

URBAN, LOW-INCOME YOUTH: CHRONIC STRESS, PSYCHOLOGICAL SYMPTOMS,
AND THE IMPACT OF PARENTAL INVOLVEMENT

By

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Submitted to the

Faculty of the College of Arts and Sciences

of American University

in Partial Fulfillment of

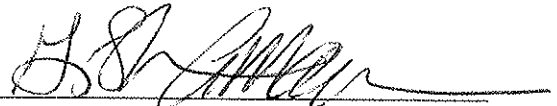
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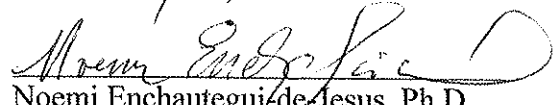
In

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April 15, 2012

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ABSTRACT

This study sought to determine the manner in which urban stressors impact adolescent psychological functioning and the role of the parent-adolescent relationship as a buffer against symptoms. Two hundred fifty-nine urban, low-income, predominantly African American and Latino adolescents in the Chicago Public School System were administered surveys questioning their exposure to stressors (i.e., exposure to violence, major life events, daily hassles), psychological symptoms (i.e., measures of internalizing and externalizing), and levels of mother and father attachment. Pearson correlations and linear regressions demonstrated that, generally, as stress increased, psychological symptoms increased. Mother and father attachment moderated the relationships between stressors and symptoms such that they weakened the strength of these relationships. Exposure to violence demonstrated fewer significant effects than other stressors, which may be explained by the normalization of violence in urban environments. This study highlights the importance of prevention and intervention in early adolescence to enhance mental health.

ACKNOWLEDGEMENTS

I would like to thank my advisor, GiShawn Mance, Ph.D., for all of her help and support throughout the process of choosing a research topic, conducting analyses, writing my thesis, and preparing my defense. I would like to thank Noemi Enchautegui-de-Jesus, Ph.D., and Kristine Erickson, Ph.D., for sitting on my committee and providing useful feedback and support as well. I would also like to thank Michele Carter, Ph.D., for providing feedback during the writing process. Finally I would like to thank Kathryn E. Grant, Ph.D., for providing me with her data set so that I could pursue this topic.

TABLE OF CONTENTS

ABSTRACT.....	ii
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS.....	iv
LIST OF TABLES	vi
LIST OF ILLUSTRATIONS.....	vii

Chapter

1. INTRODUCTION	1
The Urban, Low-income Environment	1
Chronic Stress and Psychological Symptoms	5
Impact of the Parent-Adolescent Relationship	10
Rationale for Study	12
2. METHOD	14
Participants.....	14
Measures	15
Procedures.....	17
3. HYPOTHESES	18
4. RESULTS	19
Descriptive Data.....	19
Associations Among Variables.....	19
Role of Urban Stressors on Psychological Symptoms.....	24

Sex and Psychological Symptoms	28
Moderating Effects of Mother and Father Attachment on Psychological Symptoms	29
5. DISCUSSION	39
Associations Among Variables	39
Impact of Stressors on Internalizing Psychological Symptoms.....	40
Impact of Stressors on Externalizing Symptoms	41
Sex and Psychological Symptoms	42
Moderating Effects of the Parent-Adolescent Relationship on Psychological Symptoms	42
Limitations and Implications for Future Research.....	44
Public Policy Implications	44
REFERENCES	46

LIST OF TABLES

Table

1.	Demographic Information.....	20
2.	Correlations – Total Scores.....	21
3.	Correlations – Subscales	22
4.	Regression: YSR Total Score	25
5.	Regression: YSR Internalizing Symptoms	25
6.	Regression: YSR Anxious Depression	25
7.	Regression: YSR Withdrawn Depression	26
8.	Regression: YSR Externalizing Symptoms	27
9.	Regression: CDI Total Score	27
10.	Regression: CDI Negative Mood.....	29
11.	Regression: CDI Anhedonia	28

LIST OF ILLUSTRATIONS

Illustration

1.	Major life events x mother attachment => YSR total score	30
2.	Major life events x mother attachment => YSR externalizing symptoms.....	31
3.	Daily hassles x mother attachment => CDI total score	32
4.	Daily hassles x mother attachment => CDI negative mood	33
5.	Daily hassles x mother attachment => CDI anhedonia.....	34
6.	Daily hassles x father attachment => CDI negative mood	35
7.	Daily hassles x father attachment => CDI anhedonia.....	36
8.	Exposure to violence x mother attachment => CDI negative mood.....	37
9.	Exposure to violence x father attachment => CDI negative mood.....	38

CHAPTER 1

INTRODUCTION

Research has suggested that there is a relationship between chronic stress and psychological symptoms. More specifically, stressors such as exposure to violence, major life events, and daily hassles have been linked to internalizing symptoms such as depression and anxiety (Buckner, Beardslee, & Bassuk, 2004; Crusto et al., 2010; Gabalda, Thompson, & Kaslow, 2010; Gaylord-Harden, Elmore, Campbell, & Wethington, 2011; Jenkins, Wang, & Turner, 2009; Kaynak, Lepore, & Kliwer, 2011; Ludwig & Warren, 2009). These relationships are especially pronounced among urban, low-income youth, as urban environments present a number of strains that may negatively influence development and increase the risk for mental health problems (Bell & Jenkins, 1993; Richters & Martinez, 1993). Although faced with numerous risk factors, research indicates that positive parental relationships may assuage the deleterious effects of chronic stressors commonly experienced by such youths (Formoso, Gonzales, & Aiken, 2000; Gabalda et al., 2010; Kaynak et al., 2011; O'Donnell, Schwab-Stone, & Mueeed, 2002; Oravec, Koblinsky, & Randolph, 2008; Ozer, 2005).

The Urban, Low-income Environment

Poverty is a substantial issue in the United States and one that impacts adults and children alike. As of the year 2010, there were 33,007,000 people in families known to be in poverty, of which 15,730,000 were children (U.S. Census Bureau, 2010). Furthermore, children of urban, low-income families are disproportionately exposed to an array of debilitating risk factors, including community violence, crime, gang activity, drug use, and poverty (Bell & Jenkins,

1993; McLoyd, 1998; Richters & Martinez, 1993). This places youth at greater risk for developing detrimental psychological symptoms. Another reason that risk factors may negatively affect low-income youth is that such youths often do not possess the social, educational, and material resources that may serve as buffers against these negative effects (Graham-Bermann, DeVoe, Mattis, Lynch, & Thomas 2006; McLoyd, 1998).

Many stressors are prevalent among adolescents residing in urban, low-income environments and may lead to negative functioning. Such stressors may include family stressors (e.g., parental conflict, single-parent household, incarcerated family member, family member's drug use, overcrowding, family financial strain), poor neighborhood or housing conditions (e.g., lack of heat, inadequate plumbing, insect and rodent infestation, unfriendly commercial-industrial street location), and street violence (McLoyd, 1998; Wilson, Hurtt, Shaw, Dishion, & Gardner, 2009). Witnessing or falling victim to violence has high incidence in urban, low-income neighborhoods and is a particular risk among adolescent males residing in these areas. Such violence exposure is associated with high levels of post-traumatic symptomatology (e.g., emotional numbness, arousal), especially among girls, and aggression (Fitzpatrick & Boldizar, 1993). Therefore chronic stress may be especially prevalent among urban, low-income youth and thus is important to investigate in this population.

To explore this, Graham-Bermann et al. (2006) hypothesized that low family income would be associated with higher levels of distress in a sample of 218 ethnically diverse children, ages 5 to 13. Income was significantly and negatively correlated with the child witnessing violence, and witnessing violence was a strong and significant predictor of child traumatic distress. Thus exposure to violence, one of many stressors faced by urban youth, may contribute to traumatic distress among this population. When exploring African American and Caucasian

samples separately, the researchers found that monthly income significantly predicted child traumatic distress among African Americans, suggesting that ethnic minority status is linked with both income and distress. This may be explained by the fact that ethnic minorities are often disproportionately represented in urban, low-income areas.

A similar study by Wilson et al. (2009) examined the factors that place children at risk for developing poor mental health. The researchers hypothesized that families living in urban, low-income areas would be exposed to more risk factors (i.e., poverty-related risk factors) than those residing in rural and suburban areas and that African Americans would be exposed to more risk factors (i.e., racism) than other ethnic groups. Participants were 718 mother-child dyads recruited from three cities. Children were between the ages of 2 years 0 months and 2 years 11 months. More than two thirds of the sample reported an annual income of less than \$20,000. Urban families rated significantly higher on certain measures of exposure to risk than families in rural or suburban areas, specifically on caregiver-reported neighborhood danger, observed neighborhood danger, financial aid, income-need ratio, daily hassles, marital status, substance use, depression, and family, neighborhood, and total risk indices. Furthermore, African American children were exposed to the highest number of risks, scoring higher on indicators of neighborhood danger, income-need ratio, daily hassles, marital status, and discrimination than Caucasian, Latino, and other ethnicity children. These findings suggest that the urban environment and ethnic minority status are tied to certain risk factors for poor mental health.

The researchers also tested for vulnerability, defined as the extent to which a risk measure differentially related to internalizing, inhibitory control problems, and problem intensity behaviors between groups of children. They found that urban children and African American children were more vulnerable to certain risk factors on measures of internalizing, inhibitory

control problems, and problem intensity behaviors than children from other localities and of different ethnicities, respectively. More specifically, urban children were most vulnerable to internalizing problems associated with their income-need ratio compared with children from other localities. This suggests interplay between low-income status and both the urban environment and ethnicity status in producing internalizing symptoms among youth.

Urban, low-income environments may also impair socioemotional functioning. Studies have shown that children and adolescents of low socioeconomic status (SES) demonstrate more emotional and behavioral problems than those of middle-class backgrounds, which may be a result of the parental stress often experienced in low-income families, which in turn impacts parenting styles (McLoyd, 1998). Research demonstrates that low-income adults experience more negative life events and chronic conditions than adults of higher SES, and these are related to fewer positive behaviors and more punitive, hostile, and inconsistent parenting (McLoyd, 1998). Thus poor parenting, which is sometimes associated with the low-income environment, may contribute to emotional and behavioral problems among adolescents.

To further examine the relationship between urban stressors and parenting, McLoyd, Jayaratne, Ceballo, and Borquez (1994) surveyed 241 African American mothers and their seventh- and eighth-grade children in a lower-class, urban area. They found that two economic stressors, maternal unemployment and work interruption, predicted mothers' impaired psychological functioning which in turn negatively impacted parenting behavior. Maternal punishment predicted depressive symptomatology among adolescents and this relationship was partially mediated by adolescents' perceptions of the quality of mother-adolescent relationships. Furthermore, adolescents' perceptions of their families' economic hardship predicted higher levels of adolescent anxiety and cognitive distress and lower self-esteem. Researchers also

found that in urban, economically deprived samples, parental depression was associated with exposure to potentially traumatic events and was a significant mediator in the relationship between family income and children's internalizing and externalizing problems (Briggs-Gowan, Ford, Fraleigh, McCarthy, & Carter, 2010; Duncan, Brooks-Gunn, & Klebanov, 1994). These findings demonstrate that the parenting stress associated with economic disadvantage may predict poor adolescent mental health. Furthermore, they indicate that adolescent perceptions play an important role in the display of symptoms and effect of the parent-adolescent relationship.

Chronic Stress and Psychological Symptoms

Various debilitating stressors reside among urban, low-income adolescents. According to the 2008 National Survey of Children's Exposure to Violence (NatSCEV), more than 60% of the 4,549 surveyed children and adolescents ages 17 and younger were exposed to violence, either directly or indirectly, during the prior year (Finkelhor, Turner, Ormrod, Hamby, & Kracke, 2009). Indirect violence exposure may refer to witnessing violence or hearing of a violent act or threat against a close other, while direct exposure involves the child as the victim (Buckner et al., 2004; Finkelhor et al., 2009). Children who witness or are the direct targets of violence are at risk for developing internalizing symptoms, such as depression, anxiety, and post-traumatic stress disorder (PTSD), and externalizing symptoms, such as aggressive behavior (Buckner et al., 2004). Furthermore, children who undergo direct exposure are more likely than those who undergo indirect exposure to exhibit symptoms of depression and anxiety (Horn & Trickett, 1998). These symptoms may likewise be exhibited as a result of stressors other than violence, including family-based stressors and those associated with the urban environment or low-income status (Buckner et al., 2004; Crusto et al., 2010; Gabalda et al., 2010; Gaylord-Harden et al.,

2011; Jenkins et al., 2009).

Exposure to Violence and Psychological Symptoms

Two main categories of violence include family and community, with community violence representing one of the more prevalent issues faced by urban adolescents (Finkelhor et al., 2009). Exploring these, Buckner et al. (2004) found that, among 95 low-income children between the ages of 8 and 17, 62% had been exposed to at least one form of violence and violence exposure was significantly correlated with internalizing symptoms. These included anxiety and trauma symptoms, encompassing sleep difficulty, irritability, concentration difficulty, feeling jumpy, avoiding bad memories, and emotional numbness. These findings support the connection between exposure to violence and psychological symptoms, as they showed that children who were exposed to violence demonstrated more symptoms than those who were not.

Crusto et al. (2010) also found that family violence, nonfamily violence, and other family- or nonfamily-related trauma exposure were significantly correlated with post-traumatic stress (PTS) in a study of 154 urban children between the ages of 3 and 6. Family violence may be defined as violence inflicted within the household, either by one spouse or partner onto another, termed intimate partner violence (IPV), or onto the child (Finkelhor et al., 2009). According to national surveys presented by Sampson (1993), low-income women are at a greater risk for abuse than higher-income women, so low-income families often experience higher levels of IPV. Graham-Bermann et al. (2006) found that when violence occurred in the household, children were eyewitnesses to 71% of severe violence tactics, 78% of mild violence tactics, 19% of sexual violence tactics, 83% of physical threats, and 92% of tactics containing coercion and control. Reports indicated that 17% of minority (mostly African American) and 33% of

Caucasian children in their sample exposed to IPV were diagnosed with PTSD. Additionally, witnessing violence was a strong and significant predictor of child traumatic distress. Thus children may exhibit psychological symptoms as a result of witnessing family-related violence.

Community violence likewise leads to psychological symptoms among urban youth. This type of violence exposure includes being threatened or attacked; witnessing an attack, murder, or other violence; and having a friend or family member threatened, attacked, or killed (Finkelhor et al., 2009). The relationship between community violence and symptoms may be explained by Bronfenbrenner's (1986) ecological systems theory, which takes into consideration the familial, community, and racial or cultural contexts affecting development. This model postulates that children's development is influenced by the interface of several systems: institutions, such as the family, school, or peers (microsystem), interactions between these institutions (mesosystem), direct and indirect social, economic, and political influences (exosystem), the larger cultural context (macrosystem), and transitions over time (chronosystem). The model also states that risk and protective factors exist within each subsystem and may influence children's growth and development. Thus stressors that exist within the community, or exosystem, may strongly impact adolescents' psychological development and well-being.

In accord with this theory, Oravecz et al. (2008) found that community violence exposure predicted internalizing and externalizing behavioral problems and low levels of self-control and cooperation among a sample of low-income, African American preschoolers in the Washington, D.C. metropolitan area. Community violence involved witnessing or being the target of violent acts that were instigated by known or unknown persons in close proximity to the child's home, neighborhood, or school. Furthermore, greater interpersonal conflict predicted more

internalizing problems. In this study, risk factors were represented by exposure to violence within the community (exosystem) and family (microsystem), specifically interpartner conflict involving verbal/emotional and physical abuse. Another study on community violence utilized 812 twelve-year-old children, of whom the majority was low-income and of ethnic minority status (Lewis et al., 2010). Witnessing violence was related to higher depression, internalizing behavior, and externalizing behavior scores than not witnessing violence. Witnessed violence included acts of varying severity, ranging from an arrest to a murder. In this study, violence was defined as within the community, or exosystem.

This pattern was also established in a sample of 216 seventh-graders in urban, largely low-income schools, of which 92% were African American (Kaynak et al., 2011). Ninety percent of the sample reported witnessing violence or being personally victimized in the past year, and violence exposure was positively correlated with clinically depressive symptoms. Related, Ludwig and Warren (2009) utilized a sample of 175 urban, majority African American and Latino high school students ages 14 to 19. They found that violence exposure was positively and significantly associated with internalizing and externalizing symptoms.

Major Life Events, Daily Hassles, and Psychological Symptoms

Certain negative life events and daily hassles represent additional stressors that occur among urban youth and produce negative mental health outcomes. Such life events are often family-based or associated with the urban, low-income environment and may include parental separation or divorce, poor family financial situation, eviction from the home, distress of a family member, or child maltreatment (Buckner et al., 2004; Crusto et al., 2010; Gabalda et al., 2010; Jenkins et al., 2009). The relationship between these stressors and psychological symptoms may likewise be explained through Bronfenbrenner's (1986) ecological systems

theory, as many of these stressors are related to the family (microsystem), the environment in which the child lives (exosystem), or broader contexts, such as low SES (macrosystem).

To explore the impact of these stressors, Gaylord-Harden et al. (2011) examined a community sample of 278 urban, low-income, African American adolescents in the sixth through eighth grades. Certain stressors were significantly correlated with physiological hyperarousal, a facet of anxiety, and anhedonia, a symptom of depression. Specifically, violence exposure and family transition were significantly correlated with physiological hyperarousal, while peer hassles, school hassles, and discrimination were significantly associated with both symptoms. Jenkins et al. (2009) likewise examined the manner in which traumatic events affected a sample of 403 urban, African American adolescents in grades six through eight. This sample reported a high prevalence of violent and non-violent traumatic events, including being victimized by violence, witnessing violence, sometimes of a close other, being in an accident, and having a close other in an accident. Nonviolent trauma involving close others significantly predicted depression, PTSD, and internalizing, for which many participants fell in the clinically significant range.

Similarly, Crusto et al. (2010) reported that, in response to exposure to traumatic events, 23.4% of urban children ages 3 to 6 exhibited clinically significant PTS, 22.1% exhibited clinically significant depression, and 18.8% exhibited clinically significant anxiety. Among this sample, children were exposed to an average of 4.9 different types of traumatic events throughout their lifetimes. The sample utilized by Crusto et al. (2010) was a treatment-seeking population; however results were consistent with data from Finkelhor, Ormrod, and Turner (2007), whom reviewed a community sample of 1467 children and adolescents ages 2 to 17. Eighteen percent of the children in this sample were exposed to four or more different types of

victimization during the previous year, including physical assault, sexual assault, child maltreatment, peer and sibling victimization, crime, and witnessing/indirect victimization. Polyvictimization, or exposure to multiple types of victimization, was highly predictive of trauma symptoms by the end of the year. Thus exposure to stressors and traumatic events may lead to negative mental health consequences among youth, especially when multiple stressors are present.

Likewise, Gabalda et al. (2010) found that having one risk factor for internalizing and externalizing symptoms increased youth's risk for demonstrating such symptoms 3- and 5-fold, respectively, and having two or three risk factors increased these risks 12- and 19-fold. Among this sample of 8- to 12-year-old, low-income, inner-city, African American youth, those exposed to risk factors were significantly more likely to demonstrate emotional and behavioral problems than those who were not exposed, especially when exposure was to multiple risk factors. Thus children who are exposed to many risk factors are most likely to display adverse psychological symptoms.

Impact of the Parent-Adolescent Relationship

Research has demonstrated associations between parenting and children's mental health. Positive parenting (i.e., nurturance, consistency, responsiveness, control), parental support (i.e., communication, concern, supervision), and family functioning (i.e., adaptability, cohesion) have been found to protect against children's internalizing and externalizing problems (Formoso et al., 2000; Gabalda et al., 2010; Kaynak, et al., 2011; O'Donnell et al., 2002; Oravecz et al., 2008; Ozer, 2005). The influence of parental involvement on children's psychological well-being may be explained by the notion of the caregiver as an "external regulator" (Scheeringa & Zeanah, 2001). According to Scheeringa and Zeanah (2001), caregivers are vital for children's self-

regulation and development. Thus a child's ability to manage stress caused by violence exposure or other trauma is partially determined by the caregiver's ability to restore a sense of safety in the child. This implicates a positive parent-adolescent relationship as a possible moderator in the association between adolescents' stress and symptoms.

O'Donnell et al.'s (2002) research supported this notion. They sampled 2,600 sixth-, eighth-, and tenth-graders from an urban school and found that parent support significantly predicted resilience among children who were exposed to community violence, which included being victimized by or witnessing violence. Parent support was a particularly strong predictor of resilience against depression/anxiety, delinquency/school misconduct, and substance abuse, suggesting that parental support can protect against children's internalizing and externalizing symptoms. Gabalda et al. (2010) likewise tested family functioning as a protective factor in predicting adolescents' mental health in a sample of 152 mother-child dyads. Thirty-seven percent of adolescents were included in either balanced or moderately balanced categories of family functioning, based on adaptability and cohesion scores. Family functioning protected against both internalizing and externalizing symptoms and this was found to be more important than peer or teacher support, suggesting the greater influence of the family on adolescents' mental health and behavioral problems.

Similarly, Kaynak et al. (2011) tested social support from parents as a moderator in the relationship between adolescents' exposure to community violence and depressive symptomatology. When social support was factored in as a moderator, violence exposure and depressive symptoms were negatively correlated. Thus social support from parents may serve as a protective factor and reduce the strength of the relationship between violence exposure and symptoms. Ozer (2005) also tested family support as a moderator in the relationship between

exposure to violence and psychological symptoms in a sample of 73 urban, majority Latino seventh-graders exposed to violence. Adolescents who reported more helpful mothers showed a significant decrease in depressive symptoms and a stabilization of aggression, implicating mothers' emotional support as a protective factor.

The deleterious effects of stressors other than violence may likewise be attenuated by a positive parent-adolescent relationship. Formoso et al. (2000) utilized a sample of 284 urban, low-income adolescents, ages 10 to 16, of which the majority was Latino, African American, and Caucasian, to determine the effects of family conflict as a stressor. The presence of higher levels of protective factors, including maternal and paternal attachment and monitoring, predicted lower levels of adolescent depression. Furthermore, higher levels of maternal attachment, maternal monitoring, and paternal monitoring reduced the strength of the relationship between family conflict and conduct problems for girls. Thus these factors may protect adolescents from depressive symptoms while moderating the relationship between stressors and conduct problems.

All of these studies support the notion of positive parental relationships as a moderating variable, suggesting that high levels of family functioning and support can protect against children's poor mental health. Gabalda et al. (2010) also found that internalizing and externalizing problems were the highest among youths with the highest levels of risk and the lowest protection. Thus for children who experience high numbers of risk factors, positive parent-adolescent relationships might be especially important for protecting against symptoms.

Rationale for Study

Previous research has examined the effects of stressors on adolescents' psychological well-being and the manner in which this pertains to the urban, low-income environment. However, the majority of studies have focused on older adolescents and externalizing symptoms.

Additionally, most studies have examined the parent-adolescent relationship as a protective factor in the context of a middle-class, European American population. To fill gaps in the literature, this study assessed the manner in which stressors predicted psychological symptoms among a sample of urban, low-income, early adolescents, with particular interest in the internalizing symptoms of depression and anxiety. It also assessed the moderating effects of the parent-adolescent relationship on this association between stress and symptoms. It was hypothesized that stressors, particularly exposure to violence, major life events, and daily hassles, would predict psychological symptoms. Furthermore, it was hypothesized that the parent-adolescent relationship would moderate the relationship between stress and symptoms, such that a positive parent-adolescent relationship would reduce the occurrence of symptoms. This study aimed to draw attention to the prevalence of internalizing symptoms among youth, even at young ages, and discuss implications for aiding children who may be afflicted by the risk factors discussed.

CHAPTER 2

METHOD

Participants

Secondary data analyses were conducted based on data collected by Kathryn E. Grant and colleagues for the Stress and Coping project funded by the WT Grant Foundation (funded from 2000-2005). Participants in this project included 391 adolescents in grades 5 through 10 attending Chicago public schools. Cleaning up the dataset yielded a final sample of 259 participants. The participants were approximately 42.9% African American, 30.9% Latino, 12.4% Caucasian, 6.2% Asian American, 5% mixed/biracial, .8% American Indian, .4% Hawaiian/Pacific Islander, and 1.5% other and approximately 66.8% female and 33.2% male. All participants were classified as low-income according to the Chicago Public School Annual Report, which identifies SES of the students in each of its schools. According to the report, 194 Chicago public schools classify 75% or more of their student body as “low-income” based on eligibility for federally funded “school lunch” programs. The researchers recruited two middle schools and one high school to participate in this project. Participating schools were highly representative of Chicago urban, low-income schools. The first school was 99% low-income and 99% African American, with the remaining 1% split evenly between Latino and Caucasian students. The second school was 97% low-income and with the racial demographic of 64% Latino, 15% African American, 15% Caucasian, and 6% Asian American. The third school was more ethnically diverse (Chicago Public Schools, Office of Accountability, 1995).

Measures

Stress Variables

Exposure to Violence

Adolescent exposure to violence was assessed using the Exposure to Violence Survey – Screening Version (Richters & Martinez, 1990), a 58-item questionnaire developed based on urban, low-income, fifth- and sixth-grade, African American youth. This measure asks respondents to report whether they have witnessed or experienced 27 types of violence/crime. The measure has demonstrated good internal consistency ($\alpha = .85$) and test-retest reliability ($r = .90$; Richters & Martinez, 1990).

Major Life Events and Daily Hassles

Major life events and daily hassles were assessed using the Urban Adolescent Life Experiences Scale (UALES; Allison et al., 1999). The UALES is based on the Adolescent Perceived Events Scale (APES; Compas, Davis, Forsythe, & Wagner, 1987), a well-established, valid and reliable measure of stress, developed based on predominantly Caucasian, middle-class adolescents. Items comprising the UALES were generated based on urban, low-income, predominantly African American adolescents. The UALES assesses both chronic and episodic stress in four content areas: (a) school, (b) family/community, (c) peer, and (d) personal; measures both major life events and daily hassles; and yields an indicator of total stress.

Outcome Variables

Psychological Symptoms

Adolescent reports of psychological symptoms were assessed using the Youth Self Report (YSR; Achenbach, 1991; Achenbach & Edelbrock, 1987). The YSR includes 119 behavior items which adolescents rate on a three-point scale as (1) not true, (2) somewhat or

sometimes true, or (3) very or often true of themselves. The YSR consists of two empirically derived broad-band syndromes: Internalizing and Externalizing; and eight empirically derived narrow-band syndromes: Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, and Aggressive Behavior. Normative data for the YSR are based on a nationally representative sample of non-referred adolescents, with separate norms for boys and girls. Validity and reliability of the YSR are well established (Achenbach, 1991).

Depressive Symptoms

Depressive symptoms were assessed using the Children's Depression Inventory (CDI; DuBois, Felner, Bartels, & Silverman, 1995; Kovacs, 1992; Nelson, Politano, Finch, Wendel, & Mayhall, 1987). The CDI is one of the most widely used instruments for the assessment of depression among children and adolescents. It includes 27 items, each consisting of three sentences, from which the respondent is asked to choose the response that best describes him or herself during the past two weeks. The CDI includes five subscales: Negative Mood, Interpersonal Problems, Ineffectiveness, Anhedonia, and Negative Self-esteem. Validity and reliability of the CDI are well established (Kovacs, 1992; Mattison, Hanford, Kales, Goodman, & McLaughlin, 1990; Nelson et al., 1987; Reynolds, Anderson, & Bartell, 1985; Smucker, Craighead, Craighead, & Green, 1986).

Moderating Variable

Parent-Adolescent Relationship

The quality of adolescents' relationships with their parent(s) was assessed using a 19-item instrument developed by McLoyd et al. (1994). McLoyd and colleagues (1994) developed this measure to assess the effects of poverty on parent-adolescent relationships among urban,

African American adolescents and their mothers. In this study, adolescents completed the measure once with reference to their primary mother figure (e.g., mother, grandmother, aunt) and a second time with reference to their primary father figure (e.g., father, grandfather, uncle). Adolescents were also asked to list any additional important parental figures in their lives. McLoyd (1994) reports good validity and reliability for this measure ($\alpha > .80$).

Procedures

Adolescents participated in data collection once each year throughout a four year period, the first year of which was examined for this study. At the beginning of the project, all students in participating schools were informed of the project and invited to participate. Two clinical psychology doctoral students announced the project during class, answered questions, and distributed parental consent forms. Consent forms included information on the goals of the study, the nature of the questions that would be asked, and the rights of participants. Confidentiality, voluntariness of participation, and the right to discontinue participation at any time were emphasized. This project implemented a passive consent procedure.

Data collection involved survey and interview, but for the purposes of this study only survey data were examined. The doctoral students who announced this project administered the surveys in classrooms during regularly scheduled class time. Participants signed assent forms prior to participating. Participating adolescents completed a series of pencil and paper survey measures assessing stressful life experiences, psychological symptoms, and potential moderating variables. Measures were written at a fifth-grade reading level and were read aloud to ensure participant comprehension. Upon completion of surveys, administrators provided additional information about the project and distributed movie passes and music store gift certificates as tokens of appreciation. The survey administration process took approximately 1.5 hours.

CHAPTER 3

HYPOTHESES

Research Question 1: How does the urban, low-income environment impact stressors and psychological symptoms among youth?

Research Question 2: How are stressors related to psychological symptoms, particularly internalizing symptoms, among youth?

Hypothesis 1: Stress variables will be positively correlated with psychological symptoms.

Hypothesis 2: Exposure to violence, major life events, and daily hassles will positively predict psychological symptoms, specifically depression and anxiety.

Hypothesis 2a: Stressors will positively predict externalizing symptoms.

Hypothesis 2b: Girls will demonstrate more internalizing symptoms than boys and boys will exhibit more externalizing symptoms than girls.

Research Question 3: Does the parent-adolescent relationship serve as a protective factor in the relationship between stressors and psychological symptoms?

Hypothesis 3: The parent-adolescent relationship will moderate the association between stress and symptoms, such that stronger parent-adolescent relationships weaken this association.

CHAPTER 4

RESULTS

The results are presented in several steps. First, descriptive statistics and frequencies were calculated and preliminary analyses were conducted to determine any group differences. Second, bivariate Pearson correlations were conducted to examine the relationships among the study variables. Third, a series of linear regressions were computed to determine the predictive abilities of the main study variables on outcomes as well as to determine any sex differences in outcome measures. Lastly, moderations were conducted via hierarchical regression. An alpha level of .05 was used for all statistical tests.

Descriptive Data

Descriptive statistics were computed to determine any demographic group differences. T-tests and ANOVAs compared children based on sex, race, grade, and school. These revealed that race significantly differed based on school ($p < .001$), which is explained by the fact that the schools' racial demographics were quite different. Grade also significantly differed based on school ($p < .001$), such that grades were higher among the third school, which is explained by the fact that the third school was a high school while the others were middle schools. Information on all study variables is presented in Table 1.

Associations Among Variables

Bivariate Pearson correlations were computed to determine the relationships between all study variables (see Tables 2 and 3). As predicted, main study variables were significantly positively correlated, such that as stress increased psychological symptoms increased. A more

Table 1

Demographic Information

Characteristic	<i>n</i>	%
Sex		
Male	86	33.2
Female	173	66.8
Race		
African American	111	42.9
Latino	80	30.9
Caucasian	32	12.4
Asian American	16	6.2
Mixed/Biracial	13	5.0
American Indian	2	.8
Hawaiian/Pacific Islander	1	.4
Other	4	1.5
Grade		
5	4	1.5
6	60	23.2
7	60	23.2
8	65	25.1
9	67	25.9
10	3	1.2
Age		
10	2	.8
11	29	11.2
12	64	24.7
13	62	23.9
14	49	18.9
15	49	18.9
16	4	1.5
School		
School 1	80	30.9
School 2	110	42.5
School 3	69	26.6

Note. $N = 259$.

Table 2

Correlations – Total Scores

		Exposure to violence	Major life events	Daily hassles	Total stress	YSR total score	CDI total score
Exposure to violence	Pearson correlation	1	.562**	.555**	.623**	.393**	.301**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	259	259	259	259	259	259
Major life events	Pearson correlation	.562**	1	.639**	.826**	.573**	.371**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	259	259	259	259	259	259
Daily hassles	Pearson correlation	.555**	.639**	1	.954**	.577**	.448**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	259	259	259	259	259	259
Total stress	Pearson correlation	.623**	.826**	.954**	1	.634**	.467**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	259	259	259	259	259	259
YSR total score	Pearson correlation	.393**	.573**	.577**	.634**	1	.713**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	259	259	259	259	259	259
CDI total score	Pearson correlation	.301**	.371**	.448**	.467**	.713**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	259	259	259	259	259	259

* $p < .05$ (2-tailed) ** $p < .01$ (2-tailed)

Table 3

Correlations – Subscales

[illegible]

		Exposure to violence	Major life events	Daily hassles	Total stress	YSR internalizing symptoms	YSR anxious depression	YSR withdrawn depression	YSR externalizing symptoms	CDI negative mood	CDI anhedonia
YSR anxious depression	Pearson correlation	.206**	.326**	.368**	.396**	.915**	1	.595**	.482**	.574**	.608**
	Sig. (2-tailed)	.001	.000	.000	.000	.000		.000	.000	.000	.000
	N	259	259	259	259	259	259	259	259	259	259
YSR withdrawn depression	Pearson correlation	.164**	.318**	.325**	.346**	.761**	.595**	1	.395**	.382**	.511**
	Sig. (2-tailed)	.008	.000	.000	.000	.000	.000		.000	.000	.000
	N	259	259	259	259	259	259	259	259	259	259
YSR externalizing symptoms	Pearson correlation	.425**	.592**	.610**	.662**	.531**	.482**	.395**	1	.415**	.387**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	259	259	259	259	259	259	259	259	259	259
CDI negative mood	Pearson correlation	.358**	.311**	.350**	.380**	.579**	.574**	.382**	.415**	1	.626**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	259	259	259	259	259	259	259	259	259	259
CDI anhedonia	Pearson correlation	.251**	.339**	.393**	.416**	.662**	.608**	.511**	.387**	.626**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	259	259	259	259	259	259	259	259	259	259

* $p < .05$ (2-tailed) ** $p < .01$ (2-tailed)

detailed review of the correlation matrices revealed primarily moderate positive correlations between outcome measures and major life

events, daily hassles, and total stress, while exposure to violence demonstrated mostly weak positive correlations.

Of note, strong positive correlations were found between YSR total score and major life events, $r(259) = .573, p < .01$, daily hassles, $r(259) = .577, p < .01$, and total stress, $r(259) = .634, p < .01$. That is, as these stressors increased, participant symptoms increased. Similarly, as participants' exposure to violence increased, psychological symptoms increased, $r(259) = .393, p < .01$. Related to internalizing symptoms, the negative mood subscale of the CDI was positively correlated with exposure to violence, $r(259) = .358, p < .01$. Unexpectedly, a weak positive correlation was found between YSR internalizing symptoms and exposure to violence, $r(259) = .269, p < .01$.

Similar to past research findings, externalizing symptoms were positively correlated with stressors. Strong positive correlations were revealed between YSR externalizing symptoms and major life events, $r(259) = .592, p < .01$, daily hassles, $r(259) = .610, p < .01$, and total stress, $r(259) = .662, p < .01$. Interestingly, the strongest correlation of exposure to violence was found with YSR externalizing symptoms, $r(259) = .425, p < .01$.

It is important to note that Pearson correlations revealed multicollinearity between the stress variables (total stress, major life events, and daily hassles, the latter two of which comprise the total stress variable). Thus, the total stress variable was excluded from subsequent analyses.

Role of Urban Stressors on Psychological Symptoms

Linear regressions were computed to determine the impact of urban stressors on psychological symptoms. As expected, stressors positively and significantly predicted symptoms, with daily hassles yielding the greatest number of significant effects. Analyses revealed that daily hassles predicted YSR total score, YSR internalizing symptoms, YSR anxious

depression, YSR withdrawn depression, and YSR externalizing symptoms (see Tables 4-8).

Table 4

Regression: YSR Total Score

	Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>
	β	<i>SE</i>	β		
Daily hassles	.359	.067	.355	5.371	<.001
Major life events	.698	.137	.339	5.088	<.001
Exposure to violence					ns
Sex					ns

Table 5

Regression: YSR Internalizing Symptoms

	Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>
	β	<i>SE</i>	β		
Daily hassles	.147	.045	.243	3.239	.001
Major life events	.315	.093	.256	3.388	.001
Exposure to violence					ns
Sex	-3.332	1.091	-.169	-3.053	.003

Furthermore, daily hassles predicted CDI total score, CDI negative mood, and CDI anhedonia

Table 6

Regression: YSR Anxious Depression

	Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>
	β	<i>SE</i>	β		
Daily hassles	.078	.022	.282	3.617	<.001
Major life events	.088	.044	.157	1.994	.047
Exposure to violence					ns
Sex	-1.271	.518	-.142	-2.453	.015

Table 7

Regression: YSR Withdrawn Depression

	Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>
	β	<i>SE</i>	β		
Daily hassles	.044	.015	.232	2.931	.004
Major life events	.080	.031	.206	2.575	.011
Exposure to violence					ns
Sex	-.737	.365	-.118	-2.019	.045

(see Tables 9-11). Major life events predicted YSR total score, YSR internalizing symptoms, YSR anxious depression, YSR withdrawn depression, and YSR externalizing symptoms (see Tables 4-8). Exposure to violence predicted CDI negative mood (see Table 10). These results

Table 8

Regression: YSR Externalizing Symptoms

	Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>
	β	<i>SE</i>	β		
Daily hassles	.212	.035	.384	6.019	<.001
Major life events	.383	.072	.340	5.287	<.001
Exposure to violence					ns
Sex					ns

Table 9

Regression: CDI Total Score

	Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>
	β	<i>SE</i>	β		
Daily hassles	.148	.033	.341	4.528	<.001
Major life events					ns
Exposure to violence					ns
Sex	-1.730	.785	-.123	-2.204	.028

supported the hypothesis that major life events and daily hassles would positively impact psychological symptoms, although predictions for exposure to violence were generally not supported.

Table 10

Regression: CDI Negative Mood

	Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>
	β	<i>SE</i>	β		
Daily hassles	.024	.010	.180	2.345	.020
Major life events					ns
Exposure to violence	.019	.006	.245	3.394	.001
Sex	-.763	.243	-.179	-3.142	.002

Table 11

Regression: CDI Anhedonia

	Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>
	β	<i>SE</i>	β		
Daily hassles	.047	.012	.294	3.782	<.001
Major life events					ns
Exposure to violence					ns
Sex					ns

Sex and Psychological Symptoms

Linear regressions also tested the predictive ability of sex on psychological symptoms.

Similar to previous studies, a significant main effect of sex was found on YSR internalizing

symptoms as well as on the subscales YSR anxious depression and YSR withdrawn depression, such that girls scored higher than boys (see Tables 5-7). Similarly, sex significantly predicted CDI total score and CDI negative mood, such that girls endorsed more symptoms than boys (see Tables 9 and 10). These results supported the hypothesis that girls would endorse more internalizing symptoms than boys. However, results did not support the hypothesis that boys would score higher than girls on externalizing symptoms, as there was no significant effect of sex on YSR externalizing symptoms, $t(259) = 1.516$, $\beta = .071$, *ns*.

Moderating Effects of Mother and Father Attachment on Psychological Symptoms

Interaction terms were created to assess the effects of mother and father attachment on the main study variables. All significant regressions were tested for moderating effects. There were fewer than expected significant moderating effects on YSR measures, with only major life events x mother attachment predicting YSR total score, $t(259) = -2.130$, $\beta = -.144$, $p = .034$, and YSR externalizing symptoms, $t(259) = -2.592$, $\beta = -.172$, $p = .010$, such that the presence of mother attachment yielded an inverse relationship between major life events and psychological symptoms (see Illustrations 1 and 2).

Mother and father attachment significantly moderated the relationship between daily hassles and depression as measured by the CDI. Daily hassles x mother attachment predicted CDI total score, $t(259) = -3.185$, $\beta = -.247$, $p = .002$, CDI negative mood, $t(259) = -2.727$, $\beta = -.223$, $p = .007$, and CDI anhedonia, $t(259) = -2.588$, $\beta = -.208$, $p = .010$ (see Illustrations 3-5). Daily hassles x father attachment predicted CDI anhedonia, $t(259) = -1.982$, $\beta = -.125$, $p = .049$, and was a marginally significant predictor of CDI negative mood, $t(259) = -1.952$, $\beta = -.125$, $p = .052$ (see Illustrations 6 and 7). CDI negative mood was also predicted by exposure to violence x mother attachment, $t(259) = -3.603$, $\beta = -.441$, $p < .001$, and exposure to violence x father

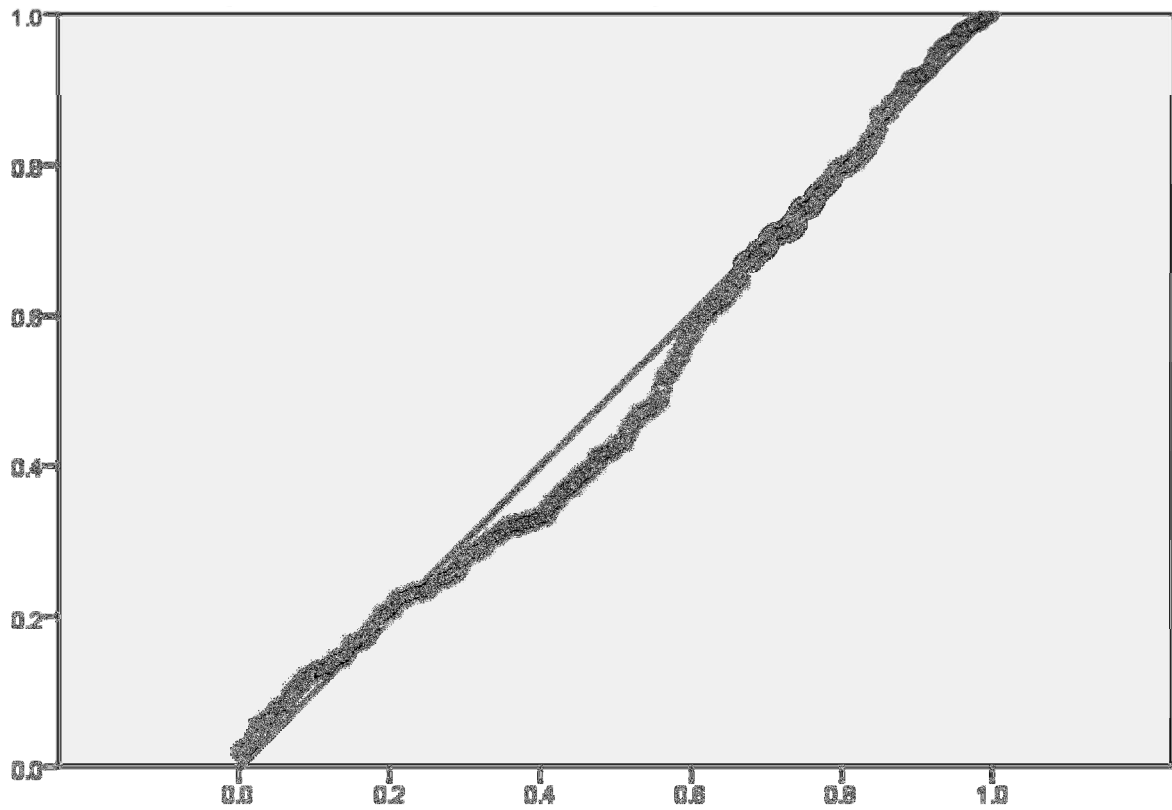


Illustration 1. Major life events x mother attachment => YSR total score.

attachment, $t(259) = -3.083$, $\beta = -.253$, $p = .002$ (see Illustrations 8 and 9). These interactions supported the hypothesis that the parent-adolescent relationship would serve as a moderator in the association between stressors and symptoms, as mother and father attachment yielded inverse relationships between stressors and outcome measures.

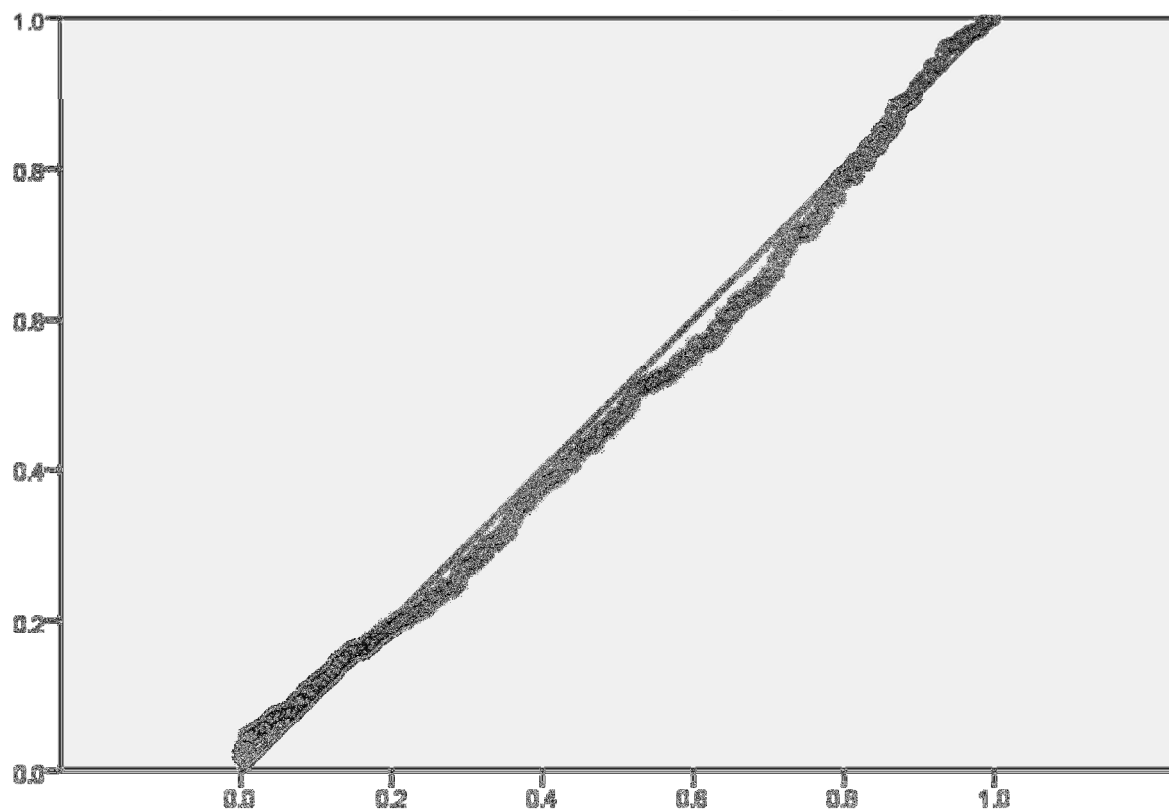


Illustration 2. Major life events x mother attachment => YSR externalizing symptoms.

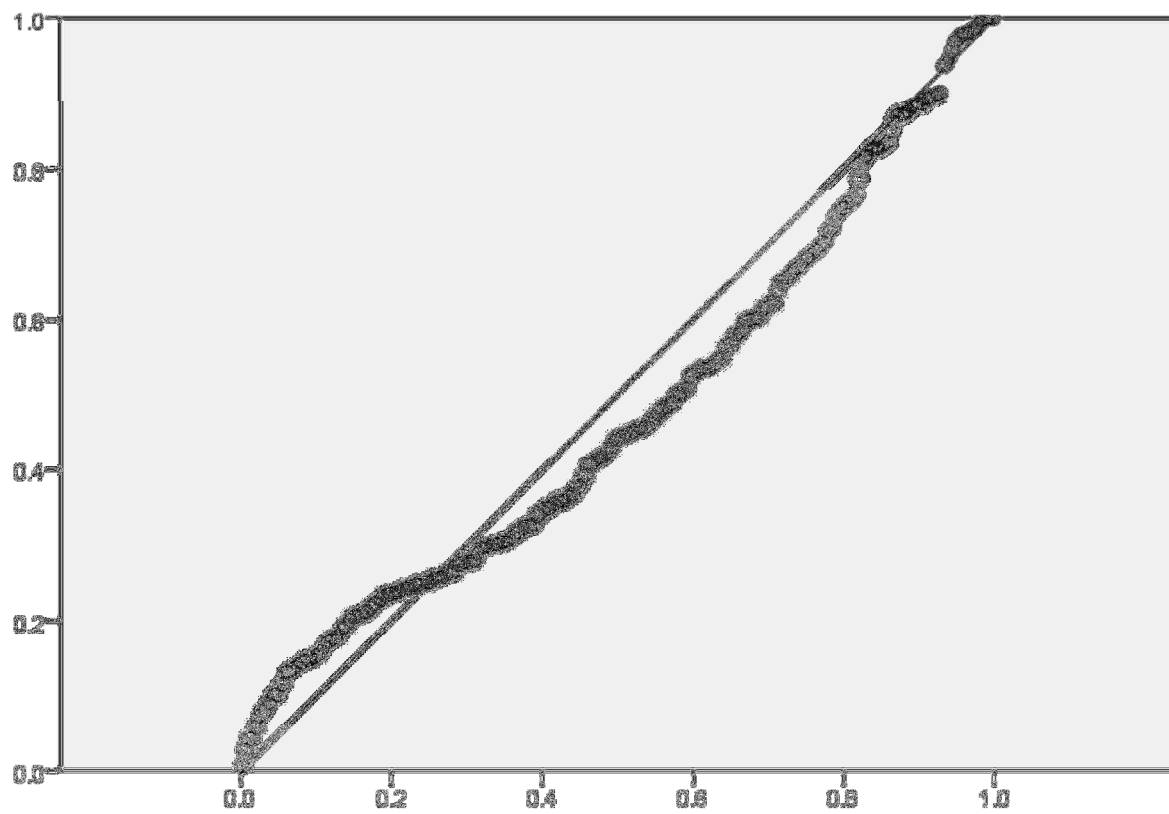


Illustration 3. Daily hassles x mother attachment => CDI total score.

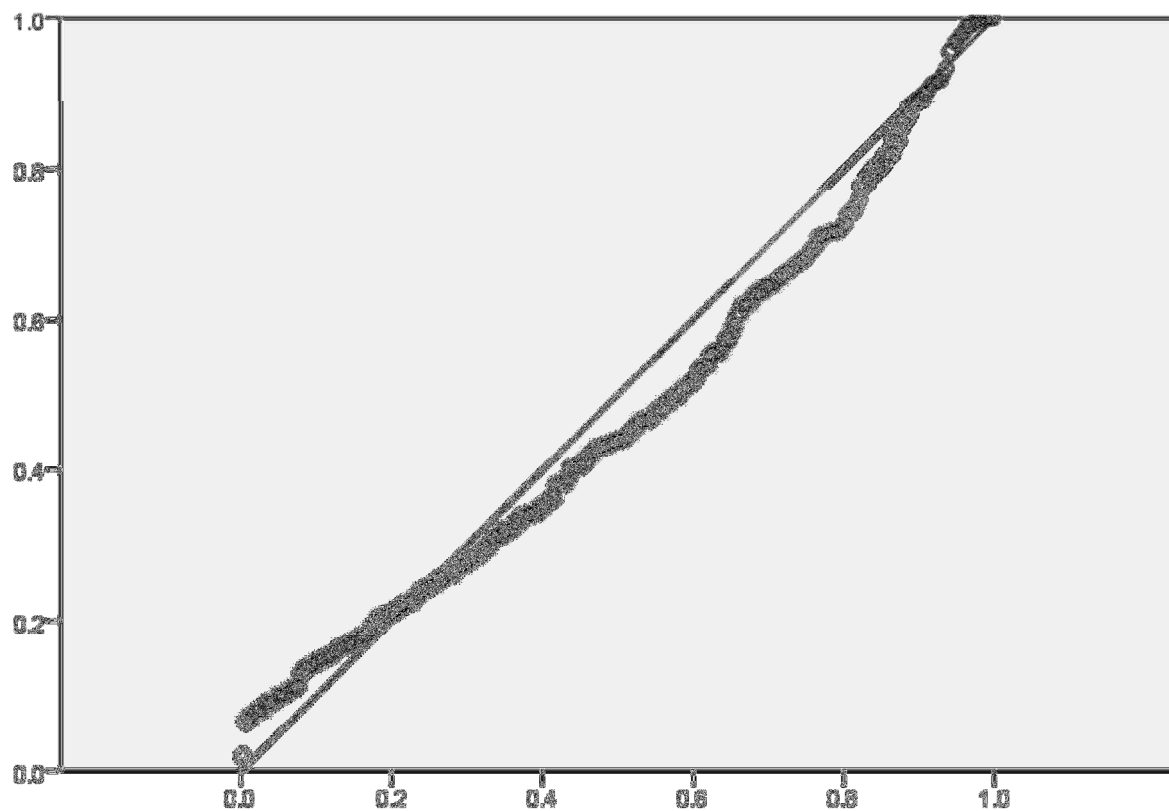


Illustration 4. Daily hassles x mother attachment => CDI negative mood.

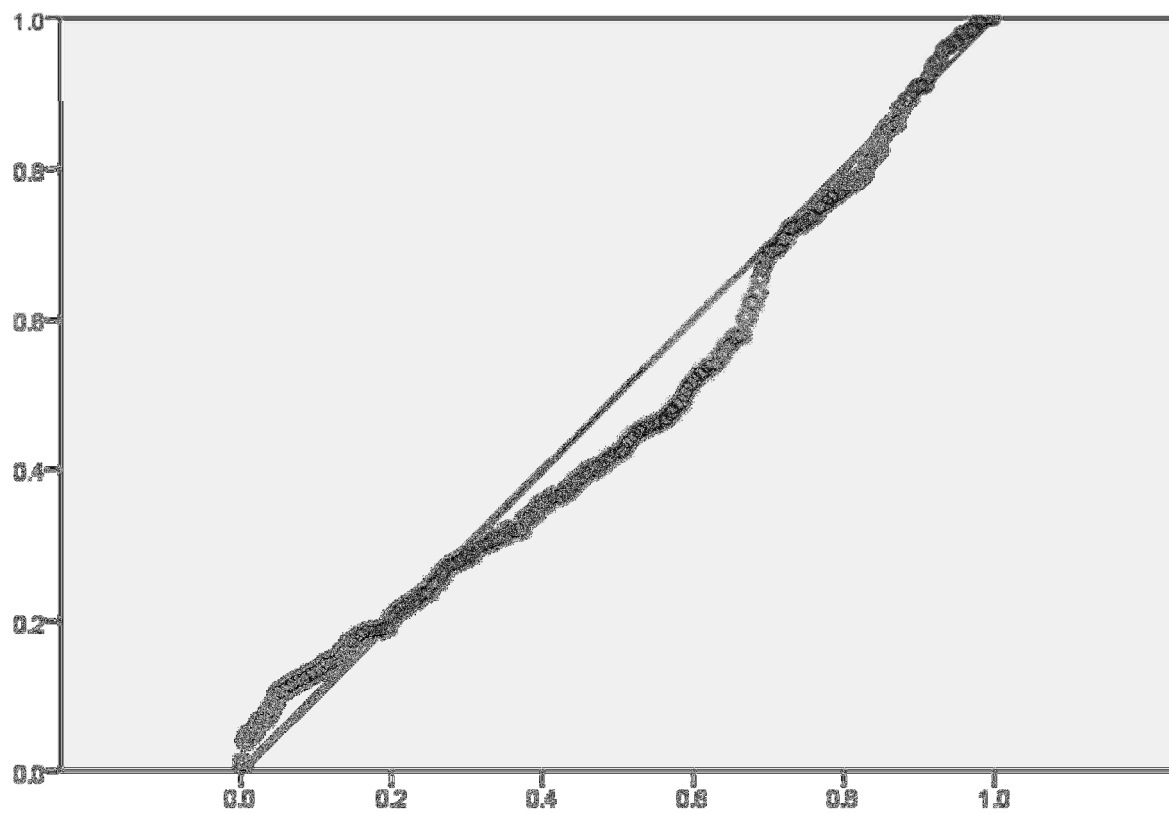


Illustration 5. Daily hassles x mother attachment => CDI anhedonia.

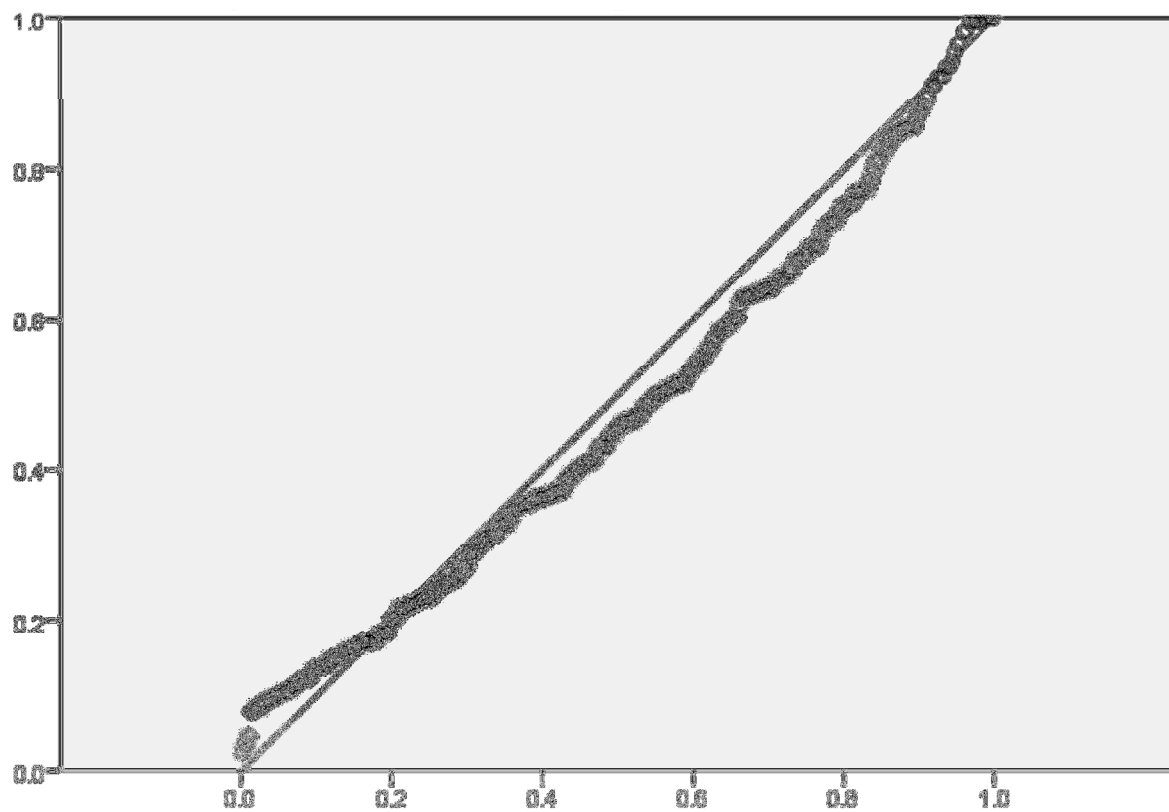


Illustration 6. Daily hassles x father attachment => CDI negative mood.

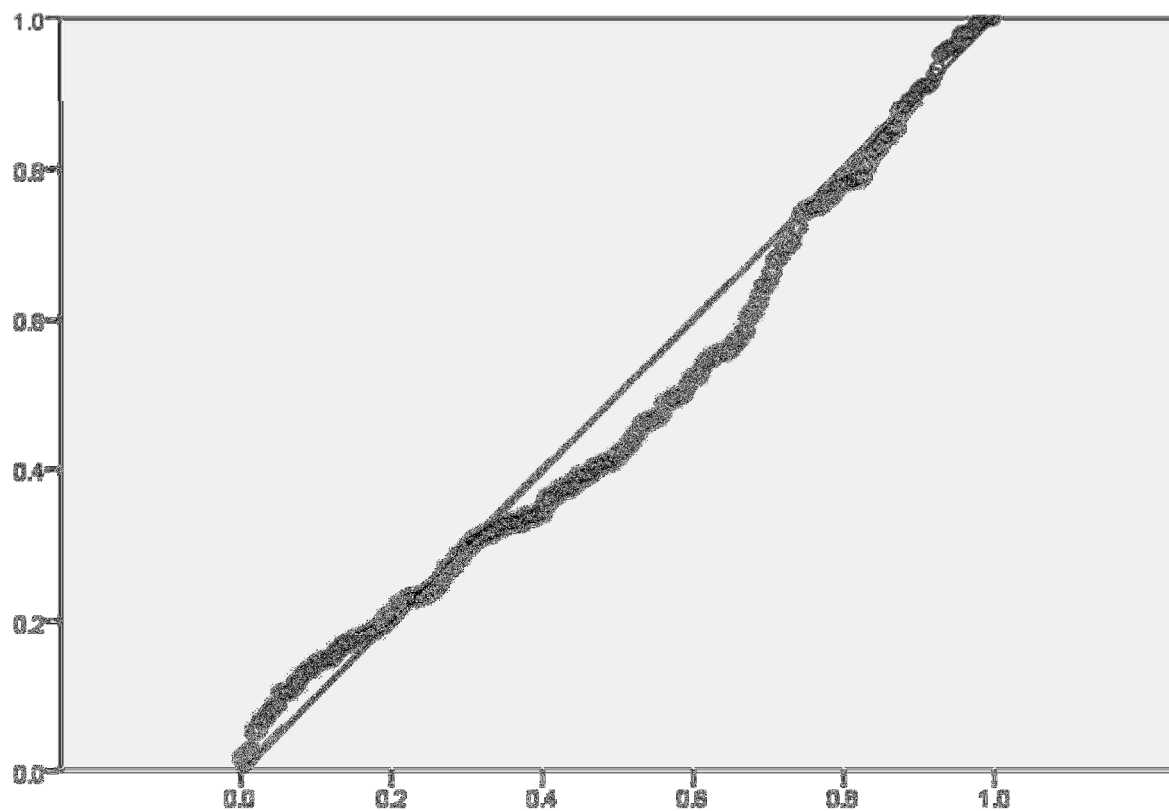


Illustration 7. Daily hassles x father attachment => CDI anhedonia.

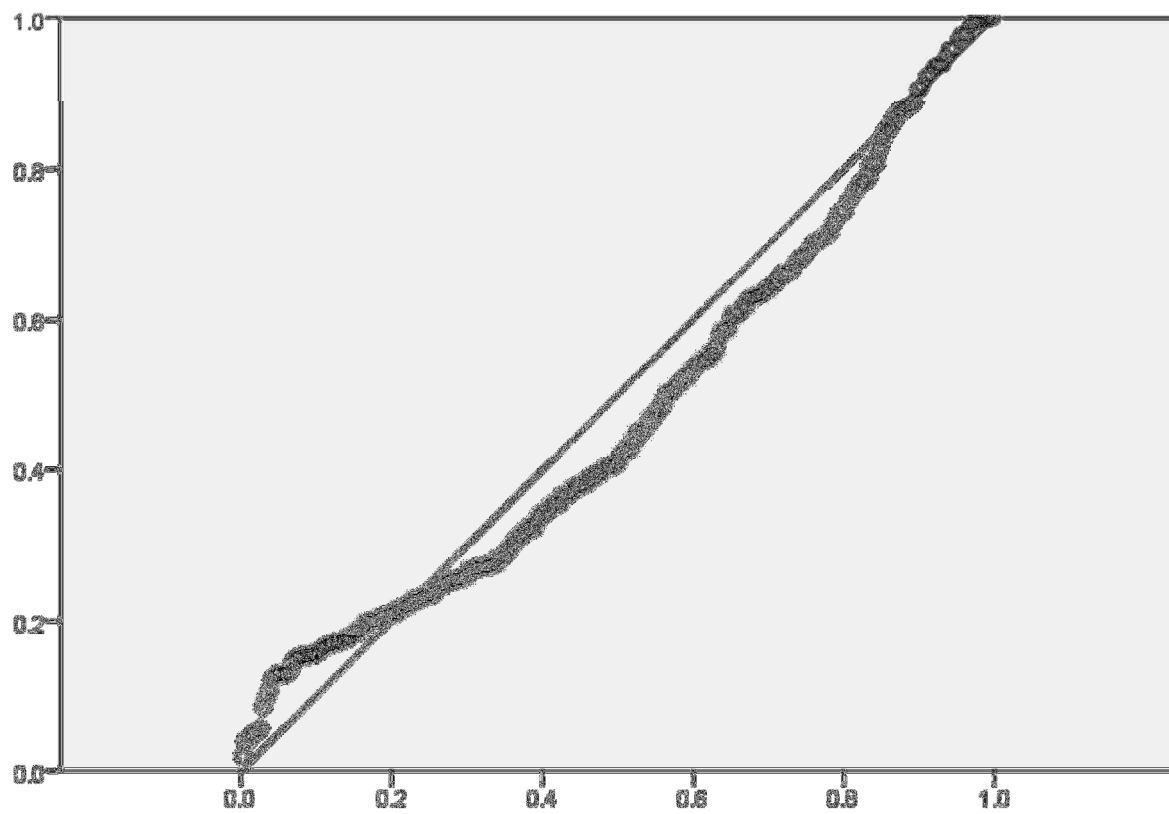


Illustration 8. Exposure to violence x mother attachment => CDI negative mood.

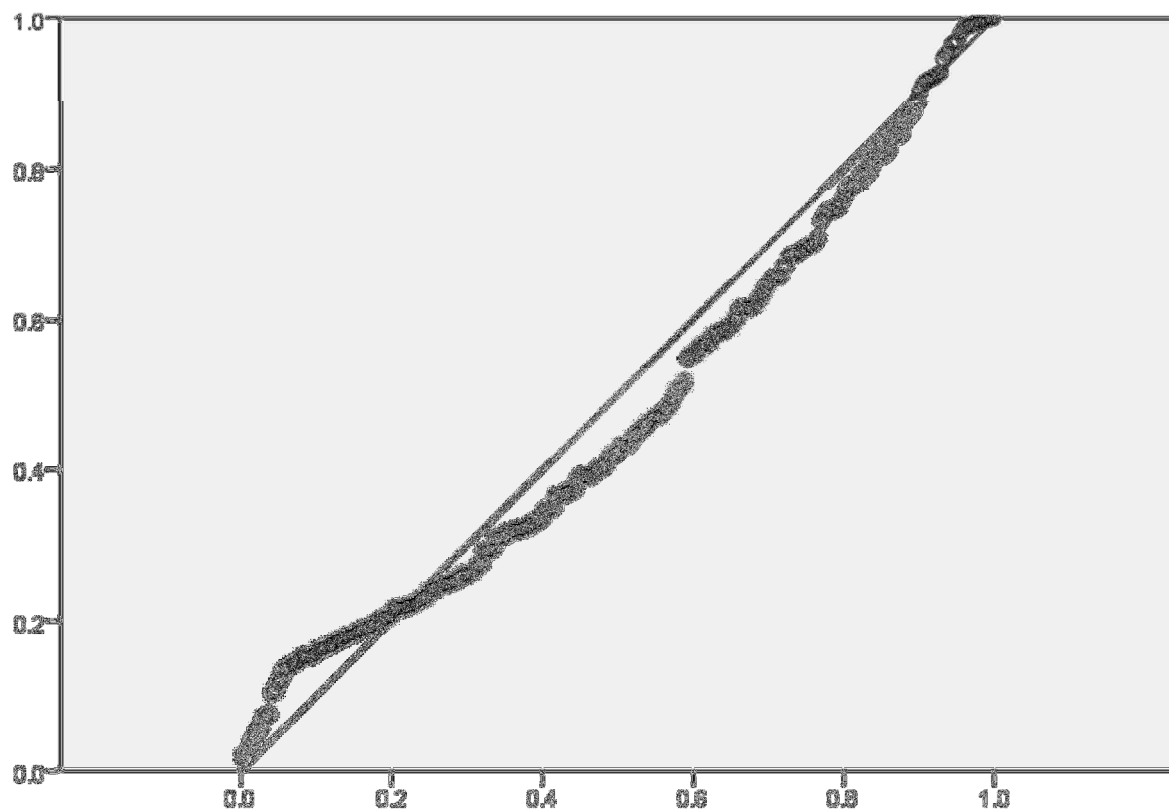


Illustration 9. Exposure to violence x father attachment => CDI negative mood.

CHAPTER 5

DISCUSSION

This study evaluated stressors and psychological symptoms among a sample of low-income, urban adolescents. This environment is one in which adolescents are particularly susceptible to daily stressors, severe trauma, and violence exposure. Thus it is important to explore the effects of such stressors on the psychological functioning of youths. Furthermore, previous research on adolescent stress and symptoms has often focused on older adolescents and externalizing symptoms. Additionally, the majority of research on the parent-adolescent relationship has been conducted among predominantly European American families of higher SES. Thus this study sought to fill gaps in the literature by evaluating early adolescents, internalizing as well as externalizing symptoms, and the parent-adolescent relationship among a low-SES, ethnically diverse population.

This study examined the effects of specific stressors, i.e., major life events, daily hassles, and exposure to violence, on the psychological functioning of low-income, urban youth. Psychological symptoms were evaluated by Achenbach's YSR and the CDI. More specifically, the broad-band (i.e., internalizing, externalizing) and narrow-band (i.e., anxious/depressed, withdrawn/depressed) syndromes of the YSR were analyzed. The CDI subscales of negative mood and anhedonia were also evaluated as indicators of depression.

Associations Among Variables

The first hypothesis addressed the relationships between the main study variables. As predicted, significant positive correlations were found between stressors and psychological

symptoms such that as levels of stress increased, psychological symptoms increased. More specifically, there were strong positive correlations between YSR total score and major life events, daily hassles, and total stress, which coincided with previous research (e.g., Buckner et al., 2004; Finkelhor et al., 2007; Gaylord-Harden et al., 2011; Lewis et al., 2010).

Although all stressors and symptoms were positively correlated, some correlations were unexpectedly moderate or weak. Notably, YSR internalizing symptoms yielded only moderate positive correlations with major life events, daily hassles, and total stress. It is possible that these moderate relationships may reflect developmental implications of the population, such that younger adolescents may be less aware of their internalizing symptoms and fail to endorse these on a self-report measure.

Exposure to violence generally demonstrated weak correlations with internalizing symptoms. This was unexpected, as previous research found associations between exposure to violence and internalizing (e.g., Buckner et al., 2004; Graham-Bermann et al., 2006; Kaynak et al., 2011; Lewis et al., 2010). However, as expected, exposure to violence was more strongly correlated with overall psychological functioning as measured by the YSR. Exposure to violence was most strongly correlated with externalizing symptoms, which was supported by previous research that found a relationship between community violence and externalizing among youth (e.g., Lewis et al., 2010; Ludwig & Warren, 2009; Oravecz et al., 2008).

Impact of Stressors on Internalizing Psychological Symptoms

The hypothesis that urban stressors would significantly predict internalizing symptoms was supported in this study. Specifically, daily hassles represented the most consistent stressor impacting internalizing symptoms. This suggests that the day-to-day stressors of adolescents residing in low-income, urban environments are taxing and impact youths' internal states,

possibly more than traumatic life events. The impact of stressors on adolescents' well-being is supported by Bronfenbrenner's (1986) ecological systems theory, which dictates that institutions, such as the family, school, or peers (microsystem), social and economic influences (exosystem), and the larger cultural context (macrosystem) impact children's development. Thus stressors such as family, peer, or school hassles (microsystem), those associated with economic strain (exosystem), or those associated with broader contexts, such as low SES or ethnic minority status (macrosystem) may negatively impact adolescents' psychological functioning.

On the other hand, exposure to violence generally did not significantly predict internalizing symptoms. This finding hints to the situation in which the high prevalence of violence in urban environments becomes normalized, therefore diminishing the internal alarm of urban youth and resulting in lower levels of internalizing symptoms. It is also possible that violence exposure is not always linked with depression and anxiety, but rather more often associated with post-traumatic symptomatology, which was not measured in this study. This is evidenced by research on the link between PTS and community violence exposure as well as by findings on exposure to war (Crusto et al., 2010; Dimitry, 2012; Graham-Bermann et al., 2006). Finally, the lack of findings on violence exposure may be a result of the measure utilized to assess it, as this was a screening version rather than the complete survey.

Impact of Stressors on Externalizing Symptoms

The hypothesis that stressors would predict externalizing symptoms was also supported. Results showed that major life events and daily hassles significantly predicted externalizing symptoms, which was supported by research that has demonstrated a link between urban stressors and externalizing among adolescents (Gabalda et al., 2010).

Sex and Psychological Symptoms

The hypothesis that girls would endorse more internalizing symptoms than boys was supported. This finding suggests that girls may be more susceptible than boys to facets of internalizing, specifically depression and anxiety, which is supported by findings that adolescent girls exhibit greater rates of depression than boys (Hyde, 2005). This is partly biologically based but may also be explained by the gender intensification hypothesis, which dictates that girls and boys experience pressure to conform their behavior to fit gender stereotypes as they reach adolescence (Hill & Lynch, 1983). Girls are socialized to express their emotions and are therefore more attuned to and more likely to endorse internalizing symptoms. Boys, on the other hand, are socialized to act rather than express emotion in an effort to appear tough and avoid rejection from peers (Richters & Martinez, 1993). More specifically, in urban settings, boys who are more emotionally expressive are more vulnerable to stressors such as bullying and/or gang activity. Despite these previous findings, results did not support the hypothesis that boys would endorse more externalizing symptoms than girls. This suggests a unique trend in this population, such that urban, adolescent boys and girls display similar levels of externalizing symptoms in the presence of stressors.

Moderating Effects of the Parent-Adolescent Relationship on Psychological Symptoms

The moderating effect of the parent-adolescent relationship on psychological symptoms was supported in this study. Specifically, mother attachment significantly moderated the relationships between major life events and both internalizing and externalizing symptoms, such that as mother attachment increased, the relationships between stress and symptoms were inverted. Mother attachment also significantly moderated the relationships between daily hassles and depressive symptoms, such that the presence of mother attachment resulted in inverse

relationships between daily hassles and these symptoms. Father attachment likewise significantly moderated the relationships between daily hassles and depressive symptoms, such that as father attachment increased, the associations between daily hassles and these symptoms were inverted. These moderations may be explained through Bronfenbrenner's (1986) ecological systems theory, which dictates that risk and protective factors exist in each subsystem and impact children's development. Thus positive parent-adolescent relationships may serve as protective factors against deleterious psychological symptoms, aiding adolescents' development. The impact of parent-adolescent relationships is also explained by the role of caregivers as external regulators who aid children's development and self-regulation (Scheeringa & Zeanah, 2001). Thus by forging positive parent-adolescent relationships, caregivers impart adolescents with the ability to regulate their emotions, thus protecting them from psychological symptoms.

These moderations demonstrated that adolescents' positive perceptions of their relationships with mother and father figures serve as protective factors in the relationship between stress and psychological symptoms in this population (e.g., Formoso et al., 2000; Gabalda et al, 2010; Kaynak et al., 2011; Ozer, 2005). However, fewer than expected interactions were found to moderate the relationships between stressors and internalizing symptoms as measured by the YSR. This suggests that the parent-adolescent relationship may be more helpful in buffering against depressive symptoms (as measured by the CDI) than other psychological symptoms. Additionally, mother attachment yielded a greater number of significant moderations than father attachment, specifically in buffering against internalizing and externalizing symptoms. This is reflected in previous research which found that mothers', but not fathers', emotional support moderated the relationships between violence exposure and symptoms, such that there was a decrease in adolescent depressive symptoms and aggression

(Ozer, 2005). Research also indicated that maternal, but not paternal, attachment reduced the strength of the relationship between family conflict and conduct problems among girls (Formoso et al., 2000). Thus in certain instances, maternal attachment may be more helpful in buffering against symptoms than paternal attachment.

Limitations and Implications for Future Research

Despite these important findings, there were several limitations to the present study. One is that this study utilized a cross-sectional design, so causation could not be determined. A future study could implement a longitudinal design to deliver a more comprehensive understanding of the manner in which stressors impact symptoms. Another limitation lies in the multicollinearity of stress variables evaluated. This made it difficult to determine which stress variables were most closely linked with psychological symptoms. There is a need for future examination of variables that are not as closely related. A final limitation is that this study relied on adolescent self-report on all measures. Although the aim of the study was to determine psychological effects of stressors and parent-adolescent relationships from the adolescents' perspectives, the use of multiple informants would be useful in future research. The potential exists that adolescents under- or over-report symptoms, especially in the case of boys attempting to shield emotional responses to stress. Furthermore, the parent-adolescent relationship may be beneficial even if adolescents fail to identify it as such. Thus a future study could evaluate both parent- and teacher-reports in addition to adolescent-reported data to gain a more comprehensive view of psychological distress and the factors that protect against this.

Public Policy Implications

The findings of this study implicate that when possible, prevention of risk exposure is the best means to avoid detrimental psychological symptoms. However, when living in urban, low-

income neighborhoods prevention is not likely, as violence exposure and economic-related stressors are often present. Therapy would provide an effective intervention but use of this is also not probable, as expensive treatments are generally unobtainable by low-income families. Thus research indicates that the best form of intervention following exposure to stressors in this population is positive parental involvement. This research has indicated that, in the presence of stressors, positive parent-adolescent relationships reduce the presence of psychological symptoms or even diminish the relationships between stressors and symptoms among adolescents. Thus an effort by parents to foster positive, supportive relationships with their children may be the most feasible and effective form of intervention for urban adolescents. Education is also essential so that parents understand the importance of forging these relationships, and this would provide parents in urban areas with affordable means to deliver treatment to adolescents afflicted by stressors.

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