

Ethnicity, Religious Coping and Post-Disaster Support as Predictors of Posttraumatic  
Stress Disorder in Children and Adolescents

By

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RUNNING HEAD: Ethnicity and PTSD

## Abstract

African Americans have reported higher levels of Posttraumatic Stress Disorder (PTSD) symptoms than their Caucasian counterparts in some studies. Variables hypothesized to contribute to differential levels of PTSD symptoms between African Americans and Caucasians that have not been adequately explored in these studies include ethnicity, resource loss, religious coping, and social support. The purpose of this study was to test portions of a model that characterizes the relationship between traumatic events and PTSD symptoms in African Americans and Caucasians. It was hypothesized that ethnicity, perceived ethnic identity, socioeconomic status (SES), resource loss, religious coping, family support, and professional support would be significant predictors of PTSD symptoms. Data from 59 African American children and adolescents, aged 4 to 20, and 54 of their Caucasian counterparts from the Residential Fire Project were used to examine the role of ethnicity, SES, resource loss, religious coping, family support, and professional support in the development of PTSD symptoms.

Data from 86 African Americans and 417 Caucasians, aged 15 to 21 from the National Comorbidity Survey (NCS), were used to examine the role of ethnicity, perceived ethnic identity, SES, religious coping, family support, mental healthcare, and non-mental healthcare in the development of PTSD symptoms. Participants in the Fire Project were interviewed individually, and completed self-report questionnaires. Results indicated that only resource loss factors contributed significantly to the prediction of variance in PTSD symptoms. Participants in the NCS were also interviewed individually. Results indicated that mental healthcare, family support, SES, ethnicity, and religious

coping contributed significantly to the prediction of variance in PTSD symptoms in this sample. Findings are discussed within a psychosocial model.

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### **Anxiety Disorders in African Americans**

Although anxiety disorders are among the most common disorders in children and adults, relatively little attention has been given to these disorders in African Americans. The etiology, symptom expression, and course of anxiety disorders may be differentially impacted by ethnicity.

There is a growing body of literature pertaining to the presentation of anxiety disorders in African Americans versus the presentation of these disorders in Caucasians. For example, the findings that greater numbers of African Americans report higher levels of post traumatic stress symptoms than Caucasians (Egendorf, Kadushin, Laufer, Rothbart, & Sloan, 1981; Eisenhart, 1975; Garrison et al., 1995; Green, Grace, Lindy, & Leonard, 1990; Kulka et al., 1990; Laufer, Brett, & Gallops, 1985; Lonigan, Shannon, Finch, Daugherty, & Taylor, 1991; March, Amaya-Jackson, Terry, & Costanzo, 1997; Norris, 1992; Penk et al., 1989; Shannon, Lonigan, Finch, & Taylor, 1994; Yager & Laufer, 1984) suggest that ethnicity may play an important role in the expression of such symptoms. The need to study African Americans is vital if knowledge is to be gained regarding the role of ethnicity in the development of this disorder and in its potential treatment.

Neal and Turner (1991) suggest four reasons for the limited amount of research involving African Americans: (1) African Americans may be fearful of research due to previous studies in which African Americans were mistreated (i.e., the Tuskegee experiment, in which African American men were infected with the syphilis virus and left untreated); (2) African Americans are more likely to seek help from a general physician,

minister, or emergency room, than from mental health professionals, universities, or medical school settings where research is normally conducted (Neighbors, 1985, 1988; Weiss & Kupfer, 1974); (3) Researchers often neglect minority populations (Scarr, 1988); and (4) The number of African Americans who conduct research is small, although it appears that more African Americans conduct research pertaining to African Americans than do members of other ethnic groups (Bales, 1987).

Previous studies that have focused on ethnic differences in presentation and severity of anxiety disorders have indicated that, in some cases, African Americans may experience more anxiety than Caucasians. The present investigation explored potential reasons for these observed differences.

Although ethnicity has yet to be identified as a reliable marker to specific psychological outcomes, it has been strongly associated with the medical illness of Cardiovascular Disease (CVD) in recent years. Several researchers have developed conceptual models that seek to account for those factors that impact the health of African Americans (Anderson, 1991). For example, chronic stress of being African American is conceptualized as contributing to maladaptive health outcomes, and may have a detrimental effect on other risk factors for negative health outcomes. In addition, the effects of these stressors may be moderated by factors thought to serve as protective mechanisms, such as support and coping strategies.

According to the stress reactivity model, Cardiovascular Reactivity (CVR) is an important predictor of essential hypertension (Matthews et al., 1986). Research has demonstrated that exposure to physical and psychological stressors results in modifications in autonomic nervous system activity including the release of stress

hormones, arousal, and cardiovascular hyperreactivity. It has been found that such changes can evolve into a pattern of chronic elevations of resting blood pressure and may be predictive of CVD (i.e., essential hypertension).

Within the present investigation, similar logic was used in hopes of determining the extent to which ethnicity and several accompanying variables (namely resource loss, socioeconomic status, religious coping, and family support) impact the occurrence and expression of PTSD symptoms. These factors by no means will be able to fully account for differential levels of PTSD symptoms. However, they may play an important role in understanding the development of such symptoms following traumatic events.

Thus, the primary purpose of this study was to test components of a model developed by LaGreca, Silverman, Vernberg, and Prinstein (1996). In particular, the contribution of ethnicity, resource loss, family support, socioeconomic status, and religious coping to PTSD symptom development was examined.

### **Ethnic Differences in Anxiety Disorders Among Adults**

Bell, Dixie-Bell, and Thompson (1986) found a high prevalence of recurrent isolated sleep paralysis in a sample of 25 African American adults. Bell et al. (1986) found that 19 of these individuals had experienced panic attacks as well as sleep paralysis. Based upon these findings, the authors hypothesized that Panic Disorder in African Americans may be manifested differently than in Caucasians, and that sleep paralysis may be a core feature of Panic Disorder in African Americans. Brown, Eaton, and Sussman (1990) also found that African American adults had a higher rate for Panic

Disorder as compared to Caucasians. These findings were obtained even when demographic and socioeconomic status factors were held constant.

Research findings also suggest that African Americans have a higher lifetime prevalence of agoraphobia than Caucasians. The Epidemiological Catchment Area (ECA) study revealed that the percentage of African American and Caucasian adults who were diagnosed as agoraphobic were, respectively, 4.4% versus 3.4% in New Haven, 13.4% versus 7.2% in Baltimore, and 4.4% versus 4.1% in Saint Louis (Blazer et al., 1984). Findings from this study indicated that agoraphobia was more prevalent among lower income African Americans. Brown et al. (1990) examined the data from two of the ECA study sites and found that ethnic differences in prevalence rates for agoraphobia remained when education level, occupational status, age, marital status, and area of origin were controlled.

Another study revealed that African American adults were three times more likely to report simple phobias than Caucasian adults, a prevalence rate which appears to remain stable when factors such as education, birthplace, and socioeconomic status are statistically controlled (Warheit, Holzer, & Arey, 1975). Women in general report more phobias than men, and African American women report more phobias than African American men (Williams, 1986). In the ECA study, 15.8% of African Americans in Baltimore reported phobias compared to 9.8% of Caucasians, and in Saint Louis, 8.5% of African Americans reported simple phobia as compared to 4.1% of Caucasians (Brown, Eaton, & Sussman, 1988). At both sites, African Americans reported more fears of closed places, storms, water, spiders, bugs, mice, snakes, bats, and harmless and

restrained animals as compared to Caucasians. African Americans have also been shown to have higher rates of social phobia (Brown & Eaton, 1986).

### **Ethnic Differences in Anxiety Disorders Among Children**

Ethnic differences in phobias have also been found in children. Last and Perrin (1993) examined similarities and differences between clinically referred African American and Caucasian children with anxiety disorders. The sample consisted of 30 African Americans and 139 Caucasians between the ages of 5 and 17. They found that African American children reported a significantly higher number of fears than their Caucasian counterparts. These results remained significant after demographic variables were controlled. Although not significantly different, panic disorder, obsessive compulsive disorder, and social phobia were also found to be more prevalent among African Americans than Caucasians.

In another study of children with clinical anxiety, Treadwell, Flannery-Schroeder, and Kendall (1995) assessed 178 children (ages 9-13), of whom 34 were African American and 144 were Caucasian. They found on the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978; 1985), State Trait Anxiety Inventory for Children (STAIC; Spielberger, 1973), Child Depression Inventory (CDI; Kovacs, 1981), Negative Affectivity Self-Statement Questionnaire (NASSQ; Ronan, Kendall, & Rowe, 1994), and the Revised Fear Survey Schedule for Children (FSSC-R; Ollendick, 1983) that reports did not vary systematically as a function of ethnicity. However, they did find that African American children had a stronger tendency to report anger on the RCMAS than did Caucasian children, and that African American children

were more likely to report that they were feeling “very upset” on the STAIC. Kendall and colleagues concluded that there were more similarities than differences in African American and Caucasian children’s presentation of anxiety.

Kashani and Orvaschel (1988) studied anxiety disorders in a community sample of adolescents (ages 14 to 16). Their sample consisted of 142 Caucasians, 6 African Americans, and 2 Asians. Based upon the Diagnostic Interview for Children and Adolescents (DICA; Reich, Herjanic, Welner, et al., 1982), a significantly lower prevalence of anxiety disorders among Caucasian adolescents than among non-Caucasian adolescents was found. However the sample of non-white adolescents was very small (n=8).

Beidel, Turner, and Trager (1994) studied test anxiety in 52 African American and 143 Caucasian children and found no significant difference in prevalence of test anxiety. However, they found that many more African American test-anxious children met criteria for a significant anxiety disorder as compared to Caucasians. This finding appears to indicate that severity of anxiety disorders may be greater in African Americans who develop them.

Neal, Lilly, and Zakis (1993) studied 233 children aged 6 to 12, of whom 124 were Caucasian and 109 African American. Based upon the Revised Fear Survey Schedule for Children (FSSC-R; Ollendick, 1983), differences in the number and intensity of fears held by African American and Caucasian children were not found. However, they did find that their fears differed qualitatively. Although the measure was factor analyzed to yield five factors (i.e., fear of failure and criticism, fear of the unknown, fear of injury and small animals, fear of danger and death, and medical fears),

Neal et al. found that African Americans did not tend to report fear of school or fear of failure and criticism. They concluded that for African Americans, school may not be considered a critical competency area, or that African Americans may simply feel more comfortable in school than their Caucasian counterparts.

In summary, although considerable variability in findings has been obtained, differences may exist in prevalence rates and/or symptom severity in anxiety disorders between African American and Caucasian adults and children. Reasons for these differences are yet to be clearly articulated. In an attempt to obtain insight into possible explanations for such differences, Posttraumatic Stress Disorder (PTSD) was examined in hopes of shedding light on this issue.

### **Posttraumatic Stress Disorder**

Several studies have indicated that African American children and adults respond differently to traumatic events, therefore resulting in different presentations of PTSD.

PTSD is an anxiety disorder that occurs after an extreme traumatic stressor, defined as:

Direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate (American Psychiatric Association, 1994, p. 424).



In order to qualify as a traumatic experience, an event must evoke intense fear, helplessness, or horror in an individual (Criterion A). Symptoms of PTSD may take the form of re-experiencing the event (Criterion B), avoidance of stimuli associated with the event (Criterion C), and increased arousal not present prior to the event (Criterion D). Re-experiencing manifests itself as recurring thoughts or images, dreams, flashbacks, distress at reminders of the event, and physiological reactivity on exposure to internal or external cues that symbolize the event. Avoidance symptoms include efforts to avoid thoughts, feelings, or conversations associated with the event, inability to recall important aspects of the event, avoiding places or activities associated with the event, restricted range of affect, and a sense of a foreshortened future. Increased arousal symptoms include difficulty falling or staying asleep, irritability or outbursts of anger, difficulty concentrating, hypervigilance, and an exaggerated startle response. Lifetime prevalence of PTSD in the general population is estimated to range from 1% to 14% (Pfefferbaum, 1997). Comorbid conditions are common (Breslau, Davis, Andreski, & Peterson, 1991; Goenjian et al., 1995; Hubbard, Realmuto, Northwood, & Masten, 1995; Kinzie, Sack, Angell, Manson, & Rath, 1986; Sack, McSharry, Clarke, Kinney, Seeley, & Lewinsohn, 1994).

Giaconia et al. (1995) found that by 18 years of age, more than 40% of adolescents in a community sample had been exposed to a trauma that would meet criteria for the DSM-III-R, and that more than 6% actually met criteria for a lifetime PTSD diagnosis. A lifetime diagnosis of PTSD by the age of 18 has been shown to

increase the risk of other lifetime diagnoses such as depression, anxiety, and alcohol and drug dependence.

### **Psychosocial Model of PTSD in Children and Adolescents**

In a longitudinal study, LaGreca et al. (1996) explored the symptoms of PTSD in children exposed to Hurricane Andrew. Participants were 442 children (187 boys, 255 girls) at three elementary schools located in southern Dade County, Florida. The sample was 45.7% Caucasian, 23.5% Hispanic American, 23.5% African American, and 3.4% Asian American. Subjects were interviewed 3, 7, and 10 months post-disaster. Measures obtained on the Posttraumatic Stress Disorder Reaction Index for Children (RI; Frederick, 1985; Frederick, Pynoos, & Nader, 1992; Lonigan et al., 1991), the Hurricane-Related Traumatic Experiences Questionnaire (HURTE; Vernberg, LaGreca, Silverman, & Prinstein, 1996), the Social Support Scale for Children (SSSC; Harter, 1985); the Kidcope (Spirito, Stark, & Williams, 1988), and the Life Events Schedule (LES; Coddington 1972a, 1972b) indicated that PTSD symptoms did not differ by grade or gender at any point in time. However, at each assessment, African American and Hispanic children reported significantly higher levels of PTSD symptoms than Caucasian children on the Reaction Index. Overall, results of this study indicated that children who were more inclined to experience PTSD symptoms directly following a traumatic experience were those with higher levels of exposure to the trauma, larger numbers of stressful life events following a disaster, and less social support. Minority status was also a strong predictor of PTSD symptoms. While findings of this study indicated that symptoms declined over time for the majority of participants, children for whom

symptoms persisted for at least ten months were primarily those who were of minority status, and those who experienced a greater number of stressful life events. The finding regarding ethnicity may in part be explained by the relationship between socioeconomic status and ethnicity. Unfortunately, socioeconomic status was not controlled in this study.

The LaGreca et al. (1996) study was guided by a model of the variables that may impact PTSD outcome (see Appendix A). Based upon this model, predictors of response to trauma in children include preexisting child characteristics (i.e., ethnicity, gender, age), amount of exposure to the traumatic event, amount of property loss following the event, efforts to cope with the event, and characteristics of the post-disaster environment (i.e., major life events and social support). In order to predict PTSD symptoms over time, an analysis of partial variance (APV), which used hierarchical multiple regression, was used. The order of entry of variables into the regression equation was guided by the conceptual model. When examining changes in PTSD symptoms from Time 1 to Time 3, variables in the conceptual model were able to explain 7.8% of the remaining variance in Time 3 RI scores. In terms of ethnicity, Hispanic and African American children reported higher levels of PTSD symptoms. Consistent with these findings, several other studies have found differences across ethnicity. A brief review of these studies will follow. Because of the dearth of empirical literature examining the role of ethnicity in outcome in children, and the potential impact of parents' behavior on their children, both the adult and child literature will be reviewed.

Research regarding African American status and PTSD outcome was initially conducted with adult populations. Several studies indicate that African American

Vietnam veterans had higher rates of PTSD than other ethnic groups (Egendorf et al., 1981; Eisenhart, 1975; Green et al., 1990; Kulka et al., 1990; Laufer et al., 1985; Penk et al., 1989; Yager et al., 1984). However, researchers found that African American Vietnam veterans also had higher rates of substance abuse, which may have contributed to, or at least influenced, PTSD symptoms (Penk et al., 1985; Penk et al., 1989).

Studies of civilian adults have also indicated ethnic differences in the development of PTSD. In a study of the Buffalo Creek Dam collapse, Green et al. (1990) initially found that Caucasian victims experienced more posttraumatic symptomatology than African Americans. However, when these researchers interviewed the same participants in the second decade after the disaster, they found African Americans had more symptoms of PTSD at that time, even though they had experienced less exposure to the event at the time of the disaster. Similarly, Norris (1992) studied the impact of traumatic life events in a sample of 1,000 adults, half of whom were African American and the other half Caucasian. She found that Caucasians reported more instances of traumatic events (19% compared to 12% for African Americans), but when impact of trauma was considered, African Americans – particularly African American men – reported the highest levels of stress. Norris hypothesized that three factors may have contributed to these findings: (1) the traumatic incidents reported by African Americans may have been more serious than those reported by Caucasians, even though they reported fewer incidents, (2) Caucasians may have had greater economic resources, thereby reducing the negative impact of traumatic events, and (3) African Americans experiencing trauma may also have been confronted by hostility, prejudice, and neglect, all of which may have served to increase the effects of a traumatic event.

Ethnic differences in the development of PTSD have also been found in children and adolescents. Garrison et al. (1995) conducted a study of adolescents (n=400), ages 12 to 17, who were exposed to Hurricane Andrew. The sample consisted of 189 males and 211 females; 44% were Hispanic, 33% were African American, and 19% were Caucasian. Forty percent of participants reported family incomes at or below \$25,000 a year. Data were collected via telephone interviews six months following the hurricane. Interviewers assessed for disaster related resource loss with a modified version of the Resource Loss Questionnaire (Freedly, Shaw, Jarrell, & Masters, 1992). Interviewers also administered a modified version of the Johnson and McCutcheon (1980) Life Events Checklist, and a modified version of the Diagnostic Interview Schedule (Kilpatrick, Resnick, Saunders, & Best, 1989) in order to assess for PTSD. Results indicated that African Americans tended to report more avoidance symptoms than subjects in other groups, and that African Americans satisfied each of the diagnostic criteria more frequently than other ethnic groups.

Lonigan et al. (1991) studied 5,687 children ranging in age from 9 to 19 following Hurricane Hugo. Forty-nine percent of the children were male. The majority of the sample was Caucasian (67.3%). African Americans comprised 25.8% of the sample, Asians 3.6%, Hispanics 1.4%, and other minorities 1.9%. Based upon responses obtained on the Reaction Index for Children (RI; Frederick, 1985), African American children were significantly more likely to report PTSD symptomatology than Caucasian children. African Americans were found to have higher exposure levels, and ethnicity played a significant role in the manifestation of PTSD symptomatology and anxiety symptoms. It should be noted, however, that socioeconomic status and social support were not

examined in this study, and could possibly have contributed to the effects of ethnicity on PTSD symptom development, consistent with other literature.

Shannon et al. (1994) also studied children exposed to Hurricane Hugo. Based upon responses to the Frederick Reaction Index (1985), African American children were significantly more likely than Caucasian children to report the presence of anhedonia, attentional difficulties, a sense of foreshadowing, and having engaged in hazardous or reckless behavior. An examination of presentation of each PTSD symptom cluster revealed that African Americans reported significantly higher levels of re-experiencing, avoidance, and arousal when demographic and exposure factors were statistically controlled. Social support was not examined in this study.

Finally, March et al. (1997) conducted a study of children and adolescents exposed to an industrial fire. Participants were 1,019 students ranging in age from 10 to 16. The sample was evenly split between males and females, and included African American (40.4%) and Caucasian (59.6%) students. The Self-Reported Post-Traumatic Symptomatology scale (SRPTS; March et al.), modeled after the Frederick (1985) Reaction Index, was used to assess PTSD symptomatology. Results indicated that African Americans were more likely to exhibit symptoms of PTSD as compared to their Caucasian counterparts, and that symptoms rose in direct proportion to degree of exposure.

Based upon these findings, additional exploration of the variability in level of PTSD symptoms among African Americans and Caucasians is needed. These findings suggest that a life-threatening event may result in different levels of symptomatology in African American children as compared to Caucasian children. Along with ethnicity,

variables identified in these studies that appear to have the potential to predict PTSD symptomatology include resource loss, family support, religious coping, professional support, and socioeconomic status.

### **Resource Loss**

Loss of resources following a disaster serves as an indication of trauma severity. Hobfall and Lilly (1993) formulated a theory of conservation of resources in which individuals strive to obtain, retain, and protect valued resources. They conceptualized four categories of resources: Objects (e.g., house), conditions (e.g., family relationships), personal characteristics (e.g., self-esteem), and energies (e.g., money, insurance). According to this theory, resources meet survival needs, and are therefore motivating forces. The theory also postulates that loss is strongly linked to stress.

Research findings support the conceptual relationship between resource loss and stress. For example, Vernberg et al. (1996) studied a sample of children (n=442) exposed to Hurricane Andrew. In an analysis of partial variance, exposure variables reflecting loss and disruption uniquely explained 5% of the variance in Reaction Index scores. In another study of children exposed to Hurricane Andrew (n=568), Vernberg et al. (1996) found, with an analysis of partial variance, that loss-disruption experiences uniquely explained 9% of the variance in Reaction Index scores. Finally, Garrison et al. (1995) conducted a study of adolescents (n=400) who were also exposed to Hurricane Andrew. Results of a univariable regression analysis revealed that personal-social resource loss (odds ratio = 1.06) was a significant correlate of PTSD.

These findings suggest that resource loss, an indication of the impact of a disaster, is a strong predictor of PTSD symptomatology in children and adolescents.

### **Religious Coping**

Along with the severity of the trauma, the post-disaster environment and coping efforts may affect symptom development. Evidence exists that African Americans may cope differently with stressors as compared to their Caucasian counterparts. Specifically, these groups may differ in the degree to which they engage in religious coping. Taylor and Chatters (1991) developed a “deprivation-compensation” model, suggesting that disadvantaged groups may embrace religion in order to cope with uncontrollable life experiences. Not only do African Americans tend to be more religious than Caucasians, but there is evidence that religion may also be more personally important to African Americans than Caucasians (Gallup, 1984). This difference may be found in public and private religious behavior (Johnson, Matre, & Ambrect, 1991; Neff & Hoppe, 1993) and self-ratings of religious values (Malpass & Symonds, 1974).

Many researchers have hypothesized that religiosity is more closely related to the psychological well being of African Americans than Caucasians. Results of one study addressing this question indicated that reports of religiosity explained the variance in reports of global happiness for African Americans, but not Caucasians (St. George & McNamara, 1984). Blaine and Crocker (1995) studied an ethnically diverse (41% Caucasian, 46% African American, 13% Hispanic, Asian American, or Native American) sample of 144 undergraduate students in order to determine the role of religion in outcomes of depression, satisfaction with life, and hopelessness. Participants were of various religious backgrounds (43% Protestant, 33% Catholic, 11% Jewish, and 13% “other” or no religious affiliation). Ethnic differences were examined in relation to religious belief salience, religious participation, and religious attributions that enhanced



self-esteem, perceived control, and life meaning. A significant multivariate effect was revealed for ethnicity. African Americans were more religious than Caucasians, and also used religion to explain life events more than Caucasians. In a test for psychological well-being, a significant multivariate effect for race was obtained. African Americans were more depressed than Caucasians, but the groups did not differ in levels of self-esteem, life satisfaction, or hopelessness. These findings are somewhat difficult to interpret. One hypothesis is that African Americans tend to have higher levels of life-stressors, and, as a result, they may call upon more coping strategies in comparison to Caucasians. Therefore, higher rates of religious coping might not be expected to be associated with lower rates of psychological distress, but may in fact be elevated in an effort to cope with elevated levels of stress.

### **Social Support**

Social support has been shown to serve as a buffer against stress and psychological disorders in children and adults. Concerning children, the study by LaGreca et al. (1996) indicated that individuals who experienced PTSD symptoms directly following a traumatic experience were those with higher levels of exposure to the trauma, larger numbers of stressful life events following a disaster, and who obtained less social support, and were of minority status. Wertlieb, Weigel, and Feldstein (1987) conducted a study in which parents were asked to complete a social support measure regarding their family. Results indicated that social support was associated significantly with adjustment of children under stress. However, this study relied on parental report rather than that of the child. Future studies regarding social support in children should employ child self-report instruments of social support, such as that developed by Dubow

and Ullman (1989). Also, such studies should take into account the potential differential effects of support on African Americans versus Caucasians.

In the adult arena, Dressler (1985) found that individuals who perceived their extended family to be more supportive had fewer symptoms of depression. The number of extended family members, or kin, and perceived support from non-kin were not related to depression. However, a buffering effect of extended kin support on life events was found for males; extended kin support was least effective in reducing the risk of depression among young women.

Studies have indicated that social support may be characterized as received or perceived (Norris & Kaniasty, 1996; Wethington & Kessler, 1986). Received social support is tangible assistance from others, and perceived social support is emotional support from others. In a comprehensive review of the concept of social support, Barrera (1986) reported that measures of enacted, or received, support related positively to undesirable life events and psychopathology, whereas measures of perceived support related negatively to these variables. Barrera (1986) suggested that exposure to undesirable events may trigger the mobilization of supportive behaviors of others, leading to a positive correlation between stress and enacted support. However, one's perception of being loved and cared for might prevent a negative response to the occurrence of stressful events, resulting in a negative correlation between stress and perceived support.

Brown and Gary (1987) found that a larger perceived social support network helped to reduce posttraumatic psychological distress in African American females, and that perceived social support served as a buffer between stressful life events and subsequent psychological distress for these individuals.

Wilcox (1981) conducted a study of the impact of received and perceived social support on Caucasian individuals. This study examined social support from the nuclear family. The results indicated that received social support and the quality of this support were directly related to positive psychological adjustment in Caucasians. Another study of Caucasians and nuclear family social support indicated that perceived social support was more closely related to positive psychological outcome as compared to received social support (Wethington & Kessler, 1986).

In a study of social support following Hurricane Hugo, Kaniasty and Norris (1995) examined individuals' reports of various factors of social support: emotional support, informational support, and tangible support. The findings of this study indicated that Caucasians received more tangible support as compared to African Americans. These findings indicate that the type and source of support may vary in effectiveness, and may also vary according to ethnicity.

### **Professional Support**

Studies indicate that Caucasians tend to seek formal health and mental health care services (i.e., psychologists, psychiatrists, counselors) in times of need (Schichor, Bernstein, & King, 1994); in contrast, African Americans are less likely to seek the assistance of formal health or mental health care services (Brown & Gary, 1987).

Boyd-Franklin (1989) and Smith (1981) found that both the nuclear family (parents and children) and the extended family (relatives, friends, and clergy) are important among African Americans. For many African American families, the church is considered to be an extension of the family, or kin network (Griffith, English, & Mayfield, 1980; Levin & Taylor, 1993). Non-kin networks do not appear to be as strong

in the African American family as kin networks. This may be due to African Americans' fear of the stigmatization of receiving help from outside of the family (Ellison & Gay, 1990).

### **Socioeconomic Status**

The relationship between ethnicity and distress may be partially understood by socioeconomic status; however, findings regarding this relationship are varied. Thomas and Hughes (1986) found, in a study of ethnicity, class, and quality of life, that African Americans' self-reports of low quality of life remained unaffected by controls for socioeconomic status. However, in a follow-up study, Hughes and Thomas (1998) found that differences between African Americans and Caucasians in reports of quality of life declined significantly when income, education, work status, marital status, and age were controlled. Similarly, Williams, Yu, Jackson, and Anderson (1997) found that African Americans reported poorer health than Caucasians, and that this effect was dramatically reduced when economic status was considered. However, the effect remained significant. These findings indicate that, while socioeconomic status may partially explain ethnic differences in reports of distress and poor health, these differences are not entirely accounted for by socioeconomic status. Further, these studies were based on adult samples. The effect of socioeconomic status on the psychological well-being of youth populations requires further exploration. Therefore, the relationship between socioeconomic status and PTSD symptoms in children and adolescents was also explored in the present study.

## **The Present Studies**

### **Study 1: Residential Fire and PTSD**

Based upon review of the literature, the purpose of the present study was to gain a better understanding of ethnicity as it relates to PTSD symptomatology. Specifically, the goals of this study were to determine whether or not ethnic differences exist in PTSD following residential fire, as well as to examine other predictors of PTSD. Empirical and theoretical literature indicates that resource loss, socioeconomic status, social support, professional support, and coping strategies may account for differences between African Americans and Caucasians in PTSD symptomatology, if such differences are found.

Definitions of key variables are as follows:

- 1) Ethnicity – African American or Caucasian status.
- 2) Resource Loss – A self-report of the total amount of loss suffered, including object loss, condition loss, loss of personal characteristics, and energy loss.
- 3) Socioeconomic Status (SES) – The level of education of the child/adolescent subjects' parent respondent.
- 4) Family Support– The degree to which family members provide emotional support for the respondent, reported by the respondent.
- 5) Religious Coping – The degree to which the respondent relies on spiritually-based coping to effectively handle stressful situations.
- 6) Professional Support – The number of professionals from whom the individual has sought help within the past year in order to cope with the stress of the fire.

The Residential Fire Study at Virginia Polytechnic Institute and State University (Jones & Ollendick, 1996) is a study in which children and adolescents, along with their parents, are assessed for a range of psychological distress, as well as potential buffers against such distress. Participants in the present study were obtained from this project.

### Hypotheses

1. It was hypothesized that ethnicity, resource loss, SES, family support, religious coping, and professional support would be correlated with PTSD symptoms. Specifically, it was predicted that resource loss and ethnicity would be positively correlated with CRTES and DICA PTSD symptoms, whereas SES, family support, religious coping, and professional support would be negatively correlated with CRTES and DICA PTSD symptoms. This hypothesis was evaluated through the computation of zero-order correlation coefficients.
2. It was hypothesized that ethnicity, resource loss, SES, family support, religious coping, and professional support would contribute significantly to prediction of CRTES and DICA PTSD symptoms. Specifically, it was predicted that each of these variables would be significant predictors when the other five variables were controlled for. Although all predictor variables were included in this analysis, particular attention was paid to the role of ethnicity in PTSD outcome. This hypothesis was evaluated through the “Forward” method of simultaneous multiple regression.

3. It was hypothesized that ethnicity would contribute significantly to prediction of CRTES and DICA symptoms, above and beyond the contribution of the other five variables. This hypothesis was evaluated through hierarchical regression, in which ethnicity was entered into the second step after the other five predictors were entered into the first step.

## Method

### Participants

Participants in this study were 113 children and adolescents who experienced a residential fire in various cities in Georgia, North Carolina, South Carolina, Virginia, and West Virginia. Participants were recruited through flyers advertising the project, as well as through notices from their local fire departments. Interviews took place in the residence of the participants, in community centers, or at the Virginia Tech Residential Fire Study Site.

For some analyses, complete data were only available for 102 participants. However, the complete sample consisted of 59 African Americans and 54 Caucasians, 58 females and 55 males. The mean age for the sample was 11.64 years (range=4-20; SD=3.30). Socioeconomic status was based upon the mother's highest level of education completed: 1) less than 7<sup>th</sup> grade, 2) junior high, 3) partial high school, 4) high school graduate, 5) partial college, 6) standard college, and 7) graduate professional training. The mean parental (mostly maternal) education level was 4.56 (SD=1.21), which was the equivalent of high school graduate/partial college. The mean parental education level was 4.52 for African Americans (SD=1.04), and 4.57 for Caucasians (SD=1.13). A t-test

of these means revealed that African Americans and Caucasians did not differ significantly in terms of parental education level ( $t_{(df=100)} = -.220, p=.827$ ).

### Procedures

Three assessment sessions took place. The first was conducted as soon after the fire as possible, the second took place six months post-fire, and the third took place twelve to eighteen months post-fire. At each session, the participants were assessed with self-report and clinician administered instruments. Interviews were conducted by graduate students who had been trained on each of the assessment measures. Although three assessment sessions took place, only data from Time 1 assessment were evaluated for the present study.

One parent of the adolescent was also administered several assessment measures targeting the parent's own post-disaster functioning, and the parent's perception of the child's post-disaster functioning. Families were financially compensated for their participation in the study at each of the three assessment occasions.

### Measures

#### Demographic Questionnaire (Jones & Ribbe, 1990)

On this questionnaire, respondents reported their ethnicity, gender, age, religious affiliation, marital status, education level, and annual income (see Appendix B). Parental education level was categorized into seven ordered categories: 1) Less than 7<sup>th</sup> grade, 2) Junior High School, 3) Partial High School, 4) High School Graduate, 5) Partial College, 6) Standard College, and 7) Graduate Professional Training.



#### Fire Questionnaire (Jones & Ribbe, 1990)

A portion of the questionnaire determining the details of the fire included a list of professionals who the respondent consulted for help in dealing with the aftermath of the fire: Psychologist, Psychiatrist, Clergy, Community Worker, Red Cross Counselor, and Social Worker (see Appendix C). Respondents indicated whether or not they received help from each professional (“yes” or “no”). “Yes” responses were coded as “1,” and “no” responses as “0.”

#### Dubow Social Support Questionnaire (Dubow & Ullman, 1989)

This 12-item questionnaire breaks down into factors assessing support from family, teachers, and friends (see Appendix D). However, only the family support factor was employed for this study. The family support factor consists of four items, one of which was specific to the fire and developed for this study. Responses are based on a five-point scale, with possible responses of “always,” “most of the time,” “sometimes,” “hardly ever,” and “never.” Responses were scored as “4,” “3,” “2,” and “1,” and “0,” respectively. Some items were reverse scored. The internal consistency reliability coefficient obtained for the family factor of this measure was .89.

#### Religious Coping Questionnaire (Pargament, Ensing, Olsen, Reilly, van Haitsma, & Warren, 1990)

This 32-item measure breaks down into the factors of spiritually-based coping, good deeds, religious support, pleading with a higher power, discontent, and religious avoidance (see Appendix E). Only the spiritually based coping factor was utilized for

analysis in the present study. This factor contains 12 items. Responses are based on a 4-point scale with the following possible responses: “not at all,” “somewhat,” “quite a bit,” and “a great deal.” Responses were scored as “0,” “1,” “2,” and “3,” respectively. An internal reliability coefficient of .94 was obtained for the spiritually based coping factor of this measure.

#### Resource Loss Questionnaire (Freedy, Shaw, Jarrell, & Masters, 1992)

This questionnaire assessed loss relating to the fire according to the following factors: Object Loss, Energy Loss, Loss of Personal Characteristics, and Loss of Conditions (see Appendix F). Respondents were asked to rate the degree to which they lost each item listed on the measure. Responses were based on a 4-point scale, with responses of “no,” “a little,” “some,” or “a lot.” Responses were scored “0,” “1,” “2,” or “3,” respectively. The following internal reliability coefficients were obtained for this measure: Object Loss = .79, Energy Loss = .66, Loss of Personal Characteristics = .65, Conditions Loss = .63, and Total Resource Loss = .79.

#### Children’s Reaction To Traumatic Events Scale (Jones, 1994)

This 15-item measure assesses PTSD symptoms of re-experiencing and avoidance (see Appendix G). The intrusion scale contains 7 items and the avoidance scale contains 8 items. Respondents are asked to rate the degree to which they engaged in a list of behaviors on a 4-point likert scale, with responses of “not at all,” “rarely,” “sometimes,” and “often.” Responses were scored as “0,” “1,” “3,” and “5,” respectively.

The following internal consistency reliability coefficients were obtained for this measure: Re-experiencing = .85, Avoidance = .78, and Total CRTES = .86.

Diagnostic Interview for Children and Adolescents (DICA-R-C; DICA-R-A; Reich & Welner, 1990)

This assessment is a structured diagnostic instrument. Symptoms of Posttraumatic Stress Disorder only (avoidance, arousal, and re-experiencing) were assessed for purposes of this study (Appendix H). This assessment contains one item for each of the 17 symptoms comprising the PTSD diagnosis, according to DSM-IV criteria. A “yes” response to a symptom item was scored as “1” and a “no” response was scored as “0.” The following internal consistency reliability coefficients were obtained for this measure: Re-experiencing = .73, Avoidance = .74, Arousal = .74, and Total = .73.

## Results

Results for this study are organized into three primary sections: Descriptive statistics obtained for each measure, correlation coefficients for all variables examined, and prediction of PTSD symptomatology.

### **Descriptive Statistics**

Means, standard deviations, and internal consistency reliability estimates of all variables appear in *Table 1*. Correlation coefficients between all predictors and outcome measures appear in *Table 2*.

### **Posttraumatic Stress Symptoms**

*DICA*. Results for this measure can be interpreted based upon the DSM-IV criteria for PTSD: 1 Re-experiencing symptom, 3 Avoidance Symptoms, and 2 Arousal symptoms. The mean score for total PTSD symptoms endorsed on the DICA, described earlier, was 1.64 (range=0-17; SD=2.82), with seven individuals meeting diagnostic criteria for a diagnosis of PTSD. This group consisted of two African Americans, five Caucasians, two females, and five males. The ages of these individuals were 8 (n=1), 9 (n=1), 10 (n=2), 11 (n=1), 15 (n=1), and 17 (n=1).

The mean score for DICA re-experiencing symptoms in the sample was .68 (range=0-5; SD=1.14), with 43 individuals meeting the diagnostic criteria for the factor. The mean score for DICA avoidance symptoms in the sample was .59 (range=0-7; SD=1.27), with 11 individuals meeting the diagnostic criteria for the factor. The mean

score for DICA arousal symptoms in the sample was .37 (range=0-5; SD=.88), with 11 individuals meeting the diagnostic criteria for the factor.

The mean of total DICA PTSD symptoms endorsed was 1.30 for African Americans (SD=2.24), and 2.04 for Caucasians (SD=3.37). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in terms of the number of total PTSD symptoms endorsed on the DICA ( $t_{(df=100)} = -1.33, p = .188$ ).

The mean of DICA Re-experiencing symptoms endorsed was .61 for African Americans (SD=.98), and .76 for Caucasians (SD=1.30). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in terms of the number of re-experiencing symptoms endorsed on the DICA ( $t_{(df=100)} = -.678, p = .499$ ).

The mean of DICA Avoidance symptoms endorsed was .48 for African Americans (SD=1.18), and .72 for Caucasians (SD=1.38). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in terms of the number of avoidance symptoms endorsed on the DICA ( $t_{(df=100)} = -.931, p = .354$ ).

The mean of DICA Arousal symptoms endorsed was .21 for African Americans (SD=.59), and .57 for Caucasians (SD=1.11). A t-test of these means revealed that African Americans and Caucasians *did* differ significantly in terms of the number of arousal symptoms endorsed on the DICA ( $t_{(df=100)} = -2.04, p < .05$ ).

*CRTES.* The mean score for total symptoms endorsed by the sample on the CRTES was 23.96 (range=0-75; SD=16.96). For this scale, low distress for the individual factors is characterized by a score less than 9, moderate distress by a score between 9 and 18, and high distress by a score above 19. Therefore, the mean score for total PTSD symptoms falls in the moderate range of distress. The mean score for the re-

experiencing factor of the CRTES was 10.08 (range=0-35; SD=9.40), and the mean score for the avoidance factor was 13.89 (range=0-40; SD=9.48).

The mean total CRTES score was 21.77 for African Americans (SD=16.94), and 25.70 for Caucasians (SD=16.82). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in terms of overall symptom severity reported on the CRTES ( $t_{(df=100)} = -1.17, p = .245$ ).

The mean CRTES Re-experiencing score was 8.71 for African Americans (SD=9.31), and 11.28 for Caucasians (SD=9.74). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in terms of symptom severity reported on the re-experiencing factor of the CRTES ( $t_{(df=100)} = -1.36, p = .178$ ).

The mean CRTES Avoidance score was 13.05 for African Americans (SD=9.26), and 14.41 for Caucasians (SD=9.37). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in terms of symptom severity reported on the avoidance factor of the CRTES ( $t_{(df=100)} = 1.00, p = .465$ ).

### Predictors of Posttraumatic Stress Symptoms

*Resource Loss.* The mean total score on the Resource Loss Questionnaire was 15.65 (range=0-69; SD=9.55) for the sample. The mean score for the Object Loss factor was 8.55 (SD=5.37), for the Conditions Loss factor 1.41 (SD=2.21), for the Loss of Personal Characteristics factor 1.66 (SD=2.47), and for the Energy Loss factor 4.03 (SD=4.07).

The mean total score on the Resource Loss Questionnaire was 13.73 for African Americans (SD=8.53), and 18.43 for Caucasians (SD=9.88). A t-test of these means

revealed that African Americans and Caucasians differed significantly in the total amount of resource loss reported ( $t_{(df=100)} = -2.58, p < .05$ ).

The mean score on the Object Loss factor was 7.57 for African Americans ( $SD=4.63$ ), and 10.02 for Caucasians ( $SD=5.54$ ). A t-test of these means revealed that African Americans and Caucasians differed significantly in the amount of object loss reported ( $t_{(df=100)} = -2.43, p < .05$ ).

The mean score on the Conditions Loss factor was 1.27 for African Americans ( $SD=1.83$ ), and 1.70 for Caucasians ( $SD=2.62$ ). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in the amount of condition loss reported ( $t_{(df=100)} = -.969, p = .335$ ).

The mean score on the Loss of Personal Characteristics factor was 1.36 for African Americans ( $SD=2.28$ ), and 1.96 for Caucasians ( $SD=2.64$ ). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in the amount of personal characteristic loss reported ( $t_{(df=100)} = -1.23, p = .222$ ).

The mean score on the Energy Loss factor was 3.54 for African Americans ( $SD=3.80$ ), and 4.76 for Caucasians ( $SD=4.00$ ). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in the amount of energy loss reported ( $t_{(df=100)} = -1.58, p = .117$ ).

*Family Support.* The mean score for family support items endorsed by the sample on the Dubow Social Support Questionnaire was 11.97 (range=1-20;  $SD=4.47$ ).

The mean score for family support was 10.96 for African Americans ( $SD=5.00$ ), and 13.09 for Caucasians ( $SD=3.83$ ). A t-test of these means revealed that African

Americans and Caucasians differed significantly in the amount of family support they reported ( $t_{(df=100)} = -2.39, p < .05$ ).

*Religious Coping.* The mean score obtained on the spiritually based coping factor of the Religious Coping Questionnaire was 2.00 for the sample (range=0-3; SD=.87).

The mean score for religious coping was 2.16 for African Americans (SD=.82), and 1.80 for Caucasians (SD=.92). A t-test of these means revealed that African Americans and Caucasians differed significantly in the amount of religious coping reported ( $t_{(df=100)} = 2.07, p < .05$ ).

*Professional Support.* The mean score for number of professionals seen following the fire was .43 for the sample (range=0-6; SD=1.05).

The mean score for professional support was .25 for African Americans (SD=.70), and .57 for Caucasians (SD=1.31). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in terms of amount of professional support received ( $t_{(df=100)} = -1.55, p = .123$ ).

### **Prediction of PTSD Symptomatology**

Hypotheses were tested by employing simultaneous and hierarchical multiple regression analysis, as well as Pearson correlation tests, using the Statistical Package for Social Sciences, 10<sup>th</sup> version (SPSS 10.0).

*Hypothesis 1:* Support was found only for the predicted correlation between resource loss and PTSD symptoms. This correlation resulted for all PTSD symptoms, with the exception of DICA re-experiencing symptoms. A significant negative



correlation was found between ethnicity (coded 1 for Caucasian and 2 for African American), and DICA arousal symptoms, contrary to the predicted positive relationship.

*Hypothesis 2: DICA.* When total DICA PTSD symptoms were regressed onto all six predictor variables with forward regression, personal characteristic loss and condition loss were entered into the regression model, indicating that they were the only significant predictors of total PTSD symptoms endorsed on the DICA (*Table 3*). Personal characteristic loss significantly predicted DICA re-experiencing symptoms (*Table 4*). Condition loss and personal characteristic loss significantly predicted DICA avoidance symptoms (*Table 5*), and personal characteristic loss significantly predicted DICA arousal symptoms (*Table 6*).

*CRTES.* When total CRTES symptoms were regressed onto the predictor variables with forward regression, only total resource loss was entered into the regression model (*Table 7*). The same results were found when CRTES re-experiencing symptoms (*Table 8*) and CRTES avoidance symptoms (*Table 9*) were regressed onto the predictor variables.

The hypotheses for SES, professional support, family support, and religious coping were not supported.

*Hypothesis 3:* Ethnicity did not contribute a significant additional amount to the variance in total PTSD symptoms, or to that in total CRTES symptoms.

*DICA.* The results of this analysis for the DICA are displayed in *Table 10*. When entered as the second step of a hierarchical regression analysis, after the other five predictors were controlled, ethnicity contributed only .5% of additional variance to total DICA PTSD symptoms ( $R^2=.115$ ,  $\Delta R^2=.005$ ;  $\beta = -.080$ ;  $p=.456$ ).

*CRTES*. The results of this analysis for the *CRTES* are displayed in *Table 11*. Ethnicity contributed only .1% of additional variance to total *CRTES* PTSD symptoms ( $R^2=.186$ ,  $\Delta R^2=.001$ ;  $\beta = -.028$ ,  $p=.773$ ).

## Discussion

The present study revealed that resource loss was the strongest predictor of functioning in children and adolescents following a residential fire. Specifically, personal characteristic loss and condition loss were significantly related to PTSD symptoms. The contribution of each predictor will be discussed in the context of previous findings, as well as in the context of the conceptual model proposed by LaGreca et al. (1996).

*Resource Loss.* As hypothesized, resource loss was a significant predictor of PTSD symptoms. This finding supports previous research in which resource loss was found to significantly predict PTSD symptoms (Garrison et al., 1995; Vernberg et al., 1996). In respect to the theoretical model by LaGreca et al. (1996), resource loss is an indication of the severity of the trauma. Therefore it makes intuitive sense that resource loss would be positively associated with PTSD symptoms.

*Ethnicity.* The hypothesis that ethnicity would contribute significantly to the variance in PTSD symptoms was not supported. It was hypothesized that African American status would be positively associated with PTSD symptoms. Although ethnicity was shown to significantly predict arousal symptoms, the finding indicated that Caucasian status was positively correlated with arousal symptoms. African American status was found to have a non-significant negative relationship to all other DICA symptoms, as well as to CRTES symptoms. These findings conflict with previous research regarding ethnicity and PTSD, in which African American children were found to have higher levels of PTSD symptoms than Caucasians (Garrison et al., 1995; LaGreca et al., 1996; Lonigan et al., 1991; March et al., 1997; Shannon et al., 1994).

One possible explanation for differences in the findings of the present study and those of previous studies may be the measures employed. Several studies utilized the Frederick (1985) Reaction Index to assess PTSD symptomatology (LaGreca et al., 1996, Lonigan et al., 1991; March et al., 1997; Shannon et al., 1994). This measure may be a more sensitive measure of PTSD symptoms, as compared to the CRTES and DICA utilized in the present study.

*SES.* In the present study, it was hypothesized that SES would be significantly and negatively associated with PTSD symptoms. This hypothesis was not supported, in that SES was not a significant predictor of any PTSD symptoms. This finding conflicts with previous findings regarding ethnicity, SES, and psychological functioning. Although the present study did not test for an interaction between ethnicity and SES in predicting PTSD symptoms, these previous studies will be utilized to shed light on the role of SES in predicting psychological functioning.

The child studies reviewed for the present study did not examine SES as a potential predictor of PTSD. Most studies regarding SES and psychological functioning have utilized adult samples, and have not examined PTSD, specifically, as an outcome variable (Thomas & Hughes, 1986; Hughes & Thomas, 1998; Williams, Yu, & Jackson, 1997). These studies indicate that lower SES may account for lower self-reports of quality of life by African Americans. Therefore, it was hypothesized in the present study that low SES, for both African Americans and Caucasians, would predict PTSD symptomatology.

The lack of significant findings regarding SES is difficult to explain, considering the fairly even distribution of parental education level. Education level was less than

seventh grade for 6% of the sample, junior high school for 4.5 %, partial high school for 13.5%, high school graduate for 26.5%, partial college for 33.5%, standard college for 16.8%, and graduate professional training for 4.5% of the sample. The case may be that parental education level is not as sensitive a measure of SES as total family income, for instance. One implication for this finding is that SES needs to be explored further in order to determine the best measure of the construct. Another implication is that SES may not be as important in predicting PTSD symptomatology as other variables, such as the severity of the trauma.

*Family Support.* It was hypothesized that the variable of perceived family support would be significantly and negatively correlated with PTSD symptoms. This hypothesis was not supported, in that family support was not a significant predictor of PTSD symptoms. This finding may be explained by the fact that only family support was studied, as opposed to support from other sources as well.

LaGreca et al. (1996) found that combined perceived support from parents, classmates, teachers, and close friends accounted for 7% of additional variance in PTSD symptoms. Further, they found that support from classmates and parents each accounted uniquely for small, but statistically significant, amounts of the remaining variance (about 1% each). The implications for this finding are that an examination of perceived support from classmates, friends, and teachers, as well as from family members, may have resulted in better prediction of PTSD symptoms.

The non-significant finding regarding family support may also be explained by the fact that the study focused on perceived social support, rather than a combination of received and perceived support. Norris and Kaniasty (1996) propose that, although

perceived support has been found to be more beneficial than received support as a buffer against PTSD (Cassel, 1976; Cobb, 1976), a reverse mediational process may take place, in which receiving support promotes perceptions of support and their protective influence on health. Future research should test for such a mediational process.

Another potential explanation for the lack of a significant relationship between family support and distress may be the fact that the assessment instrument utilized was not designed to examine the individual's rating of the personal importance of social support for him or her. While perceived and received support may appear at the outset to be sufficient measures of support, it is probable that for support to be effective, it must first be important to the individual receiving and perceiving it. Individuals who do not place importance on the need for social support may not be as affected by the lack of it as individuals for whom such support is important. The implications for this finding are that the victimized child's rating of the importance of social support from various sources may serve as a mediator of the relationship between social support and PTSD.

*Religious Coping.* It was hypothesized that religious coping would be significantly and negatively correlated with PTSD symptoms. This hypothesis was not supported, in that a non-significant relationship was found. A possible explanation for the fact that religious coping was not found to serve as a buffer against PTSD is that this finding may be moderated by ethnicity. A significant positive correlation was found between African American status and religious coping. Therefore, ethnicity and religion may interact in their prediction of PTSD, such that religion is more predictive of functioning for African Americans than for Caucasians. Such an interaction would add support to previous research indicating that global happiness is related to religion for

African Americans, but not for Caucasians (St. George & McNamara, 1984), African Americans tend to be more religious than Caucasians (Blaine & Crocker, 1995), and that religion may be more personally important to African Americans than to Caucasians (Gallup, 1984). An interaction between ethnicity and religion in the prediction of PTSD would also support Taylor and Chatters' (1991) "deprivation-compensation" model, in which disadvantaged groups are said to embrace religion in order to cope with uncontrollable events. Further examination of this relationship is warranted for future studies.

Another possible explanation for the non-significant relationship between religious coping and PTSD is that fact that only the spiritually-based coping factor of the measure was utilized for this study. It is possible that the other factors (i.e., good deeds, religious support, pleading with a higher power, discontent, and religious avoidance) may add to the contribution of spiritually-based coping in the prediction of PTSD symptoms. The implications of this are that the analysis of religious coping in this study may have missed a large amount of activity related to religious coping in the sample. Clearly, an examination of this scale in order to determine the factors, or combination of factors, that best predict PTSD, will benefit future research regarding religious coping.

*Professional Support.* It was hypothesized that professional support would be significantly and negatively correlated with PTSD symptoms. This hypothesis was not supported, in that the relationship was non-significant for all PTSD factors. A possible explanation for the lack of predicted findings is the methodology of analysis, in which several sources of support were combined to form one variable. A better strategy would

be to examine each source of professional support individually, in order to find its unique contribution to prediction of PTSD symptoms.

One possible implication for the non-significant finding is that professional support does predict PTSD symptomatology, but it needs to be analyzed by a different method than in the present study. Another possible implication is that, at the time of the assessment, not enough time had elapsed since the fire in order to determine the effects of the help sought to cope with it. It is possible that an examination of data from all three assessment times would have shown a significant relationship between professional support and PTSD at the second and/or third assessment times.



### Limitations

A limitation of this study was the somewhat homogenous sample. Participants were similar in the level of exposure to the fire, in that none of them sustained serious injuries. They were also fairly similar on the variable of SES. Although all categories of SES were represented, subjects' reports of level of education for the most part clustered around the fourth and fifth categories. The sample was also homogeneous in that participants exhibited a general trend of not seeking professional support. Finally, the participants lived in the same general geographic region. A more diverse sample may have produced greater variance in PTSD symptom presentation.

Another limitation is that the study utilized only data gathered at the Time 1 assessment. Analysis of Time 2 and Time 3 data may have shown a change in symptoms over time. LaGreca et al. (1996) found that symptoms at Time 1 predicted symptoms at Times 2 and 3. It is likely that at later times, differences in the standing on the predictor variables will emerge between individuals with more chronic symptoms and those with more acute symptoms.

## Study 2: Adolescents' Reactions to Various Traumatic Experiences

Carter, Sbrocco, and Carter (1996) proposed a theoretical framework that spells out pathways through which ethnicity may be related to anxiety symptoms and treatment seeking behavior (Appendix I). This theory postulates that racial identity (hereafter referred to as ethnic identity) and acculturation are associated with the individual's cognitions regarding their anxiety, as well as to the type of treatment they seek for anxiety.

Ethnic identity describes a continuum ranging from devaluation of one's ethnicity to a strong sense of pride, along with a sense of recognition of the positive and negative aspects of other ethnic groups (Sue & Sue, 1990). A strong African American identity consists of a sense of belongingness to African American group culture. Such a sense of belongingness entails the recognition that one is of African descent, shared values, customs, and beliefs, group/community rather than individual orientation, and a strong sense of spirituality.

The construct of acculturation may function independently of ethnic identity. Acculturation is defined as the adoption of characteristics of the mainstream, or Caucasian, culture (Landrine & Klonoff, 1994). Carter et al. (1996) hypothesized that highly acculturated individuals hold positive expectations that symptoms can be relieved by psychological treatment. Variables associated with acculturation are socioeconomic status and age cohort. High socioeconomic status is often associated with high acculturation, in a bi-directional manner. Acculturation is associated with age cohort in that older generations of African Americans tend to evidence lower levels of acculturation as a function of historical, social, and political factors.

According to Carter et al. (1996), ethnic identity and acculturation are not dichotomous constructs, but when viewed as such, it is apparent that they may interact to form four possible combinations: high ethnic identity/low acculturation, high ethnic identity/high acculturation, low ethnic identity/high acculturation, and low ethnic identity/low acculturation. These different combinations would most likely have different implications for an individual's view of his or her symptoms, as well as their willingness to engage in therapy. African American individuals in the high ethnic identity/low acculturation group would be least likely to engage in therapy, as they would most likely not partake in activities considered unique to the mainstream group. These individuals would also be likely to attribute mental illness to a case of "nerves," rather than to symptoms of a psychological nature. Individuals in the high ethnic identity/high acculturation group would be expected to present with the same symptoms as Caucasians, and to be diagnosed properly as they would fit into the mainstream diagnostic system. Individuals in the low ethnic identity/high acculturation group would present most similarly to Caucasians, partaking in mental health services and properly attributing psychological symptoms. Finally, the low ethnic identity/low acculturation group is not very common, and it is therefore difficult to speculate as to their reaction to psychological symptoms. Stress should be highest for those individuals with high ethnic identity/low acculturation. The relationship between ethnic identity and PTSD symptomatology was examined in the present study.

### Hypotheses

1. It was hypothesized that ethnicity, perceived ethnic identity, SES, family support, religious coping, mental healthcare, and non-mental healthcare would be correlated with PTSD symptoms. Specifically, it is predicted that ethnicity and perceived ethnic identity would be positively correlated with Composite International Diagnostic Interview (CIDI; Robins, Wing, Wittchen, & Helzer, 1988) PTSD symptoms, whereas SES, family support, religious coping, mental healthcare, and non-mental healthcare would be negatively correlated with CIDI PTSD symptoms. The hypothesis regarding ethnic identity was based upon its hypothesized positive correlation with ethnicity. This hypothesis was evaluated through the computation of zero-order correlation coefficients.
2. It was hypothesized that ethnicity, resource loss, SES, family support, religious coping, and professional support would contribute significantly to prediction of CIDI PTSD symptoms. Specifically, it was predicted that each of these variables would be significant predictors when the other five variables were controlled for. Although all predictor variables were included in this analysis, particular attention was paid to the role of ethnicity in PTSD outcome. This hypothesis was evaluated through the “Forward” method of simultaneous multiple regression.
3. It was hypothesized that ethnicity would contribute uniquely to prediction of CIDI PTSD symptoms, above and beyond the contribution of the other five variables. This hypothesis was evaluated through hierarchical regression, in which ethnicity was

entered into the second step after the other five predictors were entered into the first step.

### Method

The National Comorbidity Survey (NCS; Kessler et al., 1995) was designed to study the distribution, correlates, and consequences of psychiatric disorders in the United States. A sample of participants in the NCS was used to for the present study, in which ethnicity, perceived ethnic identity, SES, family support, religious coping, mental healthcare, and non-mental healthcare were examined in relation to PTSD symptoms. The unique questions addressed in these analyses pertain to ethnic identity, and distinct forms of professional support. Definitions of the variables examined are as follows:

- 1) Ethnicity – African American or Caucasian status.
- 2) Perceived Ethnic Identity – A measure of the closeness of the participants' ideas and beliefs to those in their racial and ethnic groups.
- 3) Socioeconomic Status (SES) – The participant's total annual family income.
- 4) Family Support– The degree to which family members provide emotional support for the respondent.
- 5) Religious Coping – The degree to which the respondent relies on spiritually-based coping to effectively endure stressful situations.
- 6) Mental Healthcare – The number of mental healthcare professionals (i.e., psychologist, psychiatrist, social worker, counselor) from whom the individual has sought help in their lifetime
- 7) Non-Mental Healthcare – The number of non-mental healthcare professionals (i.e., clergy, general practitioner, cardiologist, gynecologist, nurse,

occupational therapist, emergency room) from whom the individual has sought help in their lifetime.

### Participants

Participants for this study were 503 adolescents who experienced or witnessed any of the following traumatic events in their lifetime: Assault, child abuse, rape, child neglect, molestation, fire or flood, accident, electric shock, or threat. The sample consisted of 86 African Americans, and 417 Caucasians. Included in the sample were 259 males, and 244 females, with a mean age of 18.4 (range=15-21; SD=1.95). Socioeconomic status was based upon 23 categories of family income. The mean income category reported was 14.35 (SD=5.33), which represented a range of \$12,500 to \$17,499. The mean income category was 12.81 for African Americans (SD=5.84), and 14.66 for Caucasians (SD=5.19). A t-test of these means revealed that African Americans and Caucasians differed significantly in terms of total income level ( $t_{(df=501)} = -2.95, p < .05$ ).

The mean number of traumatic experiences reported was 1.91 (SD=1.20), with eight as the highest number of traumatic experiences reported (n=1). The most frequently endorsed trauma types were witnessing the traumatization of another individual (n=185), experiencing shock associated with the trauma of a loved one (n=141), being involved in an accident (n=125), and being involved in a fire or flood (n=115). However, because of the high level of overlap in types of trauma experienced, these types were not isolated for analyses.

Because the data were evaluated in a list-wise fashion, the sample size was reduced due to missing data. The sample utilized for analyses consisted of 498 subjects.

### Procedures

Interviewers were 158 members of the Survey Research Center staff at the University of Michigan. Interviewers had an average of 5 years of previous interviewing experience with the Survey Research Center. Interviewers attended a 7-day study-specific training program in the use of the University of Michigan Composite International Diagnostic Interview (UM-CIDI; Robins et al., 1988), and were supervised throughout data collection sessions.

A two-phase sample design was used in the NCS. In the first phase the diagnostic interview was administered to all respondents. In the second phase, a risk factor interview was administered to a probability sub-sample of 5877 respondents consisting of (a) all Part I respondents ages 15-24, (b) all older Part I respondents who were positive on initial questions in one or more diagnostic sections of the UM-CIDI (possible cases), and (c) a one-in-six random sub-sample of all remaining Part I respondents. Participants for the present study were African American and Caucasian individuals between the ages of 15 and 21 who reported at least one traumatic experience.

### Measures

#### Perceived Ethnic Identity

The two questions comprising this measure were developed as part of the demographic questionnaire used in the NCS. These questions allowed the respondent to

report both ethnic background (e.g., Latino, Hungarian, African) and racial classification (e.g., black, white, Asian). The measure then allows the respondent to report the closeness of his or her ideas to other people of his or her ethnic and racial background. This item will be scored as “3,” “2,” “1,” and “0,” respectively, with higher scores denoting higher racial and ethnic identity. The obtained internal reliability coefficient for this measure was .44. It is possible that this coefficient is low due to the measure consisting of only two items.

### Religious Coping

This measure was developed by the Institute of Survey Research (ISR) for use with previous studies. This measure contains 3 items assessing factors that are similar to the Pargament et al. (1990) factors of spiritually-based coping, as well as one item addressing attendance at religious services. The responses were based on a 5-point likert scale with possible responses of “almost always,” “often,” “sometimes,” “rarely,” and “never” for some questions, and “more than once a week,” “about once a week,” “1-3 times a month,” “less than once a month,” and “never” for others. Responses were scored as “4,” “3,” “2,” “1,” and “0,” respectively. One item was based on a 4-point scale, and scores were therefore standardized in order to conduct analyses. An internal consistency reliability coefficient of .85 was obtained for this measure.



### SES

The demographic questionnaire contained one item for which respondents reported the annual income of their household in the past year, before taxes. These responses were grouped into one of 23 categories.

### Family Support

Items from this instrument were developed by Schuster, Kessler, and Aseltine (1990). In this measure, 11 items assess the level of the respondents' perceived social support provided by family. Responses were based on a 4-point scale, with the following response options: "a lot," "some," "a little," not at all;" or "often," "sometimes," "rarely," "never." Items were scored as "0," "1," "2," and "3," respectively. Some items were reverse scored. The obtained internal consistency reliability coefficient was .80.

### Mental Healthcare

One set of questions allowed the respondent to report whether or not they had visited specific professionals in their lifetime, and if so, how many times. The professionals listed were Psychiatrist, Psychologist, Social Worker, Counselor, Psychiatric Outpatient Clinic, and Hotline. "Yes" responses were scored as "1," and "no" responses as "0."

### Non-Mental Healthcare

Among the items listed above were professionals not related to mental health: Clergy, General Practitioner, Cardiologist or Gynecologist, Nurse or Occupational Therapist, Other Doctor's Private Office, and Hospital Emergency Room. A "yes" response to these items was scored as "1," and a "no" response was scored as "0."

### Composite International Diagnostic Instrument (CIDI; Robins et al., 1988)

Items assessing PTSD were taken from the CIDI, which was based on the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan & Ratcliffe, 1981; see Appendix K). Rather than use the administration procedures of the DIS, interviewers were instructed to list type of traumatic experience one by one. As a number of these traumas are potentially embarrassing, interviewers referred to them by number rather than name, based upon a numbered list of these traumatic experiences. The following internal consistency reliability coefficients were obtained for this measure: Re-experiencing = .73, Avoidance = .81, Arousal = .93, and Total PTSD = .92.

## Results

Results for this study are organized into three primary sections: Descriptive statistics for each measure, correlations between variables, and prediction of PTSD symptomatology based upon each hypothesis.

### **Descriptive Statistics**

Means, standard deviations, and internal consistency reliability estimates of all variables appear in *Table 12*. Correlation coefficients between all predictors and outcome measures appear in *Table 13*.

### **Posttraumatic Stress Symptoms**

*CIDI*. Scores for the CIDI may be interpreted based upon DSM-IV criteria for PTSD diagnosis. A total of 66 participants met diagnostic criteria for PTSD. This group consisted of 10 African Americans, 56 Caucasians, 13 males, and 53 females. The ages of these individuals were 15 (n=4), 16 (n=8), 17 (n=7), 18 (n=3), 19, (n=13), 20 (n=18), and 21 (n=13). For the majority of this group, the number of traumatic experiences reported was one (n=15), two (n=20), or three (n=14). Of the individuals meeting diagnostic criteria for PTSD, 17 witnessed the trauma of another individual, 18 suffered shock associated with the trauma of a loved one, 15 were involved in an accident, 11 experienced a fire or flood, 11 were neglected, 25 molested, 17 threatened, 12 assaulted, 18 abused, and 28 were raped.

The mean of all CIDI PTSD symptoms endorsed by the sample was 3.62 (range=0-17; SD=4.40). The mean of CIDI re-experiencing symptoms was 1.53 (range=0-4). The mean of CIDI avoidance symptoms was 1.30 (range=0-7; SD=1.75). The mean of CIDI arousal symptoms was .79 (range=0-6; SD=1.74).

The mean of total CIDI PTSD symptoms was 3.14 for African Americans (SD=4.37), and 3.72 for Caucasians (SD=4.40). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in the total number of PTSD symptoms endorsed ( $t_{(df=501)} = -1.12, p = .264$ ).

The mean of CIDI Re-experiencing symptoms was 1.19 for African Americans (SD=1.29), and 1.61 for Caucasians (SD=1.41). A t-test of these means revealed that African Americans and Caucasians differed significantly in terms of the number of re-experiencing symptoms endorsed ( $t_{(df=501)} = -2.56, p < .05$ ).

The mean of CIDI Avoidance symptoms was 1.19 for African Americans (SD=1.74), and 1.32 for Caucasians (SD=1.75). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in terms of the number of avoidance symptoms endorsed ( $t_{(df=501)} = -6.41, p = .522$ ).

The mean of CIDI Arousal symptoms was .77 for African Americans (SD=1.73), and .80 for Caucasians (SD=1.75). A t-test of these means revealed that African Americans and Caucasians did not differ significantly in the number of arousal symptoms endorsed ( $t_{(df=501)} = -.139, p = .889$ ).

### Predictors of Posttraumatic Stress Symptoms

*Family Support.* The mean score on the family support measure was 35.13 for the sample (range=11-44; SD=5.31).

The mean score for family support was 35.37 for African Americans (SD=5.57), and 35.08 for Caucasians (SD=5.26). A t-test of these means revealed that African Americans and Caucasians do not differ significantly in terms of levels of family support reported ( $t_{(df=501)}=.469, p=.639$ ).

*Religious Coping.* The mean score on the religious coping measure was 10.42 for the sample (range=4-19; SD=4.13).

The mean religious coping score was 12.24 for African Americans (SD=4.38), and 10.04 for Caucasians (SD=3.98). A t-test of these means revealed that African Americans and Caucasians differed significantly in terms of religious coping ( $t_{(df=497)}=4.55, p<.01$ ).

*Ethnic Identity.* The mean score on the ethnic identity measure was 2.73 for the sample (range=0-8; SD=2.01).

The mean score for the ethnic identity measure was 6.00 for African Americans (SD=1.48), and 2.05 for Caucasians (SD=1.32). A t-test of these means revealed that African Americans and Caucasians differed significantly in terms of ethnic identity ( $t_{(df=501)}=24.69, p<.01$ ).

*Mental Healthcare.* The mean of reported mental health professionals sought was .47 for the sample (range=0-6; SD=.93).

The mean of reported mental health professionals sought was .20 for African Americans (SD=.48), and .53 for Caucasians (SD=1.00). A t-test of these means

revealed that African Americans and Caucasians differed significantly in terms of the number of mental health professionals consulted ( $t_{(df=500)} = -3.00, p < .05$ ).

*Non-Mental Healthcare.* The mean of reported non-mental healthcare professionals sought was .24 for the sample (range=0-6; SD=.57).

The mean of reported non-mental healthcare professionals sought was .17 for African Americans (SD=.51), and .25 for Caucasians (SD=.58). A t-test of these means revealed that African Americans and Caucasians differed significantly in terms of the number of non-mental health professionals consulted ( $t_{(df=501)} = -1.19, p = .236$ ).

### **Prediction of PTSD Symptoms**

The hypotheses were tested by employing hierarchical and simultaneous regression analysis, as well as correlation tests, using the Statistical Package for Social Sciences, 10<sup>th</sup> version (SPSS 10.0). To assess the amount of variance in PTSD (based upon scores on the CIDI) accounted for by the proposed variables, a forward regression was performed using the seven predictor variables included in this study (i.e., ethnicity, SES, family support, religious coping, perceived ethnic identity, mental healthcare, and non-mental healthcare). Further, a hierarchical regression was performed by entering ethnicity into the second step after entering the other six predictor variables into the first step, in order to determine the unique contribution of ethnicity to the variance in PTSD symptoms.

*Hypothesis 1.* The hypotheses concerning SES and family support were supported, in that SES and family support were significantly and negatively correlated with PTSD symptoms. The correlations between mental healthcare and PTSD, and non-

mental healthcare and PTSD, were also significant. However, these relationships were positive, whereas negative relationships were predicted. Ethnicity and perceived ethnic identity were significantly correlated with re-experiencing symptoms. However, these relationships were negative, whereas positive relationships were predicted. Religious coping was not significantly correlated with PTSD symptoms.

*Hypothesis 2:* When total CIDI PTSD symptoms were regressed onto all seven predictor variables with forward regression, mental healthcare, family support, and SES were entered into the regression model, indicating that they were significant predictors of PTSD symptoms (*Table 14*).

When CIDI re-experiencing symptoms were regressed onto all seven predictor variables with forward regression, mental healthcare, family support, and ethnicity were entered into the regression model, indicating that they were significant predictors of re-experiencing symptoms (*Table 15*).

When CIDI avoidance symptoms were regressed onto all seven predictor variables with forward regression, mental healthcare, family support, SES, and religious coping were entered into the regression model, indicating that they were significant predictors of avoidance symptoms (*Table 16*).

When CIDI arousal symptoms were regressed onto all seven predictor variables with forward regression, mental healthcare, family support, and SES were entered into the regression model, indicating that they were significant predictors of arousal symptoms (*Table 17*).

### Ethnicity

The effect of ethnicity accounted for a significant amount of variance in CIDI re-experiencing symptoms ( $\beta = -.091, p < .05$ ).

### Mental Healthcare

The effect of mental healthcare accounted for a significant amount of variance in total CIDI PTSD symptoms ( $\beta = .225, p < .01$ ), CIDI re-experiencing symptoms ( $\beta = .168, p < .01$ ), CIDI avoidance symptoms ( $\beta = .230, p < .01$ ), and CIDI arousal symptoms ( $\beta = .192, p < .01$ ).

### Family Support

The effect of family support accounted for a significant amount of variance in total CIDI PTSD symptoms ( $\beta = -.174, p < .01$ ), CIDI re-experiencing symptoms ( $\beta = -.121, p < .05$ ), CIDI avoidance symptoms ( $\beta = -.177, p < .01$ ), and CIDI arousal symptoms ( $\beta = -.179, p < .01$ ).

### SES

The effect of SES accounted for a significant amount of the variance in total CIDI symptoms ( $\beta = -.112, p < .01$ ), CIDI avoidance symptoms ( $\beta = -.145, p < .01$ ), and CIDI arousal symptoms ( $\beta = -.109, p < .05$ ).



### Religious Coping

The effect of religious coping accounted for a significant amount of the variance in CIDI avoidance symptoms ( $\beta=.096, p<.05$ ).

*Hypothesis 3.* Ethnicity did not contribute a significant additional amount to the variance in total CIDI symptoms. The results of this analysis are displayed in *Table 18*. When ethnicity was entered into the second step of the analysis, after the other six predictors were entered into the first step, it only accounted for .1% of the variance in total CIDI PTSD symptoms ( $R^2=.128, R^2\text{chg}=.001; \beta= -.055, p=.393$ ).

## Discussion

The findings of the National Comorbidity Study indicated that SES, family support, and mental healthcare were related to PTSD symptoms in a sample of adolescents and young adults who suffered a range of traumatic experiences. There was also an indication that religious coping was related to PTSD avoidance symptoms. A discussion of each predictor will follow.

*Mental Healthcare.* While mental healthcare contributed significantly to the variance in PTSD symptoms, the relationship was positive, as opposed to the hypothesized inverse relationship. The relationship between mental healthcare and PTSD may vary temporally. Because help may not be effective immediately, results of the help may not be seen for some time. Further, those who seek professional support are initially those with symptomatology, which may explain the findings of the present study. Unfortunately, the seeking of professional help in this study could have occurred at any point in the individual's lifetime, and therefore may not have been a direct result of the stressor, and may have even preceded the stressor. In order to determine the effectiveness of professional support in reducing PTSD symptoms, it is necessary to be able to specifically link this support to the trauma.

Consistent with the theoretical literature, mental healthcare was significantly and negatively correlated with African American status (Brown & Gary, 1987; Schichor, Bernstein, & King, 1994). This is supportive of the theoretical model proposed by Carter et al. (1996) which suggests that African American culture values help from family, friends, clergy, and non-mental health professionals over that from mental health professionals. This model proposes that the relationship between symptoms and support

seeking may be moderated by the variables of ethnic identity and acculturation, with various combinations resulting in different help-seeking outcomes. Inconsistent with the Carter et al. model, however, the perceived ethnic identity variable was not significantly correlated with mental healthcare in the present study. However, as Carter et al. present the construct of ethnic identity as being related to the construct of acculturation, it is likely that including a measure of acculturation in future studies might create a clearer depiction of the relationship between ethnicity and the seeking of mental healthcare.

*Family Support.* Family support was significantly related to all PTSD factors, such that individuals reporting a greater deal of perceived family support tended to report fewer PTSD symptoms. This is consistent with previous findings indicating that family support may serve as a buffer against symptomatology for both African Americans (Dressler, 1985) and Caucasians (Wilcox, 1981).

However, family support was not significantly correlated with ethnicity, contrary to previous research (Boyd-Franklin, 1989; Smith, 1981). One variable that may account for this non-significant relationship is the lack of a measure of the personal importance of family support to the individual, as discussed earlier. Personal importance of family support may moderate the relationship between family support and PTSD symptoms. Further, reports of the importance of family support may be impacted by perceived ethnic identity and acculturation. As stated earlier, Carter et al. (1996) theorized that African Americans tend to rely more heavily on support from family, as opposed to support from mental health professionals. However, the fact that this is a core cultural component for African Americans does not mean that it has the same importance for *all* African Americans. Ethnic identity and acculturation may moderate the relationship between

ethnicity and beliefs regarding the importance of family support. Future work needs to be carried out to explore this relationship further.

*SES.* It was hypothesized that SES would be significantly negatively correlated with PTSD symptoms. This hypothesis was supported for all PTSD symptoms except re-experiencing. The implication of this finding is that being of low SES creates additional stress following a disaster. This adds support to studies finding that being of low SES is related to low ratings of global happiness (Hughes & Thomas, 1998; Williams et al., 1997). A further implication of the finding of the present study is that individuals of low SES are limited in their ability to recover material losses following a disaster, and to seek professional help following a disaster or interpersonal trauma.

*Religious Coping.* It was hypothesized that religious coping would be significantly and negatively related to PTSD symptoms. This hypothesis was not supported in that religious coping was found to have a non-significant negative relationship to total PTSD, re-experiencing, and arousal symptoms, and a significant positive relationship to avoidance symptoms. A possible explanation for the lack of predicted findings is that engaging in higher levels of religious coping was found to be significantly positively associated with avoidance symptoms. Therefore, individuals in this sample who engaged in religious coping may have done so in order to *avoid* coping with the stressor, rather than to seek help in dealing with it. Further work regarding religious coping should examine the relationship to avoidance.

In support of the literature (Blaine & Crocker, 1995; Gallup, 1984; St. George & McNamara, 1984; Taylor & Chatters, 1991), African American ethnicity was significantly and positively correlated with religious coping. The implication of this, as

in the Fire Study, is that ethnicity may have served as a moderator of the relationship between religious coping and PTSD symptoms.

*Ethnicity.* It was hypothesized that African American ethnicity would be significantly and positively correlated with PTSD symptoms. This hypothesis was not supported. Although non-significant, results indicated a slight positive correlation between Caucasian status and PTSD symptoms. This finding may indicate that, although African Americans and Caucasians tended to rely on different *types* of support (i.e., African American status was significantly and positively associated with religious coping, and significantly and negatively associated with mental healthcare), they may have had the same *amounts* of overall support. The implication for this is that the two groups would have the same amount of buffers against PTSD symptoms, which would result in no ethnic differences in PTSD symptoms. While this concept may be difficult to measure, an assessment of the actual amount of support received, rather than just the rating of it, may be a better predictor of PTSD symptoms.

*Ethnic Identity.* It was hypothesized that ethnic identity would be significantly and positively associated with PTSD symptoms. This hypothesis was not supported in that ethnic identity did not significantly predict PTSD symptoms. An explanation of this finding is that ethnic identity was found to be highly correlated with ethnicity. As ethnic identity is a function of ethnicity, and ethnicity would not significantly predict PTSD symptoms, it makes intuitive sense that ethnic identity did not predict PTSD symptoms.

The theory regarding the role of ethnicity and ethnic identity in the prediction of PTSD requires further development. The current theory (Carter et al., 1996) focuses more on the relationship of ethnicity and ethnic identity to support and treatment seeking,

rather than on the relationship of these variables to symptom outcome. Therefore, the role that ethnic identity plays in the development of PTSD is still theoretically unclear, and warrants further study.

*Non-Mental Healthcare.* It was hypothesized that non-mental healthcare would be significantly negatively correlated with PTSD symptoms. This hypothesis was not supported, in that non-mental healthcare did not contribute significantly to the variance in PTSD symptoms. An explanation for this finding is that the general trend was for the sample not to seek non-mental healthcare ( $M=.24$ ;  $range=0-6$ ;  $SD=.56$ ). Because of such a low rate of endorsement of support from non-mental healthcare professionals, the variable had low predictive power for this sample. More variability on this measure may have resulted in better prediction of PTSD symptoms.

### Limitations

A major limitation of this study is the wide range of trauma experienced by the sample. It is likely that personal trauma affects individuals differently than natural or technological disasters. It is conceivable that the findings would have been vastly different had these types of trauma been examined separately.

Another limitation is the diagnostic nature of the outcome measure employed in this study. Because the CIDI is designed to determine whether individuals meet criteria for clinical disorders rather than to obtain a symptom count, the adolescents were only administered the items for the avoidance and arousal factors if they met criteria for the re-experiencing factor. Therefore, the number of individuals in this sample expressing avoidance and arousal symptoms may have been underestimated.

A third limitation of this study is the low internal consistency reliability of the ethnic identity measure. This measure consisted of two items, and only generally assessed ethnic identity. A more comprehensive measure of this construct may have been more informative.

### General Discussion

The predictors explored in these two studies by no means comprised a comprehensive model of PTSD development in children and adolescents. However, these variables helped facilitate the exploration of PTSD in the context of ethnicity. A discussion of the findings of both studies, in light of both theoretical models (Carter et al., 1996; LaGreca et al., 1996) will follow.

*Ethnicity and Ethnic Identity.* Ethnicity was not found to significantly predict PTSD symptoms in the Fire Study or the NCS. Although LaGreca et al. (1996) found that minority status was a significant predictor of PTSD symptoms, the Carter et al. (1996) model suggests that reactions to stress may vary as a function of ethnic identity and acculturation. Therefore, African Americans in both studies may have had a balance of ethnic identity and acculturation that helped them adjust to the aftermath of the trauma.

Ethnic identity did not play a significant role in the prediction of PTSD symptoms in the NCS. However, ethnic identity was significantly and negatively related to SES, positively related to religious coping, negatively related to mental health care, and positively related to African American status. These correlations add support to Carter's (1996) theory, postulating that core cultural components for African Americans are religion, and an emphasis on family support over mental healthcare.

The LaGreca et al. (1996) model posits that ethnicity may impact PTSD symptoms. However, this model does not take into account differences *within* ethnic groups. In contrast, the Carter et al. (1996) model proposes that differences within African Americans in PTSD symptomatology may be based on different combinations of



ethnic identity and acculturation. Further, the model proposes that one's level of ethnic identity and acculturation may impact the type of help the individual seeks.

In this study, an attempt was made to analyze components of the LaGreca et al. (1996) model in the context of ethnicity, by adding one of the components of the Carter et al. model. While findings relating to ethnic identity were not significant, it is clear that an integration of the two models could be beneficial to future research pertaining to ethnic differences in the presentation of PTSD. An integration of the two models would be better explored with a measure of acculturation, as well as a more comprehensive measure of ethnic identity.

One consideration that must be made in regard to ethnic identity is age. The construct of ethnic identity may be affected by the cognitive developmental level of the individual. Younger children may not yet have developed an identity based upon their ethnicity because they may not yet have a complete understanding of the concept of ethnic differences. The individuals in the Fire Study were, on average, younger than those in the National Comorbidity Sample. Therefore ethnicity and ethnic identity may not have been as salient for those in the Fire Study as for those in the National Comorbidity Sample.

*SES.* SES was not a significant predictor of PTSD outcome in the Fire Study, but it did significantly predict PTSD symptoms in the NCS study, with the exception of the re-experiencing factor. The latter results indicated that lower socioeconomic status was significantly and positively associated with PTSD symptoms.

Although not specifically included in the LaGreca et al. (1996) model, SES could be included in the model with the other demographic variables (i.e., age, ethnicity,

grade). Findings from the Fire Study regarding resource loss, and from the NCS regarding SES, indicate that low SES may contribute to PTSD symptoms by limiting the ability to recover lost possessions following a disaster.

In terms of the Carter et al. (1996) model, SES may be a reflection of acculturation, with high SES African Americans possibly being more highly acculturated than their low SES counterparts. In both cases, SES may be conceptualized as a buffer against PTSD symptoms. The question of how low SES may impact ethnic groups differently remains to be explored.

*Family Support.* Results of the Fire Study indicated that family support did not contribute significantly to the variance in any PTSD symptoms. In the NCS, family support significantly predicted all PTSD factors, with perceived family support being significantly negatively correlated with PTSD symptoms.

The LaGreca et al. (1996) model conceptualizes family support as a part of the post-disaster environment that can serve as a buffer against symptomatology. The Carter et al. (1996) model conceptualizes family support as part of the process of support seeking, with family support being more intrinsically important to African Americans with higher ethnic identity. The latter model would suggest a moderating effect of ethnicity on the relationship between family support and PTSD symptoms, whereas the LaGreca et al. model would suggest that social support is important, regardless of ethnicity. Moderation was not tested in this study, and should be tested in future studies.

*Religious Coping.* Religious coping, hypothesized to serve as a buffer against PTSD symptoms, did not exhibit this effect in the Fire Study. However, religious coping was positively correlated with African American status, which is consistent with the

literature. Religious coping did not contribute significantly to the variance in PTSD symptoms for total PTSD, re-experiencing, or arousal in the NCS. While religious coping significantly contributed to the variance in avoidance symptoms, the relationship was positive rather than negative. However, in support of the literature, African American ethnicity was significantly and positively correlated with religious coping.

The LaGreca et al. (1996) model did not include religious coping, but conceptualized coping strategies as positive or negative. In further studies of religious coping, it will be important to determine whether this type of coping serves as a positive or negative strategy. A case could be made for religious coping as both positive *and* negative coping, depending upon the purpose it serves for the individual. For example, if the individual uses religion as a source of hope and optimism, then it would be a positive coping strategy. On the other hand, if the individual uses religion as a means of avoiding the stressor, it may be a negative coping mechanism. This distinction will most likely make a difference in the relationship between religious coping and PTSD, and should therefore be drawn in future research regarding religious coping.

As in ethnicity and ethnic identity, age may play an important role in the development of religiosity. While younger children may be able to grasp religious concepts at an academic level, these concepts may not have personal meaning to them due to their stage of cognitive development. Religion most likely becomes part of an individual's self-concept as the individual reaches adolescence and adulthood. Future studies should examine the role of age and developmental level in religious coping, ethnic identity, and their correlates.

*Professional Support.* Professional support did not significantly predict PTSD symptoms in the Fire Study. However, the non-significant correlation was in the hypothesized negative direction.

In the NCS, mental healthcare contributed significantly to the variance in PTSD symptoms, but the relationship was positive, as opposed to the hypothesized inverse relationship. However, non-mental healthcare did not contribute significantly to the variance in PTSD symptoms in the NCS.

LaGreca et al. (1996) proposed that social support is bi-directionally related to coping efforts, which are in turn related to PTSD symptomatology. However, in the Fire Study, there were no significant correlations between family support, professional support, and religious coping. In the NCS, however, there was a significant positive relationship between religious coping and family support, and between religious coping and non-mental healthcare. Again, an integration of this model with the Carter et al. (1996) model should be pursued in order to more adequately determine the relationships between ethnicity, ethnic identity, acculturation, coping, and support-seeking behavior, in respect to PTSD outcome.

### Future Directions

The findings of these studies indicate that the area of trauma research in children and adolescents could benefit from attention to the individual's assessment of the personal importance of social support, the possible relationship between religion and PTSD avoidance symptoms/avoidant coping, the role of ethnic identity and acculturation in coping and treatment-seeking, and the potential moderating role of ethnicity in the relationship between religious coping and PTSD. Future research should also include age and developmental level in relationship to ethnic identity, religious coping, and their psychological correlates.

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Table 1: Fire Study Means, Standard Deviations, and Internal Consistency Reliabilities

Variable	Possible Range of Scores	Obtained Range	M	SD	$\alpha$
1. Total Resource Loss	0-69	0-51	15.65	9.55	.79
Afr. Amer.			13.73	8.53	
Caucasians			18.43	9.88	
2. Object Loss	0-21	0-21	8.55	5.37	.79
Afr. Amer.			7.57	4.63	
Caucasians			10.02	5.54	
3. Energy Loss	0-21	0-17	4.03	4.07	.66
Afr. Amer.			3.54	3.80	
Caucasians			4.76	4.00	
Personal Char.	0-15	0-13	1.66	2.47	.65
Afr. Amer.			1.36	2.28	
Caucasians			1.96	2.64	
4. Conditions Loss	0-12	0-9	1.41	2.21	.63
Afr. Amer.			1.27	1.83	
Caucasians			1.70	2.62	
5. Family Support	1-16	1-16	11.97	4.47	.89
Afr. Amer.			10.95	5.00	
Caucasians			13.09	3.83	
6. Religious Coping	0-3	0-3	2.00	.87	.94
Afr. Amer.			2.16	.83	
Caucasians			1.80	.92	
7. Professional Support	0-6	0-6	.43	1.05	N/A
Afr. Amer.			.25	.69	
Caucasians			.57	1.31	
8. PTSD					
Total CRTES	0-75	0-67	23.96	16.96	.86
Afr. Amer.			21.77	16.94	
Caucasians			25.70	16.82	
CRTES Reexp.	0-35	0-35	10.08	9.40	.85
Afr. Amer.			8.71	9.31	
Caucasians			11.28	9.74	
CRTES Avoid.	0-40	0-40	13.89	9.48	.78
Afr. Amer.			13.05	9.26	
Caucasians			14.41	9.37	
Total DICA PTSD	0-17	0-15	1.64	2.82	.87
Afr. Amer.			1.30	2.24	
Caucasians			2.04	3.37	
DICA Reexp.	0-5	0-5	.68	1.14	.73
Afr. Amer.			.61	.98	
Caucasians			.76	1.30	
DICA Avoid.	0-7	0-7	.59	1.27	.74
Afr. Amer.			.48	1.18	
Caucasians			.72	1.38	
DICA Arousal	0-5	0-5	.37	.88	.74
Afr. Amer.			.21	.59	
Caucasians			.57	1.11	

Table 2: Zero-Order Correlations Between All Variables in Fire Study

Variable/ Measures	1	2	3	8	9	10	11	14
<b>Predictors</b>								
1. Ethnicity (Afr. Am.)	1.0							
2. SES	-.02	1.0						
3. Total Loss	<i>-.25*</i>	-.08	1.0					
8. Family Support	<i>-.23*</i>	-.04	.08	1.0				
9. Religious Coping	<i>.20*</i>	-.15	.13	.05	1.0			
10. Professional Support	<i>-.15</i>	-.07	-.01	.01	.01	1.0		
<b>Outcomes</b>								
11. Total CRTES	-.12	-.15	<i>.42**</i>	.02	-.03	-.04	1.0	
14. Total DICA PTSD	-.13	-.11	<i>.32**</i>	.01	.04	-.16	<i>.35**</i>	1.0

Note: N=102 for all analyses. \* $p < .05$  \*\* $p < .01$ .

Italicized coefficients were significant following a Bonferroni correction.

Table 3: Summary of Forward Regression Analysis for Variables Predicting Total DICAPTSD Symptoms (N=102)

Variable	B	SE B	$\beta$	unique $\Delta R^2$
<b>Step 1</b>				
Personal Characteristic Loss	.425	.106	.371**	.138
<b>Step 2</b>				
Personal Characteristic Loss	.336	.114	.293**	.081
Condition Loss	.254	.126	.200*	.040

Note.  $R^2 = .137$ ,  $p < .01$  for step 1;  $\Delta R^2 = .034$ ,  $p < .01$  for step 2

\* $p < .05$ , \*\* $p < .01$

Table 4: Summary of Forward Regression Analysis for Variables Predicting DICA Re-Experiencing Symptoms (N=103)

Variable	B	SE B	$\beta$
Personal Characteristic Loss	.101	.045	.219*

Note.  $R^2 = .048$  ( $p < .05$ )

\* $p < .05$ , \*\* $p < .01$

Table 5: Summary of Forward Regression Analysis for Variables Predicting DICAAvoidance Symptoms (N=102)

Variable	B	SE B	$\beta$	unique $\Delta R^2$
Step 1				
Condition Loss	.234	.052	.409**	.167
Step 2				
Condition Loss	.187	.056	.328**	.103
Personal Characteristic Loss	.109	.050	.211*	.046

Note.  $R^2 = .167$ ,  $p < .01$  for step 1;  $\Delta R^2 = .038$ ,  $p < .01$  for step 2

\* $p < .05$ , \*\* $p < .01$

Table 6: Summary of Forward Regression Analysis for Variables Predicting DICAArousal Symptoms (N=103)

Variable	B	SE B	$\beta$
Personal Characteristic Loss	.147	.032	.413**

Note.  $R^2 = .171$  ( $p < .01$ )

\* $p < .05$ , \*\* $p < .01$

Table 7: Summary of Forward Regression Analysis for Variables Predicting TotalCRTES Symptoms (N=113)

Variable	B	SE B	$\beta$	unique $\Delta R^2$
Step 1				
Personal Characteristic Loss	2.473	.609	.360**	.130
Step 2				
Personal Characteristic Loss	2.159	.615	.314**	.101
Object Loss	.630	.282	.199*	.043

Note.  $R^2 = .129$ ,  $p < .01$  for step 1;  $\Delta R^2 = .038$ ,  $p < .01$  for step 2

\* $p < .05$ , \*\* $p < .01$

Table 8: Summary of Forward Regression Analysis for Variables Predicting CRTES Re-Experiencing Symptoms (N=113)

Variable	B	SE B	$\beta$	unique $\Delta R^2$
Step 1				
Personal Characteristic Loss	1.293	.340	.339**	.115
Step 2				
Personal Characteristic Loss	1.092	.341	.287**	.052
Object Loss	.403	.157	.230*	.057

Note.  $R^2 = .115$ ,  $p < .01$  for step 1;  $\Delta R^2 = .050$ ,  $p < .01$  for step 2  
\* $p < .05$ , \*\* $p < .01$

Table 9: Summary of Forward Regression Analysis for Variables Predicting CRTES

Avoidance Symptoms (N=113)

Variable	B	SE B	$\beta$	unique $\Delta R^2$
Step 1				
Personal Characteristic Loss	1.180	.347	.307**	.094
Step 2				
Personal Characteristic Loss	1.235	.341	.321**	.106
SES (Education)	-1.766	.759	-.207*	.047

Note.  $R^2 = .094$ ,  $p < .01$  for step 1;  $\Delta R^2 = .094$ ,  $p < .01$  for step 2  
\* $p < .05$ , \*\* $p < .01$

Table 10: Summary of Hierarchical Regression Analysis for Unique Contribution ofEthnicity to Variance in Total DICA PTSD Symptoms (N=102)

Variable	B	SE B	$\beta$	unique $\Delta R^2$
Step 1				
SES	-.231	.255	-.088	.008
Total Resource Loss	.095	.029	.319**	.100
Professional Support	-.161	.264	-.059	.003
Family Support	-.012	.059	-.019	.000
Religious Coping	-.038	.313	-.012	.000
Step 2				
SES	-.237	.256	-.091	.009
Total Resource Loss	.089	.030	.297**	.083
Professional Support	-.196	.269	-.071	.006
Family Support	-.023	.061	-.037	.001
Religious Coping	.025	.325	.008	.000
<u>Ethnicity</u>	<u>-.452</u>	<u>.603</u>	<u>-.080</u>	<u>.006</u>

Note.  $R^2 = .115$ ,  $p < .05$  for Step 1;  $\Delta R^2 = .005$ ,  $p = .053$  for Step 2

Table 11: Summary of Hierarchical Regression Analysis for Unique Contribution of Ethnicity to Variance in Total CRTES PTSD Symptoms (N=113)

Variable	B	SE B	$\beta$	unique $\Delta R^2$
<b>Step 1</b>				
SES	-1.388	1.362	-.091	.010
Total Resource Loss	.730	.158	.411**	.166
Professional Support	-.304	1.415	-.019	.000
Family Support	-.003	.332	-.001	.000
Religious Coping	-.723	1.728	-.037	.002
<b>Step 2</b>				
SES	-1.398	1.369	-.091	.010
Total Resource Loss	.717	.165	.404**	.151
Professional Support	-.351	1.430	-.022	.001
Family Support	-.024	.341	-.006	.000
Religious Coping	-.575	1.809	-.030	.001
<u>Ethnicity</u>	-.941	3.249	-.028	.001

Note.  $R^2 = .186$  for Step 1;  $\Delta R^2 = .001$  for Step 2 ( $ps < .01$ )



Table 12: National Comorbidity Study Means, Standard Deviations, and Internal Consistency Reliabilities

Variable	Possible Range of Scores	Obtained Range	M	SD	$\alpha$
1. Family Support	11-44	13-44	35.10	5.32	.80
African Americans			35.37	5.57	
Caucasians			35.08	5.26	
2. Religious Coping	4-19	4-19	10.42	4.13	.85
African Americans			12.24	4.38	
Caucasians			10.04	3.98	
3. Ethnic Identity	0-8	0-8	2.74	2.01	.44
African Americans			6.00	1.48	
Caucasians			2.05	1.32	
4. Mental Healthcare	0-6	0-6	.46	.93	.55
African Americans			.20	.48	
Caucasians			.53	1.00	
5. Non-Mental Healthcare	0-6	0-4	.24	.56	.37
African Americans			.17	.51	
Caucasians			.25	.58	
6. PTSD					
7. Total CIDI – PTSD	0-17	0-17	3.60	4.37	.92
African Americans			3.14	4.37	
Caucasians			3.72	4.40	
CIDI Re-experiencing	0-4	0-4	1.53	1.39	.73
African Americans			1.19	1.29	
Caucasians			1.61	1.41	
CIDI Avoidance	0-7	0-7	1.29	1.73	.81
African Americans			1.19	1.74	
Caucasians			1.32	1.75	
CIDI Arousal	0-6	0-6	.78	1.73	.93
African Americans			.77	1.73	
Caucasians			.80	1.75	

Table 13: Zero-Order Correlations Between NCS Variables

Variable/SES Measures	FS	RC	EI	MH	N-MH	ETH	PTSD	RE-EXPAV	AR		
SES	1.00										
Family Support	.07	1.00									
Religious Coping	.02	.12**	1.00								
Ethnic Identity	-.09*	.03	.21**	1.00							
Mental Health	-.08	-.25**	-.02	-.07	1.00						
Non-Mental	-.06	-.07	.12**	-.04	.41**	1.00					
Ethnicity (Afr. Am.)	-.14**	.02	.20**	.74**	-.13**	-.05	1.00				
Total PTSD	-.14**	-.24**	.05	-.02	.28**	.12**	-.05	1.00			
Reexp.	-.06	-.17**	.03	-.09*	.21**	.10*	-.12**	.82**	1.00		
Avoid.	-.17**	-.24**	.07	-.01	.29**	.13**	-.03	.95**	.69**	1.00	
Arousal	-.14**	-.24**	.03	.02	.25**	.09*	-.01	.91**	.57**	.84**	1.00

Note: N=498 for all analyses. \* $p < .05$ , \*\* $p < .01$ .

Italicized coefficients were significant following a Bonferroni correction.

**Table 14: Summary of Forward Regression Analysis for Variables Predicting Total CIDI****PTSD Symptoms (N=498)**

Variable	B	SE B	$\beta$	unique $\Delta R^2$
Step 1				
Mental Healthcare	1.309	.203	.277**	.077
Step 2				
Mental Healthcare	1.092	.207	.232**	.053
Family Support	-.148	.036	-.180**	.033
Step 3				
Mental Healthcare	1.060	.206	.225**	.051
Family Support	-.143	.036	-.174**	.031
SES	-.092	.035	-.112**	.014

Note.  $R^2 = .077$ ,  $p < .01$  for step 1;  $\Delta R^2 = .030$ ,  $p < .01$  for step 2;  $\Delta R^2 = .013$ ,  $p < .01$  for step 3

\* $p < .05$ , \*\* $p < .01$

**Table 15: Summary of Forward Regression Analysis for Variables Predicting CIDI Re-****Experiencing Symptoms (N=498)**

Variable	B	SE B	$\beta$	unique $\Delta R^2$
Step 1				
Mental Healthcare	.317	.066	.211**	.045
Step 2				
Mental Healthcare	.271	.068	.180**	.031
Family Support	-.031	.012	-.120**	.014
Step 3				
Mental Healthcare	.253	.068	.168**	.027
Family Support	-.032	.012	-.121**	.014
Afr. Am. Ethnicity	-.338	.162	-.091*	.009

Note.  $R^2 = .044$ ,  $p < .01$  for step 1;  $\Delta R^2 = .014$ ,  $p < .01$  for step 2,  $\Delta R^2 = .008$ ,  $p < .01$  for step 3

\* $p < .05$ , \*\* $p < .01$

Table 16: Summary of Forward Regression Analysis for Variables Predicting CIDIAvoidance Symptoms (N=498)

Variable	B	SE B	$\beta$	unique $\Delta R^2$
Step 1				
Mental Healthcare	.533	.081	.285**	.023
Step 2				
Mental Healthcare	.451	.082	.241**	.057
Family Support	-.057	.014	-.173**	.031
Step 3				
Mental Healthcare	.435	.081	.232**	.054
Family Support	-.054	.014	-.165**	.029
SES	-.047	.014	-.144**	.004
Step 4				
Mental Healthcare	.432	.081	.230**	.054
Family Support	-.058	.014	-.177**	.032
SES	-.047	.014	-.145**	.024
Religious Coping	.166	.073	.096*	.010

Note.  $R^2 = .081$ ,  $p < .01$  for step 1;  $\Delta R^2 = .028$ ,  $p < .01$  for step 2;  $\Delta R^2 = .020$ ,  $p < .01$  for step 3;  $\Delta R^2 = .009$ ,  $p < .01$  for step 4

\* $p < .05$ , \*\* $p < .01$

Table 17: Summary of Forward Regression Analysis for Variables Predicting CIDIArousal Symptoms (N=498)

Variable	B	SE B	$\beta$	unique $\Delta R^2$
Step 1				
Mental Healthcare	.458	.081	.246**	.061
Step 2				
Mental Healthcare	.370	.083	.199**	.039
Family Support	-.060	.014	-.185**	.034
Step 3				
Mental Healthcare	.358	.082	.192**	.037
Family Support	-.058	.014	-.179**	.032
SES	-.035	.014	-.109*	.013

Note.  $R^2 = .060, p < .01$  for step 1;  $\Delta R^2 = .032, p < .01$  for step 2;  $\Delta R^2 = .012, p < .01$  for step 3  
 \* $p < .05$ , \*\* $p < .01$

Table 18: Summary of Hierarchical Regression Analysis for Unique Contribution of Ethnicity to Variance in Total CIDI PTSD Symptoms (N=498)

<u>Variable</u>	<u>B</u>	<u>SE B</u>	<u><math>\beta</math></u>	<u>unique<math>\Delta R^2</math></u>
<b>Step 1</b>				
SES	-.096	.035	-.117**	.015
Family Support	-.150	.036	-.183**	.034
Religious Coping	-.357	.192	-.082	.007
Mental Healthcare	.043	.225	.221**	.042
Non-Mental Healthcare	.006	.362	.001	.000
Ethnic Identity	-.066	.095	-.031	.001
<b>Step 2</b>				
SES	-.099	.035	-.121**	.016
Family Support	-.151	.036	.297**	.035
Religious Coping	.369	.192	.085	.007
Mental Healthcare	1.018	.227	.216**	.039
Non-Mental Healthcare	.009	.362	.001	.000
Ethnic ID	.019	.138	.009	.000
<u>Ethnicity</u>	<u>-.635</u>	<u>.743</u>	<u>-.055</u>	<u>.002</u>


Note.  $R^2 = .128$ ,  $\Delta R^2 = .001$  for step 2 ( $ps < .01$ )

Appendix A: Demographic Form

Adult Interviewee Information:

Sex: \_\_\_\_\_ Date of Birth: \_\_\_\_\_ Age: \_\_\_\_\_ Ethnicity: \_\_\_\_\_

Religion: \_\_\_\_\_ Relation to the child: \_\_\_\_\_

- Education:    \_\_\_\_\_ Less than 7<sup>th</sup> grade
- \_\_\_\_\_ Junior high school (9<sup>th</sup> grade) 
- \_\_\_\_\_ Partial high school (10<sup>th</sup> or 11<sup>th</sup> grade)
- \_\_\_\_\_ High school graduate (whether private, preparatory, parochial, trade, or public school)
- \_\_\_\_\_ Partial college (at least one year) or specialized training
- \_\_\_\_\_ Standard college or university graduation
- \_\_\_\_\_ Graduate professional training (graduate degree)

Occupation (specify type of company and job title, value of properties, etc.):

\_\_\_\_\_

Appendix B: Follow-up Questionnaire

Re-Visit the Fire

1. Tell me about the fire again.

Allow 5 to 10 minutes for narrative.

Note subject's outward signs of distress. (crying, body language, gestures, etc.)

Professional Help

1. Since the fire have you talked with: How many times?

Clergy	_____		_____
Psychologist	_____		_____
Psychiatrist	_____		_____
Community Worker	_____		_____
Red Cross Counselor	_____		_____
Social Worker	_____		_____
Other Counseling			
Professional	_____		_____

If yes:

- 2a. Can you tell me where? \_\_\_\_\_

2. Is there anyone not mentioned whom you talked with about the fire?

\_\_\_\_\_



## Appendix C: Dubow Social Support Scale (Family Factor)

- 1) Some kids can count on their family for help of advice when they have problems, but other kids cannot. Can you count on your family for help or advice when you have problems?
- 2) Some kids feel like their family is there when they need them, but other kids don't feel this way. Do you feel like your family is there when you need them?
- 3) Some kids think their families really care about them, but other kids think their families don't. Do you think your family cares about you?
- 4) Some kids feel that they are free to talk to their family about a number of things, but other kids don't feel this way. Do you feel that you are able to talk with your family about the fire?

## Appendix D: Religious Coping Activities Scale

Please read the following statements listed below and for each statement please indicate to what extent each of the following was involved in your coping with the event. Please use the following scale to record your answers. CIRCLE one of the four numbers that corresponds to your response.

1 = Not at all

2 = Somewhat

3 = Quite a bit

4 = A great deal

## Spiritually Based Coping

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. Trusted that God or a higher power would not let anything terrible happen to me.   | 1 | 2 | 3 | 4 |
| 2. Experienced God or a higher power's love and care.                                 | 1 | 2 | 3 | 4 |
| 3. Realized that God or a higher power was trying to strengthen me.                   | 1 | 2 | 3 | 4 |
| 4. In dealing with the problem I was guided by God or a higher power.                 | 1 | 2 | 3 | 4 |
| 5. Realized that I didn't have to suffer since Jesus (if applicable) suffered for me. | 1 | 2 | 3 | 4 |
| 6. Used God or a higher power as an example of how I should live.                     | 1 | 2 | 3 | 4 |

- |   |   |   |   |   |
|---|---|---|---|---|
| 7. Took control over what I could and gave the rest<br>to God or a higher power.            | 1 | 2 | 3 | 4 |
| 8. My faith showed me different ways to handle<br>the problem.                              | 1 | 2 | 3 | 4 |
| 9. Accepted the situation was not in my hands but<br>in the hands of God or a higher power. | 1 | 2 | 3 | 4 |
| 10. Found the lesson from God or a higher power<br>in the event.                            | 1 | 2 | 3 | 4 |
| 11. God or a higher power showed me how to deal<br>with the situation.                      | 1 | 2 | 3 | 4 |
| 12. Used my faith to help me decide how to cope<br>with the situation.                      | 1 | 2 | 3 | 4 |

Appendix E: Resource Loss Scale

\*\*Interviewer: “After a disaster (i.e., the fire) some people lose things that make life easier and/or more enjoyable. I’d like to know about you and things you lost because of the fire. Okay?”

Then ask: “Due to the fire have you experienced any loss of... (READ ITEM)?”

If yes: “Did you experience a little, some, or a lot of loss of... (READ ITEM)?”

			A LITTLE	SOME	A LOT	
1. Your furniture	No	Yes	1	2	3	N/A
2. Your fun things (i.e, toys, games, stereos, computer, bike, etc.)	No	Yes	1	2	3	N/A
3. Your personal things (i.e, diary letters, pictures, etc.)	No	Yes	1	2	3	N/A
4. Your clothing	No	Yes	1	2	3	N/A
5. Your pet	No	Yes	1	2	3	N/A
6. Something else important to you						
a. _____	No	Yes	1	2	3	N/A

b. _____	No	Yes	1	2	3	N/A
c. _____	No	Yes	1	2	3	N/A
d. _____	No	Yes	1	2	3	N/A
7. Time for enough sleep	No	Yes	1	2	3	N/A
8. "Free time"	No	Yes	1	2	3	N/A
9. Time at school	No	Yes	1	2	3	N/A
10. Feeling that you are "accomplishing your goals" (i.e., getting things done)	No	Yes	1	2	3	N/A

			A LITTLE	SOME	A LOT	
11. A good relationship with your parents?	No	Yes	1	2	3	N/A
12. Time to spend with your loved ones like your family	No	Yes	1	2	3	N/A
13. Time to do your normal everyday activities	No	Yes	1	2	3	N/A
14. Your sense of humor (i.e., feeling happy, laughing, and joking)	No	Yes	1	2	3	N/A
15. Feeling that your life is peaceful and calm	No	Yes	1	2	3	N/A
16. Closeness with your friends	No	Yes	1	2	3	N/A
17. Support from your teacher (i.e., feeling that your teacher understands you)	No	Yes	1	2	3	N/A
18. Motivation (i.e.,	No	Yes	1	2	3	N/A

	wanting to get things done)						
19.	Feeling that your life is important (i.e, your life has a purpose)	No	Yes	1	2	3	N/A
20.	Having a best friend	No	Yes	1	2	3	N/A
21.	Time to finish your homework	No	Yes	1	2	3	N/A
22.	Time to “hangout” (play time) with your friends	No	Yes	1	2	3	N/A

Appendix F: Children’s Reaction to Traumatic Events Scale

Recently you experienced \_\_\_\_\_.

Below is a list of comments made by people after stressful life events. Please check each item, indicating how often these comments were true for you DURING THE PAST SEVEN DAYS. If they did not occur during that time, please mark the “not at all” column.

Comment	Frequency			
	Not at all	Rarely	Sometimes	Often
1. I thought about it when I didn’t mean to	_____	_____	_____	_____
2. I stopped letting myself get upset when I thought about it or was reminded of it	_____	_____	_____	_____
3. I tried not to remember	_____	_____	_____	_____
8. I had trouble falling asleep or staying asleep because pictures or thoughts about it that came into my mind	_____	_____	_____	_____
5. I had strong feelings about it	_____	_____	_____	_____
6. I had dreams about it	_____	_____	_____	_____
7. I stayed away from things	_____	_____	_____	_____



- |                                   |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|
| that reminded me of it            | _____ | _____ | _____ | _____ |
| 8. I felt that it did not happen  |       |       |       |       |
| or that it was make-believe       | _____ | _____ | _____ | _____ |
| 9. I tried not to talk about it   | _____ | _____ | _____ | _____ |
| 10. I kept seeing it over and     |       |       |       |       |
| over in my mind                   | _____ | _____ | _____ | _____ |
| 11. Other things kept making      |       |       |       |       |
| me think about it                 | _____ | _____ | _____ | _____ |
| 12. I had a lot of feelings       |       |       |       |       |
| about it, but I didn't pay        |       |       |       |       |
| attention to them                 | _____ | _____ | _____ | _____ |
| 13. I tried not to think about it | _____ | _____ | _____ | _____ |
| 14. Any reminder brought back     |       |       |       |       |
| feelings about it                 | _____ | _____ | _____ | _____ |

## Appendix G: DICA

Coding

NO.....	1
RARELY.....	2
SOMETIMES OR SOMEWHAT.....	3
YES.....	5

Now I'm going to ask you some questions about how you felt after the \_\_\_\_\_  
(traumatic event).

NOTE TO INTERVIEWER: IF TRAUMA IS STILL GOING ON, ASK IN PRESENT TENSE.

After the \_\_\_\_\_, did you keep thinking about it over and over, even though thinking about it upset you? \_\_\_\_\_

*[RECURRENT AND INTRUSIVE DISTRESSING RECOLLECTIONS OF THE EVENT, INCLUDING IMAGES, THOUGHTS, OR PERCEPTIONS. NOTE: IN YOUNG CHILDREN, REPETITIVE PLAY MAY OCCUR IN WHICH THEMES OR ASPECTS OF THE TRAUMA ARE EXPRESSED, DSM-III-R AND DSM-IV.]*

After the \_\_\_\_\_, did you ever get the feeling, even just for a minute, that everything was happening all over again? \_\_\_\_\_

Did sights and sounds of the \_\_\_\_\_ flash in front of you and then flash away again? \_\_\_\_\_

*[ACTING OR FEELING AS IF THE TRAUMATIC EVENT WERE RECURRING (INCLUDES A SENSE OF RELIVING THE EXPERIENCE, ILLUSIONS, HALLUCINATIONS, AND DISSOCIATIVE FLASHBACK EPISODES, INCLUDING THOSE THAT OCCUR ON AWAKENING OR WHEN INTOXICATED). NOTE: IN YOUNG CHILDREN, TRAUMA-SPECIFIC REENACTMENT MAY OCCUR, DSM-III-R AND DSM-IV].*

After the \_\_\_\_\_ (traumatic event) happened, did you stop wanting to do things that you enjoyed doing before the \_\_\_\_\_ (traumatic event)? \_\_\_\_\_

(PROBE: DOING THINGS WITH YOUR FRIENDS, GOING TO MOVIES, OR GOING PLACES?)

*[MARKEDLY DIMINSHED INTEREST OR PARTICIPATION IN SIGNIFICANT ACTIVITIES, DSM-III-R AND DSM-IV]*

Coding

NO.....	1
RARELY.....	2
SOMETIMES OR SOMEWHAT.....	3
YES.....	5

After the \_\_\_\_\_ (traumatic event), did it seem as though you didn't need people the way you used to? Did you just want to be by yourself? \_\_\_\_\_

*[FEELING OF DETACHMENT OR ESTRANGEMENT FROM OTHERS, DSM-III-R AND DSM-IV]*

After the \_\_\_\_\_ (traumatic event), did a lot of your feelings just go away? Did you stop feeling happy or sad or loving the way you used to? \_\_\_\_\_

Did you think that maybe you didn't really care about anyone anymore, even people you used to really love? \_\_\_\_\_

*[RESTRICTED RANGE OF AFFECT (E.G., UNABLE TO HAVE LOVING FEELINGS), DSM-III-R AND DSM-IV]*

After the \_\_\_\_\_ (traumatic event), did you think that things like growing up, getting a job or having children weren't really important? Did you think that your life might be really short? \_\_\_\_\_

(PROBE: DID YOU STOP CARING ABOUT WHAT YOU WANTED TO BE WHEN YOU GREW UP?)

SPECIFY: \_\_\_\_\_

*[SENSE OF A FORESHORTENED FUTURE (E.G., DOES NOT EXPECT TO HAVE A CAREER, MARRIAGE, CHILDREN, OR A NORMAL LIFE SPAN), DSM-III-R AND DSM-IV]*

After the \_\_\_\_\_ (traumatic event), did you have a lot more trouble than usual falling asleep or staying asleep? \_\_\_\_\_

*[DIFFICULTY FALLING OR STAYING ASLEEP, DSM-III-R AND DSM-IV]*

Have these feelings been a very big problem for you? Have they interfered with your life a lot? \_\_\_\_\_

SPECIFY: \_\_\_\_\_

Did you have any of these feelings before this \_\_\_\_\_ (traumatic event) happened? \_\_\_\_\_

NONE.....1

SOME.....2

MOST OR ALL PRESENT....3

SPECIFY WHICH ONES: \_\_\_\_\_

Did your Mom (or Dad) ever take you to a doctor, a counselor, or any other professional person because they were worried that the \_\_\_\_\_ (traumatic event) was really upsetting you? \_\_\_\_\_

SPECIFY: \_\_\_\_\_

IF NO, SKIP

IF YES, CONTINUE

What did the \_\_\_\_\_ (whom respondent saw) say?

SPECIFY: \_\_\_\_\_

Did these feelings cause problems with how you got along with your friends?

NOT AT ALL.....1

NOT TOO MUCH.....2

SOMEWHAT.....3

QUITE A BIT.....4

## Appendix H: Social Support

Family Support – A.23) How much do your relatives really care about you?

A.24) How much do they understand the way you feel about things?

A.25) How much do they appreciate you?

A.26) How much can you rely on them for help if you have a serious problem?

A.27) How much can you open up to them if you need to talk about your worries?

A.28) How much can you relax and be yourself around them?

A.29) How often do they make too many demands on you? (*reverse scored*)

A.30) How often do they make you feel tense? (*reverse scored*)

A.31) How often do they argue with you? (*reverse scored*)

A.32) How often do they criticize you? (*reverse scored*)

A.33) How often do they let you down when you are counting on them?  
(*reverse scored*)



## Appendix I: Religious Coping

This questionnaire consists of 4 items which address the factors of spiritually based coping and good deeds. The responses are based on a 5-point likert scale: “almost always,” “often,” “sometimes,” “rarely,” “never;” or “more than once a week,” “about once a week,” “1-3 times a month,” “less than once a month,” “never.”

- Y.2) In general, how important are religious beliefs in your daily life? (4-pt.)
- Y.7) How often do you usually attend religious services? (5-pt.)
- Y.8) When you have problems or difficulties in your family, work, or personal life, how often do you seek spiritual comfort? (5-pt.)
- Y.9) When you have decisions to make in your daily life, how often do you ask yourself what God would want you to do? (5-pt.)

## Appendix J: Ethnic/Racial Identity

Z.1) Are you of Spanish or Hispanic descent, that is, Mexican, Mexican American, Chicano, Puerto Rican, Cuban or Spanish? Which one?

Z.2) In addition to being American, what are your (other) main ethnic origins? (check those that apply)

African (01)

American Indian (02)

Asian (03)

Czechoslovakian (04)

Dutch (16)

English (05)

French (06)

German (07)

Irish (08)

Italian (09)

Mexican (10)

Near Eastern (11)

Polish (12)

Russian (13)

Scandinavian (14)

Scottish (15)

Other (97)

None (96)

Z.3) Which one do you feel best describes your ethnic background?

Z.4) How close are your ideas and feelings about things to people of \_\_\_\_\_ descent?

(Very close, somewhat close, not very close, not close at all)

Z.5) Are you white, black, American Indian, Asian, or another race?

Z.5b) How close are your ideas and feelings about things to people of your race?

## Appendix K: CIDI

The next questions are about events that may have happened in your lifetime. For these questions, please give me your answer and then circle the question number if the event has happened to you. Please turn to Page 44 in the Yellow Booklet.

INTERVIEWER: DO NOT READ THE DESCRIPTION LISTED FOR EACH EVENT.

SIMPLY READ THEM AS “EVENT NUMBER 1,” “EVENT NUMBER 2,” ETC.

Did Event #1 ever happen to you [YOU HAD DIRECT COMBAT EXPERIENCE IN A WAR]?

1. YES      5. NO

Did Event #2 ever happen to you [YOU WERE INVOLVED IN A LIFE THREATENING ACCIDENT]?

1. YES      5. NO

How old were you the first time this happened? \_\_\_\_\_ Years Old

(How about) Event #3 [YOU WERE INVOLVED IN A FIRE, FLOOD, OR NATURAL DISASTER]?

(Did this ever happen to you?)

1. YES      5. NO

How old were you the first time (it happened)? \_\_\_\_\_ Years Old

Did Event #3 happen in the past 12 months?

1. YES      5. NO

In what month and year did it happen most recently? \_\_\_\_\_

(Did) Event #4 (ever happen to you)? [YOU WITNESSED SOMEONE BEING BADLY INJURED OR KILLED]

1. YES      5. NO

How old were you the first time (it happened)? \_\_\_\_\_ Years Old

Did Event #4 happen in the past 12 months?

1. YES      5. NO

In what month and year did it happen? \_\_\_\_\_

(Did) Event #5 (Ever happen to you)? [YOU WERE RAPED]

1. YES      5. NO

How old were you the first time (it happened)? \_\_\_\_\_ Years Old

Did Event #5 happen in the past 12 months?

1. YES      5. NO

In what month and year did it happen most recently? \_\_\_\_\_

When you were (age in previous item) and Event #5 happened, was it an isolated event that happened only in one day or something that continued over several days, weeks, months, or years?

1. ISOLATED EVENT      2. CONTINUED HAPPENING

How long did it continue?

\_\_\_\_\_ # of

Days    Weeks    Months    Years

Look at the question at the bottom of page 44. Thinking about when you were (age in previous item) and Event #5 happened, read the question and tell me the letter of the answer. (CHECK ALL MENTIONS).

Who did this to you?

\_\_\_\_\_ Relative

\_\_\_\_\_ Step-Relative

\_\_\_\_\_ Someone you knew

\_\_\_\_\_ Someone you didn't know

Aside from Event #5, did Event #6 ever happen to you? [YOU WERE SEXUALLY MOLESTED]

How old were you the first time (it happened)? \_\_\_\_\_ Years Old

Did Event #6 happen in the past 12 months?

1. YES      5. NO

In what month and year did it happen most recently? \_\_\_\_\_

When you were (age in previous item) and Event #6 happened, was it an isolated event that happened only on one day or something that continued over several days, weeks, months, or years?

1. ISOLATED EVENT      2. CONTINUED HAPPENING

How long did it continue?

\_\_\_\_\_ # of

Days    Weeks    Months    Years

Look at the question at the bottom of page 44. Thinking about when you were (age in previous item) and Event #6 happened, read the questions and tell me the letter of the answer. (CHECK ALL MENTIONS).

Who did this to you?

\_\_\_\_\_ Relative

\_\_\_\_\_ Step-Relative

\_\_\_\_\_ Someone you knew

\_\_\_\_\_ Someone you didn't know

(Aside from any event you have already reported, did) Event #7 (ever happen to you)?

[YOU WERE SERIOUSLY PHYSICALLY ATTACKED OR ASSAULTED]

1. YES      5. NO (Skip)

How old were you the first time (it happened)? \_\_\_\_\_ Years Old

Did Event #7 happen to you in the past 12 months?

1. YES      5. NO (Skip)

In what month and year did it happen most recently? \_\_\_\_\_

(Aside from any event you have already reported, did) Event #8 (ever happen to you)?

[YOU WERE PHYSICALLY ABUSED AS A CHILD]

1. YES      5. NO

(Did) Event #9 (ever happen to you)? [YOU WERE SERIOUSLY NEGLECTED AS A CHILD]

1. YES      5. NO

(Aside from any event you have already reported, did) Event #10 (ever happen to you)?

[YOU WERE THREATENED WITH A WEAPON, HELD CAPTIVE, OR KIDNAPPED]

1. YES      5. NO (Skip)

How old were you the first time (it happened)? \_\_\_\_\_ Years Old

Did Event # 10 happen in the past 12 months?

1. YES      5. NO (Skip)

In what month and year did it happen most recently? \_\_\_\_\_

Have you ever had any other terrible experience that most people never go through?

1. YES      5. NO (Skip)

Could you briefly tell me something about this?

How old were you when this (first) happened? \_\_\_\_\_ Years Old

Have you ever had any other terrible experience?

1. YES      5. NO (Skip)

Could you briefly tell me something about this?

How old were you when this (first) happened? \_\_\_\_\_ Years Old



Did Event #12 ever happen to you? [YOU SUFFERED A GREAT SHOCK BECAUSE ONE OF THE EVENTS ON THIS LIST HAPPENED TO SOMEONE CLOSE TO YOU]

1. YES      5. NO (Skip)

Think of the worst time and tell me the number of the event. \_\_\_\_\_

Who did it happen to? \_\_\_\_\_

How old were you when you learned of this? \_\_\_\_\_ Years Old

INTERVIEWER CHECKPOINT

Only one YES response

Two or more YES responses

All others, Skip next section

Of the experiences on page 44 which one was most upsetting for you? (You can just tell me the number.)

Combat experience

Life-threatening accident

Fire, flood, natural disaster

Witnessed bad injury/death

Raped

Sexually molested

Physical attack/assault

Physically abused as a child

Seriously neglected as a child

Threatened with a weapon, held captive, or kidnapped

Other(s)

Suffered great shock

You experienced one of the events on the list. The next few questions are about how you felt after that experience.

YES (1)                      NO(5)                      DON'T KNOW(8)

First, did you keep remembering the

event when you did not want to?      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_

Did you keep having dreams

or nightmares about it afterwards?      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_

Did you ever suddenly act or

feel as though the event was

happening again, even though

it wasn't?    \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_

Did you ever get very upset

when you were in a situation

that reminded you of it?                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_

INTERVIEWER CHECKPOINT

One or more YES responses in previous section, Complete Next Section

All others, Skip Next Section

After the experience, did you find  
you no longer had loving or warm  
feelings toward anyone? \_\_\_\_\_

Did you go out of your way to  
avoid situations that might remind  
you of the event? \_\_\_\_\_

YES (1)      NO(5)      DON'T KNOW(8)

Did you try hard not to think  
about it? \_\_\_\_\_

Did you develop a memory  
blank so that you could not  
remember certain things  
about the event? \_\_\_\_\_

Did you feel isolated or distant  
from other people afterwards? \_\_\_\_\_

Did you begin to feel that there  
was no point in thinking about  
the future? \_\_\_\_\_

Did you lose interest in doing  
things that used to be  
important to you? \_\_\_\_\_

INTERVIEWER CHECKPOINT

Three or more YES responses, Continue To Next Section

All others, Skip Next Section

After the experience, did you  
have more trouble concentrating  
than is usual for you? \_\_\_\_\_

Did you act unusually irritable  
or lose your temper a lot? \_\_\_\_\_

Did you have more trouble  
 sleeping than is usual for you?      \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_

Did you become overly  
 concerned about danger or  
 overly careful?      \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_

Did you become jumpy or  
 easily startled by ordinary  
 noises or movements?      \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_

YES (1)      NO(5)      DON'T KNOW(8)

Did you sweat or did your  
 heart beat fast, or did you  
 tremble when reminded of  
 the upsetting experience?      \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_

INTERVIEWER CHECKPOINT

Two or more YES responses in previous section, Continue To Next Section

All others, Skip Next Section

How soon after the upsetting experience did you start to have any of these reactions?

\_\_\_\_\_ # of days weeks months years same day/immediately

How long did you continue to have any of these reactions at least a few times a week?

\_\_\_\_\_ # of days weeks months years never stopped/still have

When was the last time you had any of these reactions – in the past month, past six months, past year, or more than a year ago?

1. Past Month
2. Past Six Months
3. Past Year
4. More than A Year Ago

How old were you the last time? \_\_\_\_\_ Years Old

## Curriculum Vita

Lisa M. Kaiser

### Education

B.S., 1998 - Mount Saint Mary's College and Seminary, Emmitsburg, Maryland  
Major 1 – Psychology Major 2 – English

M.S., 2001 – Virginia Polytechnic Institute and State University, Blacksburg, VA  
Clinical Psychology, Child Focus

### Clinical Experience

Southwestern Virginia Mental Health Institute, Marion, VA – 2000  
Provided group and individual therapy for adolescent psychiatric inpatients, and performed assessments of these patients

Virginia Tech Psychological Services Center, Blacksburg, VA – 1998-2000  
Provided individual therapy for adults and adolescents; Provided parenting skills training; Provided family therapy (with a co-therapist); Conducted an anger management group for children (with co-therapists); Conducted a social anxiety group for college students (with co-therapists)

Governor's Subcabinet for Children, Youth, and Families, Baltimore, MD - 1996  
Developed new database for children's files; Reviewed files of children with multiple DSM diagnoses

### Research Experience

Thesis (Jan., 2001) Ethnicity, religious coping, and post-disaster support as predictors of posttraumatic stress in children and adolescents.

Jones, R.T., Frary, R., Cunningham, P., Weddle, J.D., & Kaiser, L. (*in press*) The psychological effects of Hurricane Andrew on African American children and adolescents: A Case Study. *Cultural Diversity and Ethnic Minority Psychology*.

Kaiser, L.M. (Nov., 2000) The moderating role of race in the development of posttraumatic stress disorder in children and adolescents. *International Society for Traumatic Stress Studies* Poster Presentation.

Langley, A., Kaiser, L.M. (Nov., 1999) Symptom presentation in youth following a natural disaster. *International Society for Traumatic Stress Studies* Poster Presentation.

Langley, A., Kaiser, L.M. & Jones, R. T. (Nov., 1999) The relationship between hope and posttraumatic stress in youth. *Association for the Advancement of Behavioral Therapy* Poster Presentation.

Langley, A., Kaiser, L., & Jones, R. (Aug., 1999) The relationship between hope and posttraumatic stress in youth. Paper submitted for publication in *The Journal of Traumatic Stress*.

Residential Fire Grant, Virginia Tech, 1998-2000  
Interviewed children, adolescents, and parents victimized by fires in their homes  
Senior Research Project, Mount Saint Mary's College, 1998

Researched the relationship between perfectionism, achievement motivation, and risk-taking behavior in college students

### Assistantships

Project ASSIST, Virginia Tech, 1998-2001  
Mentored several African American Psychology undergraduates and planned academic enrichment activities and workshops for these students

Graduate Teaching Assistantship, Virginia Tech, Fall, 1998 & Spring, 1999  
Instructed two sections of Introductory Psychology each semester

### Professional

Contribution to H.K. Chandler & J.W. Finney (Eds.) (1999) *Exploring psychology reader and workbook*. New York: McGraw Hill, Inc.

Association for the Advancement of Behavioral Therapy Conference attendee – 1998, 1999  
International Society for Traumatic Stress Studies Conference attendee – 1999, 2000