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## An Examination Through An Ecological Lenses of the Relationships Among Stressors, Protective Factors, and Psychological Outcomes in the Lives of Urban Adolescents

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AN EXAMINATION THROUGH AN ECOLOGICAL LENS OF THE RELATIONSHIPS  
AMONG STRESSORS, PROTECTIVE FACTORS, AND PSYCHOLOGICAL OUTCOMES IN  
THE LIVES OF URBAN ADOLESCENTS

A Dissertation Presented in Partial Fulfillment of the  
Requirement of the Degree of  
Doctor of Philosophy

BY

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AUGUST, 2012

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VITA

The author was born in Surat, India. She received her Bachelor of Arts degree from San Jose State University in 2002 and Master of Arts from DePaul University in 2007.

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## CHAPTER I

## INTRODUCTION

Adolescence represents a transitional period during which young people undergo many significant changes and are at increased risk for exposure to stressors (Ge, Kim, Brody, Conger, Simons, Gibbons, & Cutrona, 2003; Petersen & Spiga, 1982; Rice, Herman, & Petersen, 1993). According to Grant and colleagues (2003), stressors represent “environmental events or chronic conditions that objectively threaten the physical and/or psychological health or well-being of individuals of a particular age in a particular society.” Stressors can affect adolescents at different levels within their environment (Bronfenbrenner, 1979). For example, individually-based stressors operate specifically upon the individual (e.g. receipt of a failing grade). Family-based stressors affect the family system (e.g. parental divorce). Community-based stressors affect entire communities (e.g. segregation).

Individually-based and Family-based Stressors

Individually-based stressors often increase during adolescence. Just as youth are going through puberty, adolescents often undergo major transitions such as when they are expected to change schools from elementary school to a junior high and/or high school (Robinson, Garber, & Hilsman, 1995). This places them at increased risk for experiencing stress as they acclimate both to physical changes and to a new school environment comprised of multiple teachers, classrooms, and peer networks (Skinner & Wellborn, 1997). Greater demands are also placed on them academically and pressures related to engaging in extra-curricular activities are increasingly common (Suldo, Shaunessy, Thalji, Michalowski, & Shaffer, 2009).

Peers also become a huge part of an adolescent’s life. In adolescence, fitting in with one’s peer group becomes closely tied to one’s identity. Learning how to relate to peers often poses a

challenge (Skinner & Wellborn, 1997). Interpersonal stress may occur in the context of being teased, harassed, or rejected in other ways by peers (Farrell, Ampy & Meyer, 1998; Prinstein & Aikins, 2004). For those adolescents living in highly disadvantaged, neighborhood pressures from their peers to engage in maladaptive behaviors such as selling drugs and joining gangs are not uncommon (Farrell et al., 1998). Additional interpersonal stress also exists in the context of changing relationship with the opposite sex resulting from increased interest in dating and sexual curiosity (Nieder & Seiffge-Krenke, 2001).

Family-based stressors affect adolescent within their family system. Such stressors typically affect the entire family system and require adolescents to adjust to changes within the household (Amato & Keith, 1991; Rogers & Holmbeck, 1997). The presence of such stressors often exposes youth to increased conflicts between parents (Forehand, Thomas, Wierson, Brody, & Fauber, 1990; Lewis, Hammond, & Woods, 1993; Steele, Forehand, and Armistead, 1997), decreased parental well-being (Lewis et al., 1993; Steele et al., 1997), and increased problems in the parent-child relationship (Forehand et al., 1990; Hammen, 1997; Steele et al., 1997). Furthermore, family based stressors may increase youth exposure to individually-based stressors that occur in response to family stressors. For example, within the context of a conflictual family environment, youth may spend more time with peers and increasing exposure to negative interactions.

In general, individually-based and family-based stressors have been linked to adjustment problems in adolescents (Caspi & Moffitt, 1991; Compas et al. 1996). For example, stressors related to pubertal transition (Caspi & Moffitt, 1991; Ge et al., 2003) and divorce (Aseltine, 1996; Amato & Keith, 1991; Cerel, Fristad, & Verducci, 2006; Compas et al., 1996; Kurdek &

Blisk, 1983; Rotheram-Borus, Weiss, Alber & Lester, 2005) have been linked to internalizing and/or externalizing symptoms in adolescents.

### Community-based Stressors

In addition to individually-based and family-based stressors that affect many adolescents, some urban adolescents are exposed to substantial rates of community-based stressors during this developmental period. Community-based stressors consist of factors rooted in the formal and informal social structures found in communities.

#### Poverty

One example of a community-based stressor which affects many urban adolescents is pervasive low socio-economic status or poverty. According to the U.S. Census Bureau (2009), roughly 18% or 14.1 million of adolescents less than 18 years of age live in poverty. Many of these urban adolescents reside in poor, segregated neighborhoods (Dubois, Felner, Meares, & Kreir, 1994; Felner, Brand, Dubois, Adan, Mulhall, & Evans, 1995; Gephart, 1997; Gonzales & Kim, 1997; McLoyd, 1990; Tolan, Guerra, & Montaini-Klov Dahl, 1997; Wadsworth & Achenbach, 2005). They grow up amidst dilapidated economic structures and high rates of unemployment (Massey, Gross, & Eggers, 1991; Tolan et al., 1997). They are exposed to poor physical living conditions including rundown buildings, noise, crowding, and limited access to crucial amenities (Massey et al., 1991; Tolan et al., 1997).

Furthermore, community based stressors are likely to influence stressors found within youth's proximal environment (Attar, Guerra, & Tolan, 1994; Duboi et al., 1994). In particular, community-based stressors may negatively affect adolescents by increasing exposure to family-based stressors, which in turn, may also increase exposure to individual-based stressors. In the context of poverty, low-income parents increasingly face financial stressors within the household

(Belle & Doucet, 2003; Brody & Flor, 1997; Clark-Lempers, 1997; Conger, Conger, Elder, Lorenz, Simons, & Whitebeck, 1992; 1993; Conger, Ge, Lorenz, Elder, Montague, & Simons, 1994; Conger, Wallace, Sun, Simons, McLoyd, & Brody, 2002; McLoyd, 1990; 1998; McLoyd, Jayaratne, Ceballo, & Borquez, 1994; Mistry, Vandewater, Huston, & McLoyd, 2002; Myers & Taylor, 1998). Under such circumstances, they are increasingly at risk for experiencing mental health problems, partner or spousal conflict, divorce and/or separation (McLoyd, 1989; 1990), and poor parent-child relationships (Conger et al., 1992; 1993; Tschann, Johnston, Kline, & Wallestein, 1989). A mother struggling financially may become depressed, and in turn, emotionally distant from her adolescent child. This may have a trickle-down effect at the individual level such that the adolescent is expected to take on more responsibility within the household by taking care of younger siblings or finding a job.

#### Exposure to Community Violence

Violence is another stressor commonly found at the community level for some urban adolescents (Bell & Jenkins, 1993; Berman, Kurtines, Silverman, & Serafini, 1996; Ceballo, Dahl, Aretakis, & Ramirez, 2001). Many urban adolescents live in violent neighborhoods where gangs, drugs, guns, incarceration and aggressive acts are far too common. Literature in this area has found 38% to 96% of low-income urban adolescents to have witnessed some form of violence including gun shots, assaults, robbery, arrests, or murders (Berman et al., 1996; Dempsey, Overstreet & Moely, 2000; Dubow, Edwards, & Ippolito, 1997; Fitzpatrick & Boldizar, 1993; Gorman-Smith & Tolan, 1998; Miller, Wasserman, Neugebauer, Gorman-Smith, & Kamboukos, 1999; Myers & Thompson-Sanders, 2000; Overstreet, Dempsey, Graham, & Moely, 1999; Ozer & Weinstein, 2004; Schwab et al., 1999). About 37% to 85% of low-income adolescents have also reported experiencing some form of personal victimization in their

neighborhood (Berman et al., 1996; Ceballo et al., 2001; Dempsey et al., 2000; Fitzpatrick & Boldizar, 1993; Myers & Thompson-Sanders, 2000; Schwab et al., 1999).

Additionally, violence at the community level may increase risk for exposure to violence in the home (Cicchetti & Lynch, 1993). In particular, community violence has been linked to witnessing conflict and violence between family members (Kennedy, 2008; Overstreet & Braun, 2000). Some research has shown a link between community violence and experiencing abuse from family members (Kennedy, 2008; Lynch & Cicchetti, 1998; Margolin et al., 2009). At the individual level, exposure to such child abuse may also increase the likelihood of being in unhealthy romantic relationships (e.g. domestic violence) (Gomez, 2011; Hamby, Finkelhor, & Turner, 2012; Sunday, Kline, Labruna, Pelcovitz, Salzinger, & Kaplan, 2011). Many urban adolescents also face stressors related to family members becoming part of the judicial system (Foster & Hagan, 2007; Geller, Garfinkel, Cooper & Mincy, 2009; Mackintosh, Myers, & Kennon, 2006; Myers, Smarsh, Amlund-Hagen, Kennon, 1999; Travis, 2005). Furthermore, losing a parent to the judicial system may also weaken the parent-child relationship, and place more household responsibilities on the adolescent (Foster & Hagan, 2007; Travis, 2005).

### Discrimination/Segregation

For adolescents from minority groups, exposure to discrimination represents another stressor found at the community level (Fisher, Wallace, & Fenton, 2000; Neblett et al., 2008; Sanders-Thompson, 2002; Sellers, Copeland-Linder, Martin & Lewis, 2006). Youth of color are exposed to systemic barriers which promote inequality and block opportunities in areas such as education, employment and housing (Bowen-Reid & Harrell, 2002; Brody, Chen, Kogan & Murray, Logan, & Luo, 2008; Gonzales & Kim, 1997; Pager & Sheperd, 2008; Wickrama & Bryant, 2003). In these ways, discrimination is often closely connected with another community-

based stressor, poverty. As a result of historical and contemporary racism, adolescents of color are typically over-represented among the urban poor and are more likely to live in isolated, segregated communities.

Furthermore, discrimination/segregation also influences the proximal environment of youth. Some research has shown parental exposure to racial discrimination to affect family processes such as parental adjustment, family relationships and parenting practices (Brody et al., 2008; Murry, Brown, Brody, Cutrona, & Simons, 2001). For example, maternal report of racial discrimination has been shown to affect parenting practices (Brody et al., 2008). In particular, maternal experience with racial discrimination was linked to stress related health problems. This was positively associated with depressive symptoms, which in turn, was linked to lower levels of competence-promoting parenting in a sample of low-income families (Brody et al., 2008). Under such circumstances, parent-child conflict may increase child engagement with peers in unsupervised settings leading to higher levels of individual stressors. Findings such as these suggest that community level discrimination/segregation influences proximal environments at the family system and individual levels.

Results of extant research on the effects of community-based stressors indicate that these stressors are associated with increased risk for psychological problems in young people (Fitzpatrick & Boldizar, 1993; Grant et al., 2004; Xue, Leventhal, Brooks-Gunn & Earl, 2005). In particular, poverty (Attar et al., 1994; Dubois et al., 1994; Evans, Saltzman & Cooperman, 2001; Leventhal & Brooks-Gunn, 2000; McLoyd, 1998; Wadsworth & Achenbach, 2005), exposure to chronic community violence (Benhorin & McMahon, 2008; Ceballo et al., 2001; Cooley-Quille, Boyd, Frantz, & Walsh, 2001; Fitzpatrick, Piko, Wright, & LaGory, 2005; Lange, 2000; McGee & Baker, 2002; Myers et al., 1999; Schawb-Stone et al., 1999) and

discrimination/segregation (Lambert, Herman, Bynum & Ialongo, 2009) have been linked to both internalizing and externalizing problems in urban adolescents.

### Protective Factors

Given that urban adolescents are at increased risk for exposure to disproportionate amounts of stressors, it is important to consider factors that may protect them from developing negative mental health outcomes. A protective factor consists of any internal or external resource that serves to moderate or modify the relationship between stressors and psychological symptoms (Grant et al., 2000; Rutter, 1987). As with stressors, protective factors can be found at different levels of adolescents' environments. In particular, individually-based protective factors emanate from the individual (e.g. coping strategies). Family-based protective factors represent resources found within families (e.g., positive parent-child relationships). Community-based protective factors comprise factors such as formal and informal social institutions which serve as vital resources within communities (i.e. school, churches). One mechanism through which community-based protective factors may promote positive effects is through their influence on more proximal systems such as the family or individual.

The next section will review the role of individually and family-based factors in protecting adolescents facing individually, family, and community-based stressors. Following that, the role of community-based factors such as religious and educational institutions in protecting adolescents facing individual and family, and community-based stressors will be reviewed.

### Individually-based and Family-based Protective Factors

#### Coping

One commonly examined individually-based protective factor represents coping strategies used by adolescents. Coping has been defined as “conscious, volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances (Compas et al., 2001, p. 89).” A well-established four factor model has delineated four distinct ways of coping (Ayers, Sandler, West, & Roosa, 1996). The first type of coping, active coping, involves efforts to alter the problem or condition or to reframe it in a more positive manner. Next, distraction coping consists of physical release of emotion or engagement in distracting actions. Third, avoidant coping includes use of thoughts and actions to stay away from stressors. Lastly, support seeking coping encompasses going to others to solicit assistance with solving problems or with feeling better about a situation.

The literature on the role of coping in protecting adolescents from stressors is growing (Armistead, McCombs, Forehand, & Wierson, 1990; Compas et al., 2001; Ebata & Moos, 1991; Herman-Stahl, Stemmler, & Petersen, 1995). In reviews of studies on middle-class Caucasian adolescents, active coping strategies have generally been associated with more positive outcomes (Compas et al., 2001; Fields & Prinz, 1997). Some emerging studies on the moderating role of active forms of coping have also found protective effects within such samples (Nicolotti, El-Sheikh, & Whitson, 2003; Sandler, Tein, & West, 1994). On the other hand, use of avoidant coping has been generally linked to negative outcomes in middle-class, Caucasian adolescents (Armistead et al., 1990; Ebata & Moos, 1991; Herman-Stahl et al., 1995). Additionally, the only study on the moderating role of avoidant coping has shown no protective effects in middle-class youth (Nicolotti et al., 2003). The relatively consistent findings from main effects and extant

moderating studies suggest a protective role of active coping in comparison to avoidant coping in white, middle class youth exposed to predominately individually-based and family-based stressors.

When coping has been examined in urban adolescents exposed to community-based stressors, some findings suggest a different pattern of effects. In particular, research on the main effects of active coping is somewhat mixed (Edlynn, Gaylord-Harden, Richards, & Miller, 2008; Grant et al., 2000; Gonzales et al., 2001; Rosario et al., 2008), with some studies showing no link between active coping and positive outcomes in urban adolescents exposed to community-based stressors (Edlynn et al., 2008; Rosario et al., 2008). Additionally, while some evidence for a moderating role of active forms of coping exists (Gonzales et al., 2001; Grant et al., 2000), contrary evidence is also available (Dempsey et al., 2000; Edlynn et al., 2008; Gonzales et al., 2001; Rosario et al., 2008). In particular, a study found that with increasing levels of stress, protective effects of active coping disappear in urban youth (Gonzales et al., 2001). Rosario and colleagues (2008) have also shown active coping to exacerbate the link between community-based stressors and psychological symptoms in an urban sample (Rosario et al., 2008). Furthermore, similar to findings for middle-class Caucasian samples, avoidant coping has been associated with negative outcomes in urban samples facing community-based stressors (Edlynn et al., 2008; Gonzales et al., 2001; Grant et al., 2000; Rosario et al., 2008). Paradoxically, however several studies on the moderating role of avoidant coping have also demonstrated protective effects for urban adolescents (Dempsey et al., 2000; Edlynn et al., 2008; Gonzales et al., 2001; Grant et al., 2000).

One explanation for the emerging differential patterns for coping effects found within urban youth is that protective factors found at the individual level may not function in the same

way in the presence of demands placed by community level stressors. In the context of community-based stressors, it may be more adaptive for urban adolescents to stay away from stressors instead of attempting to individually exert control or actively trying to confront a community-based stressor (Grant et al., 2000; Rasmussen, Aber & Bhana, 2004). However, while staying away from stressors may help urban youth, avoiding stressors may not always be possible given that these youth face community-based stressors which affect many aspects of their lives. In such contexts, youth may require other protective factors for combating demands placed by stressors found within all levels of their environment.

### Family

Beyond individually-based protective factors, family-based protective factors may provide additional resources for adolescents. Literature in this area has primarily examined the protective role of family with Caucasian, middle class adolescents exposed to individually-based and family-based stressors (Kotchick, Summers, Forehand, & Steele, 1997; Varni, Rubinfeld, Talbot, & Setoguchi, 1989; Wierson, Forehand, Fauber, & McCombs, 1989; Wolchik, Reuhlman, Braver, & Sandler, 1989). While some inconsistencies exist (Varni et al., 1989), there is growing evidence which suggests that family-based factors can protect Caucasian, middle class adolescents from the negative consequences of stressors (Kotchick et al., 1997; Wierson et al., 1989; Wolchik et al., 1989).

Research examining the protective role of family based variables in urban adolescents also exists. Some studies have shown family variables to attenuate the link between community-based stressors and mental health outcomes in urban adolescents (Jones, 2007; Overstreet et al., 1999; Ozer, 2005; Ozer & Weinstein, 2004), but evidence for contradictory findings is growing (Benhorin & McMahon, 2008; Hammack, Richards, Luo, Edlynn, & Roy, 2004; Kliever et al.,

2004; Li, Nussbaum, & Richards, 2007; Miller et al., 1999; White, Bruce, Farrell & Kliewer, 1998; Youngstrom, Weist, & Albus, 2003). In some of the studies that failed to demonstrate protective effects, the protective role of factors such as family cohesiveness, support, closeness and acceptance from caregivers disappeared as community-based stressors increased (Hammack et al., 2004; Kliewer et al., 2004; Miller et al., 1999). Occasionally, family support has also been found to exacerbate the relationship between community-based stressors and psychological outcomes (Li et al., 2007).

In general, research in this area suggests that turning to one's family may not be effective in the presence of increasing community-based stressors for urban adolescents (Benhorin & McMahon, 2008; Dubow et al., 1997; Hammack et al., 2004; Kliewer et al., 2004; Miller et al., 1999; Sullivan, Kung, & Farrell, 2004; White et al., 1998; Youngstrom et al., 2003). This is consistent with previously reviewed literature on the effects of poverty-related stressors on low-income urban families. The trickle-down effects of community-based stressors degrade resources within the family and thus may limit the ability of family members to help youth combat stressors (Wickrama & Bryant, 2003).

### Summary

The above reviewed literature on coping and family factors suggests that protective factors found at the individual and family levels have limitations in protecting urban adolescents faced with community-based stressors (Benhorin & McMahon, 2008; Dubow et al., 1997; Kliewer et al., 2004; Sullivan et al., 2004; White et al., 1998; Youngstrom et al., 2003). This begs the question of whether individual and family resources are capable of combating stressors related to community level stressors or whether community level protective factors are required.

### Community-based Protective Factors

For these reasons, it is important to consider other protective factors that may be better suited to handle the demands placed by community-based stressors on urban adolescents. Community-based protective factors represent resources through formal and informal social institutions such as schools and churches found within communities (Bronfenbrenner, 1979). More specifically, social institutions found at the community level might better combat community-based stressors by promoting more functional community resources such as social networks typically compromised by community-based stressors. Under such circumstance, community-based protective factors might interact with community-based stressors to weaken the link between community-based stressors and negative mental health outcomes.

Furthermore, one pathway through which community-based protective factors promote positive effects may be through their capacity to influence protective factors existing in more proximal systems (Cicchetti & Lynch, 1993). In particular, additional supports and resources available through community-based protective factors may strengthen or increase resources found within families and adolescents. In essence, the presence of community-based protective factors may increase the likelihood of family-based and individually-based protective factors, which in turn, may lower the likelihood of negative mental health outcomes in urban adolescents facing community-based stressors.

### Religious Institutions

Religious institutions represent a potential community-based protective factor in the lives of urban adolescents (Brega & Coleman, 1999; Grant et al., 2000; Jones, 2007). These are social institutions based in systems of religious, spiritual and moral beliefs and practices rooted in a connection to the divine, universal truths and meaning of life (Brown & Gary, 1991; Cook, 2000;

Miller & Thoresen, 2003; Paloutzian & Park, 2005). Within the community, religious institutions serve as a source of informal social network. They provide youth access to additional supportive relationships, role models, and a sense of belonging (Cook, 2000; McMahon et al., 2004). There may also be opportunities to become involved in community activities and other social services offered by such institutions (Billingsley & Caldwell, 1991).

Emerging research has shown a positive role for religious institutions in the lives of adolescents (Cotton et al., 2006; Dew et al., 2008; Donahue & Benson, 1995; Wallace & Forman, 1998; Wright, Frost, & Wisecarver, 1993). In particular, religious institutions have been linked to positive mental health outcomes in Caucasian, middle class samples (Greening & Stoppelbein, 2002; Pearce et al., 2003; Rew et al., 2001) and in low-income samples (Ball, Armistead & Austin, 2003; Carothers et al., 2005; Cook, 2000; Powell, 1997). Furthermore, while the moderating role of religious institutions remains unknown in Caucasian, middle class samples, some evidence for protective effects has been found in urban samples facing cumulative stress (Grant et al., 2000) and exposure to community violence (Jones, 2007; Pearce, Jones, Schwab-Stone, & Ruchkin, 2003). However, such findings have not appeared consistently (Carleton et al., 2008). Given the discrepancies found in this area, further studies on the moderating role of religious institutions for adolescents in the context of community-based stressors such as poverty, exposure to community violence and discrimination/segregation are needed.

Furthermore, one plausible mechanism through which religious institutions promote positive mental health outcomes may be through influencing what occurs at the family level. In particular, the social capital available through religious institution may strengthen the family by providing additional support and guidance to parents (Brody et al., 1996; Christian & Barbarin,

2001). Parental religiosity has been shown to lead to better mental health outcomes through increasing family cohesion, decreasing parental discord and improving parental adjustment in samples of low-income urban pregnant youth (Carothers et al., 2005) and African American youth living in rural areas (Brody et al., 1996). Future research is necessary to generalize such findings to urban youth faced with community-based stressors such as poverty, exposure to community violence and discrimination/segregation.

### Educational Institutions

School represents another community-based resource available to adolescents. It is a vital social institution which operates as a source for knowledge, skills and understanding required to engage and function as well-informed citizens within society (Biesta, 2008; Giroux, 2009). It may also expose youth to supportive relationships, adult role models, and feelings of belonging via the larger informal social network found within this setting (Cook, 2000; Eccles, Barber, Stone & Hunt, 2003; Feldman & Matajasko, 2005; Lutzke et al., 1997; Grant et al., 2000). Schools may facilitate structure, safety, routine, and additional resources often missing in other parts of adolescents' lives (Garmezy, 1991; Hirsch et al., 2000; Resnick et al., 1997).

Literature examining the protective role of schools in adolescents is growing (Benhorin & McMahon, 2008; Dubois et al., 1994; Henrich, Brookmeyer & Shahar, 2005; Ozer, 2005; Ozer & Weinstein, 2004). While, research exclusively focused on Caucasian, middle class samples is scarce, school factors have been linked to positive mental health outcomes in diverse ethnic and socio-economic samples (Battistich & Hom, 1997; Brand et al., 2003; Kupermine et al., 1997; Resnick et al., 1997) including in low-income samples (Benhorin & McMahon, 2008; Kowaleski-Jones, 2000). Research examining the moderating role of school factors also has been conducted with racially/ethnically diverse samples (Henrich et al., 2005; Ozer, 2005; Ozer &

Weinstein, 2004) and low-income or urban samples (Benhorin & McMahon, 2008; Dubois et al., 1994). In these samples, findings have been mixed with three study exhibiting protective effects (Benhorin & McMahon, 2008; Dubois et al., 1994; Ozer & Weinstein, 2004) while some other studies showed no moderating effects (Henrich et al., 2005; Ozer, 2005). Future research is necessary to establish the generalizability of such findings.

As with religious institutions, educational institutions may influence mental health outcomes through promoting protective factors in more proximal environments affecting youth. In particular, a sense of connectedness and relationships with supportive adults within such settings may promote individually-based protective factors such as enhanced coping skills in youth (Garmezy, 1985). No studies to date have tested this hypothesis.

### Rationale

Many urban adolescents face disproportionate amounts of stressors in their lives (Dubois et al., 1994; Felner et al., 1995; Gephart, 1997; Gonzales & Kim, 1997; McLoyd, 1990; Tolan et al., 1997; Wadsworth & Achenbach, 2005). These adolescents face not only typical individually-based and family-based stressors, but also additional community-based stressors such as poverty, exposure to violence and discrimination/segregation (Attar et al., 1994; Dubois et al., 1994). This increases their likelihood for experiencing negative mental health outcomes (Attar et al., 1994; Dubois et al., 1994; Felner et al., 1995; Leventhal & Brooks-Gunn, 2000; McLoyd, 1998; Wadsworth & Achenbach, 2005; Wadsworth & Berger, 2006; Wadsworth, Raviv, Compas & Connor-Smith, 2005).

The literature on factors which protect urban adolescents from community-based stressors is growing (Benhorin & McMahon, 2008; Carleton et al., 2008; Dempsey et al., 2000; Dubow et al., 1997; Edlynn et al., 2008; Gonzales & Kim, 1997; Grant et al., 2000; Hammack et al., 2004; Jones, 2007; Kliwer et al., 2004; Kliwer & Kung, 1998; Kowleski-Jones, 2000; Li et al., 2007; Miller et al., 1999; Overstreet et al., 1999; Ozer, 2005; Ozer & Weinstein, 2004; Sullivan et al., 2004; White et al., 1998; Youngstrom et al., 2003). Several studies have shown failure of traditional individually-based and family-based protective factors to lessen the impact of stress on mental health outcomes in urban adolescents facing community-based stressors (Dempsey et al., 2000; Dubow et al., 1997; Edlynn et al., 2008; Gonzales & Kim, 1997; Hammack et al., 2004; Kliwer et al., 2004; Kliwer & Kung, 1998; Miller et al., 1999; Sullivan et al., 2004; White et al., 1998; Youngstrom et al., 2003). For this reason, it is essential to examine other types of potential protective factors that function at the same level as the stressors present in the environment of urban adolescents.

Along this vein, some research has begun to examine the moderating role of community-based factors such as religious and educational institutions as these may provide more extensive resources to help urban youth combat the community-based stressors they experience (Grant et al., 2000; Jones, 2007; Kliwer et al., 2004; Li et al., 2007). While some evidence for a positive role of community-based protective factors in urban youth exists (Grant et al., 2000; Jones, 2007; Kowleski-Jones, 2000; Li et al., 2007), research in this area is scant and remains somewhat mixed (Carleton et al., 2008; Kliwer et al., 2004). Further research is necessary to establish clearer patterns of the potential moderating role of community-based protective factors in attenuating the link between community-based stressors and negative mental health outcomes in urban adolescents.

In addition, it is important to understand the indirect role community-based protective factors may play in promoting positive mental health outcomes in urban adolescents. As mentioned earlier, factors found at this level may influence what occurs in more proximal environments such as the family and individual (Brody et al., 1996; Carothers et al., 2005; Garmezy, 1985). In particular, social exchanges and other resources available at the community level may facilitate protective factors and processes at the family or individual level, which in turn, may increase the ability of urban adolescents to combat stressors. To this author's knowledge the extent to which family-based or individually-based protective factors might help explain effects of community-based protective factors in the lives of urban youth in the presence of community-based stressors has not been examined.

This study will build on prior research by examining whether protective factors that are more compatible with the type or degree of stressor have a better chance of protecting urban adolescents from negative outcomes. In particular, this study will further examine the moderating

role of community-based protective factors in attenuating the relationship between community-based stressors and mental health outcomes in urban adolescents. This study also will explore the mechanisms through which community-based protective factors may have their positive effects by examining the extent to which family-based or individually-based protective factors may indirectly link community-level protective effects in urban adolescents with more positive outcomes.

### Statement of Hypotheses

I. Community-based protective factors will moderate the relationship between community-based stressors and psychological symptoms in urban adolescents such that the relation between community-based stressors and psychological symptoms will be attenuated for youth reporting the presence of community-based protective factors.

- a. Religious institution-based protective factor will moderate the relationship between poverty and psychological symptoms in urban adolescents.
- b. Religious institution-based protective factor will moderate the relationship between exposure to community violence and psychological symptoms in urban adolescents.
- c. Religious institution-based protective factor will moderate the relationship between discrimination/segregation and psychological symptoms in urban adolescents.
- d. Educational institution-based protective factor will moderate the relationship between poverty and psychological symptoms in urban adolescents.
- e. Educational institution-based protective factor will moderate the relationship between community violence and psychological symptoms in urban adolescents.
- f. Educational institution-based protective factor will moderate the relationship between discrimination/segregation and psychological symptoms in urban adolescents.

II. Family-based protective factor will indirectly link religious institution-based protective factor with reduced psychological symptoms in urban adolescents exposed to community-based stressors.

- a. Family-based protective factor will serve as an indirect path linking religious institution-based protective factor and reduced psychological symptoms in urban adolescents exposed to poverty.

- b. Family-based protective factor will serve as an indirect path linking religious institution-based protective factor and reduced psychological symptoms in urban adolescents exposed to community violence.
- c. Family-based protective factor will serve as an indirect path linking religious institution-based protective factor and reduced psychological symptoms in urban adolescents exposed to discrimination/segregation.

Research Questions

- I. Will individually-based protective factor serve as an indirect path linking community-based protective factors and reduced psychological symptoms in urban adolescents exposed to community-based stressors?
  - a. Will active coping strategy serve as an indirect path linking educational institution-based protective factor and reduced psychological symptoms in urban adolescents exposed to poverty?
  - b. Will active coping strategy serve as an indirect path linking educational institution-based protective factor and reduced psychological symptoms in urban adolescents exposed to community violence?
  - c. Will active coping strategy serve as an indirect path linking educational institution-based protective factor and reduced psychological symptoms in urban adolescents exposed to discrimination/segregation?

## CHAPTER II

### METHODS

This study is part of a larger four-year longitudinal study examining the impact of stressors on mental health outcomes in low-income urban adolescents. Participants were recruited from three schools in the city of Chicago. Two elementary schools were selected because most of their students qualified for federally funded lunch programs. The third (a high school) was included because many of the students from the other two schools transferred to it after graduation.

#### Participants

The sample in this study consisted of 392 participants (mean age=13.06). It included 251 females (64%) and 135 males (34.4%). Participants ranged in grades from fifth to tenth grade (11 fifth-graders, 97 sixth-graders, 83 seventh-graders, 92 eighth-graders, 100 ninth-graders and 3 tenth-graders). Ethnicities of the participants included Black/African American (42%), Latino/a (31%), and “Other” (26%). Demographic information was missing for 6 participants (1%) (See Table 1).

#### Procedure

Schools were recruited via phone calls to principals and letters with information about the study. Upon receipt of permission from schools, several steps took place before collecting data. A description of the project was advertised in classrooms to students and teachers. Parents were mailed study information along with consent forms for the study. During report card pick up days, flyers with project description were posted, and school liaisons and graduate research assistants (at least one of whom could speak Spanish) were available to answer

Table 1  
*Demographic Characteristics of Adolescents in Sample*

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	<u>Frequency</u>	<u>Percentage</u>
<u>Gender (n=392)</u>		
Male	135	34.4
Female	251	64.0
Missing	6	1.5
<u>Age (n=392)</u>		
10	6	1.5
11	53	13.5
12	89	22.7
13	82	20.9
14	80	20.4
15	71	18.1
16	5	1.3
Missing	6	1.5
<u>Grade (n= 392)</u>		
5 <sup>th</sup>	11	2.8
6 <sup>th</sup>	97	24.7
7 <sup>th</sup>	83	21.2
8 <sup>th</sup>	92	23.5
9 <sup>th</sup>	100	25.5
10 <sup>th</sup>	3	0.8
Missing	6	1.5
<u>Race (n= 392)</u>		
Black	163	41.6
Latino/a	120	30.6
White	47	12
Asian	26	6.6
Mixed/Bi-racial	19	4.8
Other	7	1.8
American Indian	4	1.0
Hawaiian/Pacific Islander	2	.5
Missing	4	1.0

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questions about the project. The consent forms were available in all of the languages represented at participating schools including Spanish, Polish, and Vietnamese. All students were eligible to participate in the study unless parents returned the consent form denying permission for their child to participate in the study.

Survey administrations were conducted during classroom hours by psychology graduate students. During the administration, students were provided information about the study including the voluntary nature of participation and the option to discontinue at any time. Next, participants signed assent forms and completed survey forms. Surveys were read aloud to the participants to address the possibility of varying reading levels. When participants had questions, additional assistance was provided. After completed forms were collected, participants were debriefed about the study. Information about community resources and an incentive of two movie passes per participation were distributed. Lastly, an invitation to participate in the interview portion of data collection was extended to all participants.

Parent report forms were sent home with parent consent forms prior to survey data collection. Parent report forms were additionally distributed at “report card pick-up day” to parents with children in classrooms scheduled for survey administration within two weeks of “report card pick-up day”. Parents were invited to complete the parent report form and return it, within two weeks, in the enclosed self-addressed stamped envelope.

Approximately two weeks after the initial survey administration, semi-structured interviews with all participants assessing stressful life experiences and protective factors took place. Phone calls were made to parents before students participated in the interview portion of the study to ensure informed consent. Interviews were conducted privately by psychology graduate students on school grounds during school hours or after school. As much as possible,

the interviewer and interviewee were matched based on gender and race/ethnicity. Interviewers were trained in issues related to reporting of abuse, suicidality and homicidality. Participants were again informed about their rights as participants. Interviews lasted from one to three hours. At the end of the interview, information on community resources and incentives in the form of \$20 gift certificates to the stores of their choice (i.e. Old Navy, Best Buy, Target) were distributed.

After the first round of data collection, data were collected each year for four years. At each round of data collection, participants were contacted and similar procedures as described above were followed. In some instances, data administration took place in community settings. For example, for those participants who were no longer attending schools at the time of data collection, DePaul University sponsored parties were arranged. Recruitment strategies included mailing flyers and letters and making follow-up phone calls to participants to inform them about the parties. The day of the party, a rented bus picked up participants from the participating school they most recently attended. Parties were held at DePaul University's gymnasium. The party started with data being collected in a large room next to the gym. This was followed by a short informational session on college preparation followed by activities such as playing basketball, swimming, watching videos or playing other games. Food was also served and an incentive of two free movie passes and a raffle ticket for \$50 were distributed. A total of two survey parties took place during the four years of data collection. The data used for this study is limited to data collected at Time 1 and Time 2.

## Measures

### Demographics Questionnaire

A two-page questionnaire was used to collect demographic information from participants related to age, grade, gender, race/ethnicity, address and family members living at home.

### Poverty

Poverty-related stressors were assessed using the 2000 census data available through the U.S. Census Bureau website (U.S. Bureau of the Census, 2000a). For each participant, his or her address was used to geocode the particular census tract to which he or she belonged. A total of 151 census tracts were represented within this sample. Next, each census tract was linked to information about participants living within that area. This database was accessed through the Census Bureau website link at <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. On the website, the option “Decennial Census” located on the bottom right was first selected. Next, the option “Geographies” was used to select “Census Tract” which included specifying “Illinois” under state, “Cook” under county, and “All census tracts within Cook County, Illinois.” This was followed by selecting “Topics” found on the bottom left side of the website. Within the search option, the file name “DP-3: Profile of Selected Economic Characteristics: 2000 Census 2000 Summary File (SF-3)-Sample Data” was entered. This documented was saved in Microsoft Excel, and relevant poverty-related information including percentage of unemployed, median family income, percentage of individuals receiving public assistance, and median household income was extracted. Census tract variables were then recoded by transforming the acquired information to Z scores with standardized means and standard deviations. Next, means of standardized census tract scores for each variable were used to tabulate a composite poverty score. Higher scores represented greater exposure to poverty. Inter-rater reliability was established by having another member of the research team check portion of the data (30% of sample) obtained through this database. The Kappa agreement was found to be high, with a

range of 0.89 to 1 across all variables existing within this database. Kappa agreement was found to be even higher for the four economic-related variables used to measure poverty in this study (0.98 to 1). Discrepancies were addressed by going back to the Census Summary File to check for any entry errors and inputting correct values when necessary.

### Exposure to Community Violence

Stress related to community violence was measured using crime statistics available through the Chicago Police Department (Chicago Police Department, 2011). In particular, the yearly information about crimes occurring in districts throughout the city was obtained using publicly available index crime statistical reports accessible on the website link at <https://portal.chicagopolice.org/portal/page/portal/ClearPath/News/Statistical%20Reports/Annual%20Reports>. The community level crime statistics for the year 2000, Biennial Report 1999/2000, was specifically obtained through the website link at <https://portal.chicagopolice.org/portal/page/portal/ClearPath/News/Statistical%20Reports/Annual%20Reports/9900AnnualReport.pdf>. For each participant, his or her address was used to geocode the particular community area to which he or she belonged. Online websites such as “<http://maps.google.com/>” and “[http://www.zipmap.net/Illinois/Cook\\_County/Chicago.htm](http://www.zipmap.net/Illinois/Cook_County/Chicago.htm)” were used to identify community areas that matched the address of each participant. A total of 42 out of 77 community areas were represented within this sample. Once the community area was identified for each participant, the subsequent available community level violent crime score was obtained. The violent crime statistics provided incidences of murder, criminal sexual assault, robbery, aggravated assault/battery, burglary, theft, motor vehicle theft, and arson occurring within each of these 42 communities in Chicago. The raw total scores were then transformed into Z scores, with standardized means and standard deviations. Higher scores represented greater

exposure to community violence. Inter-rater reliability was also established by having another member of the research team check identification of and rates for community areas for portion of the data (30% of sample). A Kappa of 1 was found indicating a perfect agreement.

### Segregation

Stress related to segregation was also gathered using the 2000 census data available through the U.S. Census Bureau website (U.S. Bureau of the Census, 2000b). For each participant, his or her address was used to geocode the particular census tract to which he or she belonged. As described above, a total of 151 census tracts were represented within this sample. Each census tract was linked to information about participants living within that area. This database was accessed through the Census Bureau website link at <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. On the website, the option “Decennial Census” located on the bottom right was first selected. Next, the option “Geographies” was used to select “Census Tract” which included specifying “Illinois” under state, “Cook” under county, and “All census tracts within Cook County, Illinois.” This was followed by selecting “Topics” found on the bottom left side of the website. Within the search option, the file name “Race Alone or in Combination: 2000 Census 2000 Sum File 1(SF 1) 100-Percent Data” was entered. This documented was saved in Microsoft Excel and relevant segregation-related information such as the percentage of African Americans living within each tract was extracted (U.S. Bureau of the Census, 2000a). The rationale behind using such information as a proxy for segregation stressors is that it provides current evidence of long-standing institutional discrimination faced by ethnic African Americans that led to systematic segregation within poor urban neighborhoods (Massey, 1990; Massey & Denton, 1996; Trifun, 2009). After acquiring such information, the census tract variable was recoded by transforming

the acquired information about this variable from each census tract to Z scores with standardized means and standard deviations. Higher scores represented greater exposure to discrimination/segregation. Inter-rater reliability was established by having another member of the research team check portion of the data (30% of sample) obtained through this database.

A perfect Kappa agreement was found for this specific variable (1).

### Protective Factors

To assess protective factors, an interview with open-ended questions was created for this study. During the introduction of this interview, participants were read a statement about the concept of protective factors. Interviewers were instructed to allot as much time as necessary to ensure participants fully understood this concept. When this was accomplished, participants were asked broad questions that led to more specific questions. In particular, participants were initially asked about protective factors available across domains. These were followed by questions about factors found at the individual, family, school, and neighborhood level. Questions and probes are listed below.

“Now I want you to tell me all the things you can think of that might protect people your age from stressors.” (After the participant has provided a list of potential protective factors, probe each protective factor mentioned, using the following probes)

PROBE 1: What is it about this that you think would protect people your age from the effects of stressors?

PROBE 2: Is this something that has helped you deal with stressors? Why or why not?

Responses from the interviews were transcribed word for word for the qualitative analysis. Qualitative analysis was conducted at DePaul University by a team of coders. A system designed by doctoral student, Russell Carlton, was used to organize responses on each protective

factor from all four categories into the following domains: “who,” “what/why,” “where,” and “when.” Consensus agreement was used to ensure reliability for this entire data set. In particular, two individual coders independently coded each protective factor interview and then came together to achieve consensus in placing responses of participants within these domains. When there were disagreements between two coders, the entire research team working on this particular project was consulted to reach final agreement.

Aside from the qualitative classification of protective factors, whether or not participants used each protective factor was rated on a scale of 0 to 5. When participants did not mention a protective factor, it was rated as 0. When they mentioned a protective factor but did not endorse using a strategy personally, it was rated as 1. When they mentioned a protective factor and endorsed using it to deal with their own stress, response ratings varied from 2 to 5, ranging from low to high use of a strategy. For the purpose of this study, protective factors were dichotomized as 0 or 1. In particular, the initial response of 0 remained as 0, while responses ranging from 2 to 5 were recoded as 1. The original response of 1 was coded as 0 because participants did not personally endorse using the particular protective factor.

For the purpose of this study, use of responses from categories described above was also restricted to those which closely matched how protective factors have been defined in this study. Individually-based protective factors represented endorsement of problem-solving strategy which involved actively engaging in solving problems (coded as Problem Solve). Family-based protective factor was comprised of a Any Family score which included any responses related to family (coded as Family), home (coded as Home), a mother figure (coded as Momlike Figure), or father figure (coded as Dadlike Figure).

Additionally, community-based protective factors comprised religious institution-based protective factor and educational institution-based protective factor. The religious institution-based protective factor score included any faith and community-related responses such as those that described 1) relying on God or religion (prayer, religious services religious leaders) (coded as God) or 2) receiving support from a community (coded as Community) or 3) participating in something bigger than the self (coded as Big Picture). The educational institution-based protective factor score encompassed any school-related responses such as receiving support from a school setting (coded as School) or from experts (e.g., teachers, counselors) within that setting (coded as Expert). Not everyone from the original study participated in this interview portion of the data collection. As a result, the (n) size for the protective factor data was lower (286) compared to the total number of youth participating in this research project (384).

### Mental Health Outcomes

Total psychological symptoms were assessed using the Youth Self Report (YSR; Achenbach, 1991b). The YSR includes 119 behavior items, which adolescents rate on a 3-point scale as not true (1), somewhat or sometimes true (2), or very true or often true (3) of themselves during the previous 6 months. The YSR consists of two empirically derived broad-band subscales: internalizing and externalizing subscales. Internalizing subscale items include “I feel nervous or tense,” “I feel worthless or inferior,” and “I cry a lot.” Externalizing subscale items include, “I get into many fights,” “I physically attack people,” and “I threaten to hurt people.” Normative data for the YSR are based on a nationally representative community sample of adolescents, with separate norms for boys and for girls. Reliability and validity are well established for the YSR (Achenbach, 1991b). In the current sample, internal consistency reliabilities for both the internalizing ( $\alpha=.89$ ) and the externalizing ( $\alpha=.88$ ) scales were good.

Parent reports of total psychological symptoms were also assessed using the Child Behavior Checklist (CBCL; Achenbach, 1991a). The structure of the CBCL is analogous to the structure of the YSR (described above). Reliability and validity of the CBCL are well-established (Achenbach, 1991a). In the current sample, internal consistency for the externalizing scales ( $\alpha=.91$ ) and the internalizing scales ( $\alpha=.87$ ) were good.

## CHAPTER III

## RESULTS

Descriptive Analyses

Descriptive analyses were conducted to calculate the overall means and standard deviations for each variable (see Table 2). In this sample, unemployment at the tract level ranged from 0% to 64.5% with a mean of 7.28% ( $SD= 7.18$ ), which is higher than the mean national unemployment rate (i.e. 4%) reported for the year 2000 (U.S. Bureau of Labor Statistics, 2011; U.S. Bureau of the Census, 2000d). Public assistance received at the tract level ranged from 0% to 35% with a mean of 9.9% ( $SD= 10.88$ ), which also is higher than nationally reported rates of public assistance (i.e. 3.4%) for the year 2000 (U.S. Bureau of the Census, 2000d).

The median household income (including all households) ranged from \$4,602 to \$ 94,471 ( $\bar{x}= \$37,169$ ;  $SD= \$18,314$ ) and the median family income (including households with two or more persons related through blood, marriage or adoption), ranged from \$695 to \$182,038 ( $\bar{x}= \$42,928$ ;  $SD= \$27,316$ ) at the tract level. In this sample, 31% of participants had median household incomes less than or equal to \$30,000, 81% of participants had median household income less than or equal to \$50,000, and 3.5% of participants had median household incomes more than or equal to \$70,000. Additionally, 31 % of participants had median family incomes less than or equal to \$25,000, 71% of participants had median family incomes less than or equal to \$50,000, and 5% of participants had median family incomes more than or equal to \$90,000. In general, the average median household income was lower than the median family income within this sample. The average median household income in this sample was also lower than the reported average national median household income, while the average median family income was higher than what was reported at the national level for the year 2000 (U.S. Bureau of the

Census, 2000d). These four poverty related items (i.e. unemployment, public assistance, median household income, median family income) were standardized and combined to tabulate a total poverty score.

The percentage of African Americans at the tract level ranged from 0% to 99% ( $\bar{x}$  = 35%,  $SD$  = 36). This figure was used to measure stress related to facing segregation. Lastly, the mean score for police community level violent crimes ranged from 364 to 9528 ( $\bar{x}$  = 5315,  $SD$  = 3136) incidences during a period of one year.

As described in the methods section, all moderator variables were dichotomized as 0 (absent) or 1 (present). For educational institution-based protective factors, an Any School variable ( $\bar{x}$  = 0.58,  $SD$  = 0.50) was tabulated by combining the responses for School ( $\bar{x}$  = 0.52,  $SD$  = 0.50) and Expert ( $\bar{x}$  = 0.36,  $SD$  = 0.48). For religious institution-based protective factors, a Any Religion ( $\bar{x}$  = 0.45;  $SD$  = 0.50) variable was tabulated by combining endorsement of Community ( $\bar{x}$  = 0.42;  $SD$  = 0.50), Big Picture ( $\bar{x}$  = 0.07,  $SD$  = 0.26), and God ( $\bar{x}$  = 0.05,  $SD$  = 0.21).

Individually-based and family-based protective factors were also dichotomized as 0 (absent) or 1 (present). These variables were used to test indirect effects and additionally as moderator variables for supplemental analysis. The Any Family score ( $\bar{x}$  = 0.66;  $SD$  = 0.47) was tabulated by combining endorsement of the following family-based protective factors: Family ( $\bar{x}$  = 0.66;  $SD$  = 0.47), Home ( $\bar{x}$  = 0.64;  $SD$  = 0.48), Mom-like figure ( $\bar{x}$  = 0.30;  $SD$  = 0.46), and Dad-like figure ( $\bar{x}$  = 0.22;  $SD$  = 0.41). Individually-based protective factor consisted of Problem-Solve strategy ( $\bar{x}$  = 0.20;  $SD$  = 0.40).

On the YSR, the average internalizing score was 10 ( $SD$  = 7.6), with 5.5% of boys and 12% of girls found to be at or above the borderline clinical cut-point ( $T \geq 60$ ). The mean externalizing score was 10 ( $SD$  = 7), with 17% of boys and 11% of girls found to be at or above

the borderline clinical cut-point ( $T \geq 60$ ). Attrition data for this measure from Time 1 to Time 2 data collection can also be found in Table 4.

On the CBCL, the mean parent-reported externalizing score was 6 ( $SD=12$ ), with 3% of boys and 5% of girls found to be at or above the borderline clinical cut-point. The mean parent-reported internalizing score was 6 ( $SD=6$ ), with 13.5% of boys and 8.5% of girls found to be at or above the borderline clinical cut-point ( $T \geq 60$ ). Attrition data for this measure from Time 1 to Time 2 data collection can also be found in Table 4.

Correlations among stressors, moderators, psychological outcomes and indirect effects variables are displayed in Table 3. Exposure to community violence was positively correlated with stress related to poverty ( $r = 0.43, p < .01$ ) and segregation ( $r = .66, p < .01$ ). Segregation was positively correlated with poverty ( $r = .31, p < .01$ ). Surprisingly, poverty and segregation were not significantly correlated with psychological outcomes.

Religious institution-based protective factor Any Religion was negatively correlated with exposure to community violence ( $r = -0.24, p < .01$ ), and stress related to segregation ( $r = -0.18, p < .01$ ). Family-based protective factor Any Family was negatively associated with exposure to community violence ( $r = -0.16, p < .05$ ) and stress related to segregation ( $r = -0.21, p < .01$ ).

Community-based protective factors, Any Religion and Any School, were correlated with each other ( $r = 0.30, p < .01$ ). Family-based protective factor Any Family was correlated with community-based protective factors, Any Religion ( $r = 0.27, p < .01$ ) and Any School ( $r = 0.26, p < .01$ ). It was also correlated with individually-based factor, Problem Solve ( $r = 0.13, p < .05$ ). Individually-based protective factor Problem Solve was associated with Any School ( $r = 0.12, p < .05$ ).

Table 2  
*Means and Standard Deviations of Predictors, Moderators, Indirect Pathway Variables, and Outcome Variables*

	Minimum	Maximum	$\bar{X}$	S	N
<u>Stressors</u>					
Total Poverty					
Percentage Unemployed	0	64.50	7.28	7.18	374
Median Household Income	\$4602	\$94,471	\$37,169	\$18,314	374
% People on Public Assistance	0	35.30	9.93	10.88	374
Median Family Income	\$695	\$182,038	\$42,928	\$27,316	374
Percentage African American (Segregation)	0	99	35	36	374
Total Violent Crimes	364	9528	5315	3136	374
<u>Community Protective Factors</u>					
Any School	0	1	0.58	0.50	286
School	0	1	0.52	0.50	286
Expert	0	1	0.36	0.48	286
Any Religion	0	1	0.45	0.50	286
Community	0	1	0.42	0.50	286
Big Picture	0	1	0.07	0.26	286
God	0	1	0.05	0.21	286
<u>Individual and Family Protective Factors</u>					
Individually-based Protective Factor					
Problem-solve	0	1	0.20	0.40	286
Any Family-based Protective Factor	0	1	0.66	0.47	286
Family	0	1	0.66	0.47	286
Mother Figure	0	1	0.30	0.46	286
Father Figure	0	1	0.22	0.41	286
Home	0	1	0.64	0.48	286
<u>Psychological Outcomes</u>					
YSR Total Psychological Symptoms Wave 1	0	122	41	23	384
YSR Total Psychological Symptoms Wave 2	1	95	28	17	283
CBCL Total Psychological Symptoms Wave 1	0	129	23	20	251
CBCL Total Psychological Symptoms Wave 2	0	204	17	20	193

Note: YSR= Youth Self-Report Form, CBCL= Child Behavior Checklist

Lastly, no protective factors were correlated with parent or youth reported Time 1 or Time 2 total psychological symptoms. All psychological outcomes were also correlated with one another.

Table 3  
*Correlations among Predictors, Moderators, Indirect Pathway Variables, and Outcomes*

	1	2	3	4	5	6	7	8	9	10	11
1.Total Poverty											
2.Total Violent	.43**										
3.Segregation	.31**	.66**									
4.Any Religion	-.00	-.24**	-.18**								
5.Any School	.02	.03	.00	.30**							
6.Any Family	-.03	-.16*	-.21**	.27**	.26**						
7.Problem Solve	-.01	-.02	.01	.05	.12*	.13*					
8.YSR Total (T1)	-.01	.06	.08	.01	.02	.05	.05				
9. YSR Total (T2)	.08	.00	-.01	.05	.06	.09	-.02	.52**			
10.CBCL Total (T1)	-.05	-.03	.01	-.14	-.11	-.05	.01	.41**	.23**		
11.CBCL Total (T2)	.01	-.07	-.08	-.12	-.05	.01	.00	.28**	.31**	.50**	

Note: YSR= Youth Self-Report Form, CBCL= Child Behavior Checklist

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

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

Table 4  
*Attrition Rates for Psychological Outcomes from Time 1 to Time 2*

Measure- Wave 1	Missing	Valid n	Measure - Wave 2	Missing	Valid n
YSR TOTPROB1	8	384	YSR TOTPROB2	109	283
CBCL TOTPROB1	141	251	CBCL TOTPROB2	193	199

## Tests of Hypotheses

### Hypothesis I

Hypothesis I predicted that community-based protective factors would moderate the relationship between community-based stressors and psychological symptoms in urban adolescents such that the relation between Time 1 community-based stressors and Time 2 psychological symptoms would be attenuated for youth reporting the presence of Time 1 community-based protective factors. To address this hypothesis, hierarchical linear regression analysis was conducted using the methodology recommended by Baron and Kenny (1986). First, the community-based stressors, which served as the independent variables, were converted into Z scores. The moderator variables or protective factors were dichotomous variables representing presence (1) or absence (0) of protective factors in participant's life. A series of interaction terms were then created by multiplying each community-based stressor by each protective factor. In each regression, the independent variable (Time 1 stressor) was entered first followed by the control variable (youth and parent reported Time 1 psychological symptoms) followed by the interaction between Time 1 stressor and Time 1 moderator. If any equations revealed that unique variance in the dependent variable (youth and parent reported Time 2 psychological symptoms) was accounted for by the interaction term then moderation was established for that analysis. In such cases, post hoc analyses were conducted to determine the nature of moderating effects<sup>1</sup>.

When hypothesis Ia was tested, results of the hierarchical regression analyses described above revealed no main effect for poverty nor any main effect for religious institution-based protective factor (i.e. Any Religion) on youth or parent reported Time 2 total psychological symptoms. Furthermore, religious institution-based protective factor was not found to moderate the relationship between poverty and Time 2 youth or parent total psychological symptoms.

Results of analyses testing hypothesis 1b found a main effect between exposure to community violence on youth reported Time 2 total psychological symptoms, but none was found between exposure to community violence on parent reported Time 2 total psychological symptoms. No main effect was also found between religious institution-based protective factor (i.e. Any Religion comprised of using any of religion-based strategies) and youth or parent Time 2 total psychological symptoms. When Any Religion was moderated between exposure to community violence and youth reported Time 2 total psychological symptoms, no protective effect was found. However, a moderating role of Any Religion was found between exposure to community violence and parent reported Time 2 total psychological symptoms ( $R^2=0.25$ ,  $F(4, 95)=7.55$ ,  $p<0.05$ ) (See Table 5 and Figure 1). In particular, urban youth exposed to high levels of exposure to violence that used any religious-based strategy exhibited lower levels of parent reported Time 2 total psychological symptoms. When post-hoc probing was tested using method recommended by Holmbeck (2002), individual slopes were found to be significant.

Figure 1  
*Exposure to Community Violence, Any Religion, & Parent Reported Total Psychological Symptoms- Significant Finding*

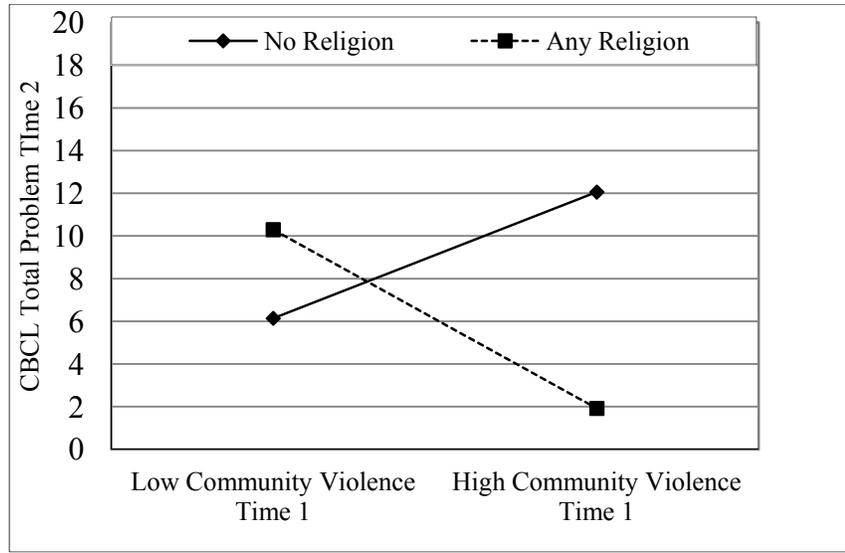


Table 5  
*Exposure to Community Violence, Religious Institution-based Protective Factors, and Parent Reported Total Psychological Symptoms- Significant Finding*

Hyp	Predictors	B	SE B	$\beta$	t	SS
Step 1	CBCL Total Problem Time 1	0.40	0.09	0.43*	4.62	5390
	Exposure to Community Violence (CV)	- 0.62	1.55	-0.04	- 0.40	
Step 2	Any Religion	- 3.33	3.08	-0.10	-1.08	6493
	CBCL Total Problem-Time 1	0.46	0.09	0.49	5.18	
	Exposure to Community Violence (CV)	2.96	2.19	0.18	1.35	
	Any Religion (AR)	- 2.99	3.02	- 0.09	-0.99	
	CV and AR Interaction	-7.15	3.16	- 0.30*	-2.27	

Note: CBCL= Child Behavior Checklist, CV=Exposure to Community Violence, \*p<.05; \*\*p<.01  
 Any Religion=Any use of religious strategies- Community, Big Picture, and God

When hypothesis 1c was examined, results of the hierarchical regression analyses described above revealed no main effect for segregation nor any main effect for religious institution-based protective factor (i.e. Any Religion) on youth or parent reported Time 2 total psychological symptoms. Religious institution-based protective factor (i.e. Any Religion) was also not found to moderate the relationship between exposure to segregation and youth or parent Time 2 total psychological symptoms.

Next, results of analyses testing hypothesis 1d revealed a main effect of poverty on youth reported Time 2 total psychological symptoms, but no main effect was evident for educational institution-based protective factor (i.e. Any School) on parent reported total psychological symptoms reported at Time 2. However, Any School was found to moderate the relationship between poverty and youth reported total psychological symptoms ( $R^2=0.31$ ,  $F(4,199)=21.41$ ,  $p<0.05$ ) (See Table 6 and Figure 2). Post-hoc probing was also tested using method recommended by Holmbeck (2002). Individual slopes were found to be significant using this methodology. When the interaction effect was plotted, a protective reactive effect emerged (See Figure 2). In particular, while youth exposed to low levels of poverty exhibited lower levels of youth reported total psychological symptoms in the presence of the protective factor Any School (i.e. relying on school-based support), as levels of poverty increased, they exhibited higher levels of youth reported Time 2 total psychological symptoms. On the other hand, no protective effect of Any School was found between poverty and parent reported Time 2 total psychological symptoms.

Figure 2  
*Poverty, Any School, and Youth Reported Total Psychological Symptoms- Significant Finding*

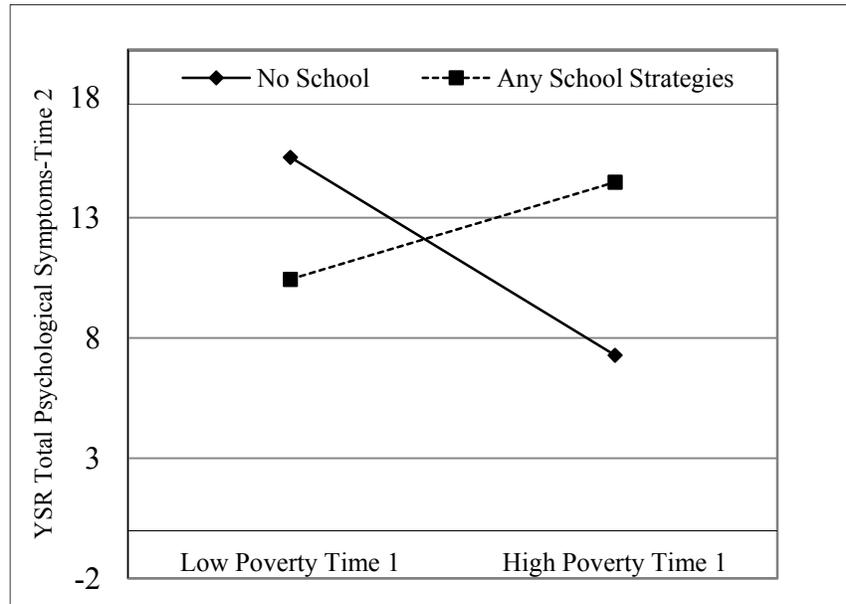


Table 6  
*Poverty, Educational Institution-based Protective Factors, and Youth Reported Total Psychological Symptoms- Significant Finding*

Hyp	Predictors	B	SE B	$\beta$	t	SS
Step 1	YSR Total Problem- Time 1	0.41	0.05	0.53*	8.61	15929
	Total Poverty	- 2.38	1.02	-0.14*	-0.05	
	Any School	1.07	2.09	0.03	0.51	
Step 2	YSR Total Problems-Time 1	0.41	0.05	0.52**	8.64	17403
	Total Poverty	-11.53	5.20	-0.23*	-2.22	
	Any School	1.06	2.07	0.03	0.51	
	Poverty and School Interaction	17.19	6.38	0.28**	2.69	

Note: YSR= Youth Self Report Form, Any School=School, Expert  
 \*p<.05; \*\*p<.01

Results of analyses testing hypothesis 1e revealed a main effect of exposure to community violence on youth reported Time 2 total psychological symptoms, but no main effect was evident for exposure to community violence on parent reported Time 2 total psychological symptoms. Additionally, no main effect of educational institution-based protective factor (i.e. Any School) on youth or parent reported Time 2 total psychological symptoms was found. When endorsement of educational institution-based protective factor (i.e. Any School) was moderated between exposure to community violence and youth reported Time 2 total psychological symptoms, a significant interaction effect was found ( $R^2=0.32$ ,  $F(4,199)=22.64$ ,  $p<0.05$ ) (See Table 7 and Figure 3). Post-hoc probing was also tested using method recommended by Holmbeck (2002). Individual slopes were found to be significant using this methodology. When this interaction effect was plotted, it showed that while endorsement of educational institution-based protective factor was associated with lower levels of youth reported Time 2 total psychological problems at low levels of community violence, no endorsement of educational institution-based protective factor (i.e. Any School) was associated with even lower rates of youth reported Time 2 total psychological problems as levels of stress increased. On the other hand, no protective effect of Any School was found between exposure to community violence and parent reported Time 2 total psychological symptoms.

Figure 3  
*Exposure to Community Violence, Any School, & Youth Reported Total Psychological Symptoms- Significant Finding*

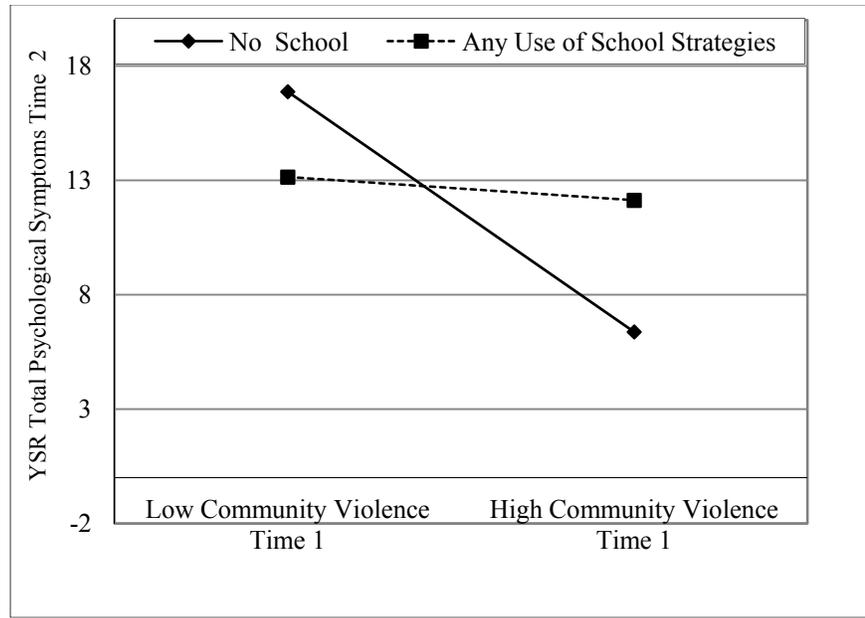


Table 7  
*Exposure to Community Violence, Educational Institution-based Protective Factors, and Youth Reported Total Psychological Symptoms- Significant Finding*

Hyp	Predictors	B	SE B	$\beta$	t	SS
Step 1	YSR Total Problem- Time 1	0.42	0.05	0.53*	8.82	5325
	Exposure to Community Violence (CV)	-2.38	1.02	-0.14*	-2.33	
	Any School	1.37	2.07	0.04	0.66	
Step 2	YSR Total Problems-Time 1	0.41	0.05	0.52*	8.80	5377
	Exposure to Community Violence (CV)	-5.25	1.61	-0.31*	-3.27	
	Any School (AS)	1.01	2.06	0.03	0.49	
	CV & AS Interaction	4.74	2.07	0.22*	2.30	

Note: YSR= Youth Self Report Form, CV=Exposure to Community Violence, TS=Any School  
 \*p<.05; \*\*p<.01

Lastly, when hypothesis If was examined, results of the hierarchical regression analyses demonstrated no main effect of exposure to segregation on youth or parent Time 2 total psychological symptoms or educational institution-based protective factor (i.e. Any School) on youth and parent Time 2 total psychological symptoms. Educational institution-based protective factor was also not found to moderate the relationship between exposure to segregation and youth or parent Time 2 total psychological symptoms.

### Supplemental Analyses I

Additional analyses were conducted to examine the potential role of individually-based and family-based protective factors in moderating the effects of community-based stressors on youth and parent Time 2 total psychological symptoms. No main effect was found for poverty or segregation on youth or parent Time 2 total psychological symptoms. A main effect of exposure to community violence on youth reported Time 2 total psychological symptoms was found, but no main effect was found between exposure to community violence and parent reported Time 2 total psychological symptoms. Individually-based protective factor was also not found to moderate the relationship between the three types of community-based stressors (i.e. poverty, exposure to community violence, exposure to segregation) and parent or youth reported Time 2 total psychological symptoms.

Similarly, when family-based protective factor was examined, no main effect was found for community-based stressors (i.e. poverty, exposure to community violence or segregation) on youth or parent Time 2 total psychological symptoms. Family-based protective factor (i.e. Any Family) was also not found to moderate the relationship between the three types of community-based stressors (i.e. poverty, exposure to community violence, exposure to segregation) and parent or youth reported Time 2 total psychological symptoms.

### Supplemental Analyses II

Per request by members of the dissertation committee, additional analyses examining the moderating role of each community-based protective factor on psychological symptoms when all three community level stressors (i.e. total poverty, exposure to community violence, and segregation) included in the same equation were run using hierarchical regression analyses. No significant results emerged. Both educational institution-based protective factor (i.e. Any School) and religious institution-based protective factor (i.e. Any Religion) were not found to moderate the relationship between community level stressors and youth or parent reported Time 2 total psychological symptoms.

Additionally, SEM modeling was conducted using AMOS-20 program to test moderation effects of community-based protective factors in a more comprehensive model with all three community-based stressors and broad-band psychological scales (i.e. externalizing and internalizing symptoms). While the model obtained relatively adequate fit statistics, no significant findings for the moderating role of educational institution- and religious institution-based protective factors were found.

### Supplemental Analyses III

When Bonferroni correction was applied to account for the main multiple regression tests (n=12) run for this study, the three significant findings found in the main analyses disappeared. More specifically, when the p value of 0.05 was adjusted to 0.004 based on Bonferroni's correction, no moderating role of community-based protective factors was indicated.

### Supplemental Analysis IV

Power analysis was conducted to figure out the appropriate sample size required when running moderator for this study. Aguinis and colleagues (2005) have suggested that average

effect size in tests of moderation is 0.009. The range for effect sizes has been described as being typically lower than Cohen's standard for effect sizes. It includes 0.005 for small, 0.01 for medium, and 0.025 for a large effect size. When power analysis was conducted using this range for effect sizes, the following sample sizes were required according to average ( $n=1202$ ), small ( $n=2160$ ), medium ( $n=1082$ ) and large effects ( $n=436$ ) for this study. Such results suggest of the need for a larger sample size to have enough power (0.80) to detect significant effects.

Additionally, estimates outlined by Fritz and MacKinnon (2007) were also used to calculate sample size needed to have enough power to detect significant indirect effects when conducting the Sobel test. According to their guideline, when path  $a$  and  $b$  each has an effect size of .14, a sample size requirement of 667 is necessary. Similarly, 0.26 effect size for path  $a$  and  $b$  yielded sample size requirement of 196, 0.39 effect size for each path  $a$  and  $b$  yielded sample size requirement of 90, and 0.59 effect sizes for  $a$  and  $b$  effect yielded a sample size requirement of 42.

### Hypothesis II

Hypothesis II predicted that family-based protective factor serves as an indirect path linking religious institution based protective factor and reduced psychological symptoms in urban adolescents exposed to community based stressors. To test hypothesis II, steps recommended by Mackinnon and colleagues (2002) were used to examine any plausible significant indirect effect. The indirect effect comprises of the product of ( $a$ ) and ( $b$ ). First, the independent variable was regressed on indirect effect variable to obtain ( $a$ ). Second, indirect effect variable was regressed on dependent variable controlling for the independent variable to obtain ( $b$ ). Next, the Sobel test (1982) was used to test significance of the indirect effect by determining whether it is statistically different from 0. In particular, the product of ( $ab$ ) was

divided by standard errors for  $(a)$  and  $(b)$  to get the critical ratio and  $p$  value. Because the family variable was dichotomous, macros for logistic regression obtained from Nathaniel Herr's website (<http://www.nrpsych.com/mediation/logmed.html>) were used to run analyses with appropriate regression coefficients and standard errors. Results from this test revealed no significant indirect effect of family-based protective factor in linking religious institution-based protective factor to reduced youth or parent Time 2 total psychological symptoms.

### Research Questions

Question I also asked whether individually-based protective factor would serve as indirect path linking educational institution-based protective factor and reduced psychological symptoms in urban youth exposed to community-based stressors. To examine Question I, steps recommended by Mackinnon and colleagues (2002) were used to examine indirect effect. The indirect effect comprises the product of  $(a)$  and  $(b)$ . First, the independent variable was regressed on indirect effect variable to obtain  $(a)$ . Second, indirect effect variable was regressed on the dependent variable controlling for the independent variable to obtain  $(b)$ . Next, the Sobel test (1982) was used to test significance of the indirect effect by determining whether it is statistically different from 0. The product of  $(ab)$  was divided by standard errors for  $(a)$  and  $(b)$  to get the critical ratio and the  $p$  value. The result of this test revealed no significant indirect effects of individually-based protective factor in linking the educational institution-based protective factor to reduced youth or parent reported Time 2 total psychological symptoms in urban youth.

## CHAPTER IV

## DISCUSSION

Many urban adolescents are exposed not only to individually-based and family-based, but also chronic community-based stressors (Dubois et al., 1994; Felner et al., 1995), which place them at increased risk for experiencing negative mental health outcomes (Attar et al., 1994; Dubois et al., 1994; Leventhal & Brooks-Gunn, 2000; McLoyd, 1998; Wadsworth & Berger, 2006; Wadsworth, Raviv, Compas & Connor-Smith, 2005). In the presence of chronic community-based stressors, traditional individually-based and family-based protective factors are often compromised (Dempsey et al., 2000; Edlynn et al., 2008; Gonzales & Kim, 1997; Hammack et al., 2004; Kliwer et al., 2004; Kliwer & Kung, 1998; Miller et al., 1999; Sullivan et al., 2004; White et al., 1998; Youngstrom et al., 2003). This study had as its primary aim to test the hypothesis that protective factors at the community-level would be more powerful than those at the family or individual level to protect urban youth from the negative psychological consequences of community-level stressors. A second aim of this study was to explore whether family or individually-based factors might serve as possible indirect pathways in promoting any positive effects found for community-based protective variables. Results of analyses conducted to address these aims are summarized and discussed below.

#### Moderating Role of Individually-, Family-, and Community-based Protective Factors

To address the first goal of this study, hypothesis I predicted that community-based protective factors would moderate the relationship between community-based stressors and psychological symptoms in urban adolescents. Some support for this hypothesis was found in this study. Out of twelve equations tested, three moderating effects emerged across community-

based protective factors. No moderating effects were found for family- and individually-based protective factors when twelve supplemental tests were conducted.

At the community level, the religious institution-based factor (i.e. Any Religion or any endorsement of religious and community-based strategies such as receiving support from a community, believing in something bigger than the self and others, and relying on God) was found to lessen the impact of exposure to community violence on parent reported Time 2 total psychological symptoms. On the other hand, the educational institution-based factor (i.e. Any School or any school-based supports) was found to be less effective in protecting youth from community-based stressors. In particular, educational institutional-based factor Any School was found to exacerbate the relationship between poverty and youth reported Time 2 total psychological symptoms. Additionally, the absence of educational institution-based factor was linked to decreases in psychological symptoms as exposure to community violence increased.

#### Individually-based Protective Factors

Arguing hypothesis of this study was that individually-based protective factors would have a limited role in protecting urban youth from community-based stressors. Consistent with this, active forms of coping in which youth actively engaged in problem-solving was not found to be protective. This finding is consistent with some literature which similarly has not found use of active coping to be helpful for urban youth faced with community-based stressors (Edlynn et al., 2008; Rosario et al., 2008). One interpretation of the current finding is that actively trying to solve problems when youth are faced with uncontrollable community-based stressors such as poverty and community violence is not necessarily effective (D'Imperio et al., 2000; Edlynn et al., 2008; Rosario et al., 2008). It may be that an individual response is somewhat limited in its ability to meet demands placed by community-based stressors which are multifaceted and affect

many aspects of one's life. Additionally, community-based factors tend to be chronic in nature. In the context of unchanging circumstances, putting forth continued personal effort may be physically, emotionally, and psychologically taxing over time. It may also call into question one's ability to maintain control over one's environment (D'Imperio et al, 2000).

### Family-based Protective Factors

Next, this study also did not find a moderating effect of family in the relationship between community-based stressors and youth or parent reported Time 2 total psychological problems. This finding adds support to a body of literature which has similarly shown a limited protective role of family in low income urban samples (Benhorin & McMahon, 2008; Hammack, Richards, Luo, Edlynn, & Roy, 2004; Kliewer et al., 2004; Li, Nussbaum, & Richards, 2007; Miller et al., 1999; White, Bruce, Farrell & Kliewer, 1998; Youngstrom, Weist, & Albus, 2003). One interpretation of this finding which is consistent with prior literature is that families of youth living in high stressed communities often experience similar types of stressors as their children (Ceballo & McLoyd, 2002; Li et al., 2007; Wickrama & Bryant, 2003). Caregiver's exposure to community based stressors such as poverty has detrimental effects on the family systems (i.e. parent's mental health, parental relationship with one another, parent relationship with children), which in turn, may decrease caregiver's ability to help youth deal with community-based stressors (Conger et al., 1992; 1993; Conger et al., 1994; Conger, Wallace, Sun, Simons, Ge et al., 2002; McLoyd, 1990; 1998; McLoyd et al., 1994; Tschann et al., 1989).

### Community-based Protective Factor: Religious Institutions

As hypothesized, some moderating effects of community-based protective factors were found in this study. In particular, endorsement of Any Religion (i.e. endorsement of strategies such as receiving support from community, believing in something greater than oneself or others,

and having faith in God) seems to benefit youth by reducing the effect community violence has on parent reported Time 2 total psychological symptoms. This finding is consistent with prior studies which have documented associations between religious involvement and positive outcomes in general (Greening & Stoppelbein, 2002; Pearce et al., 2003; Rew et al., 2001) and urban youth in particular (Ball, Armistead & Austin, 2003; Carothers et al., 2005; Cook, 2000; Powell, 1997). It is also consistent with a small handful of cross-sectional studies and one longitudinal moderation study indicating that aspects of religiosity can attenuate the relationship between exposure to stressors and negative psychological outcomes (Grant et al., 2000; Jones, 2007; Pearce et al., 2003).

One interpretation of this finding may be that social capital available through religious community increases socialization of pro-social norms and adult monitoring. An inverse relationship between collective socialization and psychological symptoms in youth has been noted in the broader literature (Simons, Simons, Conger, & Brody, 2004). Prior literature has also highlighted a positive role of an extensive social network and supportive relationships in promoting well-being in urban youth (Brodsky, 2000; Carleton et al., 2008; Grant et al., 2000). It may be that in the context of exposure to community violence, having additional social network provides greater opportunity to talk to others about witnessing or experiencing violence in their community (Kliewer, Kepore, Oskin, & Johnson, 1998).

Another explanation for the current finding is that participation in religious activities that promote faith or belief in something greater than oneself or others may provide youth with a protective framework that promotes comfort, safety, and some sense of control in their chaotic, violent environment through trust in an all-powerful, all-loving God. It may also provide a framework which encourages pro-social norms such as altruistic behavior, kindness, and

forgiveness towards others (Johnson, Jang, Larson, & Li, 2001). With internalization of these norms and an established emotional connection to God, self-imposed guilt and shame may protect them from developing behavior problems (Johnson et al., 2001; Johnson, Larson, Jang, & Li, 2000).

Additionally, when the protective effect of religion was plotted in this current study, it showed that at low levels of stress related to community violence, endorsement of any religious institution-based factor was found to be associated with higher parent reported total psychological problems in comparison to those youth who did not endorse using this strategy. The difference in symptoms between low and high levels of religion at low exposure to violence was smaller than difference at high exposure to violence. The slightly higher symptoms found when religion was endorsed at low levels of stress suggests that perhaps at this level of stress, too much involvement from community or a framework promoting faith in something outside oneself may be counterproductive to building youth's sense of mastery and ability to manage themselves in their environment. However, when exposure to community violence increases, youth need community to provide the support to manage chaos in their environment or to believe a framework in something greater than themselves such as God in order to accept not having a control over their environment.

#### Community-based Protective Factor: Educational Institutions

Another community-based protective factor of interest in this study was educational institution-based factors. As highlighted above, while two moderating effects were found, these effects were generally not protective in nature. In particular, endorsement of relying on any school-based support (i.e. Any School) was found to exacerbate the effect of poverty on youth reported total psychological problems at Time 2. This finding is inconsistent with one of the only

studies using a low-income sample which found support from adults at school to buffer youth from negative psychological outcomes associated with poverty (neighborhood disadvantage) (Dubois et al., 1994).

When this moderating effect is examined more closely through plotting it, it appears that under low levels of poverty, school-based supports seem to be linked to lower rates of youth reported total psychological outcomes compared to those youth who did not endorse using this strategy. This pattern suggests that schools may be able to promote positive effects under lower levels of poverty. This study also found that as levels of poverty increased, protective effects of school disappeared. One explanation for such a finding may be that while educational institutions can provide support to urban youth at low levels of stressors it may become more difficult to continue promoting such effect when resources become depleted under chronic and high levels of stressors. Some studies on social support and chronic poverty have found this to be true (D'Imperio, Dubow, & Ippolito, 2000, Lepore Evans, & Schneider, 1991). In the particular case of educational institution, a common way in which this may get manifested is the financial strain which results from chronic community-level poverty. In general, schools in these low-income neighborhoods are at a disadvantage as to how much money is allotted to them per student because funding for this social institution still remains primarily based in local property taxes (Biddle & Berliner, 2002). Additionally, when other social institutions and more proximal systems essential to the well-being of youth may not be functioning well due to the trickle down effects of poverty, further burden may be placed on the educational system. Within this context, schools not only provide education, but they may also fulfill basic physical, psychological, and other safety needs of their students. With limited resources and increased demands placed on this social institution, community-based factors are likely to become less effective (Wickerama &

Bryant, 2003). For example, it is not uncommon to witness teacher burn out and high staff turnover rate in low-income urban school settings (Guin, 2004). When schools become as disorganized and chaotic as other aspects of youth's environment, it may explain the current finding which displays that school can exacerbate the effects of poverty on total psychological symptoms in urban youth.

Secondly, relying on school-based support also had a limited role in the presence of exposure to community violence. Under low levels of exposure to community violence, youth that endorsed school-based support had lower total psychological symptoms than those that did not endorse this strategy. However, as stress related to community violence increased, not having school-based support led to better total psychological outcomes. On the other hand, youth that endorsed using school-based support remained somewhat stable, with some level of decline in their report of total psychological symptoms at Time 2. This finding can be placed within the context of existing research which remains somewhat mixed (Benhorin & McMahon, 2008; Henrich et al., 2005; Ludwig & Warren, 2009; Ozer, 2005; Ozer & Weinstein, 2004). In general, the importance of school climate, safety, and connectedness has been highlighted in the literature when promoting positive outcomes in urban youth (Brookmeyer, Fanti, & Henrich, 2006; Ozer & Weinstein, 2004; Kowaleski-Jones, 2000). School has also been recognized as a social institution that exposes youth to pro-social norms and expectations (Ozer, 2005). One interpretation of the current finding is that schools may be more readily able to promote these factors at lower levels of exposure to community violence; however, with increasing violence in the community, their best efforts may not be enough to counter messages received about violence in the community. As violence starts seeping into the school environment, maintaining a safe environment may also become increasingly compromised. For urban youth, the presence

of violence in school may also pose additional challenges when violence becomes intertwined with other social and academic pressures.

Another general pattern exhibited for the two moderating effects for school-based supports was a slight negative slope when main effects between community-based stressors and youth reported Time 2 total psychological symptoms were examined. In particular, both exposure to community violence to youth reported Time 2 total psychological symptoms and poverty to youth reported Time 2 total psychological symptoms were negatively correlated. This trend is generally inconsistent with prior literature which has shown a positive association between community-based stressors and psychological symptoms (Attar et al., 1994; Dubois et al., 1994; Felner et al., 1995; Leventhal & Brooks-Gunn, 2000; McLoyd, 1998; Wadsworth & Achenbach, 2005; Wadsworth & Berger, 2006; Wadsworth, Raviv, Compas & Connor-Smith, 2005). In this study, it appears that this trend occurred in the context of school-based supports which suggest that there may be something unique about this type of protective factor which may be driving this trend. Future examination of factors which may be contributing to such pattern is further necessary (i.e. influence of a suppressor, particular challenges of exhibiting psychological symptoms within a school setting). Next, this pattern may also have been influenced by a general trend of lower scores for total psychological symptoms being reported from Time 1 to Time 2 of data collection. It may be that such low scores have been influenced by having familiarity with filling out the questionnaire through prior administration, the therapeutic nature that time 1 data collection may have served as a function of interaction with participants, or perhaps due to some changes in their personal lives or with entire sample reflective of the lower rates of total psychological symptoms reported.

### Community-based Protective Factors and Segregation

This study found no main effects for and moderators between the relationship of segregation and youth or parent reported Time 2 total psychological symptoms. This finding is inconsistent with prior literature which has shown a positive association between segregation and psychological symptoms (Lambert et al., 2009). With no significant associations found between segregation and psychological symptoms, a lack of moderating role of religious institution-based factors was also shown between these two variables. The lack of protective effects of religious institution-based protective is inconsistent with some existing literature which has suggested the important role of religious institutions in helping ethnic minority minorities such as African Americans cope with long-stemming discriminatory experiences (Bierman, 2006; Bowen-Reid & Harrell, 2002). One explanation for the lack of main and moderator findings is that this study was limited by how religion (i.e. youth talked about whether they used it, not necessarily aspects of it) and segregation (i.e. one item about percentage of African American) was measured. An in-depth assessment of these constructs in future studies is necessary to provide further insights into the role of religious institution in helping urban youth cope with segregation.

Additionally, educational institutional-based factors were not found to demonstrate any protective effects between segregation and youth or parent Time 2 total psychological symptoms. One explanation for such results may be due to how segregation was measured in this study. In particular, the percentage of African American within a census tract was used as a proxy for segregation or community-level discrimination. When we consider that segregation is often intertwined with poverty, it is likely that youth facing high levels of segregation in this sample also attended schools affected by trickle down effects of poverty. As discussed earlier, schools in

impoverished areas are more at risk for becoming ineffective in helping youth cope with community-based stressors.

### Indirect Role of Family

Next, this study also examined whether community-based protective factors promote healthier mental health outcomes by strengthening protective factors which exist in more proximal systems such as family-based protective factors. When hypothesis II was tested, family-based protective factors did not serve as an indirect path linking religious institution protective factor to reduced youth or parent reported Time 2 total psychological symptoms. When prior research in this area is considered, the current finding is inconsistent with two studies which have shown religiosity to be linked to better psychological outcomes through enhancing social support and family relationship in non-urban samples (Brody et al., 1996; Carothers et al., 2005). An explanation for the discrepancy in findings between current and prior studies may be in how religiosity was measured in this study. In prior studies, religiosity was assessed in parents, while this study focused on use of religion by youth. Since information about the role of religious institutions for adolescents does not necessarily tap into religiosity found within their families, this study may be limited in capturing an indirect pathway that may operate through the family system to promote well-being in urban youth whose parents are religious.

Additionally, the lack of significant indirect effects may also be understood when it is considered that while religious institution-based protective factor (i.e. Any Religion) was correlated to family-based protective factor (i.e. Any Family), religious institution-based protective factor was not significantly correlated with youth or parent reported Time 2 total psychological symptoms. The lack of significant association between these two variables is inconsistent with some studies which have shown religious-based factors to be linked to positive

mental health outcomes in urban samples (Ball, Armistead & Austin, 2003; Carothers et al., 2005; Cook, 2000; Powell, 1997). Similarly, family-based protective factor was also not significantly correlated to youth or parent reported Time 2 total psychological symptoms. This is also inconsistent with prior studies which have shown a link between these two variables (Benhorin & McMahon, 2008; Kliwer et al., 2004). One plausible explanation for the lack of significant associations between protective factors and total psychological outcomes is that the measurement of psychological outcome may have been limited by a general pattern of low levels of total psychological symptoms being endorsed at Time 2 compared to Time 1 of data collection in this sample. Additionally, it may also be that specificities between protective factors and subtypes of psychological symptoms (i.e. internalizing or externalizing symptoms) exist. This study may have been limited in capturing the link between these two variables by primarily using a total psychological outcome measure.

#### Indirect Role of Active Coping

This study was also one of the first studies to examine the indirect role of individually-based protective factor in explaining the link between educational institutional-based protective factor and youth or parent reported Time 2 total psychological symptoms. In general, no significant indirect effect was found. The lack of finding may be interpreted in several ways. First, it is important to consider the type of coping generally promoted to urban youth within the school setting. Emerging research in this area has increasingly questioned the compatibility of active style coping in the presence of uncontrollable stressors such as community-based stressors (Edlynn et al., 2008; Rosario et al., 2008). Perhaps a weakness of this study is that it only examined an active style of coping instead of including other forms of coping possibly more adaptive for urban youth exposed to community-based stressors.

Additionally, the lack of significant indirect effects may be understood when it is considered that while educational institution-based protective factor (i.e. Any School) was correlated to individually-based protective factor (i.e. Problem-Solve), community-based protective factor or individually-based protective factor was not significantly associated with youth or parent reported Time 2 total psychological symptoms. The lack of significant association between educational institution-based protective factor (Benhorin & McMahon, 2008; Kowaleski-Jones, 2000) or individually-based protective factor (Compas et al., 2001; Fields & Prinz, 1997; Grant et al., 2000; Gonzales et al., 2001) and youth or parent reported Time 2 total psychological symptom is inconsistent with prior literature. As mentioned before, the lack of significant associations in the context of psychological outcome may have been driven by the low endorsement of youth and parent total psychological symptoms at Time 2 of data collection within this sample. As mentioned before, specificities between protective factors and subtypes of psychological symptoms (i.e. internalizing or externalizing symptoms) may also exist. By using a total psychological outcome measure, this study was limited in capturing the relationship between these two variables.

### Conclusion

To conclude, this study provides some evidence in support of the hypothesis that community-based protective factors are more likely to interact with community-based stressors in influencing psychological symptoms compared to individually-based or family-based protective factors in urban youth. In particular, religious institution-based protective factor demonstrated some capacity to protect urban youth from negative psychological outcomes associated with community-based stressors. However, educational institution-based protective

factor failed to show protective effects and instead appeared to exacerbate or stabilize the link between community-based stressors and psychological symptoms in urban youth.

The current study's focus on examining different types of community-based stressors, community-based protective factors and psychological symptoms together has shown that community-based protective factors do not necessarily function uniformly across community-level stressors and psychological symptoms. In general, this study found religious institution-based protective factor as being more successful in promoting protective effects than educational institution-based protective factor in this sample of urban youth. It suggests that at least for this sample, there are aspects of religious institutions which are still functional and able to promote positive effects in the context of some community-based stressors. On the other hand, the lack of protective effects for school across multiple community-based stressors in this study suggests that social institutions such as school may not perform as well in protecting youth from community-based stressors. Findings from this study suggest that social institutions such as school are at risk for experiencing the trickle down effects of poverty and community violence, which then makes it increasingly difficult for such institutions to serve as protective factors at the community level.

Furthermore, the difference in the protective role found across different community-based protective factors highlights the importance of understanding specificities which may exist even when both protective factors operate at the community level. In this study, several plausible explanations may explain the discrepancy found between religious institution- and educational institution-based protective factors in protecting urban youth from community-based stressors. First, it may be that religious institutions have more resources than educational institutions because religious institutions are private entities and can access resources from the broader

community. For example, churches may receive resources from other churches of the same denomination from around the country or world. Next, the nature of social supports found within the religious community may be different in that it is more informal and personal in nature which may allow urban adolescents to have connections that are more permanent and deeply integrated into their day-to-day lives. Additionally, it may be that support received from adults who are integrated in the same community as well as facing the same community-based stressors may serve as more tangible resources in helping youth navigate everyday nuisances of coping with community-based stressors. In comparison, interactions with teachers and other experts at school may be more formal and likely to easily alter depending on factors such as changes in classrooms, schools, or turnover rates in staff. Many school personnel may also commute from other communities and have weak ties to the local community which may limit their ability to guide urban youth in navigating stressors inherent to the local community.

The second goal of this study was to understand mechanisms that may explain how community-based protective factors influence positive mental health outcomes in urban youth. In general, the particular family-based and individually-based protective factors examined in this study were not found to serve as indirect pathways in these relationships. While this study showed that community-based protective factors may have some association to family-based and individually-based protective factors, no significant association was found between protective factors and youth or parent reported Time 2 psychological symptoms. As stated earlier, this study might have been limited in capturing such associations due to how protective factors and total psychological symptoms were measured, along with the low rates of psychological symptoms which were present at Time 2 of data collection in this sample. Future studies with more extensive measures of community-based protective factors and total psychological symptoms,

along with further examination of the specificities which may exist between protective factors and sub-scales of total psychological symptoms is further required to continue understanding plausible mechanisms involved in promoting positive mental health outcomes in urban youth exposed to community based stressors.

### Strengths

The strength of this study is that it used a longitudinal design to examine protective processes at multiple levels. For example, it assessed community-based stressors via community level data to capture community level processes. This study also gave voice to urban adolescents by asking them about factors they thought would protect youth from stressors. They provided a rich array of individual-, family-, and community-based factors which gave researchers a window into how urban adolescents cope with stressors in their lives. Next, this study attempted to examine different types of community-based stressors, filling some gaps in the literature about possible specificities which may exist across varying community-based stressors, how they interact with different moderators and psychological symptoms, and mechanisms which may be involved in understanding the link between stressors and psychological symptoms.

### Limitations

This study had several limitations. One limitation of this study consisted of using a community sample which may have made it difficult to detect significant results. This study did not have a large enough sample for adequate power to detect all plausible effects. Additionally, when Bonferroni adjustments were applied to account for the multiple regression models tested, the significant results which have been reported above, disappeared. Thus, future studies with larger samples are necessary to generalize the findings from this study.

Next, there was a mismatch in the level at which stressor and protective factors were assessed in this study. For example, while the data for all three stressors were obtained at the community level through Census Data or Chicago Police District, information about community-based protective factors such as school and religious involvement was captured through self-report by youth. This makes it difficult to truly capture the relationship between these two variables and to draw any definite conclusions about the moderating role of community-based protective factors in the relationship between community-based stressors and total psychological symptoms at Time 2. Furthermore, if more in-depth and extensive information about such institutions was gathered such as guiding theoretical framework, availability of social capital and other tangible resources, a richer analysis of how these interact and serve as plausible mechanisms in explaining the relationship between community-based stressors and psychological symptoms. In the future, measurement of community-based protective factors at a community level will also increase the ability to better capture community level processes occurring for this type of variable.

### Implications

The results found in this study have implications for developing interventions aimed at promoting well-being in urban youth. First, inclusion of only individual- or family-based factors may not be enough when developing an intervention targeted to promote psychological well-being in urban youth exposed to community-based stressors. Secondly, partnership and collaboration with religious institutions at the local community level should be considered when designing interventions to protect urban youth exposed to violence in their community. Thirdly, future qualitative analysis of barriers to school-based protection is warranted based on findings from this study. Furthermore, the lack of protective effects which emerged for school also

suggests that it would be useful to invest additional support, resources, and adopt better public policies to help strengthen and enhance functioning within these institutions. This may be especially important in disfranchised communities where social institutions are frequently overwhelmed and run the risk of becoming dysfunctional in the presence of chronic community level stressors (Wickerama & Bryant, 2003). Future interventions should be designed with the aim of strengthening such social institutions to withstand pressures resulting from chronic and unchanging community-based stressors.

## CHAPTER V

## SUMMARY

Many urban youth are exposed to substantial rates of stressors within different levels of their environment (Tolan et al., 1997). They face not only typical individually-based and family-based stressors, but also additional community-based stressors such as poverty, exposure to violence and discrimination/segregation (Attar et al., 1994; Dubois et al., 1994). This increases their likelihood for experiencing negative mental health outcomes (Attar et al., 1994; Dubois et al., 1994; Leventhal & Brooks-Gunn, 2000; Wadsworth & Achenbach, 2005).

Within the context of urban poverty, it is important to consider factors that may protect youth from developing negative mental health outcomes. Some emerging research suggests that traditional individually-based and family-based protective factors have a limited role in protecting urban youth facing community-based stressors (Miller et al., 1999) and community-based factors which function at the same level as community-based stressors might be more suitable (Kowleski-Jones, 2000). This study built on that prior research by testing whether community-based protective factors moderated the relationship between community-based stressors and psychological symptoms in urban youth. This study also examined whether community-based protective factors promote healthier mental health outcomes by strengthening protective factors which exist in more proximal systems such as individually-based (i.e. coping) or family-based protective factors.

When hypothesis I was tested in a sample of 384 urban youth recruited from three schools in the Midwest region, some support was found. Compared to individually-based or family-based protective factors, community-based protective factors were more likely to serve as moderators of the relationship between community-based stressors and psychological symptoms.

In particular, endorsement of Any Religion (i.e. such as faith in God, belief in something greater than self or others and support from community) was found to lessen the impact of exposure to community violence on parent reported Time 2 total psychological symptoms. On the other hand, relying on school-based supports was not found to mitigate the link between community-based stressors and youth reported Time 2 total psychological symptoms.

These findings suggest that religious institution-based protective factors have some capacity to protect urban youth from negative psychological outcomes associated with community-based stressors. It is also evident that community-based protective factors do not function uniformly across community-level stressors and psychological symptoms. The lack of protective effects demonstrated by educational institution-based protective factors highlights some limitations of community-based protective factors. It also serves as a reminder that social structures within the context of urban poverty are also often at risk of becoming burdened by community-based stressors, which jeopardize their ability to serve as protective factors at a community level. Future research should continue to use theory and previous findings to build this literature to further identify subtleties that exist when trying to understand the role of community-based factors in protecting urban youth from negative psychological outcomes associated with different community-based stressors.

When hypothesis II was tested, family-based protective factors failed to serve as an indirect pathway in linking the relationship between religious institution protective factor and reduced youth and parent reported Time 2 total psychological symptoms. Additionally, when research question I was examined, individually-based protective factor demonstrated no significant indirect effect in the relationship between educational institution-based protective factor and youth and parent reported Time 2 total psychological symptoms. More specifically,

while this study showed that community-based protective factors may have some association to family-based and individually-based protective factors, no significant association was found between protective factors and youth or parent reported Time 2 psychological symptoms. This study might have been limited in capturing these associations due to how protective factors and total psychological symptoms were measured, along with low rates of endorsement found for psychological symptoms at Time 2 in this sample. Future studies with more extensive measures of protective factors and psychological symptoms, along with further examination of the relationship between protective factors and total psychological symptoms is necessary to continue understanding mechanism which may explain how community-based protective factors influence positive mental health outcomes in urban adolescents.

Footnote

<sup>1</sup> Post-hoc probing was also tested using method recommended by Holmbeck (2002). Individual slopes were found to be significant using this methodology.

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