

THE CATHOLIC UNIVERSITY OF AMERICA

Perceived Stress, Anxiety and Depressive Symptoms  
Associated with African-American Youth who are Bullies, Victims, or Bully/Victims

A DISSERTATION

Submitted to the Faculty of the  
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By  
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Perceived Stress, Anxiety and Depressive Symptoms  
Associated with African-American Youth who are Bullies, Victims, or Bully/Victims

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Bullying has become a major public health problem. The United States reports a higher prevalence of bullying than most other western countries. In this country approximately 10% of children ages 7 to 13 years old either bully or are victims of bullying more than once a month.

Bullying becomes more acute and more frequent during middle school. The reason for this increase in bullying during middle school may be a function of multiple developmental transitions that occur in this age group.

The internalizing symptoms of perceived stress and symptoms of anxiety and depression have been associated with bullying and being a victim. However it is not clear whether these symptoms are a cause or a consequence of the bully experience.

This study examined the contribution that perceived stress and symptoms of anxiety and depression make to African-American middle school-aged youth who self-identify as a bully, a victim, a bully/victim, or having no involvement in the bully experience.

Secondary data from the Health Behaviors for School Aged Children Survey 2001-2002 were examined to explore the probability that perceived stress and symptoms of anxiety and depression are predictive of African-American middle school youth self-reporting as

bullies, being bullied, or being bully/victims. The sample consisted of 2,017 African-American middle school youth, ages 11 to 15 years old from around the United States. Results from logistic regression analysis found that among African-American middle school youth, depressive symptoms were predictive of self-identifying as bullies. Anxiety was predictive of youth identifying as a victims. Youth who reported perceived stress and symptoms of anxiety and depression were more likely to self-identify as bully/victims. The study showed there was a greater likelihood that youth who did not report perceived stress or symptoms of anxiety or depression self-identified as non-involved. These findings are as inconsistent as the current literature that is available for this understudied population. Additional studies would clarify the causality between African-American middle school youth internalizing symptoms and the bully experience.

This dissertation by Teresa D. Combs fulfills the dissertation requirement for the doctoral degree in Nursing approved by Mary A. Paterson, R.N., Ph.D, as director, and by Nalini Jairath, R.N., M.Sc.N., Ph.D, and Joseph Shields, Ph.D. as Readers.

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Mary Paterson, R.N., Ph.D.

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Joseph Shields, Ph.D.

## DEDICATION

This dissertation is dedicated to my four children, who have been lifelong supports in my ongoing academic endeavors. Thanks to each of you. You have provided the love, strength, and humor that I dearly needed. To my sisters, LaDonna Christian and Janice Spencer, thank you for your laughter and love. Often I was not sure whether you were laughing with me or at me; regardless, it kept me moving forward. I am especially grateful to my grandmother, Daisy Daniel, who did not enjoy the beauty of a formal education. I watched her become a self-taught, avid reader, and she encouraged me to never stop learning. I thank my parents, Hazel Cosper and Ira Combs, for instilling in me the value of education, setting a goal, and then never giving up.

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## CHAPTER 1

### INTRODUCTION

Bullying is an act of violence of the powerful over the powerless and has become a national and international public health problem for school-aged children. Children in the United States experience the trauma of being victimized through direct or indirect bullying every day. The United States reports a higher prevalence of bullying than most other Western countries, with approximately 10% of children ages 7 to 13 years old either bullying or being bullied more than once a month (Omizo, Omizo, Baxa, & Miyose, 2006). The emotional impact of the bully experience is alarming, with consistent evidence of a significant relationship between bullying and being victimized, and psychological maladjustment in children and adolescents. This experience interferes with successful progression through developmental stages as well as negatively affects social and academic success (Fitzpatrick et al., 2010; Veenstra et al., 2005). Even more disturbing is that youth involved in the bully experience are at a greater risk for more severe emotional instability than are youth who are diagnosed with a major mental illness, e.g., bipolar disorder (Schreier, A. et al., 2009). In addition, severe and chronic victimization has been linked to psychotic-like symptoms in later adolescence as well as the inability to function as productive citizens in adulthood. These effects are believed to be related to extended periods of stress associated with severe chronic victimization (Gladstone, Parker, & Malhi, 2006; Schreier, A. et al., 2009). Theoretical literature indicates that bullies and victims of bullying experience symptoms of severe stress, depression, anxiety, and psychosomatic symptoms at best, and suicide or

homicide at worst (Fekkes, Pijpers, & Verloove-Vanhorick, 2003; Hampel et al., 2009; Kumpulainen & Räsänen, 2000; Sourander, Jensen, & Ronning, 2007). Additionally, youth who are exposed to chronic severe bullying early in childhood are at greater risk for exhibiting psychotic-like symptoms in early adolescence (Scheirer, A., et al., 2009).

There are two distinct types of traditional bullying. The first is direct or physical bullying and the second is indirect or relational bullying; both occur more frequently during the sixth through eighth grades. Direct acts of bullying are described as longstanding repeated physical, verbal, or psychological violence towards a child by another individual or group where there is a real or perceived imbalance of power. These violent acts include yet are not limited to hitting, kicking, pushing, name-calling, and threatening. Indirect bullying includes behaviors such as exclusion from groups, spreading of rumors, shaming, shunning, name-calling, or controlling (Fitzpatrick et al., 2007; Haddow, 2006; Hampel, Manhold, & Hayer, 2009; Nansel et al., 2001; Omizo et al., 2006; Raskauskas & Stoltz, 2007).

Direct and indirect bullying becomes more acute, more severe, and more frequent during middle school. The reason for this increase in bullying and victimization during middle school may be a function of multiple developmental transitions that occur in this age group. These transitions include biological changes, e.g., puberty, social changes with a destabilization of familiar norms, and emotional changes with an increase in anxiety and stress (Green, 2007; Nansel et al., 2001; Pergolizzi et al., 2009). The theoretical literature suggests that youth who have enjoyed intimate friendships with fewer children during elementary school can be forced into an environment in middle school requiring

demonstrations of power and control in much larger school settings. Within this context, youth are learning to navigate acceptable behaviors to use among new peers in a new environment. During this transitional period there is greater potential for emotional turmoil, anxiety, and other psychological stressors (Green, 2007; Grills-Taquechel, Norton, & Ollendick, 2010; Pepler, Craig, Jiang, & Connolly, 2008).

### **Bullies and Victims**

While it is not uncommon for youth to experience bullying at some point during their social and academic life, it is always important to understand how detrimental bullying and being bullied are to psychosocial adjustment as well as to long-term psychological health (Mitchell et al., 2007; Nansel et al., 2001). Although the evidence continues to suggest that bullies are more aggressive, hostile, and uncooperative than non-bullies, it is important to recognize that bullies also suffer from depressive symptoms at rates slightly lower than victims and greater than non-bullied children. When compared to non-bullied youth, children who are victims experience higher levels of mental and physical distress well beyond middle-school. This distress is believed to continue into adulthood (Fekkes, Pijpers, & Verloove-Vanhorick, 2003; Hampel et al., 2009; Solberg & Olweus, 2003). Victims are generally described as shy, submissive, introverted, and often physically smaller or having other physical differences from children who bully. Consequently, these victims often have behaviorally inhibited temperaments and suffer from depression, anxiety, poor self-esteem, loneliness, and social withdrawal during and after the bully experience (Fitzpatrick, Dulin & Piko, 2010; Ivarsson, Broberg, Arvidsson, & Gillberg, 2004; Hampel et al., 2009). Although

bullies and victims are often described as two separate groups, the experiences of bullying and being bullied are not mutually exclusive. Half of all bullies report the experience of being victimized. This group of youth is categorized as bully/victims. Bully/victims tend to experience higher levels of depression, anxiety, lower self-esteem, less pro-social behavior, poorer self-control, and higher levels of perceived stress than their non-involved peers, and nearly always have co-occurring symptoms, e.g., symptoms of depression, anxiety, Attention Deficit Hyperactivity Disorder (ADHD), or oppositional defiant symptoms (Fitzpatrick et al., 2010; Haynie, Nansel, Eitel, Davis Crump, Saylor, Yu, & Simmons-Morton, 2001; Haynie et al., 2007). The following discussion illustrates the influence that bullying and being made victims have on youth. Being a bully or a victim is not a simple event that a child experiences and forgets. Being a bully or a victim places middle-school youth at risk for long-term psychological maladjustment.

### **Bullying and Depression**

Approximately 18% of adolescents report symptoms of depression. Depression has been linked with bullying, being bullied, and bullying/being bullied (Seals & Young, 2003). Saluja et al. (2004) report youth who are involved in bullying either as bullies or as victims have rates of depressive symptoms at least twice that of non-involved youth (Estévez, Murgui, & Musitu, 2009; Pepler et al., 2008).

According to the National Institutes of Health (NIH), many of the behaviors that have been considered normal in adolescents are similar to symptoms of depression, e.g., irritability, persistent boredom, somatic symptoms, aggressiveness, in addition to other

symptoms (The National Institutes of Health (n.d.). Depression in children and adolescents fact sheet [Fact sheet]. Retrieved from

[http://www.nimh.nih.gov/health/publications/depression-in-children-and-](http://www.nimh.nih.gov/health/publications/depression-in-children-and-adolescents/index.shtml)

[adolescents/index.shtml](http://www.nimh.nih.gov/health/publications/depression-in-children-and-adolescents/index.shtml)). Similar to youth involved with bullying, youth who are depressed experience poor psychosocial adjustment, poor peer relationships, and loneliness.

Adolescent males report fewer depressive symptoms at 10% and female youth report a higher rate of depressive symptoms at 25%. When youth are examined using racial ethnic categories, 22% of Latinos, 18% of Europeans and 15% of African-Americans report depressive symptoms (Saluja, Iachan, Scheidt, Overpeck, Sun, & Giedd, 2004; The National Institutes of Health (n.d.). Depression in children and adolescents fact sheet [Fact sheet]. Retrieved from

<http://www.nimh.nih.gov/health/publications/depression-in-children-and-adolescents/index.shtml>).

Unlike the wealth of recent research on child and adolescent depression and the emphasis on gender differences, however, there is less research regarding depression in African-American youth (Angold et al., 2008; Minsky, 2006). In the existing literature on African-American youth and depression, the findings are inconsistent. Some studies report African-Americans having a lower prevalence of depression than most racial groups except Asian-Americans (Angold et al., 2008; Jin et al., 2008), while other studies suggest African-American youth experience a higher prevalence of depression due to social disadvantages as a consequence of higher percentages of African-Americans living in poverty and violent environments (Choi, 2002; Fitzpatrick et al., 2010). In terms of African-American youth

experiencing bullying and depression, the Fitzpatrick et al. (2010) study, which focused on African-American youth, noted that non-involved African-American youth report significantly lower levels of depressive symptoms than do youth involved in bullying or bully/victims. However, all subjects in this study reported higher levels of depressive symptoms than is reported in the general population for adolescents in the United States.

### **Depression in African American Youth involved in the Bully Experience**

In most major studies of bullying and depression, small numbers of African-American youth are included as a subset of the larger samples that primarily consist of middle-class Caucasian youth. Other research in bullying includes studies that have been conducted in Europe and Australia with minor representation of ethnic groups included in the sample (Nansel et al., 2001; Olweus, 1997). The most frequent qualifier from the majority population has been socioeconomic status (SES), or rural and urban location of primary residence.

Fitzpatrick's (2010) landmark study of low-income African-American youth in grades 5 to 12 (n = 1,542) examined differences in depressive symptoms between youth who were not involved in bullying and those who were categorized as bullies, bully/victims, or victims. Although the causal relationship is not clear in this population, this study investigated risk and protective behaviors that may lead youth involved in the bully experience to depressive symptoms. A surprising finding was that overall, the participants in each category (non-involved, bully, victim, or bully/victim) reported higher rates of depressive symptoms than the national norm for this age group. Contrary to the expectation

that positive identified protective factors (self-esteem, parental attachment, and school bonding) were associated with non-involved youth, this study revealed that these factors were not statistically significant mediators for depressive symptoms in any of the categories in this African-American sample. In general, Fitzpatrick documented the pervasive presence of depression in African-American youth with heightened depressive symptoms associated with involvement in the bully experience.

In contrast to the Fitzpatrick studies, Nansel found African-American youth were less likely to be victims of bullying, participate less in bullying, and have fewer depressive symptoms (Nansel et al., 2001). The Nansel et al. (2001) study was a heterogeneous sample of 14,817 U.S. participants in sixth to tenth grades. A possible explanation for the difference in the outcome of these studies is that in the Fitzpatrick study the sample was a homogenous group of African-American adolescents, whereas Nansel's heterogeneous sample of African-American adolescents was a subset. Fitzpatrick et al. (2010) notes findings may be different when racial and ethnic diversity are eliminated in study samples, as was done in this study. Moreover, Nansel et al. (2001) oversampled African-American and Latino youth, and the sample was ethnic and racially more diverse than the African-American-only sample used in the Fitzpatrick study. Nansel et al. (2001) also employed a stratified two-stage cluster sampling design that allowed better estimation between clusters. Finally, there were differences between the studies with regard to the instruments and variables under investigation. The Fitzpatrick et al. (2010) study used a modified CES Depression and self-esteem, self-rating scale. The Fitzpatrick et al. (2007) study employed a self-report, school-



based survey, while Nansel et al. (2001) collected data with the World Health Organization's Health Behavior in School-Aged Children survey. These are possible factors resulting in the conflicting reports on African-American adolescents, bullying, being victimized, and depression; however, it remains unclear whether depression is a result or a cause of the bullying behaviors. The research conducted to date does not provide a clear answer regarding the relationship of depression to bullying, bully/victims, or victims in the African-American middle-school population.

### **Other Psychological Factors Associated With Bullying**

It is well documented in the literature that depressive symptoms can be a potential consequence – or cause -- of bullying and being bullied (Estévez, Estefanía, 2009; Fitzpatrick et al., 2010; Pellegrini & Long, 2002; Saluja et al., 2004). However, external factors related to the relationship between internalizing symptoms and bullying or being bullied also are of interest. Major studies have been conducted focusing on external factors related to bullying and depression, e.g., risk and protective factors, environmental, socioeconomic, and class size (Bacchini, Esposito, & Affuso, 2009; Fitzpatrick et al., 2007; Fitzpatrick et al., 2010; Mitchell et al., 2007). Additional evidence of the interest in both internalizing and externalizing factors related to bullying and being victimized is found in the Marini, Dane, & Bosacki (2006) study. This study investigated the endogenous constructs self-esteem, self-confidence, anxiety, parental attachment, and adolescent temperament in victims. Findings from this study indicate bullies and victims experience more anxiety and poorer peer relations than non-involved youth.

Symptoms of stress have been associated with bullying and being bullied. Terranova (2009) reports that stressors are events that are taxing, dangerous, and exceed our resources. Although stressors have the potential to result in deleterious outcomes, not all children perceive stress equally. Consequently, not all youth who are stressed as bullies or victims will experience depressive or anxiety symptoms. However, the experience of stress increases the probability that a youth will also experience anxiety or depressive symptoms and will become involved in the bully experience (Terranova, 2009).

Psychological adjustment in bullies and victims is a salient topic, particularly as it relates to the psychological experience during the event. Estévez, Murgui, & Musitu (2009) conducted a study in Spain with a focus on psychological adjustment related to perceived stress, self-esteem, loneliness, and depressive symptomatology in 1,319 youth, ages 11 to 16. These authors report that bullies experience higher levels of perceived stress and loneliness, though they have lower levels of depression than victims. Victims were reported to have even higher levels of perceived stress, anxiety, and depressive symptoms than bullies and non-involved youth, while bully/victims experience the greatest levels of stress, anxiety, and depression. Moreover, all groups report low life-satisfaction compared to non-involved youth. This study supports the Fitzpatrick et al. (2010) study.

No previous study has examined perceived stress, anxiety symptoms, and symptoms of depression in African-American youth who are bullies, victims, or bully/victims. Previous research investigations using samples of primarily European Americans suggest there is an association between perceived stress, anxiety symptoms, and depressive

symptoms in school-aged children who are bullies, victims, or bully/victims. Therefore, the purpose of the study is to investigate the factors of perceived stress, anxiety, and depressive symptoms in relation to African-American school-aged children in sixth through eighth grades who identify as bullies, victims, and bully/victims.

### **Conceptual Model**

Transitions from elementary school to middle school create uncertainty and stress in children. These transitions combined with developmental changes in puberty result in an unstable and uncertain environment for children in middle school (grades 6 to 8). Middle school youth hover in a space where they are too old for elementary school yet too young for high school. This is a time of uncertainty that will last for several years. One model that is particularly useful to understand this situational dynamic in African American youth is the Causal Uncertainty Model.

### **Causal Uncertainty Model**

The Causal Uncertainty model was created by Weary & Edwards (1994). Causal Uncertainty is described as a general feeling related to the inability to link cause to an event. It is influenced by two constructs, a cognitive/affective construct and a construct of perceived control. The cognitive construct is when a person lacks the ability to understand or detect causal relationships. This feeling is further activated when a person is repeatedly exposed to situations where it remains difficult to make the linkage between cause and an event. Exposure to repeated events of uncertainty then activates the meta-cognitive feelings

associated with causal uncertainty. These feelings are experienced as confusion, bewilderment, puzzlement, and an overall feeling of inadequacy regarding the ability to perceive and understand their social world. If situations of causal uncertainty persist, eventually a person is believed to become “causally uncertain”. The second construct in the model is a perceived lack of control. As a person attempts to control situational outcomes and fails, the belief of causal uncertainty is activated. A modification of the causal uncertainty model is the basis of the conceptual model which will organize this study.

### **Significance**

Nurses and other healthcare providers involved in African-American adolescents’ care need to understand the link between perceived stress, anxiety, and depressive symptoms in African-American youth who are bullies, victims, or bully/victims in sixth through eighth grades. A better understanding of these relationships will allow healthcare providers to include mental- health assessments during well-child or incident-specific visits. This may help in identifying symptoms of stress, anxiety, or depression which may be associated with bullying or being a victim. The findings from this study may be used to help minimize future episodes of bullying behavior, as well as mitigate some of the long-term effects associated with the absence of treatment for internalizing symptoms for African- American youth.

As previously noted, there is an emerging body of literature emphasizing the psychological sequelae of childhood bullying in African-American youth. To date there is no clarity regarding the direction or the relationship between bullying and internalizing symptoms for young adolescent African-American youth. However, there is literature

describing race-specific behaviors seen in young African-Americans that differ from behaviors described for European American youth regarding internalizing symptoms. Investigating the link between perceived stress, anxiety, and depressive symptoms in this population will assist in extending the current literature on psychological maladjustment and bullying among African-American young adolescents. Furthermore, it will help to clarify the present conflicting literature related to internalizing symptoms and bullying, being made a victim, and being a bully/victim among African American youth.

### **Scope**

This study will use a subset of the Health Behavior for School-Aged Children (HBSC), 2001-2002. These data were gathered from individual students in public and private schools in sixth through eighth grades throughout the United States and the District of Columbia. The youth have self-identified as bullies, victims, bully/victims, or are youth who are neither bullies nor victims (non-involved).

There is an emerging body of literature emphasizing the psychological sequelae of childhood bullying in African American youth. To date there is no clarity regarding the direction of the relationship between internalizing symptoms and bullying among young African- American adolescents. However, there is literature describing race-specific behaviors seen in young African-Americans that differ from behaviors described for European-American youth regarding internalizing symptoms.

### **Limitations**

A limitation of this study is the use of a secondary data set not primarily intended for a study of African-American youth. A second limitation is that the data set includes youth who self-identified as African-American or Black. This form of selection can result in forced categorizations based on skin color and does not take into consideration uniqueness of ethnic or cultural differences within this group.

Symptoms of perceived stress, anxiety symptoms, and depressive symptoms in African American school-aged children who are bullies, victims, or bully/victims remain a little-studied topic. This study will help to expand the current body of literature and support the existing literature on bullying among school-aged children. Investigating these variables and the association with bullying will help to fill the gap between endogenous psychological factors and those caused by bullying, being bullied, and being a bully/victim among African-American children that are not included in the recent seminal studies associated with African-American youth. Because the literature regarding bullying and symptoms of perceived stress, anxiety, and depression in African-American youth is inconsistent, this study will contribute to the limited literature in clarifying additional associations that to date have remained under-investigated. Furthermore, it may assist in the development of therapeutic options to health-care providers treating this vulnerable population. Specifically, it will help to expand the range of assessment options for psychiatric, pediatric and family nurse practitioners, as well as school and staff nurses engaged with middle school youth.

## CHAPTER 2

### **Review of Literature**

#### **Introduction**

The national and international research acknowledges that bullying extends beyond a single phenomenon, is complex, and has negative psychological social and academic impacts on children (Cho, Hendrickson, & Mock, 2009). Although bullying is common among school-aged youth, the experience of being a victim of bullying has been linked to internalizing problems, e.g., depressive symptoms, symptoms of anxiety, loneliness, fear, insecurity, and aggression, and poor peer relationships (O'Brennan, Bradshaw, & Sawyer, 2009). A report by Green (2007) informs us that bullying in middle school is common and is a result of the developmental transitions that occur during early puberty and before high school. Furthermore, it has been reported that approximately 10% of children ages 7 to 13 years old either bully or are victims of bullying more than once a month (Frisen, Jonsson, & Persson, 2007; Omizo, Omizo, Baxa, & Miyose, 2006).

Espelage & Swearer (2003) and Perren & Alsaker (2006) suggest although much of the literature separates bullies and victims, they are frequently not exclusive categories; nearly half of all bullies are also victims, or bully/victims. In addition, bully/victims are reported to externalize aggressive symptoms as well as internalize symptoms of anxiety and depression (Espelage & Swearer, 2003; Veenstra et al., 2005; Perren & Alsaker, 2006). Andreou, Vlachou, & Didaskalou (2005) examined a sample of 448 children in fourth through sixth grades in Greece. The purpose was to determine the relationship between

bullies, victims, and bully/victims related to the measures of self-efficacy peer-interaction and attitudes towards bullying and being bullied. These investigators note that bully/victims tend to have intense pro-bully attitudes with little ability for appropriate peer interaction. Furthermore, bully/victims are similar to bullies regarding self-efficacy for aggression and similar to victims regarding self-efficacy for assertion (Andreou, Vlachou, & Didaskalou, 2005; Menesini, Modena, & Tani, 2009). Based on these general principles, the literature presented here will be categorized as follows:

1) The general literature on anxiety and depression and stress in youth; 2) anxiety and depression in African American youth; 3) the psychological effects of bullying victimization and bully/victimization; 4) the advantages of bullying; 5) bullying in the United States; and 6) bullying and being bullied among African-American youth.

### **Depression, Anxiety and Perceived Stress in Youth**

Former Surgeon General Dr. David Satcher's report notes that childhood depression is less understood and provokes more uncertainty and controversy than adult depression (U.S. Health and Human Services (n.d.). Depression and suicide in children and adolescents. Children and young adolescents with depressive. [Fact sheet]. Retrieved from <http://www.surgeongeneral.gov/library/mentalhealth/chapter3>).

Children and young adolescents with depressive symptoms frequently experience anhedonia, which is a general lack of pleasure in activities that were enjoyable in the past (Moran et al., 2007). Anhedonia can interfere with activities that support progression to the next developmental stage. Youth with depressive symptoms, therefore, are at greater risk for



retardation of developmental tasks. The chronic nature of Dysthymic Disorder (DD) makes this especially true. Youth diagnosed with Major Depressive Disorder (MDD) are at greater risk for a preoccupation with suicide than youth who are not (Murphy, 2004; U.S. Public Health Services, 1999). Finally, a report from former Surgeon General Satcher explains that depressed youth exhibit a greater tendency toward aggressive behavior, low energy, poor concentration, irritability, and somatic complaints (U.S. Health and Human Services (n.d.). Depression and suicide in children and adolescents. Children and young adolescents with depressive.[Fact sheet]. Retrieved from <http://www.surgeongeneral.gov/library/mentalhealth/chapter3>).

Depression is considered one of the leading causes of disability in people between 15 to 44 years old (National Institutes of Mental Health (n.d.). Depression in children and adolescents. Retrieved from <http://www.nimh.nih.gov/health/publications/depression-in-children-and-adolescents/index.shtml>). It is rated fourth in all medical disorders worldwide for disability, just behind heart disease and stroke. It has the greatest mortality, morbidity, and financial impact of all psychiatric disorders (Saluja et al., 2004). According to WHO, depression is ranked as the single most burdensome disease in the world (Keenan-Miller, Hammen, & Brennan, 2007). The text revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, 2003) recognizes two major types of depressive disorders in children, Major Depressive Disorder and Dysthymia Disorder. MDD is characterized by a person experiencing at least five of the following symptoms lasting for most of the day during a two-week period: Depressed mood, anhedonia, weight or appetite changes, disturbances or change in sleep pattern, psychomotor agitation or retardation, fatigue,

lethargy, feelings of worthlessness or hopelessness, guilt, diminished ability to concentrate and/or focus, and recurrent thoughts of death or suicide. In children and adolescents, symptoms more often present as irritability, moodiness, somatic complaints, and aggressive behavior. DD is characterized as a less severe form of MDD lasting for at least one year for children and adolescents. Persons with DD experience low self-esteem and are more likely to report somatic complaints, but are less likely to experience thoughts of suicide (American Psychological Association, 2003).

The negative impact of depression on children and adolescents is often exhibited through somatic complaints of headaches or abdominal pains (Murphy, 2004). Although symptomatology for depression increases with age for both genders, the increase is reported as more severe for females than for males. The prevalence in females doubles between sixth to eighth grades, suggesting a significant increase in depressive symptoms between elementary and middle school (Angold et al., 2002; Choi, 2002; Grant, Lyons, Finkelstein et al., 2004; Jin et al., 2008; Saluja et al., 2004) .

Saluja et al. (2004) investigated the prevalence of depressive symptoms in middle school-aged students. It was noted that similar to youth involved in bullying, depressed youth experience poor social adjustment, poor peer relationships, and loneliness. When considering depression in youth, it should be noted that the prevalence rates for depression vary, depending on the criteria and assessment tools used in studies. However, the estimates range from 0.4% to 2.5% in children and from 0.4% to 7.3% in adolescents in the general population. When the focus is on symptoms rather than the diagnosis, the rates are even

higher (Allen-Meares, Colarossi, Oyserman, & DeRoos, 2003). A study conducted by the Substance Abuse Mental Health Service Administration (SAMHSA) in 2005 estimated 2.2 million adolescents had experienced at least one major depressive episode during the past year.

Anxiety disorders are among the most common mental-health disorders experienced by children and adolescents (SAMHSA, 2005). It is not uncommon for youth to experience anxiety-provoking situations with peers as well as in social and academic environments. Often anxiety symptoms are brief and resolve with the resolution of the situation. However, some youth experience anxiety to the extent that it interferes with daily functioning. It is reported that 1 in 10 youth suffers from an anxiety disorder. Furthermore, 50% of these youth also have another behavioral disorder or suffer from depression (Minnesota Association of Child Mental Health (n.d.). [Fact sheet]. Retrieved from <http://www.macmh.org>). Some of the significant features of anxiety in youth are that those with anxiety disorders tend to have a low tolerance for frustration, are overly fearful, and have difficulty completing school assignments. In addition, youth with anxiety problems have less confidence than youth without anxiety symptoms, and are easily embarrassed or humiliated, avoid school, and get behind in their work, which results in more anxiety. Furthermore, anxious youth are rarely able to recognize this type of experience, and it is even rarer for them to seek support (Minnesota Association of Child Mental Health (n.d.) [Fact Sheet]. Retrieved from, <http://www.macmh.org>).

Social Phobia (Social Anxiety Disorder) is a particular form of anxiety that is most frequently diagnosed in middle school. The text revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, 2003) describes Social Phobia as a marked persistent and debilitating fear of one or more social settings. To meet the criteria there must be evidence of the ability for age-appropriate social interaction when diagnosing youth for social phobia. The fear must be of peers, not only adults. The fear is generally exhibited as crying, tantrums, freezing, shying away, somatic complaints, or avoidance of social situations (American Psychological Association, 2003).

Perceived stress starts an emotional response that can be voluntary or involuntary. Involuntary reactions are not conscious; these include but are not limited to physiological arousal, intrusive thoughts, or rumination. These reactions can provoke aggressive behaviors or depressive symptoms. Voluntary reactions to perceived stress include problem-solving or emotional expression. Voluntary reactions have traditionally been considered as healthy and appropriate. More recently, it has been suggested that these reactions may overlap or may occur in isolation. An aggressive outburst may occur, followed by an attempt to problem-solve. Or only rumination may occur. How a youth reacts to perceived stress is generally based on prior vulnerabilities and prior experiences (Sontag & Graber, 2010).

Perceived stress and pain were examined in 2,597 children, ages 10 to 18, in Sweden by Alfven, Östberg, & Hjern (2008). Using audio questions and a paper-and-pencil questionnaire, the investigators studied perceived stress and the pain symptoms of headache and stomach ache. Both the theoretical and empirical research indicates that there is a link

between exposure to stress in the school environment, especially in the form of peer harassment and the psychosomatic symptoms of headaches and stomach aches. It is believed that these symptoms are not in the conscious awareness of the youth nor is the youth able to control the symptoms (Alfven, Östberg, & Hjern, 2008; Sontag & Graber, 2010). The result of this study supports the recent literature on perceived stress in youth. In this study the term “peer harassment” is used to replace the word “bullying”. The authors used the same language on the questionnaire to define “peer harassment” that is used to define bullying in the HBSC study. It would be incorrect to suggest that all youth who experience the stress associated with navigating the middle school environment are bullied or experience peer harassment. However, this study suggests that for youth who do experience peer harassment, a cardinal emotional experience is perceived stress (Alfven, Östberg, & Hjern, 2008).

### **African American Youth and Depressive Symptoms**

Former U.S. Surgeon General Satcher’s report on Mental Health stated that a significant number of children and adolescents in the United States suffer from mental illness, yet only a few receive treatment (Office of the Surgeon General, U.S. Department of Health and Human Services, 2001. Report of the surgeon general’s conference on children’s mental health: A national action agenda). African-American youth, particularly those in urban areas, are at greater risk and are more severely underserved. These youth frequently require social welfare/services, foster care, and special education, and/or end up in juvenile justice systems. Mental illness in youth has a devastating effect on parents, families, other

youth, and schools. Alterations in the behavior of a youth can be confusing, frightening, and uncertain for both the youth and parent. In the African-American community, changes in a youth's behavior are frequently rationalized and attributed to developmental changes, situational "bad attitudes", creativity, or simply being "bad." Once the youth realizes there is a "real mental health" problem, however, the path becomes uncertain (Moran et al., 2007). Although African-Americans have been reported to have lower rates of mental illness than European-Americans, when African-Americans are diagnosed with a mental illness (particularly depression and anxiety), the disorder tends to be more persistent and debilitating than is experienced by European-Americans with the same disorder (Moran et al., 2007). Dr. Satcher noted in his report that between 1980 and 1995, the suicide rate for African-American youth increased 114%. This is an increase from 2.1% to 4.5% per 100,000 youth (Centers for Disease Control and Prevention (2005). Suicide prevention [Fact sheet]. Retrieved from [http://cdc.gov/violenceprevention/pub/youth\\_suicide.html](http://cdc.gov/violenceprevention/pub/youth_suicide.html)).

The available literature overwhelmingly agrees there is a tendency for African-American youth to be under-diagnosed with regard to the internalizing disorders depression and anxiety (Choi, 2002; Minsky et al., 2006; Minsky, Vega, Miskimen, Gara, & Escobar, 2003). However, African-Americans are more frequently diagnosed with externalizing disorders, such as psychotic disorder, schizophrenia, conduct disorders, or disruptive disorders. On the other hand, European-American youth receive a diagnosis of the internalizing disorders depression or anxiety when presenting with similar symptoms to their African-American counterparts (Choi, 2002; Grant et al., 2004; Minsky, Petti, Gara, Vega, Lu, & Kiely, 2006; Minsky, Vega, Miskimen, Gara, & Escobar, 2003). This tendency of

under-diagnosis of depression and under-recognition of depressive symptoms in African-American youth thwarts effective treatment. In addition, it creates problems in identifying African-American children who may be suffering from depression or have depressive symptoms that are linked to bullying, being bullied, or active bullying (Choi, 2002; Minsky et al., 2006; Staller, 2006).

Choi (2002) implores nurses and mental-health providers to acknowledge cultural norms and perspectives regarding mental-health diagnosis in ethnic minorities. She reports an extensive history of diagnostic bias and prejudice regarding African-Americans in general and African-American adolescents specifically. Consequently, this author employed the universal orientation to emphasize the importance of considering cultural differences when treating culturally diverse adolescents. The universal orientation posits the necessity of incorporating biological factors of human behavior as well as the influence of environmental and cultural factors when assessing and diagnosing. This is particularly critical when taking into account differences between groups. Choi (2002) asserts that African-American adolescents tend to express depressed feelings differently from European-American adolescents. African-Americans may use stronger language when experiencing internalizing symptoms. These expressions of emotional anguish may present as anger, aggression, and irritability rather than hopelessness, sadness, or a depressed mood. It is becoming increasingly recognized that aggressive behaviors are also a symptom of depression, especially in adolescents. Additionally, according to Patterson (2005), the interplay between aggressive behavior and depression is complex. Many of the stressors that cause aggressive behaviors are the same stressors that contribute to depression, anxiety, and perceived stress.

These stressors include but are not limited to poverty, life in a violent environment, socioeconomic deprivation, and repeated abuse, in addition to other common factors found in African-American youth living in lower-socioeconomic urban areas. This symptom of aggression offers one explanation for African-Americans being diagnosed more frequently with schizophrenia, a psychosis, or a disruptive disorder.

It is theoretically accepted that African-American adolescents experience significantly more stress than European-American youth; consequently, they tend to experience higher rates of depression and anxiety (Choi, 2002; Fitzpatrick, Dulin, & Piko, 2010; Seals & Young, 2003). Allen-Meares, Colarossi, Oyserman, & DeRoos (2003) found that social and environmental factors are associated with depressive symptoms in youth. These factors include race, poverty, gender, non-popularity, a lack of friends, and loneliness. This theoretical position is repeated in multiple studies (Choi, 2002; Costello-Wells et al., 2003; Gaylord-Harden et al., 2007; Grant et al., 2007).

Gaylord-Harden, Ragsdale, Mandara, Richards, & Petersen (2007), using cross-sectional data of ( $n = 227$ ) African-American young adolescents (mean age 12.6), found perceived family and peer support are protective against internalizing problems, e.g., depression and anxiety. In other words, the perception of support results in less stress for youth, while low perceived support results in more stress. The researchers investigated self-esteem and ethnic identity as mediators of the relationship between perceived family support, peer support and internalizing problems in African-American young adolescents. Previous research indicated that perceived support was closely associated with psychological



functioning with higher levels of perceived support, predictive of low levels of internalizing problems (anxiety or depressive symptoms). These results suggest that despite higher risk exposure, perceived support was protective against internalizing symptoms in young African-American adolescents.

The correlation between perceived support of family and peers and internalizing problems was the strongest link of all the variables showing positive influence on adolescent perceptions of self and their ethnic group. Self-esteem and ethnic identity accounted for some of the effect of perceived support for both genders. However, ethnic identity accounted for more of the perceived support for males than for females, while self-esteem accounted for more of the perceived support for female adolescents than for males. Perceived support was negatively correlated with depressive symptoms and anxiety for both male and female adolescents. Therefore, adolescents who experienced low perceived support experienced more perceived stress and higher levels of internalizing symptoms. Again, this is supported by much of the literature, including Costello-Wells et al. (2003), who suggest that African-American adolescents who feel unsupported and unsafe experience higher levels of stress and anxiety. Yet the Fitzpatrick et al. (2010) study reports that family support is not a statistically significant protective mediator for depressive symptoms.

### **African American Youth and Anxiety**

Research related to African-American adolescents and anxiety is scarce. The few studies that do exist suggest that impoverished African-American youth have higher rates of anxiety than their European-American counterparts and experience more anxiety-associated

somatic complaints. It was noted in an investigation conducted by Kingery, Ginsburg, and Alfano (2007) that similar to African-American adults, African-American adolescents more often experience anxiety in the form of somatic symptoms. Headaches and abdominal pains were identified as the significant somatic symptoms associated with anxiety that were experienced by African-American adolescents (White and Farrell, 2006). These investigators studied 528 youth, from 11 to 14 years old. In this study, 40% reported headaches and 36% reported stomach aches at least once a week. Ginsburg & Drake (2002) investigated the use of Cognitive Behavioral Treatment (CBT) for anxiety symptoms in 12 inner-city African-American adolescents. The mean age was 15.6. The study was based on the premise that African-American inner-city youth experience more anxiety symptoms than other youth and that their behavior and academic performance are negatively influenced. CBT had the potential to ameliorate symptoms among this population. Ginsburg & Drake (2002) agree with Horwath et al. (1994) in suggesting that African-American youth experience anxiety through an increase in suspiciousness and fear, and that the anxiety is more reality-based and more stable than in European-American youth. The Kingery et al. (2007) investigation used a community sample of 114 African-American adolescents to examine concurrently and prospectively (during a six-month period) the prevalence of somatic symptoms associated with anxiety. Twelve symptoms were identified. The most common were feeling tense or uptight (40%), feeling restless and on edge (27%), feeling sick to stomach (26%), experiencing chest pains (20%), and hands cold or sweaty (19%). Youth in the high-anxiety group reported a mean of 4.0 somatic symptoms. These symptoms included: Tenseness or uptightness ( $\chi^2=6.07, p<.05$ ), shakiness or jitteriness ( $\chi^2=8.20, p<.01$ ), jumpiness ( $\chi^2=9.60$

$p < .01$ ), shaking hands ( $X^2 = 16.72, p < .001$ ), dizziness or faintness ( $X^2 = 4.18, p < .05$ ), chest pain ( $X^2 = 7.10, p < .01$ ), racing heart ( $X^2 = 4.18, p < .05$ ), stomach ache ( $X^2 = 5.25, p < .05$ ), and cold or sweaty hands ( $X^2 = 5.21, p < .05$ ). The low-anxiety group reported 1.4 somatic symptoms weekly.

### **Research on Bullying**

Bullying is now a salient topic, with the bulk of the research having been conducted in Europe and other countries. In the Netherlands, Scholte et al. (2007) conducted a descriptive longitudinal study of  $n = 517$  students; females = 189, males = 328 of primary school-age students, mean age = 11.1 and secondary school mean age  $n = 14.1$ . The purpose was to investigate stable and transient bullies and victims and subsequent social adjustment. Stable bullies were described as bullies who primarily bullied only, while stable victims were described as youth who were primarily victims. The findings suggest that stable bullies and stable victims have a lower prevalence of internalizing symptoms and were better emotionally adjusted than were youth who move between periods of bullying/being bullied. In other words, once a youth adjusted to a particular role as either a bully or a victim, the negative psychological effects were less severe.

In Germany, Hampel et al. (2009) investigated the various forms of bullying and being bullied on coping and psychological adjustment. The study included  $n = 409$  students ages 10 to 16, mean age 12.7, in 26 classes. There were 207 males and 202 females with 66% from high SES, 34% from average SES, and 11% from single-parent households. Using a battery of psychological coping instruments and self-reports, it was found that maladaptive

coping is prominent in victims of bullying. There was a causal relationship between internalizing symptoms and being a victim of direct and relational bullying. Unique to this study was the finding that youth with the highest rates of being victimized also had higher rates of externalizing symptoms. These included symptoms seen in disorders, e.g., ADHD, oppositional defiant disorder, or bipolar I disorders.

Traditional bullying was investigated by Menensi et al. (2009), similar to the Scholte et al. (2007) study. Conducted in Italy, it looked into the psychological effects of bullying and victimization over time. Using  $n = 537$  secondary students, a descriptive comparison investigation found that in this population, bullies experienced more externalizing symptoms, victims experienced more internalizing symptoms, and bully/victims experienced high rates of externalizing and internalizing symptoms.

In South Africa, previous research has shown this country has a higher prevalence of bullying at 38%, compared to countries like Finland or Australia, with a prevalence of 10-11.8%. In a study in South Africa, ethnic differences were reported as a factor in bullying and being bullied, although the focus of the study was to examine the nature and prevalence of bullying in upper-middle SES primary students attending single-sex schools. The sample in this study included  $n = 360$  Black and White students in grades four to six, 120 of equal race from three schools. Indian, Colored, and Asian students were excluded. Batteries of reliable instruments were employed, including the Revised Olweus Bully/Victim Questionnaire (ROBVQ). Bullying was studied in the classrooms and lunchrooms of the schools. Regarding female students, 47.8% of the victimization occurred in the classroom

when the teacher was not in the room, while 19.3% occurred in the lunchroom. With male students, 30% of victimization occurred in the classroom and 7.3% occurred in the lunchroom. More males reported being bullied to an adult -- at 87.8% -- than did girls -- at 71%. A greater proportion of Black students reported being bullied related to ethnicity than White students. A significant consideration of the findings was that the higher prevalence of bullying in this sample may be related to the students attending same-sex schools, which may be more conducive to bullying. In addition, there were higher levels of domestic violence (violence between indigenous South Africans and White South Africans) during the period of the investigation, which may have influenced the behavior as well as the reporting of bullying behavior (Greeff & Grobler, 2008).

Bonnano and Hymal (2010) investigated  $n = 399$  youth in grades 8 to 10 in British Columbia, Canada. The ethnicities of the sample were 62% Asian-Canadian, 22% White-Canadian, and 6% mixed-Canadian descent. The participants completed self-report measures of general and social hopelessness, perceived social support from friends and family, and victimization and suicidal ideation. The aim was to determine the reason victims of bullying were at greater risk for suicidal ideation. Two models were employed, social hopelessness and social support. The social hopelessness model was examined as a risk factor while the social support model was examined as a protective factor. The results were that youth with higher perceived family support were less likely to experience suicidal ideation. Social hopelessness was a partial mediator between victimization and suicidal ideation. However, not all victims reported internalizing symptoms (symptoms of anxiety or depression) or suicidal ideation.

Using cross-sectional data, Gladstone, Parker, & Malhi (2006) conducted a study in Australia investigating a group of adults with a history of bully/victimization. The authors were interested in examining whether bullied children become anxious and depressed adults. The primary aim was to assess childhood risk factors associated with bullying. A second aim was to identify the prevalence of childhood memories of children who were victims of bullying. Participants ( $n = 226$ ) from an outpatient mental-health clinic were examined using a series of self-report questionnaires assessing for anxiety, depression, and parental style. These findings suggest that victims of bullying were no worse off in relation to socio-demographic variables. However, there were trends among the victims. Victims were more likely to be unemployed or receiving sick benefits, had higher levels of comorbid anxiety and anxious depression. In addition, Hamilton Depression scores were higher for participants reporting anxiety symptoms, particularly “acting in” and “acting out” behaviors. “Acting in” is the behavior of a withdrawn, internalizing coping style. “Acting out” is coping through irritable externalizing. A significant number of the victims continued to experience social phobia or agoraphobia. These findings extend the continued inconsistency regarding the bully and victim experience and negative psychological effects.

In Finland, Haramis and Kaikkonen (2008) conducted a phenomenological study on bullying from a social-cultural point of view. Although the sample was older than middle school students, the study and the findings are relevant in understanding the bullying experience. These investigators examined the meaning assigned to bullying behavior. Bullying was described as a social-cultural phenomenon. Crucial elements in this phenomenological study were interaction and communication with others. The Hermeneutic

theoretical approach was employed, which posits that meaning is attached to culture, with attention to context and the original purpose offering a perspective for interpreting stories and texts (Patton, 2006). The all-Finnish sample consisted of 85 lower secondary school children from 13 to 15 years old. The data were analyzed from each participant. The key informants in the study were peer-support children. The support children participated in a workshop sharing experiences as bullies. Using this continuous reciprocal process between the parts and the whole, the investigators reported four main findings. First, bullying focuses on differences and often legitimates existing attitudes. Second, creating a reputation through storytelling and name-calling was used as a mechanism of social power. Third, in amusement and play, bullying was described as a means of fun and enjoyment to prevent boredom. Last, silencing occurs when the bully has humiliated the victim into speechlessness. A significant finding was the process of bullying in which the “otherness” of the victim was exaggerated. As a consequence, the bully must continue to maintain this perception toward the victim to maintain social power (Haramis & Kaikkonen, 2008).

An additional study on bullying in Finland, Kaltiala-Heino, Fröjd & Marttunen (2010), analyzed whether involvement in bullying during middle adolescence was predictive of depression at a two-year follow-up of the Adolescent Mental Health Cohort Study (AMHCS). Ninth grade ( $n = 2,070$ ) male and female youth were administered the Finnish version of the Beck Depression Inventory (BDI) in addition to three questions on bullying. Both measures were taken at the beginning of the ninth grade and year two. Using chi-square/Fisher’s Exact test and logistic regression, the results suggest victimization and bullying were predictive of depression at year two.

Research on bullying in the United States has increased during the past 20 years. The predominance of the research is as consistent and as contradictory as the international literature. O'Brennan et al. (2009) conducted a large (n = 24,345) multi-school study using cross-sectional data examining several social-emotional attitudes and behaviors related to the type of bullying in which youth were involved (bully, victim, bully/victim, and non-involved) across elementary middle and high school students. In this study the middle school population included n = 2,215 African-Americans, n = 6,933 European Americans, n = 517 Latinos, n = 401 Asians, and n = 1,342 other. Forty-one percent of the students were frequently involved in bullying, 23% as victims, 6% as bullies, and 9% as bully/victims. Investigating across a range of domains, the researchers used multivariate logistic regression to compare differences in social-emotional responses to problems/threats in elementary, middle and high school youth who were grouped as bullies, victims, bully/victims, and non-involved. Bullies were more likely to support aggressive responses to problems or threats compared to victims or non-involved youth. The bullies were noted as being at greater risk for experiencing higher levels of anxiety and higher rates of feeling unsafe in their school environment. This was suggested as a segue into an exacerbation of aggression, indicating that anxiety symptoms may lead to hyper-vigilance as a function of a low threshold for ambiguity and an increase in aggressive responses. The investigators noted that high school youth reported more symptoms of depression and anxiety, and middle school students were at greater risk for externalizing symptoms, e.g., hyperactivity, poor impulse control, and aggressive actions. Much of the literature states that younger adolescents (middle school students) under-report symptoms of depression and anxiety. However, youth who were



involved in bullying as victims or perpetrators were more likely to report depressive symptoms than non-involved youth. Bullies and victims also report higher levels of perceived stress and significantly higher amounts of somatic complaints than non-involved youth.

Graham and Bellmore (2007) designed a profile for each category of bullying, including victims, bullies, bully/victims, and non-involved. The authors report there are distinct differences among victims, bullies, and non-involved youth in terms of psychological adjustment. Victims experience higher levels of depressive and anxiety symptoms, loneliness, and lower self-esteem than non-involved youth and bullies. Bullies experience lower levels of depressive symptoms, social anxiety, and loneliness. Bullies also reported higher ratings of self-esteem. Bully/victims experience the highest levels of psychological maladjustment. Unlike in the O'Brennan et al. (2009) study, externalizing symptoms were not addressed.

In a study regarding the prevalence of bullying, Sawyer, Bradshaw, & O'Brennan (2008) investigated bullying and victimization employing behavior-based multiple response measures. Logistic regression was conducted on the survey data of ( $n = 23,345$ ) youth, grades 4 to 12, in 107 elementary, middle and high schools. Using behavior-based measures in lieu of self-reports alone was expected to yield critical differences between ethnic groups, gender and developmental levels. This investigation found that African-American youth have higher rates of bullying and being bullied than European-Americans and other youth. The authors also note there were cultural differences in perception of bullying and being

bullied among ethnic groups. These discoveries support findings from previous studies regarding the prevalence of bullying among African-American youth (Fitzpatrick et al., 2007; Fitzpatrick et al., 2010; Juvonen, Graham, & Schuster, 2003).

Esbensen & Carson (2009) conducted a four-year longitudinal study using three waves of data in 15 schools, grades 6 to 8. The three waves were used to include prospective reports to strengthen the examination of one of the tenets of bullying -- that it occurs over time causing psychological maladjustment. A purposive sample of  $n = 1,636$  students participated, and 12% of the sample were African-American students. The study design included pre- and post-study questionnaires the first year. Subsequent years were studied using annual follow-up surveys. A typology of victimization was created to assess the consequences of victims of bullies using a single-item indicator and a composite measure with behavioral specific items. When employing behavioral-based questions, the authors indicate that there is a statistically significant difference in rates of victimization (28% reported being victimized in answering the single question, and 82% reported being victimized when asked behavioral questions). In addition, repeated victims of bullying compared to non-involved youth reported lower self-esteem, less perceived safety at school, higher perceived risk at school, and greater fear of exposure to bullying. These findings support the research conducted by Menensi et al. (2009) of Italian students. They do not, however, support the Dutch study by Scholte et al. (2007).

## **Advantages of Bullying**

There is a body of literature suggesting that frequent bullies are more likely to have lower self-esteem compared to non-involved children (Esbensen & Carson, 2009; Fitzpatrick et al., 2007; Juvonen et al., 2003; Nansel et al., 2001). O'Moore & Kirkham (2001), on the contrary, report the relationship between frequent bullying and low self-esteem is dependent on the age and additional characteristics of a child who is involved in bullying. The findings from this study indicate middle-school children who bully report less anxiety than victims, bully/victims, and non-involved children. Moreover, the researchers suggest there is a protective factor in bullying behavior associated with higher self-esteem (O'Moore & Kirkham, 2001). Recognizing bullying as a protective factor is consistent with a study conducted by Andreou et al. (2005), who investigated an alternative view of bullying. In this study of school-aged children in Greece, the bully and victim problem was examined in terms of an association with Machiavellianism and self-efficacy. Machiavellianism is the degree to which a person feels that other people are untrustworthy and manipulable in interpersonal situations. Using the 20-item Kiddie Mach Scale, a factor analysis was conducted to investigate the underlying factor structure of Machiavellianism in children. Four main factors were identified: lack of faith in human nature, manipulation, dishonesty, and distrust, suggesting variations in Machiavellianism. Boys scored higher on the overall Machiavellianism ( $t = 2.52, p = .05$ ) and on the self-efficacy for aggression scale than girls. The association between Machiavellianism and self-efficacy revealed that boys scored higher on the bullying behavior scale than girls. This was followed by correlations on the Kiddie Mach and the self-efficacy scale separately for boys and girls. Boys scored higher on the

Bullying Behavior Scale than girls, while higher scores on this scale in boys indicated lower scores on Assertion for self-efficacy for girls but not boys. The Kiddie Mach Scale was employed to assess child attitudes towards human nature and trust in interpersonal relationships. The Self-efficacy for Assertion and Self-efficacy for Aggression scales were scored with higher scores relating to greater perceived self-efficacy. The results indicate boys have more Machiavellian beliefs than girls and are more actively involved in direct bullying compared to girls. Boys who bullied associated higher with lack of faith in human nature than did girls. Girls reported a higher association with approval of manipulation in interpersonal situations. The results highlight the role Machiavellianism plays in male bullying, which can be considered an overall negative attitude towards human nature, or negative attitudes towards interpersonal relationships. Boys experienced more anxiety and were more disillusioned with the harsh nature of the world than were girls. The evidence suggests that boys with high Mach scores hide or avoid their problems, while high Mach-scoring girls seek help for their problems. An additional factor was that indirect bullies enjoyed the most academic success, the best physical and emotional health, and had well-developed pro-social skills (Andreou et al., 2005; O'Moore & Kirkham, 2001; Woods & Wolke, 2004). This finding supports the Juvonen et al. (2003) study, where it is reported that bullies who did not self-identify as bullies had strong peer relationships and low levels of emotional distress. This group also held high social status among their peers and reported high self-esteem. However, youth who self-identified as bullies reported higher levels of emotional distress as well as more depressive and anxiety symptoms than non-involved youth or youth who did not self-identify as bullies. Hence, youth who call themselves bullies may

not be perceived as leaders or socially attractive to their peers compared to bullies who do not identify as bullies. The group of bullies that did not identify as bullies was more likely to have the social skills to manipulate and control others without the perception of bullying.

### **African-American Youth and Bullying**

Research in the United States on bullying has been primarily conducted using large samples of middle-class Caucasians with small numbers of African-Americans in the sample. This approach has the potential to neutralize the similarities and differences between ethnic groups, which may ultimately interfere with treatment and intervention (Fitzpatrick et al., 2010; Nansel et al., 2001; Storch, Brassard & Masia-Warner, 2003). To date there have been few studies on the bully experience with a majority of African-American youth who make up the sample. One of the few is the recent landmark study conducted by Fitzpatrick et al. (2010) of low-income African-American youth in grades 5 to 12 ( $n = 1,542$ ). This study examined the relationship between depressive symptoms, bullying, bully/victims, and victimization in relation to risk and protective factors. It described bullying among African-American youth as a chronic low level of aggression having a deleterious effect on the normal developmental process in a child (Fitzpatrick et al., 2010).

In the Fitzpatrick et al. (2010) study, the investigators identified three domains (individual, family, and school) to be examined as risk and protective factors. Protective factors were identified as mediators extending beyond the absence of risk. In this study the protective factor *self-esteem* was used to measure individuals. The higher the self-esteem, the lower the risk is for psychological maladjustment. The protective factor *family* was

measured by parental attachment and the effect of parental supervision. This measurement was based on the amount of time the parent and child spent together and the form of discipline meted out, e.g., corporal punishment versus time out. The final protective factor *school* was measured by school connection and school bonding. The more a child was connected with school, e.g., activities, teachers, and peers, the lower the risk for psychological maladjustment (Fitzpatrick et al., 2010). The same determinants were investigated as risk factors. The Youth Risk Behavior Surveillance System (the YRBSS measures six categories of youth risk behaviors that are associated with youth morbidity and mortality) was used to measure the risk factor *individual*. *Family* was a measure of parent-child relationships, and the exposure to parental violence and abuse, and *school* was a measure of school safety (Fitzpatrick et al., 2010). A self-administered questionnaire was completed to gather data in each domain. The results were significant in that African-American youth who were identified as bullies or victims had a 2-6 times greater chance of experiencing depressive symptoms than youth who were identified as non-involved youth (Fitzpatrick et al., 2010). Bullying behaviors were noted as starting at an earlier age in African-American children compared to children of other ethnic groups. Further, these studies found that African-American girls also participate in relational bullying at higher rates than boys (Fitzpatrick, Dulin, & Piko, 2007; Fitzpatrick et al., 2010).

The findings indicated that protective factors (self-esteem, parental attachment, and school bonding) were not statistically significant mediators for the risk of depressive symptoms. Germane to the results in this sample were the high reports of youth feeling as if they exist in an unsafe/violent environment, e.g., their neighborhood and their school. This

reporting revealed youth experiencing high levels of stress and fear of pending danger (Fitzpatrick et al., 2010). A closer look at the literature also suggests that these findings are similar to national averages on bullying and being bullied. In this study, approximately 7%-15% of the sample self-identified as bullies. The national average is approximately 10%. Fifteen to 20 % reported being victims, and 10% of the youth reported being bully/victims (Fitzpatrick et al., 2010).

Costello-Wells et al. (2003) established a school mental-health program in a predominantly African-American Midwestern lower SES urban area. These researchers reported that youth in urban settings are frequently exposed to violence and are more likely to experience excess stress, and be anxious and depressed. In their findings, youth from lower SES urban areas were more willing to participate in violence for protection. This is particularly true because many urban children perceive their environment as stressful and unsafe. Moreover, youth in this study reported feeling as if they were not protected by the adults in their lives (Costello-Wells, 2003).

In an attempt to gauge the prevalence of bullies and victims among ethnic groups, Juvonen et al. (2003) employed multiple measures. They included peer reports of bullies and victims, self-reports of emotional distress, and peer-teacher reports of adjustment problems. Additional measures of psychological distress and adjustment were taken to explore the range of problems found in bullies, victims, and bully-victims. This study examined a community of (n = 1,985) ethnically diverse middle school students (45% Latino, 26% Black, 10% White, 11% Asian, and 8% other). The sample included lower socio-economic

youth in 11 public middle schools in Los Angeles. This examination of bullies included peer nominations of bullies and victims, measuring direct and relational bullying. Black and other youth were most likely to be identified as bullies; Asians were least likely identified as bullies. White students were classified more often as victims, and Latino youth were the least likely classified as victims. In addition, the results of this study indicated that youth who did not self-identify as bullies had strong peer relationships, low levels of emotional distress, held high social status among their peers, and reported high self-esteem. On the other hand, youth who self-identified as bullies reported higher levels of emotional distress and symptoms of depression and anxiety than non-involved youth or youth who did not self-identify as bullies. Victims in this study reported the highest levels of emotional distress and social marginalization. Juvonen et al. (2003) suggest that the inconsistency of outcomes in youth studies may be related to bias in self-reporting and bias with peer nominations. Most significant in the findings were the effects bullying has on victims and bully/victims. These two groups reported elevated psychological distress, e.g., symptoms of anxiety, social isolation, poor peer relationships, and depressive symptoms. This outcome supports the primary research on victims and bully/victims (Fitzpatrick et al., 2007; Fitzpatrick et al., 2010; Hampel et. al, 2009; Nansel et al., 2001). However these findings contrast with the Nansel et al. (2001) study which included 14,817 youth in grades 6 to 10 across the United States. The Nansel et al. (2001) study found African-American youth were less likely to be victims of bullying, participate less in bullying, and have fewer depressive symptoms.

The purpose of the Fitzpatrick et al. (2007) study was to examine risk correlates of bullying in a mid-sized southeastern town, specifically focusing on socio-demographic



differences among African-American students perpetrating low-level traditional bullying in grades 5 to 12. In the sample, other races were excluded from the analysis, 35% were from single-family households, and a third lived below the poverty level. There was an 80% response rate. The median age was 14 years. The researchers aimed to examine whether the risk factors of *family*, *peers*, and *school* were significant correlates of bullying. A standardized survey instrument with categorical and ordinal responses was used. More than a quarter -- 26% -- of the participants from intact families said they bullied someone at least once in the past year. This is three times higher than the national average. However, similar to other studies, males and younger adolescents had a higher rate of bullying. The *peer* variable adequately predicted the risk of a child becoming a bully, particularly if the student reported gang membership. For the third variable, *school* (e.g., carrying weapons, fighting in school, suspensions, etc.), this study found the more prevalent the negative behaviors the more likely it was that the child was involved in bullying. In elementary school, girls and boys bullied equally, with 33.5% of the students sampled reporting having bullied in the past year. In middle school, 30% of the students reported having bullied in the past year, and in high school, 15% of the students sampled reported having bullied in the past year. Male bullying behavior is more prominent in high school whereas female bullying drops off during those years. The results of this study support findings regarding bullies and anxiety in the O'Brennan et al. (2009) study, which reports that bullies are at greater risk for increased feelings of anxiety and higher rates of feeling unsafe in their school environment (Marini, Dane, & Bosacki, 2006).

In a study using a sample from a poor rural southern county of the United States, Estell, Farmer, & Cairns (2007) investigated  $n = 419$ , African-American seventh and eighth grade girls and boys. The purpose was to investigate bullies' and victims' behavioral characteristics and social-network placement. Findings in this rural community were consistent with predominate literature on youth and bullying. Males were twice as likely to be identified as bullies than females. Overall, bullies and victims were more likely to be rejected by their peers than non-involved youth. However, bullies were also more likely to be popular than were victims. Bullies were also more likely to be leaders than were victims or bully/victims. These findings support those of Andreou et al. (2005), suggesting that bullying has a protective factor associated with higher self-esteem.

### **Summary Statement**

The results of the research described throughout this review of literature show a correlation between symptoms of perceived stress, of anxiety and depression, and the bully experience of young adolescents. The literature regarding this relationship has been investigated among European-American and European youth but much less among ethnic minorities, and African-American youth specifically. The research that has been conducted on the trio of topics of African-American youth, bullying, and psychological maladjustment is not only sparse but inconsistent. Fundamental to this study is accepting the limited research that suggests that African-American youth often exhibit discharging behaviors when experiencing stress, anxiety, or depression. In other words, African-American youth tend to act out (i.e., irritability, aggressiveness) rather than turning inward when experiencing stress

or symptoms of anxiety and depression. This premise may provide insight into understanding the literature that suggests that African-American youth bully more and are diagnosed with externalizing symptoms more often than European-American youth. The gap in the literature supports the need for additional empirical studies regarding the relationship between perceived stress, symptoms of anxiety and depression, and the bully experience among African-American youth. This study will investigate the possibility that perceived stress, anxiety, and depressive symptoms are predictive of bullying, being bullied, and being a bully/victim among African American youth in grades 6 to 8.

## CHAPTER 3

### **Research Methodology**

#### **Introduction**

The purpose of this study is to investigate the factors of perceived stress, anxiety, and depressive symptoms in relation to African-American middle school youth in grades six to eight who identify as bullies, victims, and bully/victims. The aim is to determine if perceived stress, anxiety, and depressive symptoms are predictive of bullying, being victimized, or bullying/being bullied.

The chapter starts with a description of the conceptual model and of the current study. The hypotheses and an overview of the parent study (HBSC, 2001-2002), from which the subset for the current study is drawn, will be presented. Following this will be the sampling procedures and definitions of conceptual and operational terms for the current study. This chapter concludes with an explanation of the data analysis plan.

#### **Conceptual Model: Causal Uncertainty**

In the current study, a modification of The Causal Uncertainty Model created by Weary and Edwards (1994) will be used to examine the relationship between variables as well as determine the likelihood that perceived stress, anxiety, and depressive symptoms are predictive of bullying, being victimized, and being a bully/victim.

Causal Uncertainty is described as a general belief in the inability to link cause to an event. According to Edwards and Weary (1998), when a person is chronically unable to link causality with experience, a cognitive construct is activated. Causal uncertainty includes a disbelief that the reasons for the events occurring may lay in the internal or external domain. The authors describe a bidirectional relationship between the inability to link cause with events and low perceived control. Therefore, as a person is unsuccessful in efforts to control outcomes (low perceived control), the cognitive construct is continually activated and there is an increase in the belief and feeling associated with causal uncertainty. This chronic experience of causal uncertainty and low perceived control is considered a pathway to anxiety and depressive symptoms. A second pathway is identified in this model. This is a path that is similar to the outcome suggested by Terranova (2009). It suggests that when an individual is unable to link cause to an event, the individual may initially experience symptoms of low self-esteem. If the individual accepts the low perception of control as linked to outside factors, e.g., race, gender, or a disability,, symptoms of anxiety and depression may not follow (Edwards & Weary, 1998). In this group symptoms of perceived stress anxiety and depression will not be reported. Consequently it will be less likely that these youth will identify as bullies victims of bullying or bully/victims.

### **Study description**

A modification of the causal uncertainty model will be employed using a correlational descriptive design to examine secondary data in answering the research questions and the four hypotheses. The independent variables are *symptoms of anxiety*,

*depression*, and *perceived stress*. The dependent variables are *bully*, *victim*, *bully/victim*, and *non-involved*.

Middle school is a pivotal time in a young person's life. During this time many youth admit they are willing to do anything to belong to a group. This period has been described as a time when many are afraid, angry, or resentful. More important is the fragility of adolescents' feelings. It can seem to them that one day they are in their group but the next day they may be out of it. As the causal uncertainty model suggests, this experience over time can have a negative psychological effect. When this experience is linked with race-specific behaviors, the relationship between internalizing symptoms and bullying/victimization becomes clearer. This model is relevant to African-American middle school youth because it allows a path for examining race-specific behaviors. These behaviors have become increasingly important among health-care providers to help ensure accurate research variables as well as appropriate prevention and intervention models for culturally diverse populations. The literature is clear in saying that symptoms of anxiety, depression, and stress are often exhibited differently in African-American youth. African-American youth are more demonstrative with internalizing behaviors than European-American youth. Therefore, African-American youth who are experiencing symptoms of depression or anxiety may more readily pick on another person rather than sleep or withdraw, which are more common behaviors among European-American youth. In this model the youth experience uncertainty, which results in internalizing symptoms that are exhibited in the form of bullying, being bullied, or being a bully/victim. The other trajectory is that youth experience uncertainty but accept having limited control, which results in less severe

symptoms of stress, anxiety, or depression. This group of youth is not involved in bullying or being bullied.

Figure 1: Research Study Model of Causal Uncertainty

	Anxiety Symptoms (0=absent; +=present)	Depressive Symptoms (0=absent; +=present)	Perceived Stress (0=absent; +=present)
Non-involved (nominal value)	0	0	0
Bullies (nominal value)	+	+	+
Victims (nominal value)	+	+	+
Bully/victims (nominal value)	+	+	+

### Research Question

Is there a relationship between being a bully, victim, or bully/victim and feeling symptoms of anxiety, depression, and perceived stress in African-American middle school youth?

### Hypotheses

H1: African-American middle school youth who self- report symptoms of depression, anxiety, and perceived stress are more likely to self-identify as bullies.

H2: African-American middle school youth who self-report symptoms of depression, anxiety, and perceived stress are more likely to self-identify as victims.

H3: African-American middle school youth who self-report symptoms of depression, anxiety, and perceived are more likely to self-identify as bully/victims.

H4: African-American middle school youth who do not self- report symptoms of depression, anxiety, and perceived stress is more likely to self-identify as non-involved.

Logistic regression will be used to analyze the variables *symptoms of anxiety*, *symptoms of depression*, and *perceived stress* to determine how these variables contribute to the likelihood of a youth being a bully, victim, bully/victim, or having no involvement in the bully experience, while controlling for *age*, *sex*, and *socioeconomic status (SES)*.

### **Overview of Parent Study**

This study uses a subset from the United States Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau HBSC 2001-2002 survey. Since 1982, the World Health Organization Regional Office for Europe (WHO-Euro) has sponsored a cross-national, school-based study of health-related attitudes and behaviors of young people known as Health Behavior in School-Aged Children (HBSC). The United States was invited to participate in this study during an off-cycle in 1996.

The HBSC 2001-02 study included 35 countries and the United States (U.S.). It analyzed a wide range of similarities and differences of health-related behaviors in early to



mid-adolescent youth (grades six to ten). The U.S. survey resulted in responses from 14,817 students from across the country in grades six to ten. A subset of the original responses and variables were selected for use in this study and will be discussed in this chapter.

### **Survey approach**

This nationally representative survey included students in grades six to ten, school administrators, and lead health educators. A multiple-choice self-report questionnaire was administered to each grade. The variables investigated were characteristics of the youth sample and included *psychological attributes, personal circumstances, perceived social environment, family relationships, peer-group associations, school climate, and perceived socioeconomic status*. All variables were reported by the participant responses.

Variables for school administrators and lead health teachers included *school environment and health-related topics*.

Middle school questionnaires consisted of 77 multiple-choice questions. The high school questionnaire included these same questions with the additional categories of *dieting practices, injuries, and drug use*. This resulted in 92 multiple-choice questions for high school respondents. A 15-minute supplemental questionnaire was administered to school administrators and lead health educators.

### **Sampling for the HBSC 2001-2002 Study**

The universe for this study included a representative sample of public, private, and Catholic school children in grades six to ten in the United States. Schools with fewer than 14

students were excluded from the study. The data from this study were retrieved from the grade-based, fully weighted sample of the U.S. survey. It included a fully weighted oversampling of African-American and Latino student records from the Public Use File (PUF). The grade-based sample was one of three overlapping probability sample designs and sample populations with three unique sampling requirements for separate studies.

The sampling frame was a comprehensive list of schools retrieved from Quality Education Data, Inc. The original sample consisted of 548 schools, allowing for a non-replacement sampling approach for non-responding schools. School administrators and lead health teachers from participating schools were included in the study. The data set has unique identifiers for cases, students, classes, schools, and districts.

The study design was a stratified two-stage cluster sample. The design was selected to ensure that no primary sampling unit (PSU) had a probability of greater than 0.5 of being selected. At least one respondent was in each PSU, and each stratum had at least two schools. The school district and school was the (PSU), or first stratum, and the classroom/students made up the second stratum.

### **Stratified clusters**

Stage 1: Districts/ Schools. School districts were grouped according to states. Larger districts were split in a manner to allow for the probability of selection for each PSU. Small districts that did not meet size criteria were combined with larger districts in close geographical proximity. The smallest districts were combined with other smaller PSU's to form a PSU to meet the size criteria.

PSU's were selected based on the enrollment of students in grades six to ten. Single-stage sampling was employed with private schools. The public school sample was selected with probabilities proportional to size, but also with a Permanent Random Number (PRN) method. There were 340 schools in the PSU sample (United States (2002). Health behaviors in school aged children. Retrieved from <http://www.icpsr.umich.edu/icpsrweb/SAMHDA/studies/04372>).

Stage 2: Classrooms/Students. Classes were selected using simple random sampling based on school selection and targeted grade. All students in the selected classrooms were invited to participate; 15,245 took part, while 329 school administrators and 320 lead health teachers participated.

## **Weights**

Sampling weights were computed as the likelihood of selection at sampling stages 1 and 2. This was followed by adjustments for school and student non-response. Sums of the weight for participating schools in each stratum were forced to match the weights for all participating and non-participating schools.

Post-stratification adjustments were made for student non-response. The sum of the weights for each post-stratum cell was forced to match the total of known enrollment in each cell. The private school post-strata data were the four Census regions; the public school post-strata data were race/ethnicity by grade. Separate post-stratification adjustments were conducted for the main sample and for the oversample of African-American and Latino students. The influence of extreme weighting was managed by an iterative procedure of

trimming the weights within trimming classes. Weighting was completed by combining the two samples with weights then re-computed within each post-stratum.

Each valid respondent record was weighted by the inverse of the probability of having selected the respondent's school and classroom, adjusted for school non-response and student non-response within classrooms. The weights were then trimmed and adjusted to national totals by ethnicity and grade level. A hot-deck technique was used to impute missing values (for weighting purposes only) for race and ethnicity, classifying the students into five categories (White, African-American, Hispanic, Asian and Native American). A hot-deck technique was used with population survey samples. Its purpose is to handle non-response (missing-data). When investigating population samples the goal is to focus on the population mean, correlations and regression coefficients and not individual findings. Therefore missing values are replaced with values from a respondent with similar characteristics and from the same or similar data set (Andridge & Little, 2010). Totals were obtained for each race and grade level from the National Center for Educational Statistics web site. The weights were then adjusted so that totals for each race/grade category corresponded to a national total (United States (2002). Health behavior in school aged children. Retrieved from <http://www.icpsr.umich.edu/icpsrweb/SAMHDA/studies/04372>).

### **Data Collection**

The HBSC survey was administered to students in a classroom; they took approximately 45 minutes to complete it. The survey was administered by a school

representative who read scripts to explain the procedures. Auxiliary questionnaires for the administrators and lead health teachers took approximately 15 minutes to complete.

Of the 548 schools selected for the study, 340 responded, at a rate of 73.2 %. There was an 81.9% student response rate of completed questionnaires (n = 15,245). Of the 340 auxiliary questionnaires for school administrators, 329 were completed; 320 were completed by lead health educators. In all, 317 of the schools returned administrator and health educator questionnaires, a response rate of 93.2 % (United States (2002). Health behavior in school aged children. Retrieved from [www.icpsr.umich.edu/cocoon/SAMHDA/SDAFM/04372 \(xml\)](http://www.icpsr.umich.edu/cocoon/SAMHDA/SDAFM/04372(xml))).

### **Editing and Treatment of Missing Data**

During the editing process, some questions in the HBSC 2001-2002 study required specialized cleaning. The variables from these questions were not changed. A new variable was created that contained the same responses of the original variable. The new variable also included the revision and was renamed *new*. Questions that did not require special cleaning yet were out of range were analyzed with a frequency distribution. (United States (2002). Health behavior in school aged children. Retrieved from <http://www.icpsr.umich.edu/icpsrweb/SAMHDA/studies/04372>).

In the HBSC 2001-2002 study, 57 of the 15,245 cases were dropped due to missing major data. The results of the remaining data revealed variations in grade and age, e.g., some schools were ungraded, and some students were in more than one grade. To accommodate for these variations, students with ages comparable to the average age in a grade were

assigned to the equivalent grade. Students were excluded if age was extreme for the grade or if neither grade nor age was given. Mean age replacement was given for cases missing a response for age. Accuracy of age was ensured using guides for mean-age replacements, which were *date of survey administration, grade, mean age of classmates*, and any additional information related to age (United States (2002). Health behavior in school aged children. Retrieved from [www.icpsr.umich.edu/icpsrweb/SAMHDA/studies/04372](http://www.icpsr.umich.edu/icpsrweb/SAMHDA/studies/04372)). After adjusting for missing data, the student sample was  $n = 14,817$ . Table 1 provides information on the demographic distribution of the entire HBSC 2001-2002 sample. See Appendix A for variables and demographics of the parent study.

## **Sample**

A sub-sample was selected for this study from the HBSC 2001-2002. In this study the sample includes school-aged children in grades six to eight who self-identified as African-American/Black. The ages used in the current sample were 11 to 15 years old. Therefore, youth who did not identify as African-American/Black and youth with ages that were?? outliers (10, 16 & 17) were excluded from the current sample. The author will investigate the contribution of perceived stress, symptoms of anxiety, and depressive symptoms to the likelihood of being a bully, a victim, or a bully/victim while controlling for age, sex, and SES.

## **Power analysis**

Power is used to detect any effect from the independent variables. This allows the researcher to know the likelihood of avoiding a type II error (Rudestam & Newton, 2001).

The sample size for this study is  $N = 2,017$ . The size of this sample affords the computation of data to yield a statistically significant effect size at an alpha of .05. The sample size required for a multivariate analysis with 6 independent predictor variables and one dependent variable is calculated using a computerized sample size calculation developed by Daniel Soper, (<http://www.danielsoper.com/statcalc3>). Soper's calculator is based on Cohen's theoretical model, (Erlbaum. 1988) Table 3.1 shows the required sample sizes for small, medium, and large effect sizes with a desired power of .8. and a probability level  $\leq .05$ .

Table 3.1 Sample Size Calculations

Effect Size	Required Sample Size with 6 predictor variables
.02	684
.15	97
.35	46

## Measures

### Scales

A scale is considered to be a group of questions with a common theme. Additive or summative scales are scales where there is a range of scores for each question. The score for the scale is based on the number of questions answered in a certain way and direction (Ray, J. (1982). Survey research and attitude measurement [Handouts]. Retrieved from <http://jonjayray.tripod.com/stats.html>). When there is a number system, e.g., 5 = strongly agree, 4 = agree, 3 = not sure, 2 = disagree, and 1 = strongly disagree, non-responses are

scored as 3. This system assumes that the answers are spaced along an equal interval continuum. Generally a minimum amount of information is lost in this system. An additional feature of additive scales is that the scale has equal amounts of opposite-scored answers. The assumption in additive/summative scales is that each item is measuring the same thing. While there will be some variability, there should be high internal consistency. Therefore, the greater the inter-item correlation, the more the items have in common. The scales were examined for multicollinearity. An acceptable inter-item correlation is from .2 to .4. Overall, the reliability of a scale is determined by the alpha coefficient (Ray, J., 1982. Survey research and attitude measurement [Handouts]. Retrieved from <http://jonjayray.tripod.com/stats.html>; Pallant, 2007).

### **Scale for Independent Variables**

The scales for each of the independent variables consist of four to five items. Pallant (2007) notes that when a scale has less than ten items it may be difficult to reach the threshold for an acceptable alpha coefficient, which is generally .70. In these cases an acceptable alpha coefficient is .5 to .6 (Ray, J. (1982). Survey research and attitude measurement [Handouts]. Retrieved from <http://jonjayray.tripod.com/stats.html>)

The dependent variables are *bully*, *victim*, *bully/victim*, and *non-involved youth*. The independent variables are *symptoms of anxiety*, *depression*, and *perceived stress*. The symptoms of anxiety scale represents a summative scale of scores from 4 to 20 for the following question: *In the past six months how often have you had the following: Frequency of headache (Q41A), feeling nervous (Q41F), difficulty sleeping (Q41G), and feeling dizzy*



(Q41H)? In this four-item Likert-like scale, the responses ranged from *1 = about every day* to *5 = rarely or never*. The scales were transformed and reverse-coded to follow a range of least (*1 = rarely or never*) to most (*5 = about every day*). Therefore, responses indicating the least frequency of symptoms received a 1, while responses with the greater frequency of symptoms received a 5. The alpha reliability coefficient = .60 and the mean inter-item correlation = .27. Based on the alpha coefficient with a mean inter-item correlation, there is good internal consistency of the scale.

The scale for *symptoms of depression* also represents a summative scale of scores from 4 to 20. This scale measures the responses of the following question: *In the past six months how often have you had the following: Feeling low (Q41D), irritable/bad temper (Q41E), stomachache (Q41B), and backache (Q41C)?* On this four-item Likert-like scale, the responses ranged from *1 = about every day* to *5 = rarely or never*. The scale was transformed and reverse-coded to follow a range of least (*1 = rarely or never*), to most (*5 = about every day*); therefore, responses indicating the least frequency of symptoms received a 1, while responses with the greater frequency of symptoms received a 5. The alpha coefficient = .63 and the mean inter-item correlation = .29. Based on the alpha coefficient and the mean inter-item correlation, there is good internal consistency of the scale.

For *perceived stress*, a five-item Likert-like scale was employed. The scale for symptoms of perceived stress represents a summative scale of scores from 5 to 25. This scale measures the responses of the following question: *Please show how much you agree or disagree with the following statements: Student feels down, someone helps (Q62 D), students*

*enjoy being together* (Q62E), *students are kind and helpful* (Q62F), *I feel safe at my school* (Q62C), and *students accept me* (Q62G). In this scale the responses ranged from 1= *strongly agree* to 5=*strongly disagree*. Therefore, the lower scores indicate a lower perception of stress and the higher scores indicate a higher perception of stress. The alpha coefficient = .73 and the inter-item correlation =.35. Based on the alpha coefficient and the mean inter-item correlation, the scale has good internal consistency.

### **Dependent Variables**

The *bully*, *victim* and *bully/victim* variables will be transformed and computed into:

**Bully (BulNoVic):** Bully = 1 and victim = 0. This variable will be measured by responses from question Q69. This question asks: *How often have you taken part in bullying another student at school in the past couple of months?* A five-item Likert-like scale ranging from 1 to 5 was used. Participants who selected answers 2 (*It has only happened once or twice*) to 5 (*Several times a week*) will be categorized as direct bullies. If the selection is 1, the participant is not a bully.

**Victim:** Victim = 1 and bully = 0. This variable will be measured by responses from question Q66. This question asks: *How often have you been bullied at school in the past couple of months?* A five-item Likert-like scale ranging from 1 to 5 was used. Participants who selected answers 2 (*It has only happened once or twice*) to 5 (*Several times a week*) will be categorized as victims. If the selection is 1, the participant is not a victim.

Bully/victim: Bully = 1 and victim = 1. This variable will be determined by computing the responses from questions Q66 and Q69. Participants who selected answers 2 to 5 on both questions Q66 and Q69 will be categorized as *bully/victims*. If the selection is 1 to either question, the participant is not a bully/victim.

Non-involved: will be measured using questions Q66 and Q69. Results from the respondents answering 1 to questions Q66 and Q69 will be categorized as *non-involved*.

### **Controlling variables**

*Sex* is based on self-reported sex from the participants. The choices are *male* = 0 and *female* = 1.

*Age* in this study the sample includes ages 11 to 15.

*SES* is determined by mother's education; 1 = at least some post-secondary education and 0 = high school graduate and below.

## **Conceptual Definitions**

### **Traditional Bullying**

Bullying is considered a proactive, repeated intentional form of aggression imposed on a younger or weaker peer by one or more persons. Currently the literature describes two forms of traditional bullying, direct/physical and indirect/relational (Hampel, Manhold & Hayer, 2009; Nansel et al., 2001).

## **Direct/physical Bullying**

*Direct/physical bullying* is the longstanding, repeated physical, verbal, or psychological violence towards a child by another individual or group where there is a real or perceived imbalance of power (Fitzpatrick et al., 2007; Haddow, 2006; Nansel et al., 2001; Omizo et al., 2006). The violent acts include yet are not limited to hitting, kicking, pushing, name-calling, and threatening (Hampel et al., 2009).

*Indirect bullying* includes behaviors such as exclusion from groups, spreading of rumors, shaming, shunning, name-calling, or controlling the victim (Fitzpatrick et al., 2007; Nansel et al., 2001; Raskauskas & Stoltz, 2007).

*Victim* is a person who is repeatedly exposed to negative actions from one or a group (Olweus, 1991).

*Bully/victim* is a youth who identifies as both a bully and a victim.

*Non-involved* is a youth who denies involvement in bullying and claims not to be a victim.

## **Depressive symptoms**

In this study depressive symptomatology are based on responses from the HBSC 2001-2002 study. These were generated by youth who reported experiencing the following symptoms during the past six months of the study: Irritability, bad temper, the somatic symptoms backache or stomach ache, as well as feeling low.

**Anxiety**

Anxiety is a transitory emotional response that includes tenseness, nervousness, apprehensiveness, and worry (Yarcheski & Mahon, 2000). In this study symptoms of anxiety are based on responses from the HBSC 2001-2002 study. These were produced by respondents who reported experiencing a variety of symptoms during the past six months of the study. Symptoms of anxiety are typically expressed in adolescents – and confirmed by the respondents -- as: Feeling nervous, feeling dizzy, having difficulty sleeping, and experiencing somatic symptoms such as headaches.

**Perceived Stress**

An amount of unpredictable, uncontrollable and overloading worry in a person's life is defined as perceived stress (Yarcheski & Mahon, 2000; Fitzpatrick et al., 2010). Results include feeling isolated & unconnected, feeling overwhelmed by the environment, and feeling unsafe at school.

**Operational Definitions**

Middle school: Grades six to eight.

Bully experience: Youth who are involved in bullying others or are victims of bullies.

**Data Analysis**

The Statistical Package for Social Sciences (SPSS) 17 was used to analyze the data. Descriptive statistics were performed for the sample on the three independent variables

*symptoms of anxiety, depression, and perceived stress*, for each dependent variable *bully, victim, bully/victim*, and *non-involved*, as well as the controlling variables *age SES* and *sex*. Multivariate analyses were conducted to examine the relationship and to predict the likelihood.

H1: African-American middle school youth who self- report symptoms of depression, anxiety, and perceived stress are more likely to self-identify as a bully.

H2: African-American middle school youth who self-report symptoms of depression, anxiety, and perceived stress are more likely to self-identify as victims.

H3: African-American middle school youth who self-report symptoms of depression, anxiety, and perceived stress are more likely to self-identify as bully/victims.

H4: African-American middle school youth who do not self- report symptoms of depression, anxiety, and perceived stress is more likely to self-identify as non-involved.

Logistic regression analysis will test the hypotheses to measure the contribution that the symptoms of anxiety, depression, and perceived stress make to the likelihood of being a bully, victim, or bully/victim. The general model is:  $Y = a + b_1 + b_2 + b_3 + b_4 + b_5 + b_6 + \text{error}$  where  $Y$  = the likelihood of being a bully, or victim, or bully/victim,  $a$  = intercept,  $b_1$  = anxiety,  $b_2$  = depression,  $b_3$  = perceived stress,  $b_4$  = age,  $b_5$  = sex,  $b_6$  = SES. The results of the descriptive and logistic regression analysis are presented in the following chapter.

## CHAPTER 4

### Results

The purpose of this study was to investigate the contribution that symptoms of anxiety, depression, and perceived stress among African-American school-aged children in grades six through eight who identify as bullies, victims, and bully/victims. This chapter describes the characteristics of the sub-sample used in this study, the results of the study, and a discussion of the results.

#### Characteristics of the subsample

The sample used in this secondary data analysis includes 2,017 youth who identified as African-American or Black in sixth through eighth grades. This sample is a subset of a larger diverse sample from the parent HBSC 2001-2002 study that consisted of youth in middle and high school across the United States. The larger sample from the HBSC included 14,817 sixth- to tenth-grade youth, with 20.6% identifying as African American/Black.

The current sample African American middle schoolers represents 66.5% of the total African-American /Black sample included in the parent study. As seen in Table 4.1, the majority of the sample were girls, at 1,127 (55.9%), and 890 (44.1%) were boys. The ages ranged from 11 to 15 years, with a mean age of 12.39, SD 1.06. Sixth graders comprised 41.9% of the sample, 32.1% were seventh graders and 26% were eighth graders. Four hundred and fifty-four (53.7%) of the sixth graders were female, and 391(46.3%) were male. In the seventh grade, 358 (55.3%) were female, and 289 (44.7%) were male. The eighth

graders consisted of 315 (60.0%) females and 210 (40.0%) males. In this sample, 84.7% spoke English as the primary language, while 3.5% spoke mostly another language, and 10.7% reported speaking equally English and another language. In this sample, 86.5% reported having mothers who had a high school education or greater and lived in the main home, while only 37.3% reported a father in the main home. The majority of the sample lived in urban areas, at 58.3%. The remainder lived in rural areas, at 19.2%, and 17.3% reported residing in suburban areas. Regarding academic achievement, the majority of the sample self-identified as good (36.8%) or average (29.1%) students. A smaller percentage, 27.4%, self-identified as very good students, and 6.7% identified as below-average.

## Descriptive Results

Table 4.1- Demographic Variables of the Sample

Variable	n	%	mean	sd
Gender	2,017	100	-	-
Female	1,127	55.9	-	-
Male	890	44.1	-	-
Age	2,017	100	12.39	1.06
11	454	22.5	-	-
12	669	33.2	-	-
13	584	29	-	-
14	265	13.1	-	-



	15	45	2.2	-	-
Grades		2,017	100		
	6 <sup>th</sup>	845	41.9	-	-
	7 <sup>th</sup>	647	32.1	-	-
	8 <sup>th</sup>	525	26	-	-
Primary Language					
	Mostly English	1,713	85.9	-	-
	Mostly Other	71	3.6	-	-
	English / other equal	210	10.4	-	-
	Missing		23	-	-
Mother's Education		1,933			
	No High School Grad	147	7.6	-	-
	High School Grad	405	20	-	-
	Ed after High School	308	15.9	-	-
	College Grad	616	31.9	-	-
	Missing	84	4.2	-	-
Geographic Area					
	Urban	1,175	58.3	-	-
	Suburban	349	17.3	-	-
	Rural	404	20	-	-
	Missing	89	4.4	-	-

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Descriptive statistics for the major study variables are found in Table 4.2. The dependent variables *bully* and *victim* are categorical variables where the respondents answered *yes* or *no*. The dependent variable *bully/victim* is also categorical and derives from respondents answering *yes* to being a bully and *yes* to being a victim. The independent variables *symptoms of anxiety* and *symptoms of depression* are continuous and are the result of a composite score of four questions with five responses ranging from least to most in each question. The independent variable *perceived stress* was the result of a composite score consisting of five questions with five responses for each question. See Appendix B.

Table 4.2 Descriptive Statistics for Major Study Variables

Variable	N	Range	Min	Max	Mean	STD
Bully	2017	1	0	1	0.22	0.415
Victim	2017	1	0	1	0.12	0.328
Bully/victim	2017	1	0	1	0.22	0.417
Anxiety	1758	16	4	20	8.34	3.801
Depression	1753	16	4	20	8.3	3.695
Perceived Stress	1709	20	5	25	12.21	4.425

Analysis of the dependent variables and grades are presented in Table 4.3. In analyzing the data for each grade and the dependent variables *non-involved*, *bully*, *victim*, and *bully/victim*, the data show that 845 sixth graders responded. Of these, 371 (43.9%) reported

being not involved in bullying, 171 (20.3%) reported bullying, 100 (11.8%) reported being bullied, and 203 (24.0%) reported being bully/victims. For seventh graders, 280 (43.3%) of the 647 reported being not involved, 127 (19.6%) identified as bullies, 88 (13.6%) identified as victims, and 152 (23.5%) as bully/victims. For the 525 eighth graders, 221 (42.1%) identified as not involved in bullying, 147 (28.0%) reported bullying others, 60 (11.4%) claimed to be victims, and 97 (18.5%) identified as bully/victims. Among all grades, 445 (22.1%) of the respondents were bullies, 248 (12.3%) were victims, and 452 (22.4%) identified as bully/victims. These results indicate that for sixth and seventh graders, the majority were either not involved in bullying or identified as bully/victims. For eighth graders, however, the majority of the students were either not involved or identified as bullies.

Table 4.3 Frequency, dependent variables, and grades

	N	Grade	n (%)
Non-involved	845	6	371 (43.9%)
Bully	845	6	171 (20.3%)
Victim	845	6	100 (11.8%)
Bully/victim	845	6	203 (24.0%)
Non-involved	647	7	280 (43.3%)
Bully	647	7	127 (19.6%)
Victim	647	7	88 (13.6%)

Bully/victim	647	7	152 (23.5%)
Non-involved	525	8	221 (42.1%)
Bully	525	8	147 (28.0%)
Victim	525	8	60 (11.4%)
Bully/victim	525	8	97 (18.5%)

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Analysis of the independent variables provides results related to children in grades six to eight and symptoms of anxiety, depression, and perceived stress.

Most of the sample reported experiencing symptoms of anxiety, depression, and perceived stress at some time during the past six months. Frequency Table 4.4 shows that of sixth graders, 711 responded, and 134 (18.8%) reported not experiencing symptoms of anxiety during the past month. Among seventh graders, 577 responded, with 113 (19.6%) reporting no symptoms of anxiety during the past month, and of the 470 eighth graders responding, 88 (18.7%) answered *no* to experiencing symptoms of anxiety during the past month. However, of the 711 sixth graders who responded, 577 (81.2%) reported experiencing symptoms of anxiety at least once during the past month and as frequently as several times a week. Of the two higher grades, 464 (80.4%) of the 577 seventh graders, and 382 (81.3%) of

the 470 eighth graders reported experiencing symptoms of anxiety at least once during the past month and as frequently as several times a week.

Table 4.4 Frequency Grade and Anxiety

Grade	N	n/s	Anxiety
Total	1758	-	-
6th	711	134 (18.8%)	577 (81.2%)
7th	577	113 (19.6%)	464 (80.4%)
8th	470	88 (18.7%)	384 (81.3%)

n/s = no symptoms

Frequency descriptions of symptoms of depression for each grade are displayed in Table 4.5. There were 708 sixth grade responses, 571 seventh grade responses, and 474 eighth grade responses. One hundred and twenty-seven (17.9%) of the sixth graders, 100 (17.5%) seventh graders, and 56 (11.8%) of the eighth graders reported not experiencing symptoms of depression during the past month. The majority, however, reported otherwise. Of the sixth graders, 581 (82.1%) reported experiencing symptoms of depression at least once during the past month and as frequently as several times a week. Of the seventh graders, 471 (82.5%) reported the same, as did 418 (88.2%) eighth graders.

Table 4.5 Frequency Table Grade and Depression

Grade	N	n/s	Symptoms
Total	1753	-	-
6th	708	127 (17.9%)	581 (82.1%)
7th	571	100 (17.5%)	471 (82.5%)
8th	474	56 (11.8%)	418 (88.2%)

n/s = no symptoms

Data for the independent variable *perceived stress* is presented in Table 4.6. There were 689 sixth graders, 550 seventh graders, and 470 eighth graders who responded. Of these, 38 (5.5%) sixth graders, 27 (4.4%) seventh graders, and 12 (2.6%) eighth graders reported not experiencing perceived stress. However, 651 (94.5%) sixth graders, 523 (95.1%) seventh graders, and 458 (97.4%) eighth graders all strongly agreed to experiencing perceived stress.

Table 4.6 Frequency Grade and Perceived Stress

Grade	N	n/s	Symptoms
Total	1709	-	-
6th	689	38 (5.5%)	651 (94.5%)
7th	550	27 (4.4%)	523 (95.6%)
8th	470	12 (2.6%)	458 (97.4%)

n/s= no  
symptoms

Non-parametric correlation analysis was used to investigate the relationship between the major study variables. Table 4.7 presents the correlation between these variables. There is a positive correlation between victim, bully/victim, and symptoms of anxiety. The results for the variable symptoms of depression indicate a positive correlation between being bullied or being a bully/victim, and symptoms of depression.

For the independent variable *perceived stress*, the results indicate a positive correlation between being a victim, being a bully/victim, and perceived stress.

Table 4.7 Correlations between Dependent and Independent Variables

	N	Bully	Victim	Bully/Victim	Non-Involved
Symptom Anxiety.	1758				
Spearman Rho		0.001	.056**	.153**	-.160**
$r_s$		0.997	0.019	0.001	-0.001
Symptom Depression	1753				
Spearman Rho		.053*	0.03	.137**	-.174**
$r_s$		0.026	0.202	0.001	0.001
Perceived Stress	1709				
Spearman Rho		0.041	.067**	.138**	-.183**
$r_s$		0.093	0.006	0.001	0.001

\*\*Correlation is significant at the 0.01 level (2-tail)

\*Correlation is significant at the 0.05 level (2-tail)

### **Multivariate analysis**

Logistic regression was used to analyze the data in this sample to determine which of the variables best predicted the likelihood of a youth reporting bullying, being bullied, or being a bully/victim. The independent variables along with the controlling variables were entered to examine the hypothesis using logistic regression. Peng et al. (2002) report, “Logistic regression is well-suited for describing relationships and testing hypotheses about relationships between categorical variables and one or more continuous variable.” The independent variables were *symptoms of anxiety*, *symptoms of depression*, and *perceived stress*. The controlling variables were *age*, *sex*, and *SES*. The following hypotheses were examined with logistic regression analysis.

H1: African-American middle school youth who self-report symptoms of depression, anxiety, and perceived stress are more likely to self-identify as bullies.



Table 4.8 Logistic Regression Predicting Likelihood of Being a Bully

Variable	B	S.E.	Wald	df	P	Exp(B)	95% C.I.	
							Lower	Upper
Age	0.121	0.069	3.065	1	0.080	1.129	0.986	1.294
Sex	-0.115	0.146	0.619	1	0.432	0.892	0.670	1.187
SES	-0.241	0.146	2.741	1	0.098	0.786	0.590	1.045
Perceived Stress	0.008	0.016	0.271	1	0.603	1.099	0.977	1.041
Anx. Symptoms	-.045	0.025	3.262	1	0.071	0.956	0.910	1.004
Dep. Symptoms	0.068	0.024	7.923	1	0.005	1.071	1.021	1.123
Constant	-2.687	0.954	7.934	1	0.005	0.068		

Table 4.8 presents the data following logistic regression analysis on the predictor variables *symptoms of anxiety*, *symptoms of depression*, and *perceived stress*, with the controlling variables *age*, *sex*, and *SES* on the likelihood that the participants would report being a bully. The full model with all the predictors included was statistically significant,  $X^2(6, N=1123) = 16.93, p = .010$ . This indicates that this model with these predictors adequately distinguished between respondents who reported being bullies and those who responded that they were not bullies. Overall the model explained between 1.5% and 2.3% of the variance in bullying, as well as accurately classifying 76.6% of the cases. In addition,

the Hosmer-Lemeshow goodness-of-fit  $X^2$  (8, 9.44,  $p=.306$ ) supports the model. The results indicate that the overall model with symptoms of depression ( $Wald = 7.92$ ,  $p = .005$ ) make a unique statistically significant contribution to the model. Youth who identified as bullies were 1.07 times more likely to report symptoms of depression than were youth who identified as non-involved or victims. There is also a negative trend towards significance regarding symptoms of anxiety.

H 2: African-American middle school youth who self-report symptoms of depression, anxiety, and perceived stress are more likely to self-identify as *victims*.

Table 4.9 Logistic Regression Predicting Likelihood of Being a Victim

Variable	B	S.E.	Wald	df	P	Exp(B)	95% C.I.	Exp(B)
							Lower	Upper
Age	-0.057	0.089	0.406	1	0.524	0.945	0.794	1.125
Sex	-0.141	0.183	0.591	1	0.442	0.869	0.607	1.244
SES	0.278	0.191	2.106	1	0.147	1.32	0.907	1.92
Perceived Stress	0.028	0.02	2.017	1	0.156	1.029	0.989	1.07
Anx. Symptoms	0.069	0.029	5.519	1	0.019	1.07	1.011	1.135
Dep. Symptoms	-0.018	0.031	0.365	1	0.546	0.982	0.925	1.042
Constant	-1.038	1.208	2.574	1	0.109	0.144		

Table 4.9 provides results from logistic regression analysis regarding the probability of being a victim within this sample. The full model with all the predictor variables -- *symptoms of anxiety*, *symptoms of depression*, and *perceived stress* -- and with the controlling variables -- *age*, *sex*, and *SES* -- was used in the analysis. The overall predictive model was statistically significant,  $X^2(6, N=1123) = 12.15, p = .059$ . This indicates that this model with these predictors adequately distinguished between respondents who identified as victims and those who responded as not victims. Overall the model explained between 1.1% and 2.0% of the variance in victims. The model accurately classified 87.1 %, which was not an improvement over SPSS classification before the predictors were entered into the model. The Hosmer-Lemeshow goodness-of-fit  $X^2(8, 4.98, p = .759)$  supports the model. The results indicate that *symptoms of anxiety* (Wald = 5.59,  $p = .019$ ) made a unique statistically significant contribution to the model. In this model, the variable *symptom of anxiety* was the only significant predictor of being a victim. In addition, youth who identified as victims were 1.07 times more likely to report symptoms of anxiety than were youth who identified as not involved or as bullies.

H3: African-American middle school youth who self-report symptoms of depression, anxiety, and perceived stress will self-identify as bully/victims.

Table 4.10 Logistic Regression Predicting Likelihood of Being a Bully/Victim

Variable	B	S.E.	Wald	df	P	Exp(B)	95% C.I.	Exp(B)
							Lower	Upper
Age	-0.008	0.084	0.008	1	0.928	0.992	0.842	1.17
Sex	-0.205	0.176	1.356	1	0.244	0.244	0.578	1.15
SES	-0.267	0.174	2.348	1	0.125	0.776	0.544	1.077
Perceived Stress	0.093	0.019	25.24	1	0.001	1.098	1.059	1.139
Anx. Symptoms	0.079	0.027	8.442	1	0.004	1.082	1.026	1.142
Dep. Symptoms	0.061	0.027	4.97	1	0.026	1.063	1.007	1.121
Constant	-3.538	1.156	9.364	1	0.002	0.029		

Table 4.10 displays results from logistic regression analysis that was used to estimate the probability of being a bully/victim among this sample of African-American middle school youth. The full model with all the predictor variables -- *symptoms of anxiety*, *symptoms of depression*, and *perceived stress* – and with the controlling variables of *age*, *sex*, and *SES* was used in the analysis. The full model with all the predictors included was statistically significant:  $X^2(6, N=1123) = 73.37, p=.001$ . This indicates that this model with these predictors adequately distinguished between respondents who reported being

bully/victims and those who responded that they were not bully/victims. Overall, the model explained between 6.3% and 10.9% of the variance in bully/victims as well as correctly classifying 85% of the cases.

In addition, the Hosmer-Lemeshow goodness-of-fit  $X^2$  (8, 9.58,  $p = .296$ ) supports the model. The results indicate that symptoms of anxiety (Wald = 8.44,  $p = .004$ ), symptoms of depression (Wald = 4.97,  $p = .026$ ), and perceived stress (Wald = 25.24,  $p = .001$ ) each made a unique, statistically significant contribution to the model. Therefore, in this model symptoms of anxiety, depression, and perceived stress were significant predictors of the likelihood of being bully/victims. Furthermore, youth who identified as bully/victims were 1.08 times more likely to report symptoms of anxiety, 1.06 times more likely to report symptoms of depression, and 1.09 times more likely to report perceived stress than were youth who identified as non-involved, bullies only, or victims only.

H4: African-American middle school youth who do not self-report symptoms of symptoms of depression, anxiety, and perceived stress are more likely to self-identify as non-involved.

Table 4.11 Logistic Regression Predicting Likelihood of Being Non-involved

Variable	B	S.E.	Wald	df	P	Exp(B)	95% C.I.	Exp(B)
							Lower	Upper
Age	-0.063	0.061	1.036	1	0.309	0.939	0.833	1.060
Sex	-0.279	0.129	4.688	1	0.030	1.322	1.027	1.702
SES	0.203	0.130	2.466	1	0.118	1.225	0.950	1.580
Perceived Stress	-0.076	0.015	26.217	1	0.001	.926	.900	.954
Anx. Symptoms	-0.50	0.022	5.307	1	0.021	.951	.911	.993
Dep. Symptoms	-0.085	0.022	14.477	1	0.001	.926	.879	.960
Constant	2.152	.846	6.472	1	0.011	8.598		

Additional logistic regression analysis was conducted to determine the impact of the predictor variables *symptoms of anxiety*, *symptoms of depression* and *perceived stress* with the controlling variables *age*, *sex*, and *SES* on the likelihood that the participants would report no involvement in the bully experience. The full model with all the predictors included was statistically significant:  $X^2(6, N=1123) = 97.46, p=.001$ . Overall the model explained between 8.3% and 1.1% of the variance in the non-involved sample as well as correctly classifying 62.2% of the cases. The results from the Hosmer-Lemeshow Goodness of fit,  $X^2(8, 9.11, p = .332)$ , supports the model. The results indicate that symptoms of anxiety (Wald

= 5.30,  $p = .021$ ), symptoms of depression (Wald = 14.47,  $p = .001$ ), perceived stress (Wald = 26.21,  $p = .001$ ), and sex (Wald = 4.68,  $p = .03$ ) each made a unique statistically significant contribution to the model.

## Summary

The results of this study were not fully consistent with the modified research model for causal uncertainty. This model posits that youth who are bullies, victims, and bully/victims will experience symptoms of anxiety, depression, and perceived stress. It also posits that youth who are not involved in bullying will not report symptoms of anxiety, depression, or perceived stress. Correlation analysis indicates there is a strong positive relationship between bullying or being a bully/victim, and having symptoms of depression. There is also a significant correlation between being a victim or a bully/victim, and suffering from symptoms of anxiety and perceived stress.

Further examination of the data was conducted employing logistic regression analysis. These findings reject hypothesis 1 as stated. The results found that youth who identified as bullies were more likely to report symptoms of depression only. Bullies did not report symptoms of anxiety or perceived stress. The controlling variables *age*, *sex*, or *SES* did not make a significant contribution to the model.

Hypothesis 2 is rejected as stated. Results of logistic regression analysis for victims indicated anxiety was the only predictor that made a significant contribution to the model. Perceived stress, depression, and the controlling variables *age*, *sex*, and *SES* were not

significant contributors to the model. Hence, youth who are identified as victims were also more likely to report symptoms of anxiety but not symptoms of depression or perceived stress.

Hypothesis 3 is retained. Symptoms of anxiety, depression, and perceived stress each contributed to the model, while the controlling variables *age*, *sex*, and *SES* did not contribute to the model. Therefore, youth who reported symptoms of anxiety, depression, and perceived stress had a higher probability of identifying as bully/victims compared to youth who identified as bullies only or victims only. The controlling variables *age*, *sex*, and *SES* did not significantly contribute to the model.

Hypothesis 4 is retained. Symptoms of anxiety and depression and perceived stress each negatively contributed to the model. It developed that youth who did not report symptoms of anxiety, depression, and perceived stress had a greater likelihood of identifying as non-involved compared to youth who identified as bullies, victims, or bully/victims. In addition, being female increased the likelihood that a youth would identify as having no involvement in bullying, being bullied, or bullying/being bullied. Regarding the analysis for non-involved, there was a negative relationship between symptoms of anxiety and depression and perceived stress and the dependent variables *bully*, *victim*, and *bully/victim*.



## CHAPTER 5

### Discussion

This chapter will provide an overview of the characteristics of the sample and the pertinent findings of the study. Direction for future research will be addressed. The limitations of the study will be explained as well as its implications for policy and practice.

The purpose of the study was to investigate the variables *perceived stress*, *anxiety*, and *depressive symptoms* in relation to African-American school-aged children in sixth through eighth grades who identify as bullies, victims, bully/victims, or non-involved. This study is one of the first published to investigate these variables in this population and in this context.

This investigation utilized a modification of the causal uncertainty model to guide the study. This model was helpful in the conceptualization of the relationship between the developmental age of the sample, the unique manner in which internalizing symptoms are expressed in African-American youth, and how these behaviors can exhibit as bullying or being victimized. The model also afforded the investigator the opportunity to consider additional factors which may relate to the chronic experiences found in this African-American population. These experiences include living in urban areas as well as having circumstances of chronic racial discrimination and a culture of early teasing in the home and the community (Cushman and Rogers, pp.86-87; Fitzpatrick et al., 2007). The bidirectional interplay between internalizing symptoms and the bully experience helps in clarifying the degree of uncertainty caused by youth navigating this developmental period.

## **Characteristics of the Sample**

This study differs from the majority of the reviewed literature because it did not draw the sample from a population of lower-income, inner-city African-American youth. Additionally, the majority of the sample reported average to above-average academic performance. The sample included African American youth from urban rural and suburban areas throughout the United States.

This study sample consisted of data retrieved from 2,017 young African-American adolescents. This age group (10 to 15 years old) represented the largest number of African-American/Black participants in the parent sample. The mean age was slightly older than 12 years. The majority of the sample was in sixth grade and female. Within this group approximately 11% regularly spoke a language other than English. This finding illustrates the heterogeneity of this African-American population. The majority of respondents did not identify as lower SES. Most lived with their mothers, who had at least some college education. Most reported living in urban areas, with rural areas as next most common.

## **Pertinent Findings**

The standard literature reports approximately 10% of youth in the United States are involved in the bully experience (Frisen et al., 2007; Omizo et al., 2006). Figure 2 shows the results of the study with the modified causal uncertainty model. Findings from the current study support conclusions from recent studies that there is an overall higher prevalence of bullying and being bullied among African-American middle school youth. The results from the current study show that 22.1% were involved in the bully experience. This is higher than

the results from the majority of the literature with homogenous samples of African-American youth or with racially heterogeneous populations that included subsets of African-American youth.

Figure 2. Conceptual Model With Study Results

	<b>Anxiety Symptoms</b> (0=absent, +=present)	<b>Depressive Symptoms</b> (0=absent, +=present)	<b>Perceived Stress</b> (0=absent, +=present)
Non-involved (nominal value)	-0	-0	-0
Bullies (nominal value)	0	+	0
Victims (nominal value)	+	0	0
Bully/victims (nominal value)	+	+	+

Symptoms of depression were predictive of youth identifying as bullies. Additionally, the three factors of anxiety, age, and SES trended toward significance in this model. The trend was that less anxiety, lower SES, and older youth influenced the likelihood of a young adolescent identifying as a bully. Contrary to the major studies reviewed in this investigation, bullying did not decrease with age. However, being both a bully and a victim *did* decrease with age, and the number of participants decreased with age.

Anxiety was predictive of a respondent identifying as a victim. The vast majority of the literature reports that victims experience symptoms of anxiety, depression, and perceived stress. These findings were not confirmed in this study. Perceived stress was not predictive of bullying or being bullied. In African-American youth, being victimized has been linked with symptoms of anxiety, depression, and perceived stress (Fitzpatrick et al., 2010; Haynie, Nansel, Eitel, Crump, Saylor, Yu, & Simmons-Morton, 2001; Haynie et al., 2007). In the current study, 12.1% of the sample reported having been victimized. This is lower than has been reported in the literature for African-American youth. This may be related to a reluctance of African-American youth to identify as victims. Across grades, sex, age, and SES, all the youth in the study reported a significant prevalence of perceived stress as well as symptoms of anxiety and depression.

The findings from this study were consistent with the majority of the literature regarding bully/victims and non-involved youth. Bully/victims are the population of youth identified as experiencing the greatest amount of internalizing symptoms. All three independent variables were statistically significant in predicting that a respondent would identify as a bully/victim. There was negative significance regarding symptoms of anxiety, depression, and perceived stress, and identity as non-involved. Among non-involved, the controlling variable *female* also was significant. This indicates that female youth who reported fewer symptoms of anxiety, depression, and perceived stress were more likely to identify as not involved in bullying, being victimized, or being a bully/victim.

Sixth and seventh graders were more likely to claim the label bully/victim, with perceived stress, anxiety, and depression predicting the likelihood that they would identify as such. Symptoms of depression were predictive of a youth identifying as a bully. The findings from this study were supportive of the first trajectory of the conceptual model. The results were significant in differentiating between internalizing symptoms and youth who were involved in the bully experience. There was a significant amount of internalizing symptoms experienced by this sample of young African-American adolescents. However, the study did not adequately address the second trajectory in the conceptual model that refers to a cognitive acceptance of the symptoms that lead to causal uncertainty and then to non-involvement. It is clear from the finding that the youth who were less likely to identify as experiencing symptoms of anxiety, depression, or perceived stress were also more likely to select non-involved. However, acceptance of the situation is not measured; therefore, it cannot be reported that youth who are non-involved have cognitively accepted their uncertain situations versus any other reason.

### **Limitations**

A major limitation in the use of the HBSC study is that a secondary data set not primarily intended for an investigation of African-American middle school youth was the source of this study. The age of the data, from a cross-sectional survey which was retrieved from a study conducted in 2001-2002, also is a restriction, as improvements in survey questions, data management, and analysis have occurred in the intervening ten years. Included in the data are questions relevant to the primary investigator. This was most

obvious when selecting variables to develop scales for internalizing symptoms unique to the behaviors demonstrated in African-American youth. Much of the data that may have been significant for the study were measured by responses from school administrators or lead health teachers rather than adolescents themselves. The data gathered for this survey was a self-report Likert-like scale. Self-reports are known to offer less reliable data, particularly from middle schoolers.

Multiple forms of bullying occur in middle school; however, in the current study, direct bullying was the sole form of bullying examined.

Other limitations of this study were the lack of appropriate variables to assess SES. When constructing a proxy for SES, multiple measures help to ensure accuracy. In the current study, *mother's education* was the single measure. Although it is considered the most accurate measure of SES for African-Americans specifically, in general, multiple measures remain the standard. Finally, missing data was an important limitation that may have influenced the results.

### **Future Research**

This is a first step in examining the prevalence of the internalizing symptoms perceived stress, and symptoms of anxiety and depression connected to the likelihood of an African-American middle school youth identifying as a bully, victim, or bully/victim.

Looking forward to further studies, it may be useful to make a clearer delineation among youth of the African diaspora. This is a challenge because of the method employed to

categorize race and ethnicity in the United States. Yet making this delineation would help to clarify the experience for the participants as well as yield more accurate findings.

Qualitative investigations are necessary to further explore this topic. Of particular interest for a qualitative study would be to examine the definitions of *bully* and *victim* among African-American middle school youth. There is a possibility that what is considered bullying and being victimized in the larger population may be not be considered bullying or being victimized in an African-American middle school population. Additionally, the relationship between internalizing symptoms and the bully experience may be better articulated through interviews than self-report surveys. Longitudinal studies are needed to better understand the sequence of this experience. It will be important to know whether bullying and being bullied are a cause or a consequence of internalizing symptoms in African-American middle school youth. Such a study would involve following a cohort of African-American youth over the course of middle school. It would be prudent to explore internalizing and externalizing symptoms associated with electronic relational bullying and sexually focused bullying among African-American middle school youth. Additional studies are warranted regarding the prevalence of perceived stress, and symptoms of anxiety and depression in young African-Americans in all SES and geographic areas. Investigating additional factors that cause internalizing symptoms using bioecological systems theory may yield answers to this serious problem. In sum, research related to mental illness and bullying in African-American youth is nascent. There is a wealth of information to learn for the purpose of supporting young adolescent African-Americans toward less violence and improved mental health.

### **Implications for practice and policy**

The findings in this study contribute to practice and policy by addressing the gap in the literature related to African-American middle school youth internalizing symptoms and the bully experience. The findings are significant to mental-health practice by recognizing the link between internalizing symptoms and bullying and being victimized.

These findings are helpful for health-care providers, teachers, and other adults working with young adolescent African-Americans. This includes school nurses, pediatric and psychiatric nurse practitioners, pediatricians, and psychiatrists. Having this information could influence treatment when symptom presentation includes irritability, aggression, and somatization. The provider would know to evaluate a youth for bullying or being victimized by a bully. Teachers and parents could also be alerted to consider that a youth who is accused of bullying may be suffering from internalizing symptoms.

There are currently policies in place that address the need for available treatment. One is a federal mandate that mental illness screenings be required along with the annual well-child exam for adolescents who are Medicaid recipients. Furthermore, the importance of mental health was included in the Bright Futures program of the American Academy of Pediatrics, which seeks to offer annual physical and psychological screening and treatment for youth (Hagan, Shaw & Duncan, 2008). During these screenings, assessment and treatment of internalizing symptoms can be done with the understanding that there is a relationship in African-American youth between symptoms of depression and bullying, symptoms of anxiety and being bullied, and symptoms of anxiety, depression, and perceived



stress and being bully/victims. Of vital importance is recognition that symptom presentation in African-American youth is more demonstrative and with more somatic complaints than generally seen in European-American youth.

School districts are gradually moving toward including mental health centers in schools. These programs can be comprehensive, cost effective, and life-saving for middle school youth (an example is the Center for School Mental Health in Baltimore, Maryland). The findings of this study could have an effect on the current punitive school policies of zero-tolerance for bullying, where adolescents are suspended or expelled from school and sometimes are placed in juvenile-justice systems. A more effective policy would be to require mental-health evaluations and then appropriate treatment before final decisions are made on these young adolescents.

## **Conclusion**

Overall, this study makes a contribution to the short supply of literature regarding African-American young adolescents' internalizing symptoms and the bully experience. The link between young adolescent African-Americans and mental illness is a fairly new area of research. The current study findings were as inconsistent as the empirical and theoretical literature related to African-American youth internalizing symptoms and the bully experience. Results from this study support as well as contradict the literature regarding the prevalence of internalizing symptoms among this population.

Developmentally, middle school can be a period of extreme confusion in all areas of a child's life. Events occur that are rational and make sense, and then there are events that do

not make sense, are unpredictable, and create a sense of greater unbalance during a period when the world is already uncertain. How well or poorly African-American youth cope with perceived stress and symptoms of anxiety and depression can affect the paths to bullying, being bullied, or non-involvement. Symptoms of depression, anxiety, and stress are painful, difficult to understand, oppressive, and overpowering. When there is a feeling of overwhelming uncertainty and these symptoms do not make sense, some youth feel the need for symptom relief. For some young African-Americans, this may be accomplished by bullying their peers, and for others, it involves being bullied, or acting as both bullies and victims. Still other African-American youth accept the uncertainty and the internalizing symptoms without acting as bullies or victims. It is a noble goal to better understand the sequence of this experience and to support more and more African-American young adolescents to the point of non-involvement.

## Appendix A

Variable Name	Conceptual Definition	Operational Definition	Response Rate
Bully	The longstanding repeated physical, verbal or psychological violence towards a child by an individual or group where there is a real or perceived imbalance of power. The violent acts include yet are not limited to hitting, kicking, pushing, name- calling and threatening.	A bully is determined by answering 2-5 on question 69: how often have you taken part in bullying another student at school in the past couple of months?	Grade 6 = 171 (20.2%) Grade 7 = 127 (19.6%) Grade 8 = 147 (28.0%)
Victim		A victim is determined by answering 2-5 on question 66: how often have you been bullied at school in the past couple of months?	Grade 6 = 100 (11.8%) Grade 7 = 88 (13.6%) Grade 8 = 60 (11.4%)
Bully/victim		A bully/victim is determined by the participant selecting responses 2-5 on both questions 66 & 69.	Grade 6 = 203 (24.0%) Grade 7 = 152 (23.5%) Grade 8 = 97 (18.5%)
Non-involved		Non-involved youth are those who select 1 on all questions.	Grade 6 = 371 (43.9%) Grade 7 = 367 (56.7%) Grade 8 = 304 (57.9%)

Variable Name	Conceptual Definition	Operational Definition	Response Rate
Symptoms of depression		Feeling low, irritable, bad-tempered, with stomach ache and back ache.	
Symptoms of anxiety		Feeling nervous, dizzy, with difficulty sleeping and headache.	
Perceived stress		High scores on the perceived stress scale.  Includes an absence of the following: student feels down, someone helps; students enjoy being together; students are kind and helpful; student feels safe at school; and students accept me. Perceived stress is measured by school/peer interactions only.	
Verbal bullying	Occurs when a youth is taunted and called names or teased, Fitzpatrick et al., 2007; Olweus, 1997).		

## Appendix B

Table - Demographic for Sex and Grade

	6 <sup>th</sup> Grade N (%)	7 <sup>th</sup> Grade N (%)	8 <sup>th</sup> Grade N (%)	Total
Sex				
Female	454 (53.7%)	358 (55.3%)	315 (60.0%)	1,127 (100%)
Male	391 (46.3%)	289 (44.7%)	210 (40.0%)	890 (100%)
Total	845	647	525 (100%)	2,017 (100%)

## Appendix C

### Additive Scales

	N	Significance	mean	SD	item mean	Chronbach's alpha
Symptoms of Anxiety					2.08	.60
Headache	1881	.01	2.20	1.38		
Nervousness	1840	.01	2.35	1.48		
Difficulty sleeping	1842	.01	2.17	1.54		
Dizziness	1847	.01	1.72	1.26		
Symptoms of Depression					2.07	.62
Bad temper	1845	.01	2.65	1.54		
Feeling low	1825	.01	1.93	1.37		
Backache	1851	.01	1.76	1.27		
Stomachache	1870	.01	2.07	1.24		
Perceived Stress					3.56	.73
Feel safe at school	1814	.01	3.45	1.29		
Helped when down	1825	.01	3.53	1.33		
Enjoy being together	1808	.01	3.56	1.23		
People are kind to me	1785	.01	3.29	1.28		
People accept me	1809	.01	3.94	1.23		

Correlation is significant at the 0.01 level (2-tailed)

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