal transportation of loyalty of friends.

Implications

There are many potential implications of these results. In general, symptoms of anxiety and depression do appear to be common in children after a residential fire. However, the way a

child responds to a traumatic event, such as a residential fire, also appears to be influenced by the child's familial demographics. Namely, children of lower SES or children whose mother's have a lower educational attainment appear to have a greater likelihood of experiencing psychological symptoms.

In addition, level of exposure to a traumatic event, or residential fire, appears to be related to loss and child adjustment. Specifically, higher loss may be associated with lower exposure. This may be because individuals who were home during the time of the fire were able to contact emergency help and thus prevent the fire from spreading further. Additionally, children who are exposed to a traumatic event, such as a residential fire, may also evidence higher internalizing symptoms because of their exposure.

Overall, these findings suggest that child adjustment to a residential fire can best be understood in terms of the child's perception of negative life events, the social support the child receives overall and regarding the fire, and the child's coping abilities. Specifically, the greater the impact of negative life events on the child, and the less social support the child receives, the more likely they are to be affected by the fire, regardless of loss or exposure. Similarly, a child's use of an active coping style was also associated with positive adjustment. In conclusion, child environment and coping abilities appear to be the best predictors of adjustment following a residential fire.

## Limitations

While this study can enhance understanding of children's reactions to a residential fire, several limitations should be noted. First, this study was conducted using secondary data analysis. The researcher did not collect the data to be analyzed and may be unaware of threats to

external or internal validity that were discovered during the course of the actual experiment. Similarly, only certain aspects of a larger research study were examined in the current study.

Secondly, the presence of missing data limits these findings. An experimenter indicated that many families moved away and were unable to be contacted during the experiment. Therefore, many families did not finish completing all measures, specifically the RLQ.

Thirdly, the current sample is also limited, namely all the children and parents were survivors of a residential fire. Perhaps children who experience a familial loss or a more chronic traumatic event may respond differently and evidence higher symptomotology and less efficient coping styles. In addition, most of the families were of a lower SES. This may have limited a family's access to social support systems and resources, as well as affected the child's life experiences. In addition, some of the families were exposed to the same residential fire. Specifically, for each of 4 fires, 2 included families experienced them. Thus, cohort effects may have had an influence on the results.

Fourthly, there was variability in the time that elapsed between the fire and the family interviews. Specifically, interviews were conducted between 6 and 416 days after the fire. Therefore, expressed symptomology may have varied as a function of the time elapsed since the fire. Elapsed time may also have affected both children and parents ability to report retrospectively.

Fifth, all of the measures used in this study were self-reports. Thus, findings are limited by the problems associated with methods of self-report. Similarly, data may have been influenced by children's ability to understand the presented materials. An experimenter indicated that the children had difficulty understanding time related events and reporting retrospectively. The interviews lasted 3-4 hours and the children experienced difficulties sustaining attention.

This inability to maintain attention and fatigue may have affected the accuracy of the children's reporting.

In addition, the HICUPS has very little data supporting its validity and reliability as a measure of coping. Therefore, the internal validity of this measure is unclear.

Lastly, because of the correlational nature of this study, causal relationships cannot be asserted. These shortcomings notwithstanding, this study offers some important contributions to the understanding of how children respond to a residential fire, which will help to form a basis for future investigation into the relations among these variables.

## Suggestions for Future Research

In order to fully understand the impact of residential fires on children, future investigations must be conducted. However, in order to fully understand children's reactions and functioning, child assessment measures which are more developmentally and culturally sensitive need to be developed first. Specifically, due to the mixed findings in the literature regarding ethnicity and reactions to traumatic events, future investigations should be particularly sensitive to incorporate cultural factors into their research methodology. The sensitivity of such measures will ease the administration process, as well as strengthen the internal validity of a study and the meaningfulness of its results.

In future investigations, the findings in this study that approached significance should be explored more fully. Namely, gender differences across social support received regarding a traumatic event, a residential fire, should be further investigated. The potential influence of SES on child depressive symptomology should also be further evaluated in future studies. In addition, the impact of social support regarding a traumatic event on the relationship between loss and symptoms of worry/ oversensitivity in children must also be examined.

The relationship between the proposed moderators and dependent variables is a viable arena for future investigation. Specifically, there was a moderate correlation between the impact of negative life events and both child self-report of internalizing symptoms and total depression, which should be investigated further. A similar relationship between total support and both total anxiety and total depression is also open to future exploration.

Future studies should examine the influence that family environment may have on a child's coping abilities, and response to a traumatic event. Specifically, family cohesion and communication may help to moderate the negative effects of a traumatic event.

This study could also be repeated, conducting interviews closer to the date of the fire. In such a way, immediate reactions to the fire could be examined and participant reports of their experiences would be more accurate. Causal relationships and the stability of child symptoms over time could also be examined in a longitudinal study. Specifically, interviews conducted after designated time-periods following the fire will provide a better understanding of how children respond to a fire, the severity of symptoms, and environmental factors. In addition, the results of this study could be compared to a similar study, using the same measures and population, which investigates symptoms of anxiety and depression in children exposed to a different natural event. By comparing the findings, the differences between the experience of a residential fire and the experience of another natural event could be isolated.

Investigations into viable treatment options to cope with traumatic events should also be continued. Specifically, a population who has experienced the same traumatic event can be divided into different treatment conditions. After establishing a base-rate symptomology for all participants, symptoms of anxiety and depression can be measured over time in each treatment group to examine the contributions of each form of treatment to positive adjustment.

Children's perceptions of the traumatic event, specifically a residential fire, in terms of their assessment of threat or harm should also be investigated in a developmentally appropriate manner in future studies. These perceptions may influence the way a child responds to such an event and his or her overall psychological adjustment. Namely, previous studies have found assessment of harm or threat to be predictive of PTSD symptoms or distress following a motor vehicle accident and hurricane (Milgram, Toubiana, Klingman, Raviv, & Goldstein, 1988; Jones, Frary, Cunningham, & Weddle, 1993). In addition, a child's appraisal of the event may also influence the coping mechanisms they use as well the frequency and intensity of any behavioral or psychological symptoms.

## Summary

The purpose of this study was to examine symptoms of anxiety and depression in children and adolescents following a residential fire. In order to assess reactions to the fire and current psychological functioning, children and their parents completed self-administered questionnaires. Within the sample, the most commonly experienced symptoms were worry/ oversensitivity, anhedonia, negative mood, and fear of failure and criticism. Parents of children exposed to the fire reported more internalizing behaviors for their children when compared to parents of children who were not exposed to the fire. Level of loss due to the fire, was not related to child symptoms. The characteristics of the individual child's environment appeared to influence his or her adjustment following the fire. Specifically, children whose mothers had a partial high school education experienced more depressive symptoms when compared to children whose mothers graduated from a university. However, ethnicity was not related to child symptomology. In addition, factors within the child's environment appear to moderate the association between a traumatic experience, or a residential fire, and a child's psychological

functioning. Namely, the level of support a child received, either in general or regarding the fire, and the child's use of an active coping style was directly associated with positive child adjustment, regardless of the level of exposure or loss. However, children whose lives were impacted by significant negative life events following the fire reported poorer functioning related to level of exposure and loss.

This study contributes to the understanding of how children respond to a residential fire. Specifically, this study examined how characteristics of the traumatic event, as well as environmental and familial factors influence a child's adjustment following the event. Overall, it appears that a child's environment and coping abilities are the best predictors of his or her adjustment following a residential fire.

TABLE 1

Child Age

| Descriptive Information | |
|---|---|
| N | 99 |
| Mean | 11.78 |
| Standard Error | .28 |
| SD | 2.80 |
| Observed Minimum | 8 |
| Observed Maximum | 17 |
| Skewness | .248 |
| Kurtosis | -1.146 |
| Percentages | |
| 25 | 9 |
| 50 | 12 |
| 75 | 14 |
| 100 | 17 |

TABLE 2

Demographic Information

| Descriptive Information | N | Percentages |
|---|---|---|
| Child Gender | 99 | |
| Males | 45 | 54.5% |
| Females | 54 | 45.5% |
| Ethnicity | 99 | |
| African American | 56 | 56.6 |
| European American | 43 | 43.4 |
| Maternal Education | 94 | |
| No College | 42 | 42.4% |
| Less than 7th grade | 0 | 0% |
| Junior high school | 2 | 2.0% |
| Partial high school | 16 | 16.2% |
| High school graduate | 24 | 24.2% |
| College or beyond | 52 | 52.5% |
| Partial college | 38 | 38.4% |
| College or university graduate | 11 | 11.1% |
| Graduate professional training | 3 | 3.0% |
| Missing | 5 | 5.1% |
| Family Structure | 92 | |
| Single | 24 | 24.2% |

| | | | |
|---|---|---|---|
| | Partnered | 42 | 42.4% |
| | Cohabiting | 6 | 6.1% |
| | Married | 36 | 36.4% |
| | Divorced-remarried | 0 | 0% |
| | Widowed-remarried | 0 | 0% |
| | Other | 26 | 26.3% |
| | Widowed | 3 | 3.0% |
| | Separated | 9 | 9.1% |
| | Divorced | 14 | 14.1% |
| | Missing | 7 | 7.1% |
| SES | | 67 | |
| | Lower | 36 | 36.4% |
| | Upper | 31 | 31.3% |
| | Missing | 32 | 32.3% |

TABLE 3

Exposure

| Type of Exposure | N | Percentages |
|---|---|---|
| At home | 52 | 52.5% |
| Not at home | 44 | 44.4% |
| Missing | 3 | 3.0% |

TABLE 4

Overall Loss (2 levels)

| Loss | N | Percentages |
|---|---|---|
| Low loss | 54 | 54.5% |
| High loss | 45 | 45.5% |

TABLE 5

Child Report of Loss

| Level of Loss | Object | Condition | Personal characteristic | Energy |
|---|---|---|---|---|
| N | 99 | 99 | 99 | 99 |
| Mean | 7.62 | 1.24 | 1.68 | 3.98 |
| Standard Error | .46 | .20 | .24 | .40 |
| SD | 4.59 | 2.04 | 2.38 | 3.97 |
| Obs. Minimum | 0 | 0 | 0 | 0 |
| Obs. Maximum | 15 | 9 | 11 | 17 |
| Skewness | -.36 | 2.00 | 1.71 | 1.01 |
| Kurtosis | -1.17 | 3.85 | 2.90 | .54 |
| Percentages | | | | |
| 25 | 3 | 0 | 0 | 0 |
| 50 | 9 | 0 | 0 | 3 |
| 75 | 12 | 2 | 3 | 7 |
| 100 | 15 | 9 | 11 | 17 |

TABLE 6

Parent Report of Loss

| Level of Loss | Object | Condition | Personal characteristic | Energy |
|---|---|---|---|---|
| N | 67 | 67 | 67 | 67 |
| Mean | 24.34 | 7.94 | 12.21 | 21.06 |
| Standard Error | 1.37 | .89 | 1.07 | 1.52 |
| SD | 11.23 | 7.27 | 8.79 | 12.45 |
| Obs. Minimum | 0 | 0 | 0 | 0 |
| Obs. Maximum | 42 | 31 | 31 | 48 |
| Skewness | -.84 | .85 | .39 | .13 |
| Kurtosis | -.21 | .21 | -.96 | -.84 |
| Percentages | | | | |
| 25 | 19 | 2 | 4 | 9 |
| 50 | 27 | 6 | 11 | 21 |
| 75 | 33 | 13 | 19 | 30 |
| 100 | 42 | 31 | 31 | 48 |

TABLE 7

Anxious Symptoms

| Symptoms | Physiological | Worry/oversensitivity | Concentration | Total |
|---|---|---|---|---|
| N | 96 | 96 | 96 | 96 |
| Mean | 3.39 | 4.48 | 2.17 | 10.04 |
| Standard Error | .29 | .37 | .21 | .81 |
| SD | 2.89 | 3.65 | 2.09 | 7.91 |
| Obs. Minimum | 0 | 0 | 0 | 0 |
| Obs. Maximum | 16 | 20.9 | 9 | 45.63 |
| Skewness | 1.33 | 1.15 | 1.01 | 1.34 |
| Kurtosis | 2.62 | 2.77 | .41 | 3.03 |
| Percentages | | | | |
| 25 | 1 | 2 | .25 | 4 |
| 50 | 2.5 | 3.5 | 2 | 9 |
| 75 | 5 | 7 | 3 | 14 |
| 100 | 16 | 20.9 | 9 | 45.63 |

TABLE 8

Depressive Symptoms

| Symptoms | NM | IP | IE | AN | NS | Total |
|---|---|---|---|---|---|---|
| N | 91 | 91 | 91 | 91 | 91 | 91 |
| Mean | 2.08 | .72 | 1.27 | 3.24 | 1.14 | 8.46 |
| Standard Error | .20 | .11 | .16 | .30 | .16 | .72 |
| SD | 1.89 | 1.01 | 1.48 | 2.82 | 1.53 | 6.87 |
| Obs. Minimum | 0 | 0 | 0 | 0 | 0 | 0 |
| Obs. Maximum | 10 | 5 | 6 | 11 | 8 | 32 |
| Skewness | 1.11 | 1.85 | 1.31 | .87 | 1.79 | 1.24 |
| Kurtosis | 2.14 | 4.26 | 1.40 | .04 | 3.89 | 1.27 |
| Percentages | | | | | | |
| 25 | 0 | 0 | 0 | 1 | 0 | 4 |
| 50 | 2 | 0 | 1 | 3 | 1 | 6.23 |
| 75 | 3 | 1 | 2 | 5 | 2 | 12 |
| 100 | 10 | 5 | 6 | 11 | 8 | 32 |

NM = Negative mood

IP= Interpersonal problems

IE= Ineffectiveness

AN= Anhedonia

NS= Negative self-esteem

TABLE 9

Child Behaviors

| Type of Behaviors | Internalizing | | Externalizing | | Total | |
|---|---|---|---|---|---|---|
| | Child | Parent | Child | Parent | Child | Parent |
| N | 53 | 91 | 53 | 91 | 52 | 91 |
| Mean | 47.89 | 50.05 | 50 | 50.57 | 49.56 | 50.51 |
| Standard Error | 1.72 | 1.38 | 1.71 | 1.53 | 1.73 | 1.60 |
| SD | 12.50 | 13.19 | 12.46 | 14.56 | 12.45 | 15.29 |
| Obs. Minimum | 26 | 31 | 25 | 30 | 26 | 23 |
| Obs. Maximum | 87 | 84 | 77 | 85 | 83 | 80 |
| Skewness | .49 | .60 | .24 | .38 | .68 | .06 |
| Kurtosis | .82 | -.39 | -.73 | -.81 | .05 | -.87 |
| Percentages | | | | | | |
| 25 | 41 | 39 | 41.5 | 38 | 40.25 | 38 |
| 50 | 45 | 48 | 49 | 50 | 45.5 | 48 |
| 75 | 55 | 59 | 61 | 61 | 56.75 | 64 |
| 100 | 87 | 84 | 77 | 85 | 83 | 80 |

TABLE 10

Child Fears

| Type of Fears | FC | UK | MI | DD | MF | OT | Total |
|---|---|---|---|---|---|---|---|
| N | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Mean | 34.51 | 26.24 | 26.12 | 23.16 | 6.31 | 7.76 | 124.10 |
| Standard Error | .85 | .66 | .71 | .67 | .20 | .19 | 2.75 |
| SD | 8.49 | 6.56 | 7.03 | 6.68 | 1.98 | 1.85 | 27.40 |
| Obs. Minimum | 23 | 18 | 17 | 12 | 4 | 6 | 80 |
| Obs. Maximum | 54 | 50 | 47 | 35 | 12 | 14 | 209 |
| Skewness | .53 | 1.17 | .73 | .01 | 1.01 | 1.03 | .60 |
| Kurtosis | -.87 | 1.71 | -.04 | -1.10 | .81 | .61 | .21 |
| Percentages | | | | | | | |
| 25 | 28 | 21 | 20 | 18 | 5 | 6 | 104 |
| 50 | 33 | 25 | 25 | 23 | 6 | 7 | 123 |
| 75 | 42 | 30 | 32 | 29 | 7 | 9 | 145 |
| 100 | 54 | 50 | 47 | 35 | 12 | 14 | 209 |

FC = Failure and criticism

UK= Unknown

MI= Minor injury/ small animal

DD= Danger and death

MF= Medical fears

OT= Other

TABLE 11

Life Events

| Type of Life Event | Positive | Negative |
|---|---|---|
| N | 99 | 99 |
| Mean | 5.43 | 4.45 |
| Standard Error | .47 | .46 |
| SD | 4.71 | 4.61 |
| Obs. Minimum | 0 | 0 |
| Obs. Maximum | 19 | 28 |
| Skewness | 1.20 | 1.78 |
| Kurtosis | .87 | 5.68 |
| Percentages | | |
| 25 | 2 | 1 |
| 50 | 4 | 3 |
| 75 | 7 | 7 |
| 100 | 19 | 28 |

TABLE 12

Child Coping

| Coping Style | Active | Avoidant |
|---|---|---|
| N | 93 | 93 |
| Mean | 2.43 | 2.76 |
| Standard Error | .07 | .07 |
| SD | .66 | .71 |
| Obs. Minimum | 1 | 1 |
| Obs. Maximum | 3.88 | 4.0 |
| Skewness | -.09 | -.58 |
| Kurtosis | -.51 | -.38 |
| Percentages | | |
| 25 | 1.85 | 2.25 |
| 50 | 2.44 | 2.88 |
| 75 | 2.88 | 3.25 |
| 100 | 3.88 | 4.0 |

TABLE 13

Child Social Support

| Type of Support | Total support | Total fire support |
|---|---|---|
| N | 94 | 94 |
| Mean | 28.13 | 7.90 |
| Standard Error | .56 | .29 |
| SD | 5.47 | 2.86 |
| Obs. Minimum | 12 | 1 |
| Obs. Maximum | 36 | 12 |
| Skewness | -.68 | -.33 |
| Kurtosis | .13 | -.56 |
| Percentages | | |
| 25 | 25 | 6 |
| 50 | 29 | 8 |
| 75 | 32 | 10 |
| 100 | 36 | 12 |

TABLE 14

Reliability Correlations for Measurement Scales

| Scales | Item-total | Alpha-if-item dropped |
|---|---|---|
| RLS | .13- .54 | .85 or above |
| RLQ | -.005- .76 | .94 or above |
| RCMAS | .02- .63 | .83 or above |
| CDI | .16- .61 | .83 or above |
| FSSC-R | .08- .71 | .96 or above |
| SSS-C | .20- .89 | .92 or above |
| HICUPS | .28- .68 | .92 or above |

TABLE 15

Factor Correlations on the RLS and RLQ

| Factor Comparisons | Correlation |
|---|---|
| RLS | |
| OB- PC | .11 |
| OB- CO | .04 |
| OB- EN | .12 |
| PC- CO | .40 |
| PC- EN | .42 |
| CO- EN | .44 |
| OB- Total | .62 |
| PC- Total | .63 |
| EN- Total | .76 |
| CO- Total | .54 |
| RLQ | |
| OB- PC | .48 |
| OB- CO | .35 |
| OB- EN | .58 |
| PC- CO | .73 |
| PC- EN | .80 |
| CO- EN | .68 |
| OB- Total | .80 |

| | |
|---|---|
| PC- Total | .87 |
| EN- Total | .82 |
| CO- Total | .79 |

OB= Object loss

CO= Condition loss

PC= Personal characteristic loss

EN= Energy loss

TABLE 16

Within Scale Correlations

| Measures | Range Across Scales |
|---|---|
| RCMAS | .75- .93 |
| CDI | .31-.88 |
| CBCL | .70- .92 |
| YSR | .59- .89 |
| FSSC-R | .43- .90 |
| LEC | .07- .74 |
| HICUPS | .67- .96 |
| SSS-C | .42 |

TABLE 17

Across Scale Correlations Above .50

| Comparison | Correlation |
|---|---|
| NM –CDI & ITS –CBCL | .50 |
| NM –CDI & PH –RCMAS | .53 |
| NM –CDI & WO –RCMAS | .51 |
| NM –CDI & CO –RCMAS | .58 |
| AN –CDI & ITS –YSR | .67 |
| AN –CDI & PH –RCMAS | .53 |
| AN –CDI & WO –RCMAS | .52 |
| AN –CDI & CO –RCMAS | .50 |
| NS –CDI & ITS –YSR | .60 |
| NS –CDI & PH –RCMAS | .54 |
| NS –CDI & CO –RCMAS | .57 |
| ITS –YSR & PH –RCMAS | .54 |
| ITS –YSR & CO –RCMAS | .55 |

NM = Negative mood

ITS = Internalizing behaviors

PH = Physiological

WO = Worry/ oversensitivity

CO = Concentration

AN = Anhedonia

NS = Negative self-esteem

TABLE 18

Effect Sizes Across High and Low Moderator Levels

| Moderator (Independent Variable) | Effect Size | |
|---|---|---|
| | Low | High |
| Negative Life Events (Loss) | | |
| Anxious concentration | .003 | .032 |
| Negative mood | .012 | .012 |
| Ineffectiveness | .181 | .028 |
| Anhedonia* | .308 | .004 |
| Negative self-esteem | .005 | .008 |
| Total depression | .147 | .021 |
| Child report of internalizing behaviors* | .377 | .033 |
| Child report of externalizing behaviors | .072 | .071 |
| Child report of total behaviors* | .352 | .042 |
| Fear of failure and criticism | .039 | .026 |
| Fear of the unknown | .081 | .005 |
| Fear of minor injury/ small animal | .014 | .023 |
| Total fear | .000 | .001 |
| Negative Life Events (Exposure) | | |
| Anxious concentration | .029 | .000 |
| Negative mood | .008 | .002 |
| Ineffectiveness | .131 | .017 |

| | | |
|---|---|---|
| Anhedonia | .003 | .035 |
| Negative self-esteem | .055 | .001 |
| Total depression | .002 | .007 |
| Child report of internalizing behaviors | .002 | .006 |
| Child report of externalizing behaviors | .036 | .001 |
| Child report of total behaviors | .010 | .003 |
| Fear of failure and criticism | .019 | .006 |
| Fear of the unknown | .070 | .011 |
| Fear of minor injury/ small animal | .010 | .014 |
| Medical fear | .002 | .000 |
| Total fear | .050 | .010 |
| Social Support (Loss) | | |
| Worry/ oversensitivity | .016 | .001 |
| Negative mood | .017 | .000 |
| Negative self-esteem | .012 | .022 |
| Total depression | .014 | .005 |
| Total anxiety | .008 | .009 |
| Social Support (Exposure) | | |
| Worry/ oversensitivity | .004 | .042 |
| Negative mood | .000 | .004 |
| Negative self-esteem | .005 | .001 |
| Total depression | .006 | .050 |
| Total anxiety | .000 | .049 |

| | | |
|---|---|---|
| Social Support Regarding the Fire (Loss) | | |
| Fear of failure and criticism | .005 | .005 |
| Fear of the unknown | .017 | .004 |
| Other fears | .000 | .004 |
| Medical fears | .036 | .007 |
| Medical injury/ small animal | .055 | .001 |
| Total fear | .020 | .003 |
| Social Support Regarding the Fire (Exposure) | | |
| Fear of failure and criticism | .026 | .023 |
| Fear of the unknown | .022 | .000 |
| Other fears | .019 | .035 |
| Medical fears | .000 | .003 |
| Total fear | .027 | .002 |
| Worry/ oversensitivity | .001 | .072 |
| Total anxiety | .000 | .059 |
| Active Coping (Loss) | | |
| Anhedonia | .006 | .014 |
| Interpersonal problems | .001 | .029 |
| Active Coping (Exposure) | | |
| Anhedonia | .005 | .019 |
| Interpersonal problems | .071 | .034 |
| Avoidant Coping (Loss) | | |
| Interpersonal problems | .028 | .010 |

| | | |
|---|---|---|
| Avoidant Coping (Exposure) | | |
| Interpersonal problems | .087 | .023 |

* denotes difference greater than .25

TABLE 19

Correlation Ranges Between Moderators and Independent and Dependent Variable Scales

| Variable | Social Support | | Life Events | | Coping | |
|---|---|---|---|---|---|---|
| | General | Fire | Positive | Negative | Active | Avoidant |
| Anxiety | -.35 to -.38 | -.22 to -.29 | -.03 to .06 | .25 to .34 | .11 to .16 | .12 to .27 |
| Depression | -.15 to -.45 | -.11 to-.29 | -.12 to .05 | .16 to .42 | -.08 to .07 | -.03 to .25 |
| Fear | -.04 to -.25 | -.15 to -.35 | -.06 to .15 | .11 to .34 | -.01 to .19 | .15 to .35 |
| Behavior- C | -.16 to -.49 | -.27 to .01 | -.03 to -.12 | .39 to .49 | -.14 to .01 | -.11 to .20 |
| Behavior- P | -.37 to -.29 | -.29 to -.14 | -.06 to .03 | .11 to .20 | -.06 to -.11 | -.04 to .16 |
| Loss | -.30 to -.02 | -.05 to .16 | -.01 to .21 | .10 to .34 | .04 to .28 | .12 to .31 |
| Exposure | .04 | .18 | -.07 | .11 | -.003 | -.009 |

C= Child report

P= Parent report

REFERENCES

Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 Profile.* Burlington, VT: University of Vermont Department of Psychiatry.

Achenbach, T. M. (1991). *Manual for the Youth Self-Report and 1991 Profile.* Burlington, VT: University of Vermont Department of Psychiatry.

Albano, A. M., Chorpita, B. F., & Barlow, D. H. (1996). Childhood anxiety disorders. In E. J. Mash & R. A. Barkley (Eds.), *Child Psychopathology* (pp. 196-241). New York: The Guilford Press.

Albert, N., & Beck, A. (1975). Incidence of depression in early adolescence: A preliminary study. *Journal of Youth and Adolescence, 4,* 301-307.

Allen-Meares, P. (1987, November/ December). Depression in childhood and adolescence. *Social Work, 32,* 512-516.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., Text Revision). Washington, DC: Author.

Armsden, G.C., McCauley, E., Greenberg, M. T., Burke, P.M. & Mitchell, J.R. (1990). Parent and peer attachment in early adolescent depression. *Journal of Abnormal Child Psychology, 18,* 683-697.

Antonovsky, A. (1979). *Health, Stress, and Coping.* San Francisco, CA: Josey-Bass.

Asarnow, J. R., Carlson, G. A., & Guthrie, D. (1987). Coping strategies, self-perceptions, hopelessness, and perceived family environments in depressed and suicidal children. *Journal of Consulting and Clinical Psychology, 55,* 361-366.

Asarnow, J. R., Goldstein, M. J., Tompson, M., & Guthrie, D. (1993). One year outcomes of depressive disorders in child psychiatric in-patients: Evaluation of the prognostic power of a brief measure of expressed emotion. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 34,* 129-137.

Ayers, T. S., Sandler, I. N., West, S. G., & Roosa, M. W. (1996). A dispositional and situational assessment of children's coping: Testing alternative models of coping. *Journal of Personality, 64,* 923-958.

Barlow, D.H. (1988). *Anxiety and its' disorders: The nature and treatment of anxiety and panic.* New York: The Guilford Press.

Barlow, D.H. (1991). Disorders of emotion. *Psychological Inquiry, 2,* 58-71.

Barlow, D. H., Chorpita, B. F., & Turovsky, J. (1996). Fear, panic, anxiety, and disorders of emotion. In D. A. Hope (Ed.), *Nebraska Symposium on Motivation, 1995: Perspectives on anxiety, panic, and fear. Current theory and research in motivation* (Vol. 43, pp. 251-328). Lincoln, NE: University of Nebraska Press.

Barrera, M., & Garrison, J. C. (1992). Family and peer social support as specific correlates of adolescent depressive symptoms. *Journal of Abnormal Child Psychology, 20,* 1-16.

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., & Hartmann, D. P. (1988). Fears and anxieties. In E. J. Mash & L. G. Terdal (Eds.), *Behavioral assessment of childhood disorders* (2nd ed., pp. 196-262). New York: Guilford Press.

Bat-Zion, N., & Levy-Shiff, R. (1993). Children in war: Stress and coping reactions under the threat of Scud missile attacks and the effect of proximity. In L. A. Leavitt & N. A. Fox (Eds.), *The psychological effects of war and violence on children* (pp. 143-161). Hillsdale, NJ: Erlbaum.

Baum, A. (1987). Toxins, technology, and natural disasters. In G. R. VandenBos & B. K. Bryant (Eds.), *Cataclysms, crises, and catastrophes: Psychology in action*. Washington, DC: American Psychological Association.

Beck, A. T., Rush, A. J., Shaw, B. E., & Emery, G. (1979). *Cognitive theory of depression.* New York: Guilford Press.

Beidel, D. C., & Turner, S. M. (1984). Anxiety disorders. In M. Hersen & S. M. Turner (Eds.), *Adult psychopathology and diagnosis* (2nd ed., pp. 226-278). New York: Wiley.

Bernstein, G.A., & Borchardt, C.M. (1991). Anxiety disorders of childhood and adolescence: A critical review. *Journal of the American Academy of Child and Adolescent Psychiatry, 30,* 519-532.

Billings, A. G., & Moos, R. H. (1980). The role of coping responses and social resources in attenuating the stress of life events. *Journal of Behavioral Medicine, 4,* 139-157.

Bird, H.R., Canino, G., Rubio-Stipec, M., Gould, M.S., Ribera, J., Sesman, M., Woodbury, M., Huertas-Goldman, S., Pagan, A., Sanchez-Lacay, a., & Moscoso, M. (1988). Estimates of the prevalence of childhood maladjustment in a community survey in Puerto Rico. *Archives of General Psychiatry, 45,* 1120- 1126.

Brand, A. H., & Johnson, J. H. (1982). Note on reliability of the Life Events Checklist. *Psychological Reports, 50,* 1274.

Brown, G. W., & Harris, T. (1978). *Social origins of depression.* London: Tavistock.

Boyd, C. P., & Gullone, E. (1997). An investigation of negative affectivity in Australian adolescents. *Journal of Clinical Child Psychology, 26,* 190-197.

Carlson, G. A., & Cantwell, D. P. (1979). A survey of depressive symptoms in a child and adolescent psychiatric population. *American Academy of Child Psychiatry, 18,* 587-599.

Catanzaro, S. J. (1993). Mood regulation expectancies, anxiety sensitivity, and emotional distress. *Journal of Abnormal Psychology, 102,* 327-330.

Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology, 100,* 316-336.

Cohen, S., & Willis, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98,* 310-357.

Cole, D. A., & McPherson, A. E. (1993). Relation of family subsystems to adolescent depression: Implementing a new family assessment strategy. *Journal of Family Psychology, 7,* 119-133.

Compas, B. E. (1987a). Coping with stress during childhood and adolescence. *Psychological Bulletin, 101,* 393-403.

Compas, B.E., Malcarne, V. L., & Fondacaro, K. M. (1988). Coping with stressful events in older children and young adolescents. *Journal of Consulting and Clinical Psychology, 56,* 405-411.

Compas, B. E., Worsham, N. L., & Ey, S. (1992). Conceptual and developmental issues in children's coping with stress. In A. M. La Greca, L. J. Siegel, J. Wallander, & C. E. Walker (Eds.), *Stress and coping in child health* (pp.7-24). New York: Guilford Press.

Cooper, P. J., & Goodyer, I. (1993). A community study of depression in adolescent females I: Estimates of symptom and syndrome prevalence. *British Journal of Psychiatry, 163,* 369-374.

Costello, E. J., & Angold, A. (1988). Scales to assess child and adolescent depression: Checklists, screens, and nets. *Journal of the American Academy of Child and Adolescent Psychiatry, 27,* 726-737.

Costello, E. J., Angold, A. (1995). Epidemiology. In J. S. March (Ed.), *Anxiety disorders in children and adolescents* (pp. 109-124). New York: The Guilford Press.

Coyne, J.C., Downey, G., & Boergers, J. (1992).Depression in families: A systems perspective. In D. Cicchetti & S.L. Toth (Eds.), *Developmental Perspectives on Depression* (pp. 211-243). Rochester, NY: University of Rochester Press.

Cumsille, P.E., & Epstein, N. (1994). Family cohesion, family adaptability, social support, and adolescent depressive symptoms in outpatient clinic families. *Journal of Family Psychology, 8(2),* 202-214.

Dadds, M.R., Barrett, P.M., Rapee, R.M., & Ryan, S. (1996). Family process and child psychopathology: An observational analysis of the FEAR effect. *Journal of Abnormal Child Psychology, 24,* 715-734.

Division of Injury Control, Center for Environmental Health and Injury Control, Centers for Disease Control. (1990). Childhood injuries in the United States. *American Journal of Diseases for Children, 144,* 627-646.

Doll, B. (2002). Mental Measurement Yearbook Reviews: CBCL (4-18). *Retrieved February 20, 2002, from http://silverplatter.com/c15524.*

Dollinger, S. J., O' Donnell, J. P., & Staley, A. A. (1984). Lightening-strike disaster: Effects on children's fears and worries. *Journal of Consulting and Clinical Psychology, 52,* 1028-1038.

Dornbusch, S. M., Ritter, P. L., Leiderman, P. H., Roberts, D. F., & Fraleigh, M. J. (1987). The relation of parenting style to adolescent school performance. *Child Development, 58,* 1244-1257.

Dubow, E. F., & Ullman, D. G. (1989). Assessing social support in elementary school children: The survey of children's social support. *Journal of Clinical Child Psychology, 18,* 52-64.

Emery, R. E. (1988). *Marriage, divorce, and children's adjustment*. Newbury Park, CA: Sage Publications.

Federal Emergency Management Agency. (1993). *Fire in the United States:1983-1990* (8th ed.). Emmitsburg, MD: United States Fire Administration, Office of Fire Data and Analysis.

Feldman, S. S., Rubenstein, J. L., & Rubin, C. (1988). Depressive affect and restraint in early adolescents: Relationships with family structure, family process and friendship support. *Journal of Early Adolescence, 8,* 279-296.

Forehand, R., McCombe, A., Long, N., Brody, G., & Fauber, R. (1988). Early adolescent adjustment to recent parental divorce: The role of interparental conflict and adolescent sex as mediating variables. *Journal of Consulting and Clinical Psychology, 56,* 624-627.

Freedy, J. R., Shaw, D. L., Jarrell, M. P., & Masters, C. R. (1992). Towards an understanding of the psychological impact of natural disasters: An application of the Conservation of Resource model. *Journal of Traumatic Stress, 5,* 441-454.

Friedman, R. J., & Butler, L. F. (1979). *Development and evaluation of a test battery to assess childhood depression.* Final report to Health and Welfare, Canada, for Project # 606-1533-44.

Friedman, A. G., Campbell, T., & Okifuji, A. (1991). Specific fears as predictors of generalized anxiety in children. *Journal of Psychopathology and Behavioral Assessment, 13,*45-52.

Friedrich, W., Reams, R., & Jacobs, J. (1988). Sex differences in depression in early adolescents. *Psychological Reports, 62,* 475-481.

Furlong, M. J., & Wood, M. (2002). Mental Measurement Yearbook Reviews: CBCL (4-18). *Retrieved February 20, 2002, from http://silverplatter.com/c15524.*

Garbarino, J. (1992). Developmental consequences of living in dangerous and unstable environments: The situation of refugee children. In M. McCallin (Ed.), *The psychological well-being of refugee children: Research, practice, and policy issues* (pp. 1-23). Geneva: International Catholic Child Bureau.

Garber, J. (1984). The developmental progression of depression in female children. In D. Cicchetti & K. Schneider-Rosen (Eds.), *Childhood depression* (pp. 29-58). San Francisco: Jossey-Bass.

Garrison, C.Z., Jackson, K.L., Marsteller, F., McKeown, R., & Addy, C. (1990). A longitudinal study of depressive symptomatology in young adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 29,* 581-585.

Gershon, E., Hamovit, J., Guroff, J., & Nurnberger, J. (1987). Birth-cohort changes in manic and depressive disorders in relatives of bipolar and schizoaffective patients. *Archives of General Psychiatry, 44,* 314-319.

Gibbs, M. S. (1989). Factors in the victim that mediate between disaster and psychopathology: A review. *Journal of Traumatic Stress, 2*,489-514.

Gordon, N. S., & Maida, C. A. (1989). *Post-disaster adaptive responses: Parent-child reactions to the Los Angeles area/ Whittier Narrows Earthquake.* Industry, CA: The Public Health Foundation of Los Angeles County, Inc.

Green, B. J. (1980). Depression in early adolescence: An explanatory investigation of its frequency, intensity, and correlates (Doctoral dissertation, Pennsylvania State University, 1980). *Dissertation Abstracts International, 41,* 3890-B.

Green, B., Korol, M., Grace, M., Vary, M., Leonard, A., Gleser, G., & Smitson-Cohen, S. (1991). Children and disaster: Age, gender, and parental effects on PTSD symptoms. *Journal of the American Academy of Child Psychiatry, 30,* 945-951.

Griest, D., Wells, K. C., & Forehand, R. (1979). An examination of predictors of maternal perceptions of maladjustment in clinic-referred children. *Journal of Abnormal Psychology, 88,* 277-281.

Gullone, E., & King, N.J. (1992). Psychometric evaluation of a fear survey schedule for children and adolescents. *Journal of Child Psychology and Psychiatry, 33*, 987-998.

Gullone, E., & King, N.J. (1993). The fears of youth in the 1990's: Contemporary normative data. *The Journal of Genetic Psychology, 154,* 137-153.

Gullone, E., King, N.J., & Ollendick, T.H. (2001). Self-reported anxiety in children and adolescents: A three- year follow-up study. *Journal of Genetic Psychology, 162,* 5-19.

Highland, A. (1979). Depression in adolescents: A developmental view. *Child*

*Welfare, 58,* 557-585.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44,* 513-524.

Hobfoll, S. E., Lilly, R. S., & Jackson, A. P. (1991). Conservation of social resources and the self. In H. O. F., Veiel, & U., Baumann (eds.), *The meaning and measurement of social support: Taking stock of 20 years of research,* (pp. 125- 141). Washington, DC: Hemisphere.

Holahan, C. J., & Moos, R. H. (1990). Life stressors, resistance factors, and improved psychological functioning: An extension of the stress resistance paradigm. *Journal of Personality and Social Psychology, 58,* 909-917.

Johnson, J. H., & McCutcheon, S. (1980). Assessing life stress in older children and adolescents: Preliminary findings with the Life Events Checklist. In I. G. Sarason, & C. D. Spielberger (Eds.), *Stress and anxiety, Vol. 7* (pp. 111-125). Washington, DC: Hemisphere.

Joiner, Jr., T. E., & Lonigan, C. J. (1999). Tripartite model of depression and anxiety in youth psychiatric inpatients: Relations with diagnostic status and future symptoms. *Journal of Clinical Child Psychology, 29,* 372-382.

Jolly, J. B., Dyck, M. J., Kramer, T. A., & Wherry, J. N. (1994). Integration of positive and negative affectivity and cognitive content-specificity: Improved discrimination of anxious and depressive symptoms. J*ournal of Abnormal Psychology, 103,* 544-552.

Jones, R. T., Frary, R., Cunningham, P., & Weddle, J. D. (1993). *The psychological effects of Hurricane Andrew on elementary and middle school children: Report to the Natural*

*Hazards Center*. Blacksburg, VA: Virginia Polytechnic Institute, Department of Psychology.

Jones, R. T., & Ollendick, T. H. (1996). *The Fire Related Traumatic Experiences Questionnaire.* Unpublished Manuscript, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Jones, R. T., & Ollendick, T. H. (2002). Residential fires. In A. M. La Greca, W. K. Silverman, E. Vernberg, & M. C. Roberts (Eds.), *Helping children in disasters: Integrating research and practice.* Washington, DC: APA Books.

Jones, R. T., & Ribbe, D. P. (1991). Child, adolescent, and adult victims of residential fire: Psychosocial consequences. *Behavior Modification, 15,* 560-580.

Jones, R. T., Ribbe, D. P., & Cunningham, P. (1991). *Psychosocial correlates of fire disaster among children and adolescents (Quick Response Research Rep. No. 46).* Blacksburg, VA: Virginia Polytechnic Institute, Department of Psychology.

Kaplan, B. H., Cassel, J. C., & Gore, S. (1977). Social support and health. *Medical Care, 15,* 47-58.

Kaslow, N.J., Deering, C.G., & Racusin, G.R. (1994). Depressed children and their families. *Clinical Psychology Review, 14(1),* 39-59.

Kazdin, A. E. (1988). Childhood depression. In E. J. Mash & L. G. Terdel (Eds.), *Behavioral assessment of childhood disorders* (2nd ed., pp. 157-195). New York: Guilford Press.

Kendall, P. C. (1994). Treating anxiety disorders in children: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 62,* 100-110.

Kendall, P. C., Flannery-Schroeder, E., Panichelli-Mindel, S. M., Southam-Gerow, M., Henin, A., & Warman, M. (1997). Therapy for youths with anxiety disorders: A second randomized clinical trial. *Journal of Consulting and Clinical Psychology, 65,* 366-380.

Keppel-Benson, J. M., Ollendick, T. H., & Benson, M. J. (2002). Post-traumatic stress in children following motor vehicle accidents. *Journal of Child Psychology and Psychiatry, 43,* 203-212.

Kessler, R. C., McGonagle, K. A., Shanyang, Z., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen, H. U., & Kendler, K. S. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry, 51,* 8-19.

Khrone, H. W., & Hock, M. (1991). Relationships between restrictive mother-child interactions and anxiety of the child. *Anxiety Research, 4,*109-124.

King, N. J., Gullone, E., Ollendick, T. H. (1992). Manifest anxiety and fearfulness in children and adolescent. *The Journal of Genetic Psychology, 153,* 63-73.

King, N. J., Hamilton, D. I., & Ollendick, T. H. (1988). *Children's phobias: A behavioral perspective.* Chichester, UK: Wiley.

King, N. J., & Ollendick, T. H. (1992). Reliability of the Fear Survey Schedule for Children-Revised. *The Australian Educational and Developmental Psychologist, 9,* 55-57.

Klerman, G. L., Lavori, P. W., Rice, J., Reich, T, Endicott, J., Andreason, N. C., Keller, M. B., & Hirschfeld, R. M. A. (1985). Birth cohort trends in rates of major depressive disorder among relatives of patients with affective disorder. *Archives of General Psychiatry, 42,* 689-693.

Klingman, A. (1992). Stress reactions of Israeli youth during the Gulf War: A quantitative study. *Professional Psychology: Research and Practice, 23,* 521-527.

Kovacs, M. (1981). Rating scales to assess depression in school-aged children. *Acta Paedopsychiatrica, 46,* 305-315.

Kovacs, M. (1983). *The Children's Depression Inventory: A self-rated depression scale for school-aged youngsters.* Unpublished manuscript, University of Pittsburgh School of Medicine.

Kovacs, M. (1985). The Children's Depression Inventory. *Psychopharmacology Bulletin, 21,* 995-998.

Kovacs, M. (1992). *Children's Depression Inventory: Manual.* Los Angeles, CA: Western Psychological Services.

Krain, A. L., & Kendall, P. C. (2000). The role of parental emotional distress in parent report of child anxiety. *Journal of Clinical Child Psychology, 29,* 328-335.

Krim, A. (1983). *Families after urban fire: Disaster intervention (MH29197).* Washington, DC: National Institute of Mental Health.

Lamont, J., Fischoff, S., & Gottlieb, H. (1976). Recall of parental behaviors in female neurotic depressives. *Journal of Clinical Psychology, 32,* 762-765.

Lapouse, R., & Monk, M. (1959). Fears and worries in a representative sample of children. *American Journal of Orthopsychiatry, 209,* 803-818.

Larson, R.W., Raffaelli, M., Richards, M. H., Ham, M., & Jewell, L. (1990). Ecology of depression in late childhood and early adolescence: A profile of daily states and activities. *Journal of Abnormal Psychology, 99,* 92-102.

Last, C. G., Francis, G., & Strauss, C. C. (1989). Assessing fears in anxiety-disordered children with the Revised Fear Survey Schedule for Children (FSSC-R). *Journal of Clinical Child Psychology, 18,* 137-141.

Last, C. G., Hersen, M., Kazdin, A., Orvaschel, H., & Perrin, S. (1991). Anxiety disorders in children and their families. *Archives of General Psychiatry, 48,* 928-934.

Lazarus, R. S. (Ed.) (1966). *Psychological stress and the coping process.* NY: McGraw-Hill.

Laurent, J., Hadler, J. R., & Stark, K. D. (1994). A multiple-stage screening procedure for the identification of childhood anxiety disorders. *School Psychology Quarterly, 9,* 239-255.

Lazarus, R. S. (Ed.) (1966). *Psychological stress and the coping process.* New York: McGraw-Hill.

Lazarus, R. S. (1980). The stress and coping paradigm. In C. Eisdorfer, D. Cohen, A. Kleinman, & P. Maxim (Eds.), *Theoretical Bases for Psychopathology.* New York: Spectrum.

Lerner, J., Safren, S. A., Henin, A., Warman, M., Heimberg, R. G., & Kendall, P. C. (1999). Differentiating anxious and depressive self-statements in youth: Factor structure of the Negative Affect Self-Statement Questionnaire among youth referred to an anxiety disorders clinic. *Journal of Clinical Child Psychology, 28,* 82-93.

Lewinsohn, P. M., Hoberman, H. M., & Rosenbaum, M. (1988). A prospective study of risk factors for unipolar depression. *Journal of Abnormal Psychology, 97,* 251-264.

Llabre, M. M., & Hadi, F. (1997). Social support and psychological distress in Kuwaiti males and females exposed to the Gulf Crisis. *Journal of Clinical Child Psychology, 26,* 247-255.

Lonigan, C. J., Shannon, M. P., Finch, A. J., Daugherty, T. K., & Taylor, C. M. (1991). Children's reactions to natural disaster: Symptom severity and degree of exposure. *Advances in Behavioral Research and Therapy, 13,* 135-154.

Lonigan, C. J., Shannon, M. P., Taylor, C. M.,Finch, A. J., & Sallee, F. R. (1994). Children exposed to disaster: II. Risk factors for the development of post-traumatic symptomatology. *Journal of the American Academy of Child Psychiatry, 33,* 94-105.

Macksoud, M. S., & Nazar, F. A. (1993). *The impact of the Iraqi occupation on the psychological development of children in Kuwait (Tech. Rep.).* Kuwait City: Kuwait Society for the Advancement of Arab Children.

Manassis, K. (2000). Childhood anxiety disorders: Lessons from the literature. *Canadian Journal of Psychiatry, 45,* 724-730.

March, J.S. (Ed.). (1995). *Anxiety disorders in children and adolescents*. New York: The Guilford Press.

McFarlane, A. C. (1987). Posttraumatic phenomena in a longitudinal study of children following a natural disaster. *Journal of the American Academy of Child Psychiatry, 26,* 764-769.

Messer, S.C., & Gross, A.M. (1995). Childhood depression and family interaction: A naturalistic observation study. *Journal of Clinical Child Psychology, 24(1),* 77-88.

Milgram, N. A., Toubiana, Y. H., Klingman, A., Raviv, A., & Goldstein, I. (1988). Situational exposure and personal loss in children's acute and chronic stress reactions to a school bus disaster. *Journal of Traumatic Stress, 1,* 339-352.

Moos, R. H. (Ed.) (1977). *Coping with Physical Illness.* NY: Plenum.

Murphy, D. A., Marelich, W. D., & Hoffman, D. (2000). Assessment of anxiety and depression in young children: Support for two separate constructs. *Journal of Clinical Child Psychology, 29,* 383- 391.

Neal, A. M., Lilly, R. S., & Zakis, S. (1993). What are African- American children afraid of? *Journal of Anxiety Disorders, 7,* 129-139.

Nietzel, M. T., Bernstein, D. A., & Russell, R. L. (1988). Assessment of anxiety and fear. In A. S. Bellack and M. Hersen (Eds.), *Behavioral assessment: A practical handbook* (3rd ed., pp. 280-312). New York: Pergamon.

Nilzon, K.R., & Palmerus, K. (1997). The influence of familial factors on anxiety and depression in childhood and early adolescence. *Adolescence, 32(128),* 935-941.

Offord, D.R., Boyle, M.H., Szatmari, P., Rae-Grant, N., Links, P.S., Cadman, D.T., Byles, J., Crawford, J., Blum, H., Byrne, C., Thomas, H., & Woodward, C. (1987). Ontario Child Health Study II: Six-month prevalence of disorder and rates of service utilization. *Archives of General Psychiatry, 44,* 832-836.

Ollendick, T. H. (1983a). Fear in children and adolescents: Normative data. *Behaviour Research and Therapy, 23,* 465- 467.

Ollendick, T. H. (1983b). Reliability and validity of the Revised Fear Survey Schedule for Children (FSSC-R). *Behaviour Research and Therapy, 21,* 686-692.

Ollendick, T. H., King, N. J., & Frary, R. B. (1989). Fears in children and adolescents: Reliability and generalizability across gender, age, and nationality. *Behavior Research and Therapy, 27,* 19-26.

Ollendick, T. H., Langley, A. K., Jones, R. T., & Kephart, C. (2001). Fear in children and adolescents: Relations with negative life events, attributional style, and avoidant coping. *Journal of Child Psychology and Psychiatry, 42,* 1029-1034.

Parker, G. (1979). Parental characteristics in relation to depressive disorders. *British Journal of Psychiatry, 134,* 138-147.

Pearlin, L., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behavior, 19,* 2-21.

Pela, O. A., & Reynolds, C. R. (1982). Cross-cultural application of the Revised Children's Manifest Anxiety Scale: Normative and reliability data for Nigerian primary school children. *Psychological Reports, 51,* 1135-1138.

Prinstein, M. J., La Greca, A. M., Vernberg, E. M., & Silverman, W. K. (1996). Children's coping assistance: How parents, teachers, and friends help children cope after a natural disaster. *Journal of Clinical Child Psychology, 25,* 463-475.

Program for Prevention Research (1991, March). *Family influences survey documentation.* Unpublished manuscript, Program for Prevention Research, Arizona State University, Tempe.

Puig-Antich, J., Lukens, E., Davies, M., Goetz, D., Brennan-Quattrock, J., & Todak, G. (1985a). Psychosocial functioning in prepubertal major depressive disorders: Interpersonal relationships during the depressive episode. *Archives of General Psychiatry, 42,* 500-507.

Puig-Antich, J., Lukens, E., Davies, M., Goetz, D., Brennan-Quattrock, J., & Todak, G. (1985b). Psychosocial functioning in prepubertal major depressive disorders: Interpersonal relationships after sustained recovery from affective episode. *Archives of General Psychiatry, 42,* 511-517.

Punamaki, R., Qouta, S., & El Sarraj, E. (1997a). Models of traumatic experiences and children's psychological adjustment: The roles of perceived parenting and the children's own resources and activity. *Child Development, 64(4),* 718-728.

Punamaki, R., Qouta, S., & El Sarraj, E. (1997b). Relationships between traumatic events, children's gender, and political activity, and perceptions of parenting styles. *International Journal of Behavioral Development, 21,* 91-109.

Rachman, S. (1980). Emotional processing. *Behavior Research Therapy, 18,* 51-60.

Reed, L. J., Carter, B. D., & Miller, L. C. (1992). Fear and anxiety in children. In C. E. Walker & M. C. Roberts (Eds.), *Handbook of clinical child psychology* (2nd ed., pp. 237-260). New York: Wiley.

Reinherz, H.Z., Stewart-Berghauer, G., Pakiz, B., Frost, A.K., Moeykens, B.A., & Holmes, W.M. (1989). The relationship of early risk and current mediators to depressive symptomatology in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry, 28,* 942-947.

Reynolds, C. R. (1980). Concurrent validity of "What I Think and Feel": The Revised Children's Manifest Anxiety Scale. *Journal of Consulting and Clinical Psychology, 48,* 774-775.

Reynolds, C. R. (1981). Long-term stability of scores on the Revised Children's Manifest Anxiety Scale. *Perceptual and Motor Skills, 53,* 702.

Reynolds, C. R., & Richmond, B. O. (1978). "What I Think and Feel": A revised measure of children's manifest anxiety. *Journal of Abnormal Child Psychology, 6,* 271- 280.

Reynolds, C. R., & Richmond, B. O. (1985). *Revised Children's Manifest Anxiety Scale (RCMAS): Manual.* Los Angeles, CA: Western Psychological Services.

Roberts, R.E., Lewinsohn, P.M., & Seeley, J.R. (1991). Screening for adolescent

depression: A comparison of depression scales. *Journal of the American Academy of Child and Adolescent Psychiatry, 30,* 58-66.

Rubonis, A. V., & Bickman, L. (1991). Psychological impairment in the wake of disaster: The disaster-psychopathology relationship. *Psychological Bulletin, 109,* 384-399.

Rueter, M. A., Scaramella, L., Wallace, L. E., & Conger, R. D. (1999). First onset of depressive or anxiety disorders predicted by longitudinal history of internalizing symptoms and parent-adolescent disagreements. *Archives of General Psychiatry, 56,* 726-732.

Safren, S. A., Gonzalez, R. E., Horner, K. J., Leung, A. W., Heimberg, R. G., & Juster, H. R. (2000). Anxiety in ethnic minority youth. *Behavior Modification, 24,* 147- 184.

Sandler, I. N., Kim-Bae, L. S., & MacKinnon, D. (2000). Coping and negative appraisal as mediators between control beliefs and psychological symptoms in children of divorce. *Journal of Clinical Child Psychology, 29,* 336-347.

Sandler, I., Tein, J. Y., & West, S. G. (1994). Coping, stress, and psychological symptoms of children of divorce: A cross-sectional and longitudinal study. *Child Development, 65,* 1744-1763.

Saylor, C. F., Finch, A. J., Spirito, A., & Bennett, B. (1984). The Children's Depression Inventory: A systematic evaluation of psychometric properties. *Journal of Consulting and Clinical Psychology, 52,* 955-967.

Scherer, M. W., & Nakamura, C. Y. (1968). A fear survey schedule for children (FSS-FC): A factor analytic comparison with manifest anxiety (CMAS). *Behavior Research and Therapy, 6,* 173-182.

Seligman, L. D., & Ollendick, T. H. (1998). Comorbidity of anxiety and depression in children and adolescents: An integrative review. *Clinical Child and Family Psychology Review, 1*,125-144.

Seligman, M. P., & Peterson, C. (1986). A learned helplessness perspective on childhood depression: Theory and research. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), *Depression in young people: Developmental and clinical perspectives.* New York: Guilford.

Shannon, M. P., Lonigan, C. J., Finch, A. J., & Taylor, C. M. (1994). Children exposed to disaster: I. Epidemiology of post-traumatic symptoms and symptom profiles. *Journal of the American Academy of Child and Adolescent Psychiatry, 33,* 80-93.

Silverman, W. K., La Greca, A. M., & Wasserstein, (1995). What do children worry about? Worries and there relationship to anxiety. *Child Development, 66,* 671-686.

Silverman, W. K., & Treffers, P.D.A. (Eds.). (2001). *Anxiety disorders in children and adolescents*. Cambridge, England: Cambridge University Press.

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.

Slavin, L. A., & Rainer, K. L. (1990). Gender differences in emotional support and depressive symptoms among adolescents: A prospective analysis. *American Journal of Community Psychology, 18,* 407-421.

Slipp, S. (1984). *Object relations: A dynamic bridge between individual and family treatment.* New York: Jason Aronson.

Southam-Gerow, M. A., & Kendall, P. C. (2000). A preliminary study of the emotion understanding of youths referred for treatment of anxiety disorders. *Journal of Clinical Child Psychology, 29, 319- 327.*

Spielberger, C. D. (1973). *Preliminary manual for the State Trait Anxiety Inventory for Children ("How I Feel Questionnaire").* Palo Alto, CA: Consulting Psychologists Press.

Staley, A. A., & O'Donnell, J. P. (1984). A developmental analysis of mother's reports of normal children's fears. *Journal of Genetic Psychology, 144,* 165-178.

Stark, K. D., Humprey, L. L., Crook, K., & Lewis, K. (1990). Perceived family environments of depressed and anxious children: Child's and maternal figure's perspectives. *Journal of Abnormal Child Psychology, 18,* 527-547.

Stark, K.D., Humphrey, L.L., Laurent, J., Livingston, R., & Christopher, J. (1993). Cognitive, behavioral, and family factors in the differentiation of depressive and anxiety disorders during childhood. *Journal of Consulting and Clinical Psychology, 61(5),* 878-886.

Stark, K.D., Ostrander, R., Kurrowski, C.A., Swearer, S., & Bowen, B. (1995). Affective and mood disorders. In M. Hersen & R.T. Ammerman (Eds.), *Advanced Abnormal Child Psychology* (pp. 253-282). Hillsdale, NJ: LEA.

Taylor, J. A. (1951). The relationship of anxiety to the conditioned eyelid response. *Journal of Experimental Psychology, 42,* 183-188.

Turner, S. M., Beidel, D. C., & Costello, A. (1987). Psychopathology in the offspring of anxiety disorders patients. *Journal of Consulting and Clinical Psychology, 55,* 229-235.

Turner, S. M., & Hersen, M. (1997). *Adult psychopathology and diagnosis* (3rd ed.). New York: John Wiley & Sons, Inc.

Vasey, M.W., & Ollendick, T.H. (2000). Anxiety. In A.J. Sameroff, M. Lewis & S.M. Miller (Eds.), *Handbook of developmental psychopathology, 2,* (pp. 511- 530). New York: Kluwer Academic/ Plenum Publishers.

Vernberg, E. M., La Greca, A. M., Silverman, W. K., & Prinstein, M. J. (1996). Prediction of posttraumatic stress symptoms in children after Hurricane Andrew. *Journal of Abnormal Psychology, 105,* 237-248.

Vernberg, E. M., & Vogel, J. (1993). Interventions with children following disasters. *Journal of Clinical Child Psychology, 22,* 485-498.

Weems, C. F., Silverman, W. K., Saavedra, L. M., Pina, A., & Lumpkin, P. W. (1999). The discrimination of children's phobias using the Revised Fear Survey Schedule for Children. *Journal of Child Psychology and Psychiatry, 40,* 941-952.

Weissman, M. M., Bruce, M. L., Leaf, P. J., Florio, L. P., & Holzer, C. (1991). Affective disorders. In L. N. Robins & D. A. Regier (Eds.), *Psychiatric disorders in America: The Epidemiologic Catchment Area Study* (pp. 53-80). New York: Free Press.

Wenet, G., (1979). *Life stress and the adolescent sex offender: A comparative study*. Unpublished manuscript, University of Washington, Department of Psychology.

Wethington, E., & Kessler, R. C. (1986). Perceived support, received support, and adjustment to stressful life events. *Journal of Health and Social Behavior, 27,* 78-89.

Wilcox, B. L., & Vernberg, E. M. (1985). Conceptual and theoretical dilemmas facing social support research. In I. Sarason & B. G. Sarason (Eds.), *Social support: Theory, research, and applications* (pp. 3-20). Dordrecht, The Netherlands: Martinus Nijhoff.